Outpost

Packet Message Manager v2.0.4

Users Guide

February 2006

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1 About Outpost

1.1 What is Outpost?

Outpost is a PC-based messaging client that lets you to exchange your packet messages with almost any Amateur Radio Bulletin Board System (BBS).

Using your existing Terminal Node Controller (TNC) or AGWPE-enabled sound-card, radio, and a Windows-based PC, all you need to know is your call sign, information about your TNC, and information about the BBS. Once the program is configured, Outpost then manages all message-handling between your PC and the BBS. Outpost also lets you send, receive, read, delete, create, reply to, or forward messages back to the BBS.

Unlike commercial mail systems, BBS-based mail is transmitted unencrypted over the amateur radio bands. There is nothing private about it.

1.2 Why Outpost?

Outpost was created to support the packet communication needs of an ARES, RACES, or other emergency communications response team during a disaster or other activation where Amateur Radio is deployed.

During an emergency, you may be required to pass lists of information or detailed instructions within an Operational Area to support Logistics, Operations, or Planning/Intel activities as required by a municipality's Emergency Operations Center (EOC). Packet is ideal for this task. Outpost makes the job even easier by automating the manual interaction between you and the BBS.

Because Outpost leverages the existing Packet Infrastructure, it can be deployed relatively easily and quickly. Outpost can either operate as a single stand-alone messaging client, or collaboratively with other Outpost stations using built-in features that to enhance overall message handling effectiveness.

If Outpost had a tag line, it would be: "***Focus on the message, not the medium.***" An emergency activation is not the time to think about packet training. By using an application with a look and feel similar to contemporary email clients, Outpost helps emergency communicators get a packet message written and transmitted quickly without all operators needing to be packet experts.

A successful Outpost deployment does require a few things:

- At least one individual who has a fundamental understanding of packet, and can configure and verify that Outpost is operational prior to a response.
- A definition of your emergency response team's operating policies for packet messaging. Operating policies are the guidelines that would be observed during an activation.

  Examples of a policy would be things like (i) no keyboard-to-keyboard communications will be used, (ii) polling the Operational BBS will occur no more frequently than every 15 minutes, (iii) tactical call signs will be used, etc. Most packet messaging policies can be implemented through Outpost.

1.3 A typical TNC Session today

Before Outpost, if you wanted to send and receive a packet message, you needed a terminal emulator program and be familiar with commands for controlling your TNC and a remote BBS. For instance, you probably did something like this:

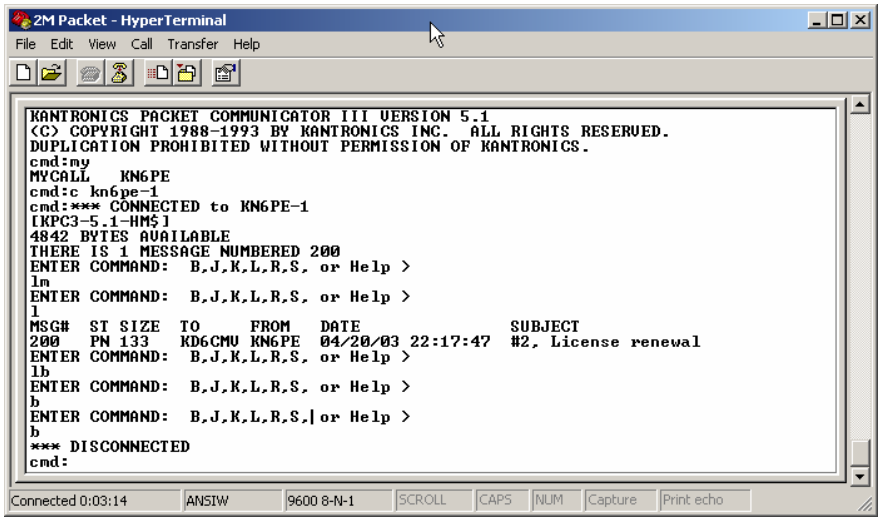


Figure 1: Sample TNC session using Hyperterm

1. Turn on your Computer and run your terminal emulator. You may be using PACTERM or some other TNC program. I've used the general-purpose MS-Windows HYPERTERM program because of its ability to cut-and-paste text to and from it.
2. Turn on your TNC. Verify you see the TNC welcome message.
3. Turn on your radio and select the frequency on which the BBS operates.
4. Check the configuration of the TNC. This could include sending the **MY** command to review or change the TNC's call sign, setting the date and time, or changing any display settings with the **ECHO** or **AUTOLF** commands.
5. Connect to the BBS. After issuing the **Connect <call sign>** command, you verify the BBS responds with its welcome message.
6. Once connected, you check for messages addressed to you with the **LM** (list mine) command. If you operate NTS packet, you may check for any NTS messages with the **LT** (list traffic) command. Then, you may read them with the **Read <####>** command (where #### is the message number) and delete them off the BBS with the **Kill <####>** command.
7. You may also check out current bulletins with the **LB** (list bulletins) command, and then read them one by one.
8. If you wanted to send a private message to a friend, you would enter the **SP <call sign>** command (send private). When prompted, you enter the subject, and then the message.

NOTE: As a reminder, every time you press **Enter** on your keyboard, the line of text you just typed is sent to the TNC and transmitted to the BBS. The only way to correct an error in your message is to finish your message, delete it from the BBS, and start over.

9. When done, you exit the BBS with the **B** or **Bye** command.

10. Because you don't know when your friend would get the message, you would repeat steps #5, #6, and #9 to see if you have a reply.

During normal operation, the above steps can get tedious, in particular if you are expecting a reply.

During an emergency, you may have an established routine to do something similar, with more purpose and intent to the steps outlined above.

1.4 A Typical Outpost Session

Outpost takes care of a lot of the above steps. Once configured, Outpost takes on the job of sending and processing all TNC and BBS commands during a "Packet Session." Because you have previously told Outpost what the TNC and BBS prompts and commands are, Outpost automatically sends, waits, receives, and processes all exchanges with the BBS.

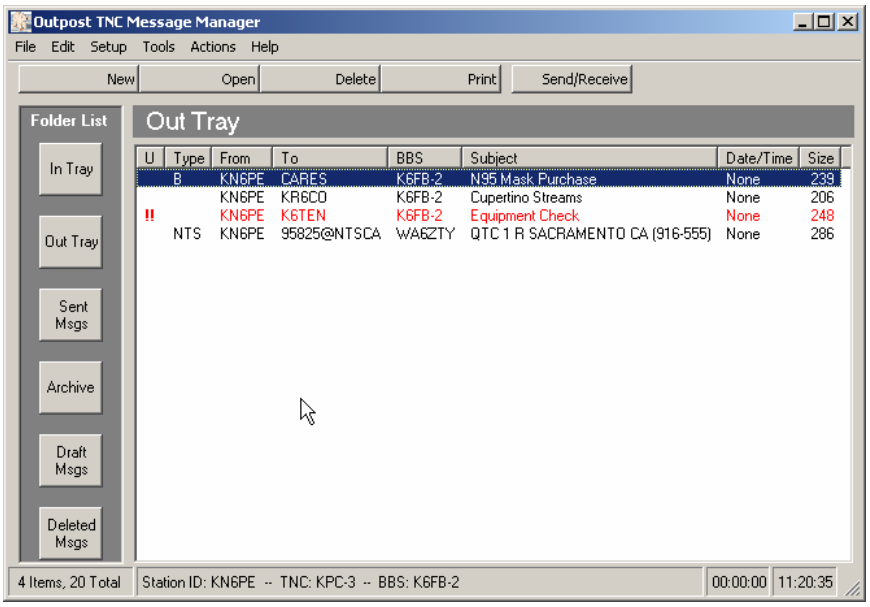


Figure 2: Outpost's Main window

Here is what you would do with Outpost:

1. Turn on your Computer and run Outpost.
2. Turn on your TNC.
3. Turn on your radio and select the frequency.
4. Confirm that Outpost has the correct TNC and BBS selected.
5. From Outpost, press the **Send/Receive** button.
6. Outpost will automatically:
   - Send the appropriate TNC commands to get it ready for a TNC Session.
   - Connect to the BBS by sending the **Connect <bbs>** command.
   - Check to see if you have any private messages in the Outpost Out Tray to be sent to this BBS. If so, it will send them with the **SP** Command. It then does the same for any NTS or Bulletins you may want to send.
   - Check for messages addressed to you with the **LM** command. Outpost will read these messages with the **R <####>** command, then delete

them off the BBS with the **K <####>** command. Outpost will also check for and retrieve NTS and bulletins if selected.

- Finally log off the BBS with the **Bye** command.
- If configured, Outpost will repeat this cycle on a regular interval as defined by you.

In short, Outpost automates the packet session by sending TNC and BBS commands, looking for prompts, and responding with the next appropriate command.

Whatever you manually type at the keyboard into your terminal emulator program, Outpost does this for you automatically.

1.5 Outpost Features

Message Management

1. Multiple mail folders. Outpost allows the user to manage messages in a series of folders, including an In Tray, Out Tray, Sent Folder, Draft, Archive, and Deleted Items Folders. These folders are permanently defined.
2. Message Types. Outpost supports three primary message types: Private, NTS, and Bulletins. Sent and received messages are displayed with their appropriate types indicated.
3. Message Creation. Outpost allows messages to be created from scratch, importing text from an ASCII file, cut and pasted in from other applications, or by Replying to or Forwarding a previously received message.
4. Text Message Formatting. Messages can be entered in a free-form text area. Simple formatting can be performed, errors corrected, and text can be added and deleted prior to sending the message.
5. NTS Message Maker. Outpost also helps format NTS messages. The NTS Message Maker is a forms-based menu that prompts for all required fields needed to create a correctly formatted NTS packet message. ARL Messages can also be added and automatically formatted.
6. Report Interpreter. Outpost supports an online report interpreter that helps get a pre-defined report filled in and formatted quickly.
7. Message archiving. After an emergency, the entire message database can be archived to either an Outpost-readable format for importing later on, or a user-readable format.

Packet Session Management

8. Serial Comm Port Management. Outpost supports direct serial communications with a TNC by setting up the serial port and handling any contention for the port that may exist.
9. AGWPE Support. Outpost supports the AGWPE application located either locally on the same PC as Outpost, or somewhere else on the network.
10. Telnet Support. Outpost supports Telnet access to a network-accessible BBS.
11. Interface Management. Outpost sends all initialization commands to the TNC, AGWPE, and Telnet interface to prepare it for a packet session.
12. BBS Management. Outpost sends the right BBS commands at the right time.

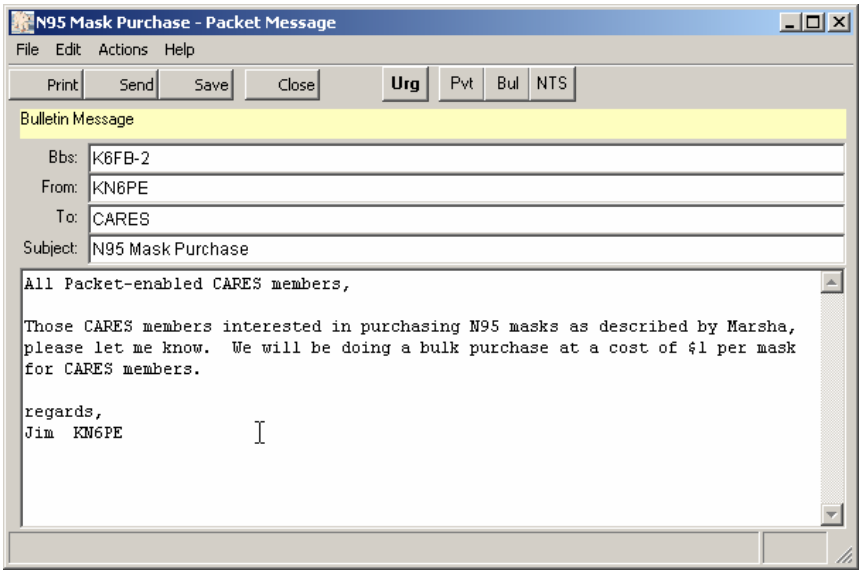


Figure 3: Outpost's New Message window

Configurations and Setups

13. Interface configuration setup
14. TNC configuration setup. Outpost manages a list of Interfaces, TNCs and their commands. TNCs can be added or deleted.
15. BBS configuration setup. Outpost will manage a list of BBS's and their commands. BBSs can be added or deleted.
16. Message retrieval. Outpost allows the user to choose which types of messages will be checked for and retrieved from the BBS. The three message types are: Private, NTS, and Bulletin.
17. Retrieval Automation. You can configure Outpost to run a TNC Session automatically at a specific time interval set (in minutes).
18. Station Identification. The Station ID (Call Sign) can be changed.

1.6 The Outpost Operating Environment

Outpost can operate in a number of packet environments where one or more BBSs are used as message drops (Star network). For instance, it may be operating in a network along with other Outpost users or other terminal emulator program users with a system running BBS software. In Santa Clara County, W6XSC-1 is the county's packet BBS system serving several San Francisco South Bay Area City EOCs.

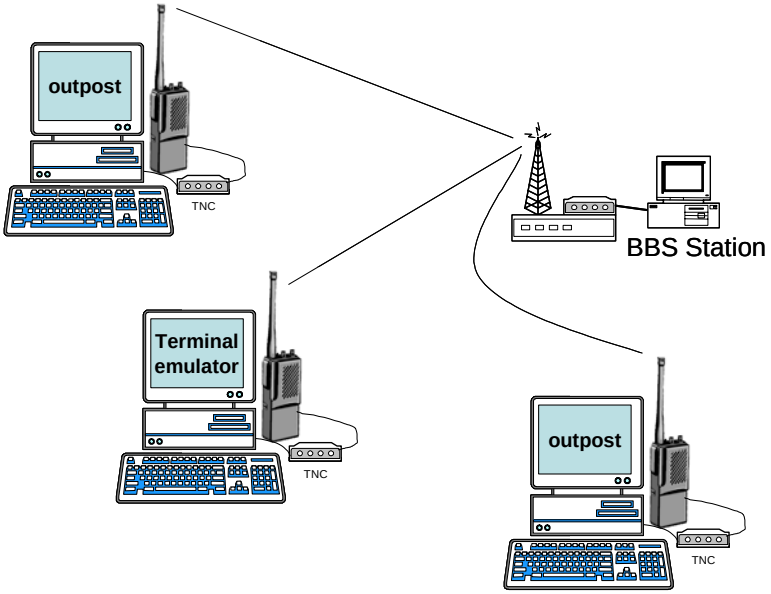


Figure 4: Central BBS Station serving many Packet users

Outpost could also be operating in a smaller closed packet network where one user has enabled a TNC's Personal BBS (PBBS) feature thereby providing a low cost central message drop for several stations.

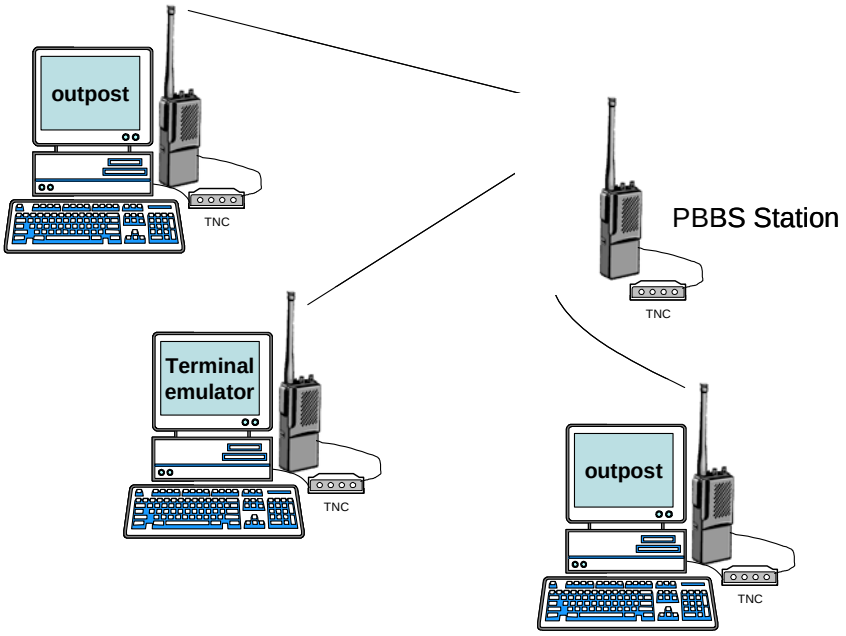


Figure 5: A PBBS Station as a central mail drop

1.7 What Outpost does not do

- Outpost does not support the any of the bulletin board forwarding protocols. Instead, it automates sending commands and interprets the returning prompts of both the TNC and the BBS to manage message handling.
- Outpost does not support any of common email protocols such as POP3 or SMTP.

2 Installation

2.1 System Requirements

Outpost has been verified to run under the following Microsoft Windows environments:

- Windows 98, NT, 2000, ME, and XP

2.2 Hardware Requirements

MS-Windows requires the following hardware:

- Intel-based PC required to support any of the above MS Window Operating Systems
- Open Serial Port for Serial or AGWPE interfacing, or
- USB port with a serial adaptor to connect to the TNC
- Network interface for Telnet interfacing

2.3 BBS Requirements

While Outpost should work with most BBS's currently available, it has not been tested with them all. There are two requirements that must be met for a successful Outpost implementation:

1. BBS Prompt uniqueness. Outpost looks for and responds to the BBS prompt as the means for triggering its next action. If this uniqueness cannot be reasonably assured (that is, the prompt character or string can not show up as a part of the message text), Outpost will not behave correctly.
2. BBS Message listing. Outpost supports the following message list formats as presented by these BBS software applications or PBBS'.

AA4RE BBS

```
Msg# TR  Size   To         From   Date/Time Subj
 207 PY  1004 WA6ZTY       KN6PE  0712/0505 NTS Message
 205 PY   456 WA6ZTY       KN6PE  0703/1809 Field Day
```

F6FBB BBS

```
Msg#   TSLD  Dim  To    @ BBS   From   Date/Time Title
117    PNL     23 KR6CO         KN6PE  1212/1302 New info
385    T$L    141 95014 @NTSCA  KN6PE  1230/0957 QTC 1 …
```

MSYS BBS

```
MSG # TR  SIZE TO     FROM    @BBS    DATE    TITLE
 1244 PN    85 N9AAA  KB9BBB   W9WK  040208  NTS Message
 1243 PN   190 N9AAA  KB9BBB   N6NKO 040208  EOC Status
```

N0ARY BBS

```
 Msg#  Stat  Size      To       From  Cnt Date/Time Subject
 31704 P      327  KN6PE@N0ARY  KN6PE   0 0925/0921 CUP108:
 31653 P  B   208  KN6PE@N0ARY  KE6AFE  1 0924/0433 KI msg
```

SALLY BBS

```
 Msg# TSD  Size  To    @BBS   From   Date    Subject
  147 BW    4084 DX    ARL    W1AW   17/Jun  ARLD024 DX
  183 BW   22528 DX    WW     KB8NW  20/Jun  DX Bul No. 714
```

KPC-x PBBS

```
MSG#  ST SIZE  TO     FROM   DATE             SUBJECT
45    PN 148   K6TEN  KN6PE  02/26/04 23:36:23  Radio Test
44    PN 152   KR6CO  KN6PE  02/26/04 23:36:03  Creek Watch
```

AEA-, DSP-232 PBBS

```
Msg#    Size To     From  @ BBS  Date       Time   Title
  6 PY   222 KR6CO  KN6PE        12-Dec-04  10:38  New info
```

The key differences between the above listings are the date and time format and the occasional requirement for an @Route. If your BBS message listing matches any of the above, Outpost will work fine. If it does not, please send me a sample listing for evaluation and consideration as an enhancement request.

2.4 Updating to Outpost 2.0.4

Outpost 2.0.4 is data file compatible with Outpost 2.0. Before proceeding, verify that Outpost 2.0 is installed. If not, perform the steps in the following sections first.

The Outpost 2.0.4 update comes in a zip file that includes 4 new executables, an ARL data file, and readme.txt file. To update Outpost 2.0, proceed as follows:

1. Download Outpost204u.zip to a local temp directory. Unzip the files.
2. Copy the 6 unzipped files to the existing Outpost program directory.
3. Run Outpost as usual.

2.5 Upgrading to Outpost 2.0 from Outpost 1.3

If you have Outpost 1.3 or greater, you should **UNINSTALL** any of these versions before installing version 2.0.

This installation will overwrite all configurations and messages that you may have in any previously installed version of Outpost. If you DO NOT WANT to preserve the messages that you currently have, skip to Section 2.5 below. Otherwise, proceed as follows.

1. From v1.3.x Outpost, press **File->Export**
2. Choose either **All Folders…** of the **This folder…** to export.
3. Enter a file name, press **OK**

The messages are now in the export file.

2.6 Software Installation from an Internet Download

Installing the software off the Web begins by downloading the zip file to your PC.

1. Create a Temp directory on your PC such as optemp (or an existing temp directory will work fine).
2. Navigate to the website (www.CupertinoARES.org/projects/outpost), then select Outpost v2.0 for downloading.
3. Right click on the link, and select “Save Target As”. Enter a directory to save the ZIP file to your temp directory.
4. Run PKZIP or other extract program to extract the files.
5. Click on setup.exe,
6. Some Outpost application files may be newer than those residing on your system. If prompted to "keep existing files," press "NO TO ALL."
7. Some system files may be replaced. If so, you may be prompted to reboot your computer. Accept the request to RESTART the computer. After the computer reboots, you will have to re-start Setup to continue (Step 5 above).
8. Accept all prompts by pressing NEXT, OK, or FINISH. The software will install automatically.

2.7 Creating and using an Installation CD-ROM

You can create an install CD-ROM by copying the unzipped files to a CD. See your specific system instructions for creating a CD-ROM. Once the CD is created:

1. Insert the Outpost CD-ROM into the computer.
2. On the Task Bar, select START, select RUN. Enter the command D:\ setup.exe, where "D" is the CD-ROM Drive (use the appropriate letter if your system's CD-ROM is different).
3. Some Outpost application files may be newer than those residing on your system. If prompted to "keep existing files," press "NO TO ALL."
4. Some system files may be replaced. If so, you may be prompted to reboot your computer. Accept the request to RESTART the computer. After the computer reboots, you will have to re-start Setup to continue (Step 2 above).
5. Accept all prompts by pressing NEXT, OK, or FINISH. The software will install automatically.

All system software is now loaded and the system is ready for use. Refer to the other sections in this manual for information on configuring and controlling the Outpost application.

2.8 Creating and using Installation Floppy Discs

You can also create a set of install floppies as well. To use an installation floppy disk set, proceed as follows:

1. Unzip the download file.
2. Label 2 floppies as "Outpost v2.0 Disc 1" and "Outpost v2.0 Disc 2"
3. Copy the following 3 files to Disc 1:
   - Setup.exe
   - Setup.lst
   - OutPos1.CAB
4. Copy the 4th file to Disc 2:
   - OutPos2.CAB
5. Insert Disc 1 in the target machine and run a:\setup.exe.
6. The installation program will prompt for Disc 2 when needed.
7. Some Outpost application files may be newer than those residing on your system. If prompted to "keep existing files," press "NO TO ALL."
8. Some system files may be replaced. If so, you may be prompted to reboot your computer. Accept the request to RESTART the computer. After the computer reboots, you will have to re-start Setup to continue (Step 5 above).
9. Accept all prompts by pressing NEXT, OK, or FINISH. The software will install automatically.

All system software is now loaded and the system is ready for use. Refer to the other sections in this manual for information on configuring and controlling the Outpost application.

2.9 Operating System Considerations

Outpost has the capability of independent operation where it will periodically poll the BBS for any new incoming message traffic. Because of this feature, the PC can run unattended.

However, this absence of any user interaction may cause the PC to think that it is idle and may invoke any enabled power management features (such as "Turn off Hard Disks," "System Standby," etc.).

If you intend to run Outpost unattended, set these features to NEVER or OFF. Theses properties should be accessible from the Control Panel.

Additionally, depending on your hardware, specific BIOS setting changes may also have to be made.

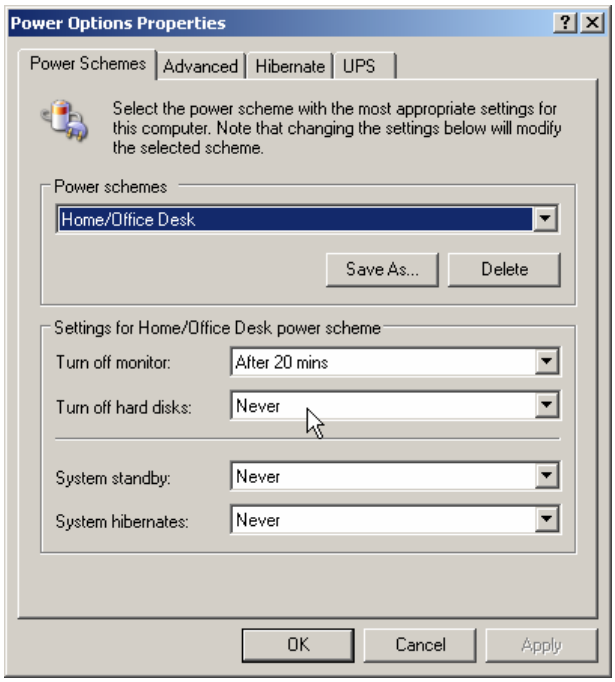


Figure 6: Sample Power Option Setup Menu on a Windows XP System

3 Getting started

As a message-centric mail handler, Outpost manages and controls all aspects of the message send and receive process. This Section describes how to use Outpost.

3.1 Station Logon Window

When you start Outpost, you are presented with the Station Identifier window that displays the Station Call Sign and name of the Call Sign owner that was entered the last time Outpost was run. If this information is still valid, then press **OK** to continue. If your call sign and name are different from what is listed, enter your FCC call sign and name in the fields, then press **OK**.

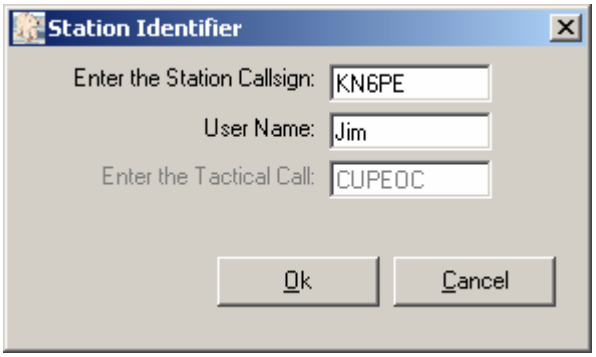


Figure 7: Station Identifier Window

The field below the User Name is the Tactical Call field. Some BBSs require the user to also log in with a Tactical Call. This identifier is usually coordinated through the local ARES/RACES organization or BBS coordinator.

If the currently selected BBS requires a Tactical Call, then this field will be enabled and you should enter your assigned Tactical Call. If the BBS does not require a Tactical Call, then the field is disabled and cannot be changed. See "Section 5 Setting up a BBS."

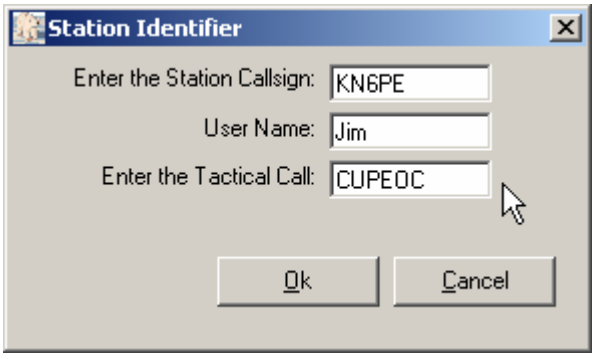


Figure 8: Station Identifier with Tactical Call Sign

The Station Identifier window will also be displayed when:

- The user selects **Change Station ID** from the **Setup** Menu, or
- A BBS that requires a Tactical Call is selected.

NOTE: You can also configure Outpost to NOT display this in the event you start Outpost automatically on a re-boot. See the section on configuration settings.

3.2 The Main Outpost Window

You can manage your messages, perform application setups, and control your Send/Receive Sessions from the Main Outpost window.

This window has one main view that allows the user to review messages stored in several different folders. The form is divided into four primary areas:

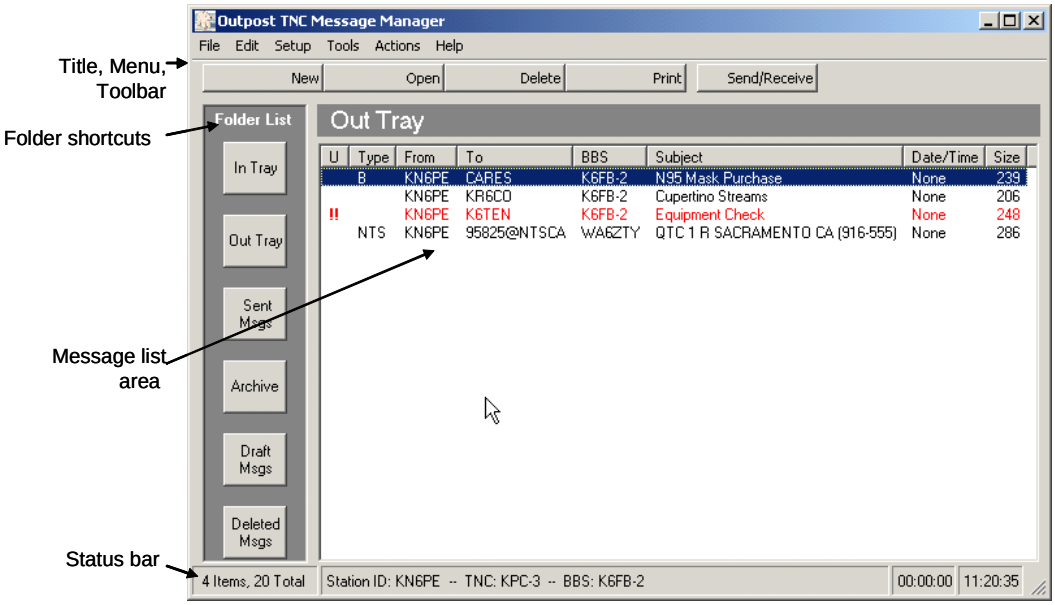


Figure 9: Main Outpost Window

3.3 Menus and Toolbars

The *Program Controls* portion of the Main User Interface controls the operation and execution of all program tasks.

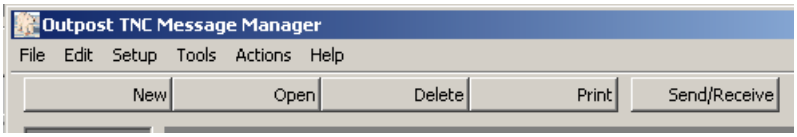


Figure 10: Main Screen Menu and Tool Bar

The Outpost menus provide different options for setting up and controlling the application.

NOTE: Some of the more common menu items are also implemented as Tool Bar buttons. See the associated menu item below for the description.

Menus	Description
File	**New Message**: Opens a new message window for creating a message. **Save As**: Saves the highlighted message to an ASCII text file. **Save As, No Headers**: Saves the body of the highlighted message to an ASCII text file without the message headers (From, To, Date, Subject). See the General Settings menu for information on enabling this feature. **Save All**: Saves all the messages in the current folder to a

Menus	Description
	single ASCII text file. Messages are separated by a header line and a Form Feed character, thereby allowing this file to be sent directly to a printer for bulk printing. **Export**: Writes the message database to a "*.oaf" (Outpost Archive) file. This file can be later used for importing messages back into Outpost. A submenu allows the user to select messages from either All Folders, or This Folder (the currently selected folder). **Import**: Reads the file created by the **Export** function. Messages are loaded back in the same folder from which they originated. **Delete all Messages**: Deletes all messages in all folders. This function can be performed any time, but probably after performing a full or partial export of messages to an archive file. When selected, the user will be prompted whether they want to continue. **Change Folder**: displays a sub-menu of all the available folders. Clicking on a folder name will display messages stored in that folder. These folders are: • In Tray • Out Tray • Sent Msgs • Archive • Draft Msgs • Deleted Msgs **Print**. Allows the user to select a printer, then print the currently highlighted message to the printer. **Print Setup**. Allows the user to select a default printer for Outpost. **Exit**: Causes the program to exit.
Edit	**Delete**. Deletes the highlighted message from the current folder. If the selected folder is the "Deleted Msgs" folder, the user is prompted to confirm the delete request, and then the message is permanently deleted. **Move to Folder.** Moves the highlighted message to other folder specified by the sub-menu choice. **Copy to Folder.** Makes a copy of the highlighted message to other folder specified by the sub-menu choice.
Setup	**TNC.** Manages the different interface methods – TNCs, AGWPE, and Telnet. The user can select or update an existing interface and associated parameters, or create a new interface entry by entering the TNC prompts and commands. See Section 4.1 for more information. **BBS.** Manages the list of available BBSs. The user can select or update an existing BBS, or create a new BBS entry by entering the BBS prompts and commands.

Menus	Description
	See Section 5 for more information. **Change Station ID.** Allows the user to change the call sign and user name (and if required by the BBS, the Tactical Call) to be used for logging on to the BBS.
Tools	**Send/Receive Settings**. Sets various parameters to control each send/receive session, including: • Automation. Selects one of the 4 methods for scheduling Packet Sessions. • Retrieving. Selects which messages are to be retrieved from the BBS (Private, NTS, and/or Bulletins, or those which match a specific filter). • Receiving. Selects how Outpost behaves when a message is received. • Other. Allows the user to hide the TNC Session window when the Session runs. See *Section 10 Customizing the Packet Session* for more information. **Message Settings.** Sets various conditions to control how messages are handled, including: • Various settings for handling New Messages including defining the default Message Type. (Private or Bulletin), option to set a Default Destination, and an option to automatically insert a message number in the Subject Line • Handling Replies and Forwards. Selects how the message type for these messages is established and how the source message form behaves if it is subsequently replied to or forwarded. • Tracking Messages. Default settings that cause Outpost to request Delivery and/or Read Receipts from the receiving station, set up Auto-replies. • Prompt control for permanently deleting messages from Outpost. See *Section 8, Customizing Message Settings* for a full description. **Report Settings**. Allows the user to set up report values that will be substituted into a message when an Online Report is loaded. See *Section 12, Online Reports* for a full description. **Directory Settings**. Allows the user to define specific directories used by Outpost. See *Section 0, Other First-Time Setups* for a full description. **Log Settings**. Two settings that help with some debugging TNC or BBS problems when they pop up. **General Settings**. Various options to control whether the Station ID input form is displayed at startup, or whether **SaveAs, No Headers** is enabled as an option

Menus	Description
	TNC Session Counter Reset. The session counter is displayed in the TNC Session Log. This command resets the counter back to zero.
	Empty "Deleted Items" Folder. Deletes all messages in the "Deleted Items" Folder. Once deleted from here, they're gone for good.
	Reset Column Widths. Restores the Message List Display columns to a default size. This option is great for unhiding previously hidden columns.
	Pack Column Widths. Forces the Message List Display columns to align to the column content.
	Interactive Packet. Brings up a packet window that you can use to directly interact with the BBS (outside of a Packet Session) by either a Serial Port device (TNC), AGWPE, or Telnet.
Actions	**Send/Receive**. Initiates a TNC message Session with the selected BBS.
	New Mail Message. Opens a new message window for creating a message.
	Open a Message. Opens the currently highlighted message in the message list.
Help	**Outpost Help.** There is no On-line help system available. This option points you to this User Guide.
	About Outpost. Description of this program.

3.4 Folders and Shortcuts

Outpost manages its messages in 6 different folders. Once a folder is selected, the contents of that folder are displayed and the selected folder name is shown above the message list area.

Folders	Description
In Tray	Messages retrieved by Outpost's Packet Session Manager from the BBS are placed in the In Tray. The Date/Time field is set to the time the message originally was sent to the BBS.
Out Tray	On creating and sending a message, the message is saved in the Out Tray. The Date/time is set to "none." Messages in this folder can be opened, viewed, edited, and saved back to this location.
	Only valid messages can be sent. A valid message includes a message with all fields filled in.
	Outpost's Packet Session Manager checks this folder for messages addressed to the currently selected BBS and sends these messages regardless of type (Private, Bulletin, and NTS).
	Once a message is sent to the BBS, the message is moved from the Out Tray to the Sent Msgs Folder with the date

Folders	Description
	and time set to the time it was sent.
Sent Msgs	Once a message is sent to the BBS from the Out Tray, it is moved to the Sent Folder. The Date/Time field is set to the time the message was sent to the BBS. Messages in this folder can be opened, viewed or forwarded to another BBS user.
Archive	The Archive is an ad hoc message folder.
Draft Msgs	This folder contains messages that are not complete. Only a Subject is required to **Save** a message to this Folder.
Deleted Msgs	This folder contains all messages previously deleted from all other folders. Messages in this folder can be opened, viewed, forwarded, replied to, or moved or copied to the Archive Folder. Deleting a message from this folder permanently deletes it from Outpost.

3.5 Message List Area

The message list area is where messages residing in the selected folder can be selected.

Unread messages in the In Tray will be displayed with **BOLD** text. Once a message is read, it will be re-displayed with regular (unbolded) text.

After selecting a folder, only messages stored in that folder are displayed. The message list area displays the following fields:

Field	Description
U	Urgent Flag. Messages sent to this station from another Outpost v1.3 (or later version) system can be sent as URGENT. When these messages are received, they are indicated by two RED "**!!**" in the "U" column and the message list displayed in RED. See the Message Form for the control to set a message as URGENT.
Type	This field indicates the message's type and can contain one of the following 3 values: • (blank) Private Message • B Bulletin • NTS National Traffic System Message The Message Type is set either by the sender or manually through the Message Edit window, based on the message type options available as Message setup options (**Tools > Message Settings**).

Field	Description
From	The originator of this message. This field contains either an FCC Call Sign (current station ID) or Tactical Call as assigned by the BBS SYSOP.
To	The destination of this message. For messages created in Outpost, this field contains the FCC Call Sign or Tactical Call of the recipient. This field could also contain a valid formatted NTS address or a tactical call sign if the BBS requires one. The To Field can also hold a full hierarchical address for forwarding beyond the BBS. This is in the form (i.e.): KN6PE@N0ARY.#NOCAL.USA.NOAM. For messages received from the BBS, this field will match Outpost's currently set Station ID.
BBS	The currently selected BBS. For messages created in Outpost, this field contains the name of the BBS that was set when the message was created, and where this message is intended to be sent. This allows messages to be created for users on different BBSs, and not sent until the BBS is selected using the **Setup > BBS** menu. For messages received from the BBS, this field lists the BBS from where the message originated.
Subject	The subject of the message. On opening the message, the entire 80-character subject line is displayed. **NOTE**: most BBS's have subject lengths are a lot shorter than this. It is recommended to keep your subject lines brief so they do not get inadvertently truncated in a manner you did not desire.
Date / Time	The message Date / Time. For messages created and saved in Outpost (stored in the Draft folder) or Sent (stored in the Out Tray), this field will be set to "None." After a message is sent to the BBS, the message is moved to the Sent folder and the date/time is set to the time the message was sent to the BBS. For message received from the BBS and stored in the In Tray, this field is set to the date/time that the message was posted on the BBS.
Size	Size of the message in Bytes. Outpost has a hard limit of 10,000 characters per message. All originated and received messages will be limited to this size.

3.6 Status Bar

The status bar is displayed at the bottom of the window. This area displays the following information.

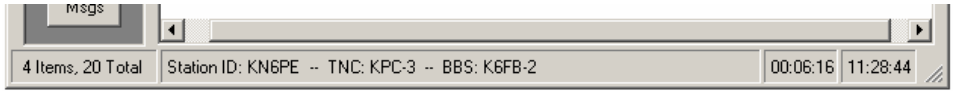


Figure 11: Status Bar, BBS does not require a Tactical Call

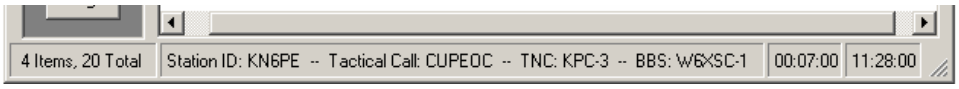


Figure 12: Status Bar, BBS requires a Tactical Call

Item	Description
Message Count	Displays the number of messages in the selected folder, and the number of messages currently in all folders (includes messages in the "Deleted Msgs" folder).
Current Setup	Displays the station call sign, the currently selected TNC, and the currently selected BBS. If the selected BBS requires a tactical call, then that is listed after the station call sign as seen in the 2nd example shown above.
Time until next Packet Session	When Send/Receive automation is selected, this timer shows the number of hours, minutes, and seconds left until the next Send/Receive Session is initiated. If the timer shows **00:00:00**, then no automation is selected.
Current Time	The current system time in 24-hour format.

3.7 Customizing the Display

Outpost lets you to change the widths of the columns, or hide a column if it is not required for viewing.

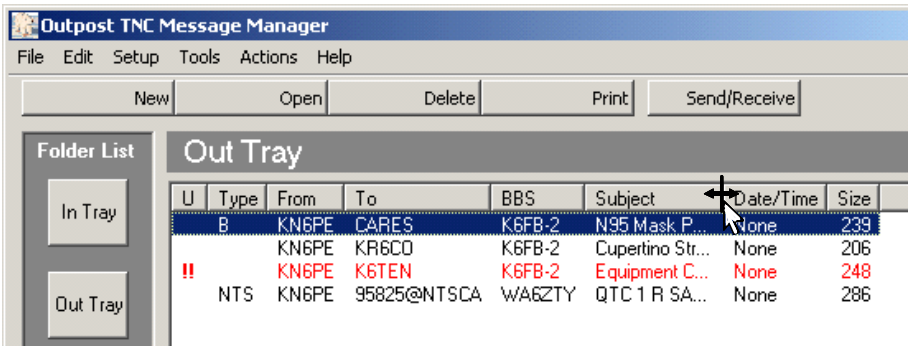


Figure 13: Resizing a column

To change a column width:

1. Put the mouse cursor on the right side of a column Header's dividing line for the column you want to change size.
2. Left Click, hold the mouse button down, and move the mouse left to reduce the column size or right to increase the column size.
3. To hide a column, move the mouse all the way to the left until the field is hidden.
4. Double-click on the dividing line will automatically resize the column to the widest text in the column.

There are also two column re-sizing features found on the **Tools** menu:

- **Reset column widths**: Resizes the columns to a default size.
- **Pack column widths**: Resizes the width of all columns to a width of the widest text in each column for the current display.

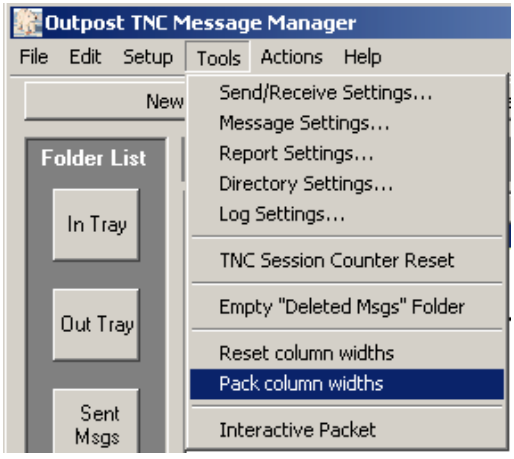


Figure 14: Resetting column widths

3.8 Getting ready to set up Outpost

In most cases, the steps involved with setting up Outpost need only to be performed once. All setup options are stored in initialization or data files. There are 4 things that must be set up or at least checked prior to running your first TNC Session. These are:

- Choose an interface type and define the device
- Configure the BBS
- Register on the BBS
- Confirm the user mode on the BBS

In preparation for defining these configurations, it is helpful to have any hardware and BBS documentation that may be available. If none can be found, manually interacting with the TNC and the BBS is the next best way to confirm you have entered these configurations correctly.

In most cases, there are default settings that can be used when defining a TNC or BBS. However, there is some information that is TNC and BBS specific that must be understood in order to complete the setup step.

These items are covered over the next 2 chapters in this guide.

4 Setting up Interfaces

Outpost can communicate to a BBS by one of three interface types: direct serial port with a TNC, an AGWPE-controlled TNC or other device, and by a telnet connection. Setting up the interface is the first step that you must do.

4.1 Defining the Interface Type

The big change with Outpost 2.0 is the addition of AGWPE and Telnet as additional interface devices that can be configured and used. Direct Serial Port TNCs still work as before. Because of these additions, the layout of the TNC Setup form is expanded to accommodate these new interfaces.

Depending on the type of interface that you select, the corresponding tabs will be enabled. In the example below, the AGWPE and Telnet tabs are disabled because the Device Type is a Direct Serial Port TNC.

Outpost comes with examples of different interfaces already set up. Please use these as references when picking and defining a new interface.

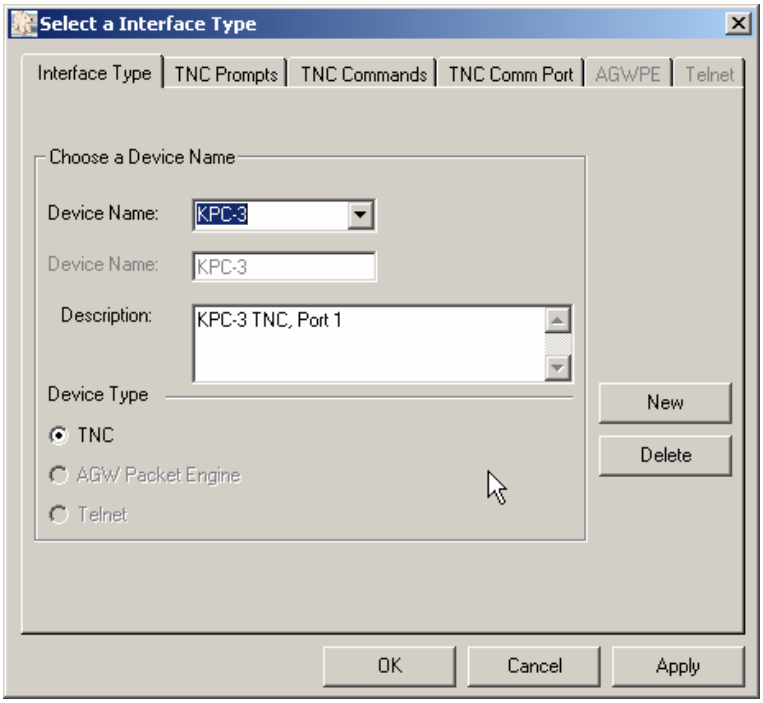


Figure 15: Interface Type Setup

Device settings are managed from a series of tabs across the top of the above menu. These tabs are:

Tabs	Description
Interface Type	This tab is used for all interfaces. It allows the user to select a previously defined configured interface, or define a new one. See the field descriptions below.
TNC Prompts	Enabled for a TNC connected to a Serial Port. Contains the definitions of what the TNC prompts look like.
TNC Commands	Enabled for a TNC connected to a Serial Port. Contains the definitions of the different commands Outpost uses to talk to the TNC.
TNC Comm Port	Enabled for a TNC connected to a Serial Port. Defines the serial port configuration for the TNC.
AGWPE	Enabled for an AGWPE interface. Defines the parameters needed for Outpost to talk to the AGWPE monitor program.
Telnet	Enabled for a Telnet interface. Defines the parameters needed for Outpost to talk to the BBS that is Telnet-accessible.

On the **Device Type** Tab, the following controls are available:

Fields	Description
Device Name	A Pull-down menu of the TNCs or interfaces previously set up in Outpost. **Default**: Last TNC/interface selected
Device Name	When creating a new TNC or interface entry, the Pull-down tab is hidden and the fill-in-the-blank Device Name field is where you enter the name of a new TNC or interface. While this is usually the TNC Model Number (i.e.: KPC-3), it can be some other description such as KPC3-P0 (port 0), Jims-KPC3+, etc. The name can be up to 20 characters long.
Description	This is a free-form text field for entering any additional information about this TNC or interface. This is a 256 character field.
Device Type	Displays the device type for the selected TNC. When creating a new entry, allows the user to pick the interface type they want to configure.

The following menu controls are available:

Controls	Description
New	Allows the user to set up a new interface type. All fields throughout the menu are set to their default settings.
Delete	Allows the user to delete the currently displayed TNC or interface. The user will prompted whether they really want to delete the interface.
OK	Same as Apply, but closes the menu on completion if the validation is successful.
Cancel	Cancels any changes that may have been made to the form.
Apply	Causes all required fields to be validated as being filled in. On completion, the menu remains open. The Apply control becomes enabled as soon as any field is changed as caused by an update to an existing configuration or by creating a new TNC or interface.

4.2 Serial Port TNC Setup

A "Terminal Node Controller" (TNC) connects your computer to your radio, similar to how a dial-up modem connects your computer to the Internet. Most TNCs implement some or all of the command-set defined by TAPR (Tucson Amateur Packet Radio Club). Outpost uses these commands as the default commands when setting up your TNC. If your TNC's command-set is different, you can change them when you define a new or update an existing TNC.

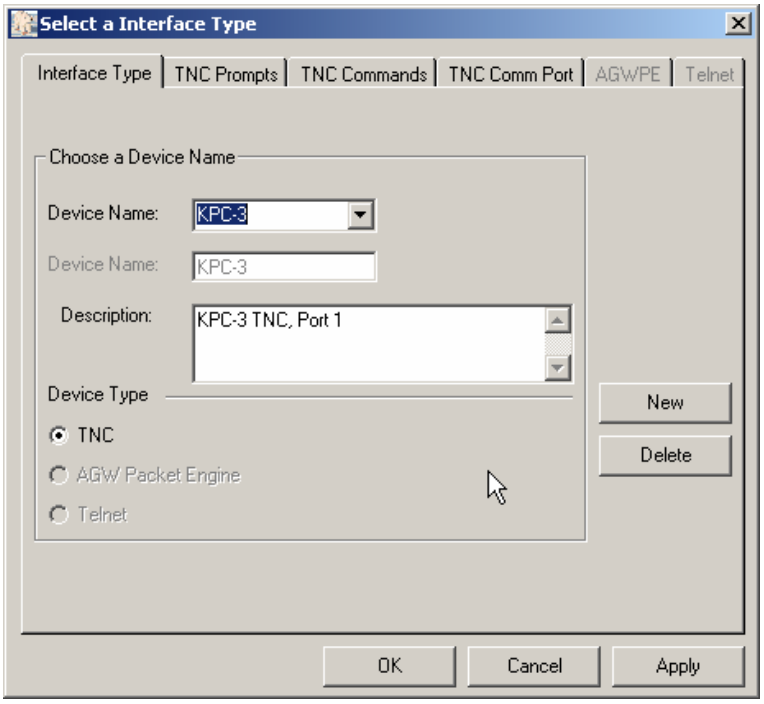


Figure 16: TNC Setup Menu

There are 3 tabs that are enabled to define the Serial Port TNC.:

The **TNC Prompts** menu contains fields for the prompts that the TNC will send back letting Outpost know what kind of response it got from the TNC. On creating a new TNC, the default prompts as shown below are loaded, and should work fine for all TNCs. Check your TNC manual if system hangs occur.

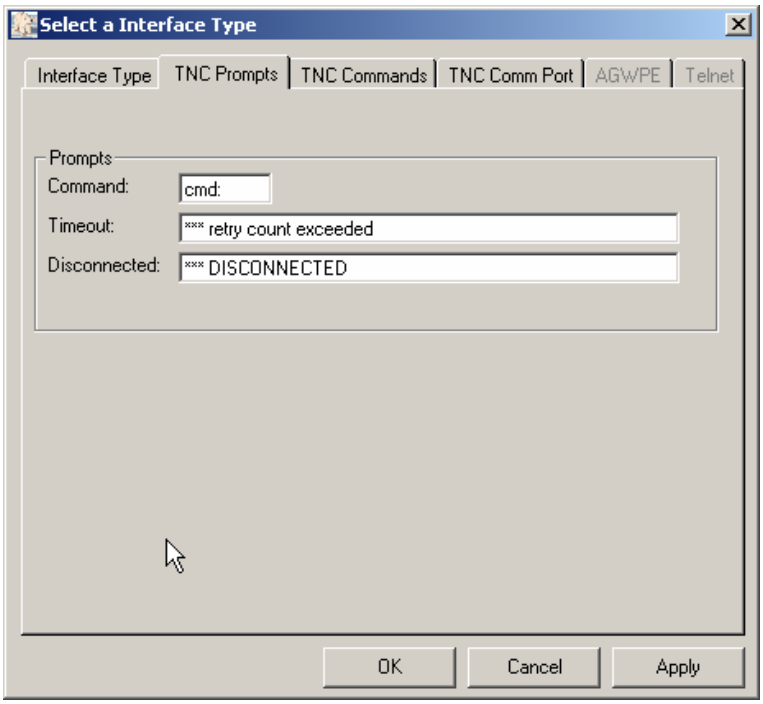


Figure 17: TNC Prompts Setup Menu

The fields on the form are as follows:

Fields	Description
Command	The prompt that the TNC displays to prompt for the next TNC command. **Default**: `cmd:` (TAPR standard prompt)
Timeout	The string that is displayed by the TNC when the number of configured retries is exceeded. **Default**: `*** retry count exceeded`
Disconnected	The string that is displayed by the TNC whenever the TNC unexpectedly disconnects from the BBS. This is usually caused if the BBS terminates the connection, or the user forces a disconnect. **Default**: `*** DISCONNECTED`

The **TNC Commands** menu contains the commands that Outpost needs to issue to the TNC to prepare for and connect to the BBS. On creating a new TNC, the default prompts are loaded, and should work for all TNCs. Check your TNC manual if system hangs occur.

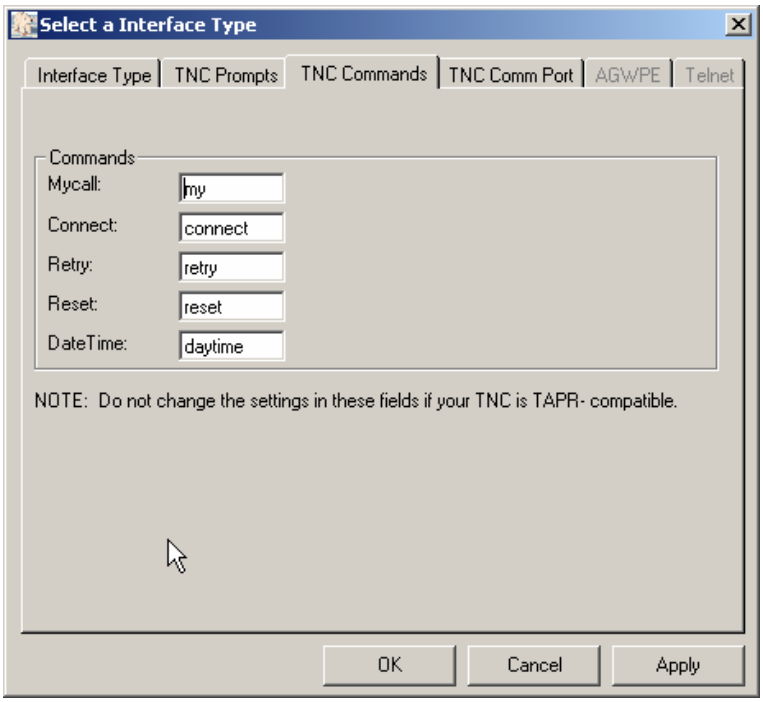


Figure 18: TNC Commands Setup Menu

The fields on the form are as follows:

Fields	Description
Mycall	The TNC command that is used to set the station ID. When entering this command, only enter the TNC portion of the command. Do not include the station ID. **Default**: `mycall`
Connect	The TNC-only command that initiates a connection with a BBS. When entering this command, only enter the TNC portion of the command. Do not enter the BBS callsign. **Default**: `connect`.
Retry	The TNC command that determines the number to attempts the TNC will transmit a packet to the BBS before giving up. . **Default**: `retry`
Reset	The TNC command that performs a soft reset of the TNC. . **Default**: `reset`
DateTime	The TNC command that is used to set the date and time. This command is transmitted each time a TNC session is initiated. **Default**: `daytime`

The **TNC Comm Port** menu defines the serial port settings for the TNC. On creating a new TNC, an initial setting is loaded, but should be carefully checked against the serial port configuration for the TNC you have set up.

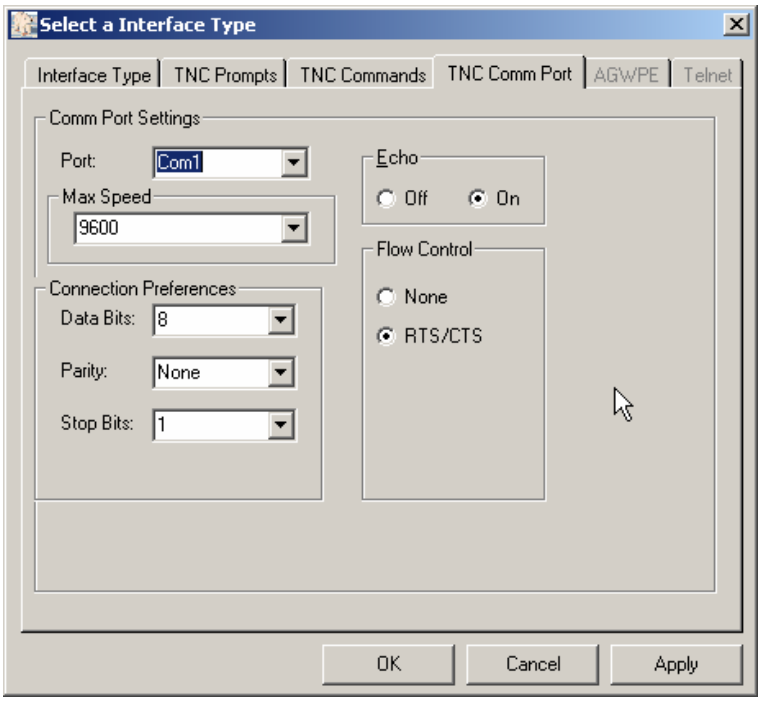


Figure 19: TNC Comm Port Setup Menu

Comm Port settings are standard serial port settings typically used by other terminal emulator programs. These settings define:

Fields	Description
Port	Identifies the Serial Port to which the TNC is connected. **Default**: 1
Max Speed	This is the baud rate between the computer and the TNC. This is different from the speed that the TNC transmits data to the BBS. Outpost Baud Rate settings include: 110 19200 300 28800 600 38400 1200 56000 2400 57600 4800 115200 9600 128000 14400 256000 **Default**: 9600
Data Bits	The number of data bits to be sent. **Default**: 8

Fields	Description
Parity	Defines how parity will be handled **Default**: None
Stop Bits	**Default**: 1
Echo	Sends an Echo On of Echo Off command to the TNC. When set to On, all commands sent to Outpost will be "echo'ed" on the Packet Session Manager window. **Default**: On
Flow Control	Determines how the program will manage the data flow between the Computer and the TNC. The following options are available: • None: no flow Control is used • RTS/CTS: Hardware flow control **Default**: RTS/CTS

Comments on Flow Control

Flow Control (also known as Handshaking) is a way for data communication equipment to control the flow of data between connected equipment, particularly when one part of the system is slower than the rest. This is the case with the TNC and BBS. While the PC running Outpost can connect and transfer data to the TNC at a high data rate (such as 9600 baud in the example above), the TNC is limited to transmit at 1200 baud (or 9600 baud if your configuration supports it) with the BBS.

Because Outpost generates all the commands that you would typically enter, it communicates with the TNC at a significantly faster rate than what you could manually type. Therefore, there is the risk that Outpost will overflow the TNC's internal transmit buffer. When this happens, the TNC and the Packet Session Manager will hang.

The default setting is **RTS/CTS** (Hardware Flow Control). For this option to work, you must have a serial cable between the TNC and Computer with at least the additional CTS pin connected. To make it easy, I recommend using a full 9 pin cable. If you have only a Pin 2 and 3 cable, leaving this setting as is will not have any adverse affect. However, no flow control will occur.

WARNING! Unshielded home-made cables are a known source of problems that can cause system and PC hangs. Most commercial cables are shielded. If you decide to make your own, ensure the cable is shielded, or else RF will get into your computer.

4.3 AGWPE Setup

Per Ralph Milnes KC2RLM, "AGWPE is a multi-TNC management utility written by George SV2AGW. Before AGWPE, a packet device such as a TNC or other radio modem could only be used by one program at a time. Likewise, a packet program could only use one packet device at a time. AGWPE changed all that. It lets a program access multiple packet devices at one time, and lets a packet device be shared by multiple programs at one time.

"AGWPE performs this magic by placing the TNC in KISS mode and assuming responsibility for handling most of the logic functions built into the TNC. The TNC is left to handle just tone modulation/demodulation, or modem functions. AGWPE also works with radio modems, such as the YAM and Baycom that already lack logic functions and must rely on the logic functions of a control program such as AGWPE."

NOTE: For users wishing to use AGWPE, I **strongly recommend** that you thoroughly understand how AGWPE works, how it is set up, and how it is confirmed operational before deploying it with Outpost. AGWPE support is a field of study unto itself and therefore, is out of scope for Outpost support. However, there is plenty of help available from users on the Internet.

Outpost implements the required protocol to talk to AGWPE and its associated TNC device located either on the same PC where Outpost is running or on a remote PC somewhere else on the network.

The AGWPE setup form is enabled once AGWPE is selected as the device type.

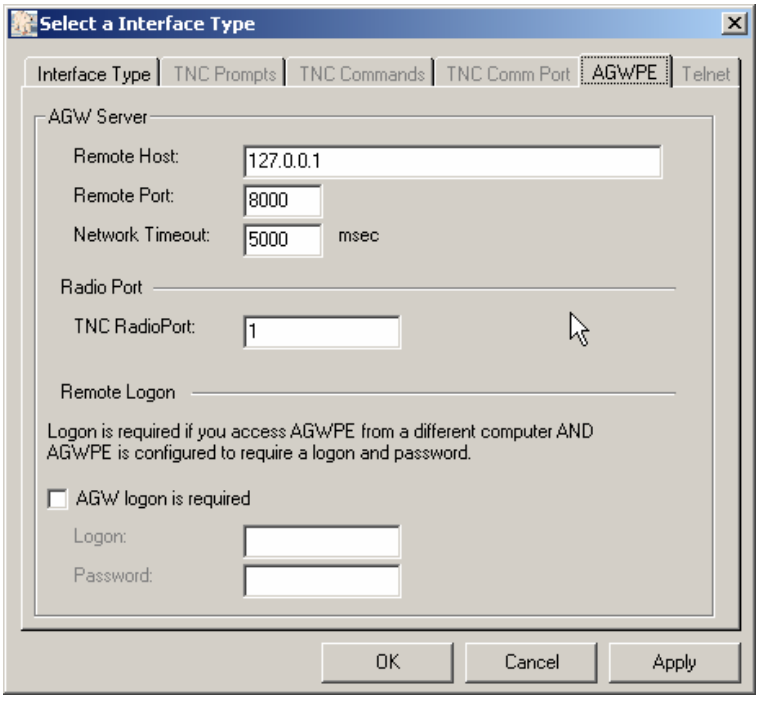


Figure 20: AGWPE Setup Menu

The **AGWPE** menu manages information specific for accessing the AGWPE program. On defining a new AGWPE Interface, the default values shown above are loaded, and should work for a locally configured (same PC) AGWPE installation. The fields on the form are as follows:

Fields	Description
Remote Host	The IP Address or host name of the PC where AGWPE is running. The default setting tells Outpost to look for the AGWPE on the machine where Outpost is running. **Default**: 127.0.0.1
Remote Port	Ports are used with TCP to name the logical connection on a specific network node. The default AGWPE port is 8000. This setting must match what is set up in the AGWPE Winsock Interface form. **Default**: 8000
Network Timeout	The network timeout tells Outpost how long to wait for a network interaction with AGWPE before it gives up and reports an error. A setting of 5000 (5 seconds) is plenty, particularly if AGWPE is operating on the same PC as Outpost. For remote instances of AGWPE, the timeout may need to be longer depending on the network traffic. **Default**: 5000
TNC RadioPort	Corresponds to the TNC Radio Port setting defined on the AGWPE Radio Port TNC Setup
AGWPE Logon Required	This and the next 2 fields depend on whether a logon requirement was defined at the AGWPE program. For AGWPE operating on the same PC as Outpost, no Logon is required. Logon is optional for cases where AGWPE is located somewhere else on the same LAN, or elsewhere on the internet. Check this box is a Logon is required. **Default**: unchecked (not required)
Logon	If the AGWPE Logon box is checked, this field is enabled. The logon name entered here must match the name set up in AGWPE. Check the AGWPE configuration for a Logon /password requirement (AGWPE's Winsock Interface Security tab). **Default**: no entry
Password	If the AGWPE Logon box is checked, this field is enabled. The password entered here must match the name set up in AGWPE. Check the AGWPE configuration for a Logon /password requirement (AGWPE's Winsock Interface Security tab). **Default**: no entry

4.4 Telnet Setup

There are a few BBSs that can be accessed by Telnet. Outpost v2.0 now supports this type of access.

Similar to the AGWPE, setting up telnet requires an understanding of the network settings that need to be defined. Unlike AGWPE, Telnet access to a BBS is usually more tightly controlled resulting in the need to work with the BBS Sysop to establish a telnet logon and optional password. This ensures non-Hams cannot initiate traffic on the Amateur Radio bands.

The Telnet setup form is enabled once Telnet is selected as the device type.

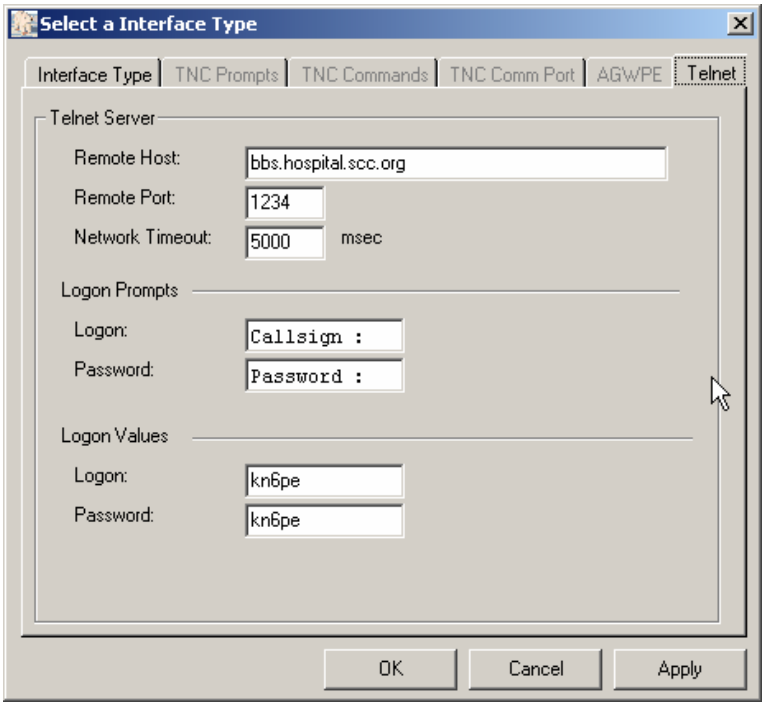


Figure 21: Telnet Setup Menu

The **Telnet** menu contains information specific to accessing the remote BBS over a LAN or WAN. On defining a new Telnet Interface, some default values are loaded, but will be insufficient to operate without additional information. The fields on the form are as follows:

Fields	Description
Remote Host	The IP Address or host name of the server where the BBS is running. The default setting tells Outpost to look for the BBS on the machine where Outpost is running. Contact the BBS Sysop for the IP Address or Host name. **Default**: 127.0.0.1
Remote Port	Ports are used with TCP to name the logical connection on a specific network node. Contact the BBS Sysop for the Port number for the BBS. **Default**: 0

Fields	Description
Network Timeout	The network timeout tells Outpost how long to wait for a network interaction with the BBS server before it gives up and reports an error. A setting of 5000 (5 seconds) is plenty, particularly if server is operating on the same LAN as Outpost. For remote instances of the server, the timeout may need to be longer depending on the network traffic. **Default**: 5000
Logon Prompt	This is the string presented by the BBS that prompts for the Logon Name. **Default**: `Callsign :`
Password Prompt	This is the string presented by the BBS that prompts for the password. **Default**: `Password :`
Logon	This is the answer to the Logon Prompt. Contact your BBS Sysop for the logon information. Usually, this will be your call sign **Default**: no entry
Password	This is the answer to the Password Prompt. Contact your BBS Sysop for the logon information. Usually, this will be set up by the Sysop. Leave this field BLANK if there is no password assigned to access the BBS by Telnet (not recommended). **Default**: no entry

4.5 Selecting a previously configured interface

Outpost comes with a few commonly available TNCs, and sample AGWPE and Telnet interfaces already configured. To select one of these configured TNCs, perform the following:

1. From Outpost's main form, select the **Setup** menu, then **TNC**. If a TNC was previously defined, it will be displayed.
2. At the `TNC Name:` field, use the pull-down menu to view the currently defined TNCs.
3. Select the TNC you want to use.
4. Press **OK** when done. This TNC is now selected as the default TNC.

When done, Outpost will display the selected TNC on the Status Bar on the bottom of the Main Form.

4.6 Updating a previously configured Device

Most TNC settings can be changed. To change a TNC setting, perform the following:

1. From Outpost's main form, select the **Setup** menu, then **TNC**. If a TNC was previously defined, it will be displayed.
2. All fields (other than the TNC name) can be changed. When done, press **Apply** or **OK**.

4.7 Defining a new interface

Setting up a new Interface uses the menus described above. Depending on the interface selected will determine which tabs on the menu will be enabled.

Set up a new TNC as follows:

1. From Outpost's main form, select the **Setup** menu, then **TNC**.
2. Press the **New** button.
3. Enter the Device Name. A good rule of thumb is to enter the product or model number for a TNC (such as KPC-3, KAM, DSP232, etc.), or some descriptive text for AGWPE or Telnet (such as AGWPE-LOCAL, CRAIGS-TELNET).
4. Enter any additional text in the description field you want about the TNC (i.e.: frequency, other comments).
5. For Serial Port TNC setups, the TNC commands are generally the same from one TNC manufacturer to another.

   Having said that, undoubtedly there is one or more TNCs on the market that have a different command and/or prompt set. Because Outpost issues TNC commands on behalf of the user, and looks for the TNC prompts, it is important that the specific TNC commands and prompts required by Outpost are defined. If your TNC has a different command-set or prompt-set from what is initially loaded, then you will have to change the default settings.
6. For Serial Port TNC setups, using the TNC's reference manual, verify the default TNC prompts are correct, or change them as necessary.
7. Verify the default TNC commands are correct, or change them as necessary.
8. Verify the Comm Port settings are correct, or press the Comm Port button to change them as necessary (see below for the Comm Port menu).
9. Press **OK** when done. This new TNC entry and Comm Port settings are saved and set as the current TNC.

5 Setting up a BBS

The next step is to define the Bulletin Board System (BBS's). There are some variations in BBS's that require defining the BBS command and prompt set. Outpost uses the BBS commands to send and retrieve messages to the BBS.

5.1 BBS Setup Menus

Outpost comes with a few examples of different BBSs already set up. Please use these as references when setting up a new BBS.

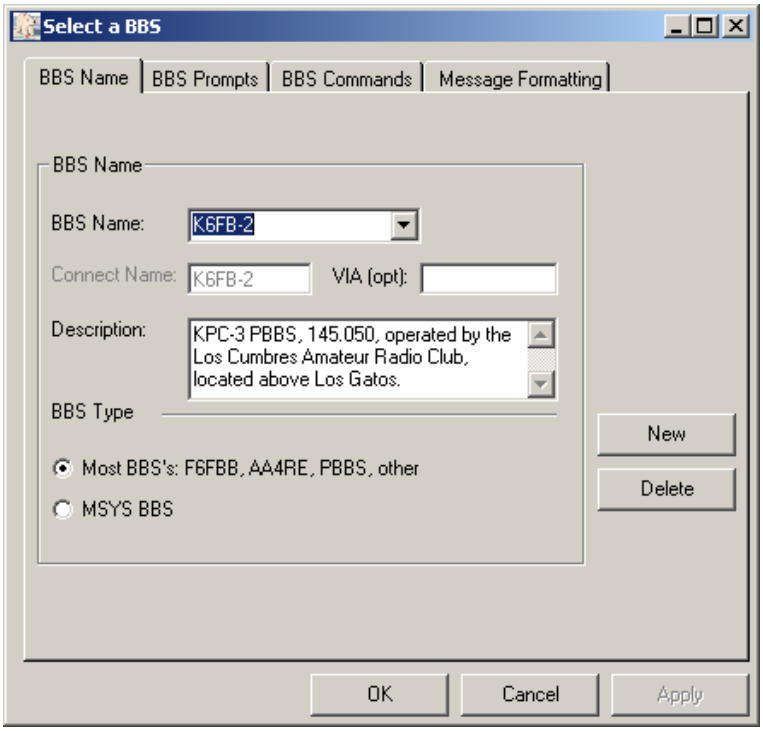


Figure 22: BBS Setup Menu

BBS settings are managed from a series of tabs across the top of the above menu. These tabs are:

Tabs	Description
BBS Name	This tab allows the user to select a previously defined BBS, or define a new one. See the field descriptions below.
BBS Prompts	Contains the definitions of what the BBS prompts look like.
BBS Commands	Contains the definitions of the different commands Outpost uses to talk to the BBS.
Message Formatting	Disabled in v2.0. This is a planned future enhancement to allow the user to mask BBS-generated headers and footers in retrieved messages.

On the **BBS Name** Tab, the following controls are available:

Fields	Description
BBS Name	A pull-down menu containing the list of BBSs currently set up in Outpost. **Default**: Last BBS selected
Connect Name	The exact name of the BBS to which you want to connect. This is NOT a friendly name (Bob's BBS) but the call sign and SSID (if used) of the BBS, such as K6FB-2 or an alias (SEABBS). This string will be appended to the TNC "connect" command. **Default**: none **Character Size**: 10
VIA (opt)	Optional field. If you are too far from the BBS to reach it directly, you may need to access it with an intermediate station. Enter the name of the station that you will use to remotely connect to the BBS. This field can support up to 3 VIA stations. **Default**: blank **Character Size**: 30
Description	This is a free-form text field for entering any additional information about this TNC or interface. **Default**: blank **Character Size**: 256
BBS TYPE	• **Most BBSs** behave the same and require no special handling. If you are not sure what the BBS application is with which you are connecting, check this option. • The **MSYS BBS** requires special handling in terms of prompt processing. If this box is checked, the Subject Prompt and Message Prompt are populated with MSYS prompts. **Default**: Most BBSs…

The following menu controls are available:

Controls	Description
New	Allows the user to set up a new BBS. All fields are set to their default settings.
Delete	Allows the user to delete the currently displayed BBS. The user will be prompted whether they really want to delete the BBS.
OK	Same as Apply, but closes the form on completion if the validation is successful.
Cancel	Cancels any changes that may have been made to the form.
Apply	Causes all required fields to be validated as being filled in. On completion, the menu remains open. The Apply control becomes enabled as soon as any field is changed as caused by an update to an existing configuration or by creating a new BBS.

The **BBS Prompts** tab contains the prompts that the BBS will send back to the operator letting Outpost know what kind of response it got from the BBS. On creating a new BBS, you must define the BBS Command Prompt.

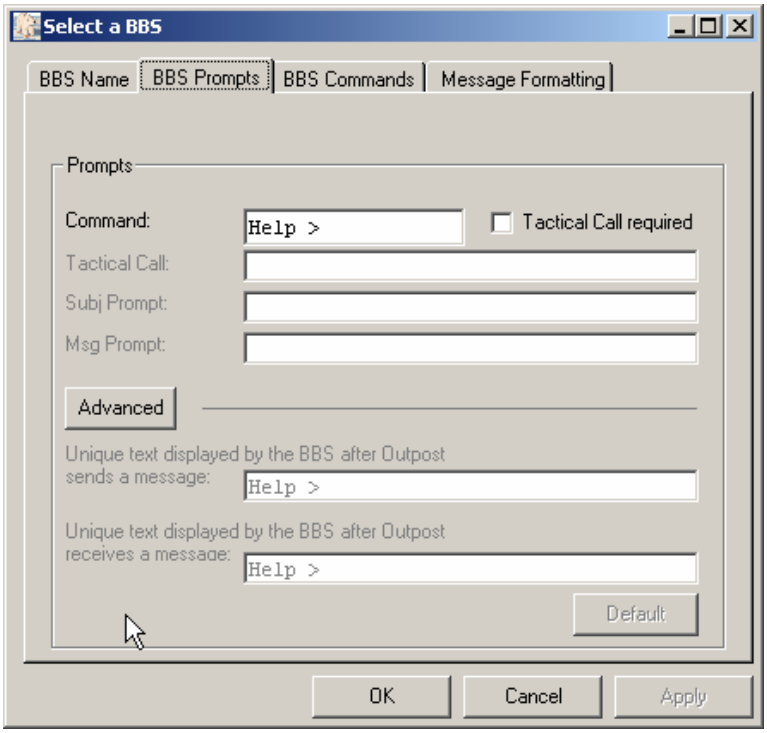


Figure 23: BBS Prompts Menu

The fields on the form are as follows:

Fields	Description
Command	The prompt that the BBS displays to prompt for the next BBS command. There is no standard BBS prompt. It is recommended that you copy the BBS prompt exactly so there is no mistake in its setup. Be careful about embedded spaces and capitalization in prompts. For instance: `Help>` is not the same as `Help_>` . **Default**: none
Tactical Call Sign required	Check box: Some BBSs operate with Tactical Calls. Similar to the way tactical calls are used in voice traffic, these calls allow different operators to log on and access a packet network while retaining the addressing of the tactical call. If your BBS requires a Tactical Call and will prompt for one, check this box. **Default**: unchecked
Tactical Call	If the above box is checked, this field is enabled. Enter the Tactical Call prompt into this field. **Default**: none
Subj Prompt	Used for MSYS BBS only. This field cannot be changed. If the MSYS BBS is selected, the default MSYS Subject Prompt will be filled in. **Default**: `POSTAL CODE if not local:`

Fields	Description
Msg Prompt	Used for MSYS BBS only. This field cannot be changed. If the MSYS BBS is selected, the default MSYS Message Prompt will be filled in. **Default**: `/EX, ^A to abort`
Unique text displayed… sends a message	This field describes the string that Outpost will look for after **sending** a message to the BBS to know that the message was sent. See the information on the **Advanced Control** below. **Default**: disabled, value defaults to the command prompt
Unique text displayed… receives a message	This field describes the string that Outpost will look for after **receiving** a message from the BBS to know that the message was sent. See the information on the **Advanced Control** below. **Default**: disabled, value defaults to the command prompt

This tab also provides the following special controls.

Controls	Description
Advanced	This control enables the following two fields for custom entry: ▪ **Unique Text is displayed by the BBS after Outpost sends a Message** ▪ **Unique Text is displayed by the BBS after Outpost receives a Message** These 2 fields are automatically set to the Command Prompt as defined above. When a message is sent to or received from the BBS, it may be useful to detect a different string back from the BBS other than the Command Prompt. This feature will only work well when (i) the BBS command prompt is not unique enough (relative to the message text), AND (ii) the alternative "message sent" or "message received" string from the BBS is unique enough.
Default	This control resets the 2 fields referenced above back to the Command Prompt. **Default**: disabled until the Advanced button is pressed.

WARNING! Changing these 2 fields may result in unexpected program behavior. Be very careful if you decide to changes these values.

The **BBS Commands** tab contains the commands that Outpost issues to the BBS to send, list, receive, and delete messages on the BBS. On creating a new BBS, the default prompts are loaded, and should work fine for all BBSs.

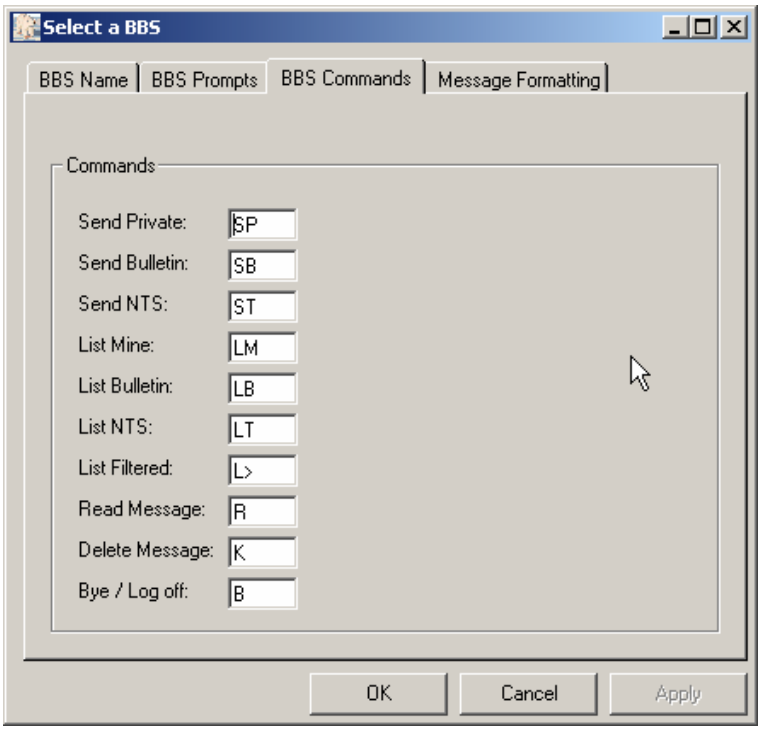


Figure 24: BBS Commands Menu

The fields on the form are as follows:

Fields	Description
Send Private	The BBS command that is used to send a Private Message. Only the station to which this message is addressed can read it. **Default**: SP
Send Bulletin	The BBS command that is used to send a Bulletin Message. Bulletins are usually addressed to a group of stations. All stations can read bulletins. **Default**: SB
Send NTS	The BBS command that is used to send an NTS Message. NTS messages can be read by anyone who is willing to service the NTS message. **Default**: ST
List Mine	The BBS command that that produces the list of messages addressed to you. In Outpost, this can either be the Station ID (ie: KH6ABC) or the tactical call (ie: CUPEOC). **Default**: LM
List Bulletin	The BBS command that produces the list of bulletins present on the BBS. **Default**: LB
List NTS	The BBS command that that produces the list of NTS messages present on the BBS.

Fields	Description
	Default: LT
List Filtered	The BBS command that will produce the list of messages that match the Filter Masks defined on the **Send/Receive Settings** menu. If the MSYS BBS is selected **Default**: L> for the Most BBS selection L for the MSYS BBS selection
Read Message	The BBS command that retrieves and displays a specific message on the BBS. **Default**: R
Delete Message	The BBS command that deletes a message on the BBS. **Default**: K
Bye/Log off	The BBS command that logs you off of the BBS. **Default**: B

The **Message Formatting** tab is a placeholder for a feature to be introduced in a later release. All fields are disabled and cannot be changed.

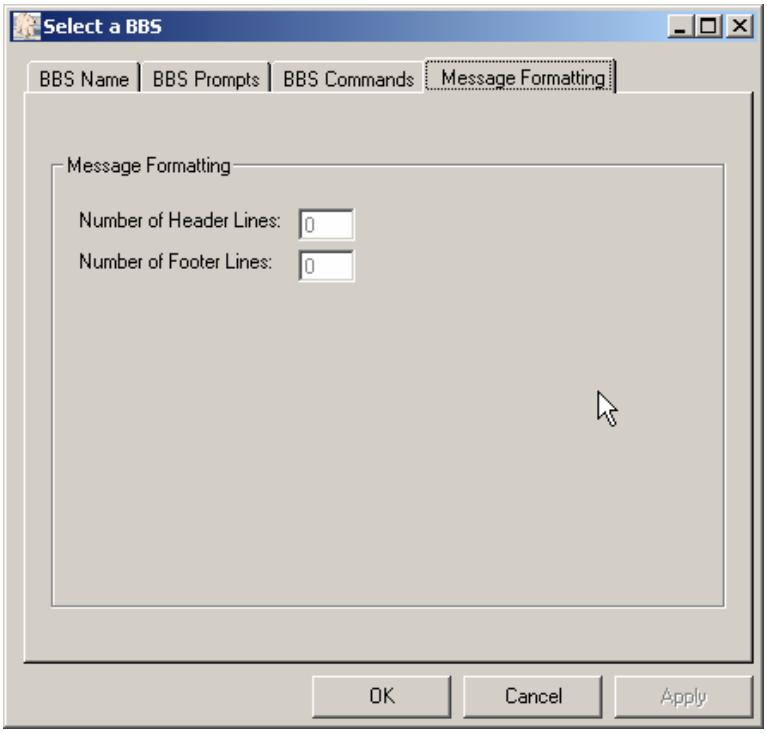


Figure 25: Message Formatting Menu

5.2 Selecting a configured BBS

Outpost comes with a few BBSs already configured that are mostly found in San Francisco's South Bay Area. For those Outpost users outside the Bay Area, please consider these as examples on how a completed BBS setup should look. If desired, these BBS entries can be deleted from the list.

To select a previously configured BBS, perform the following:

1. Select Outpost's **Setup** menu, then select **BBS**.
2. At the BBS Name field, use the pull-down menu to view the available BBSs. If a BBS was previously defined, it will be displayed.
3. Select the BBS you want to use.
4. Press **OK** when done.

Outpost will display the selected TNC on the Status Bar on the bottom of the Main Form.

5.3 Defining a new BBS

While it would be great if all BBSs behaved the same in terms of commands and prompts, this is not the case.

There are many variations of BBS firmware and software in use. Some Personal BBS's (PBBS) are implemented in TNCs, while other BBSs have been written and distributed by hams to users across the country.

While Outpost has not been tested with each BBS system, the widest variation in BBS operation seems to be in terms of BBS prompts. Getting the prompts right during the configuration will be critical to successful operation. This may take some time troubleshooting in the event the BBS does not respond exactly as you would expect. Set up a new BBS as follows:

NOTE: It is highly recommended that you can access the BBS from either the Outpost's Interactive Packet Window or some other TNC program.

NOTE: It is critical that all prompts be entered exactly as sent from the BBS. I've used both the Outpost Interactive Packet Window and Windows' HYPERTERM program to "copy" (CNTL-C) and "paste (CNTL-V) prompt strings into Outpost.

1. Select Outpost's **Setup** menu, then select **BBS**.
2. Press the **New** button.
3. Enter the Connect Name. This is the name of the BBS as you would type it to initiate a connection (such as: K6FB-2, W6XSC-1, etc.).
4. If Outpost is too far from the BBS, you can enter the call sign of one digipeater in the field labeled "VIA (opt)."

NOTE: The "VIA" field is an optional field. If you do not intend to use a digipeater, LEAVE THIS FIELD BLANK. Any miscellaneous characters will cause Outpost to attempt a "via" connect with these characters.

5. Some BBS systems that support local ARES/RACES organization may also prompt for an additional tactical Call Sign.

- If your BBS requires a tactical call sign, then check the `Tactical Call required` box and enter the Tactical Call Sign prompt. Include as much of the prompt as possible.
- If your BBS does not require a Tactical Call Sign, then leave this box blank.

6. Enter the BBS Command Prompt. This is best determined by running your terminal emulator or TNC program to see exactly what the BBS sends back. Watch for embedded spaces in the prompt (i.e.: "`Help>`" is not the same as "`Help_>`"). Outpost is case sensitive; make sure the capitalization is correct as well.

NOTE: Outpost uses the prompts as unique identifiers to determine when the BBS is waiting for the next Outpost command. If this uniqueness cannot be guaranteed (i.e.: a character sequence that matches the prompt in a text message), then Outpost may not wait for the end of the message before sending the next BBS command.

7. Verify the default BBS commands listed; change them as necessary.
8. Press OK. This new BBS entry is saved and set as the current BBS.

5.4 BBS Registration

The typical Outpost session assumes there are no superfluous prompts such as prompting for the user's name, zip code, city, etc. However, some BBSs set this up during the *registration process* at first time log on.

- If you intend to access a BBS that requires registration, you must register prior to running Outpost.
- If you run Outpost and the program hangs because of registration prompts, Press the **Abort Session** button, wait for Outpost to end and close the TNC Session Window, then register with the BBS using either Outpost's Interactive Packet Window (under the **Tools→Interactive Packet** menu) or some other terminal emulator program.
- Log on manually to confirm the registration was successful.

5.5 BBS Expert User Mode

Several BBSs provide different levels of prompts.

- The NEWUSER mode presents different prompts that guide the new user through the use of the BBS.
- The EXPERT mode assumes the user is familiar with the BBS and its commands, and presents only the BBS Command prompt.

Outpost only works in **EXPERT** Mode and does not expect to see any other prompt other than the BBS command prompt. If your BBS supports it, before beginning an OUTPOST Session, verify your logon is set for EXPERT.

6 Other First-Time Setups

There are 2 other areas that are worth setting up prior to beginning with Outpost that are described here.

6.1 Setting up Application File Locations

Outpost reads and writes a series of files that are used for various purposes. When Outpost is initially installed and run for the first time, it will attempt to create 3 directories in the program directory: "archive", "reports", and "logs". These directories changed on the form located at **Tools > Directory Settings…** :

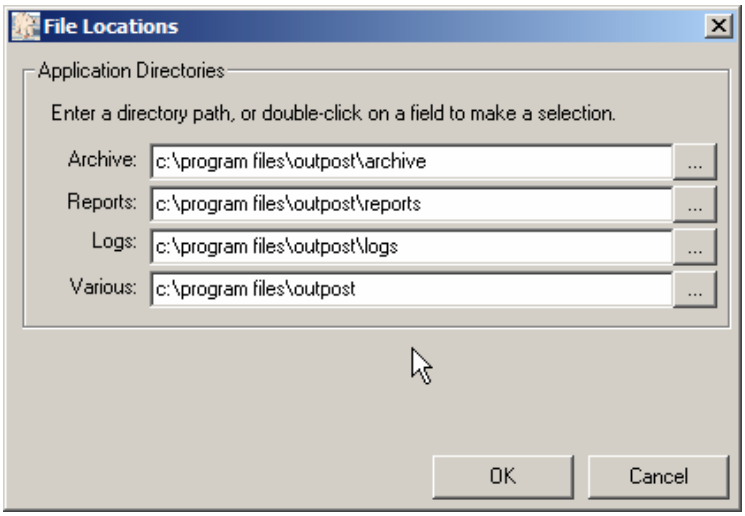


Figure 26: File Location Menu

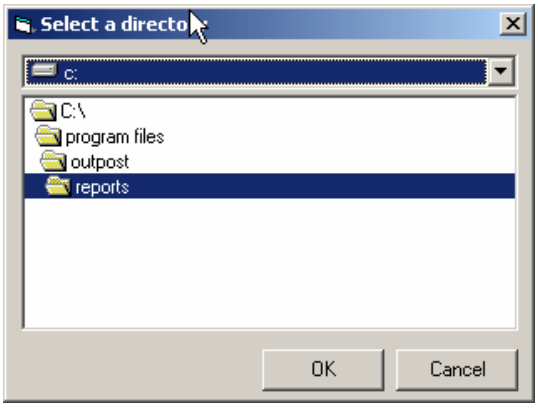
When running Outpost for the first time, the default directory locations are the directory where the application resides. These fields are:

Fields	Description
Archive	Storage location for files that are created by the message database export process **File > Export**, or by doing a **File > Save As** or a **File > Save All** for the messages in a message folder. While the name can be anything, the subdirectory "archive" is a descriptive name for this purpose. **Default**: archive
Reports	The location where Outpost first looks for On-line report files. Typically, the subdirectory "reports" is created for this purpose. **Default**: reports

Fields	Description
Logs	The location where Outpost writes all application and trace logs. Typically, the subdirectory "logs" is created for this purpose. **Default**: logs
Various	The location for other application files. Typically, the application directory is used for this purpose **Default**: Application directory

Subdirectories can be created in one of two ways:

1. Direct Entry. You can type in the directory path into each field. On pressing OK, a check is made to ensure the directory exists. If it does not, you will be prompted to allow Outpost to create it.
2. Directory Selection. To find and select a directory, click on the button at the end of the directory entry fields. A form pops up that will allow you to find and select a directory. Press OK to load the File Location Menu, then



OK when done.

Figure 27: Select a directory menu

6.2 Setting up the Report Values

Outpost uses a series of user-defined values to automate the message creation processes. These settings are defined using the form shown here and located at **Tools > Report Settings…** :

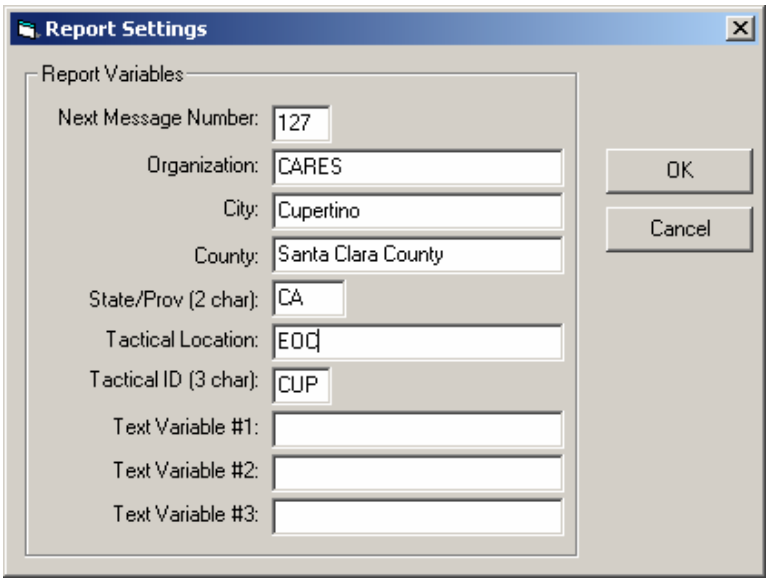


Figure 28: Report Settings Menu

The fields in this form are defined as follows:

Fields	Description
Next Message Number	This is a sequential message number that can be added to a Message's subject line, incorporated into an NTS message, or accessed by an On-line report. Each time it is accessed, it is incremented to the next number. **Default**: 100
Organization	A free-form text field that can contain the name of the organization that you may be supporting or to which you belong. Sample organization names are: Cupertino ARES/RACES Department of Health Services
City	A free-form text field that contains the name of a City. Typically, this could be the name of the City from which you are operating.
County	A free-form text field that contains the name of the County or district. Typically, this could be the name of the County from which you are operating.
State/Prov	A 2 character text field that contains the name of the State or Province. Typically, this could be the name of the State or Province from which you are operating.
Tactical Location	A free-form text field that contains the name of the Tactical Location. Sample tactical location names are: Seven Springs Fire Station Santa Clara Valley Medical Center

Fields	Description
Tactical ID	A 3 character text field that can contain an abbreviation of the tactical location. Sample tactical IDs (and what they could refer to) are: SSF (Seven Springs Fire Station) VMC (Santa Clara Valley Medical Center) Tactical IDs are used in 2 areas: On-line reports, and as Automatic Message Identifiers. When turned on, the Automatic Message Identifiers feature creates a concatenated field of the "Tactical ID" and the "Next Message Number" that is inserted in the message's Subject Line. For instance, if the next message number is 247 and the Tactical ID is "VMC", the prefix "**VMC247:** " would be inserted on the subject line.
Text Variable #1, #2, #3	Three free-form text fields that can contain any string.

Re port variables can be accessed by the following Outpost features. Note that all settings can be used with On-Line Reports.

Field	On-Line Reports	NTS Message Maker	Message Subject Line
Next Message Number	✓	✓	✓
Organization	✓		
City	✓	✓	
County	✓		
State/Prov	✓	✓	
Tactical Location	✓		
Tactical ID	✓		✓
Text Variable #1, #2, #3	✓		

To fill in the report variables, do the following:

1. From the Outpost main menu, select **Tools > Report Settings**.
2. Fill in the fields. When done, press **OK**.

Typically, defining report values only has to be done once for all reports. Once these fields are filled in, the report values will be referenced by any of the above-mentioned functions during run-time.

See the section on On-Line Reports, for information on how references to these values can be embedded into your custom reports.

7 Working with Messages

7.1 Introduction

Sooner or later, you will want to create and send a message. This is where Outpost's Message forms come in. There are two ways to get to these forms:

1. From the Main Outpost window, you can create a new message by either pressing the **New** button, or the **Actions > New Message** menu. Or,

2. You can view an existing message by highlighting the message with the mouse and either pressing the **Open** button, select the **Actions > Open a Message** menu, double-clicking on the message, or just press the "Enter" key.

NOTE: With the In Tray selected, new unread messages are listed in **BOLD**. Urgent Messages are listed in **RED!!**

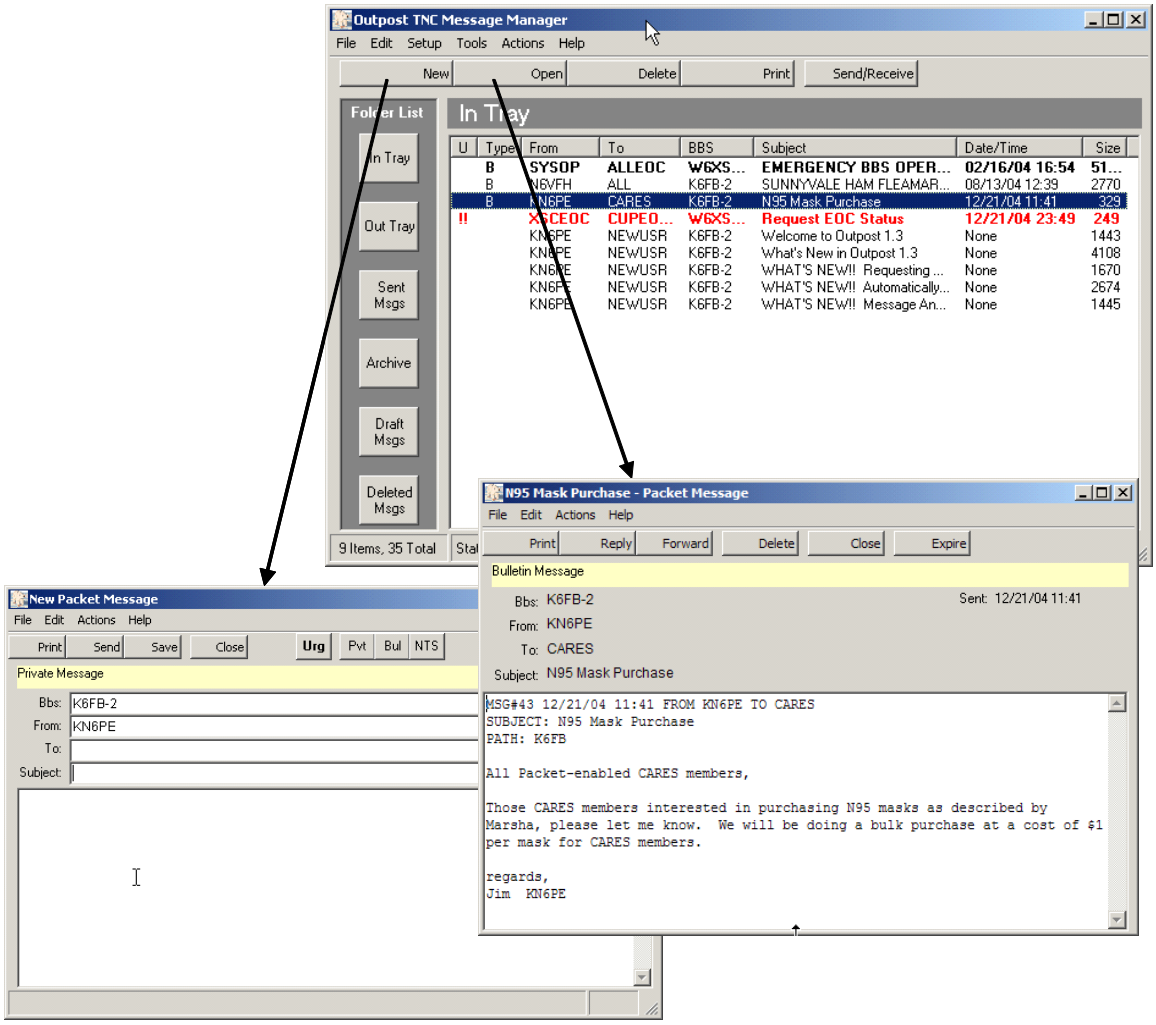


Figure 29: Message Windows for editing and viewing

7.2 The Message Window Layout

There are 2 message windows, one for viewing, and one that allows you to create or edit a message.

- Messages that were just created or waiting to be sent can be opened for editing.
- Messages that have been sent or were received can only be opened for viewing.

Regardless of your choice (view or edit), the 2 message window formats are essentially the same and present a typical message context. The windows are divided into three primary areas:

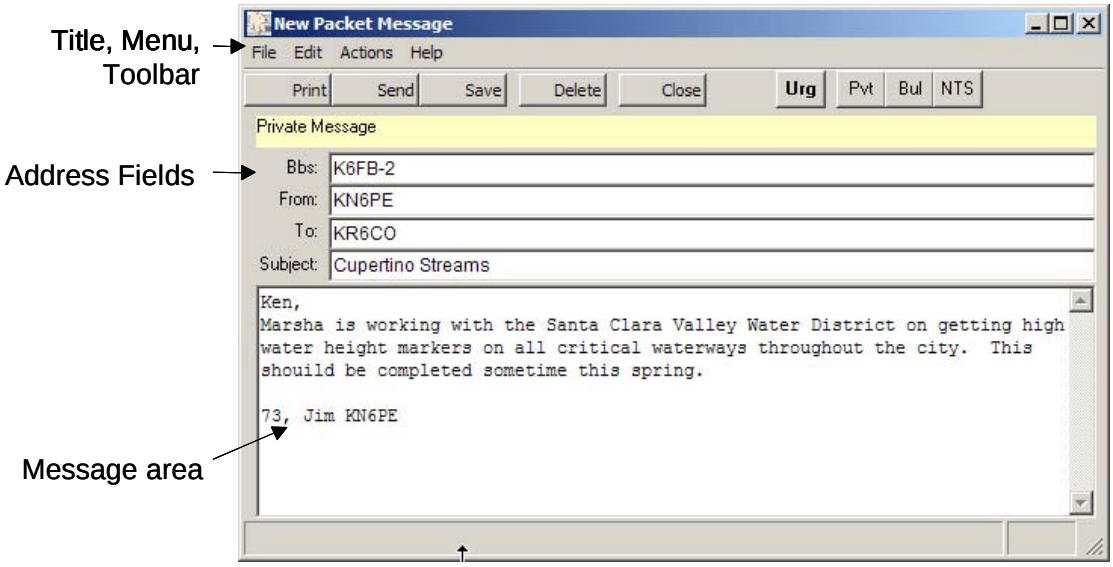


Figure 30: Message Window Layout

7.3 Menus and Toolbars

The *Program Controls* portion of the Message Window controls how the message will be created, stored, or structured. Unless otherwise noted, all menus and controls are identical on both the Edit and View-only Forms.

NOTE: Some of the more common menu items are also implemented as Tool Bar buttons. See the associated menu item below for their description.

Menu	Description
File	**Send**: Edit-only Form. Outpost checks that all fields are filled in, saves the message to the Out Tray, and then closes the Message Form. If the message is greater than 10,000 characters, a warning is issued. If the user presses OK, then the message is truncated to 10,000 characters. Also a button on the toolbar. **Open a File**. Prompts the user to select a text file

Menu	Description
	from the system file area. Once selected, the file's content is loaded into the message area. No address information is written to any address fields. **Open a Report**. Prompts the user to select a Report form file from the system file area. Once selected, three things happen: (i) the file's contents are loaded into the message area, (ii) any embedded <tags> are replaced, and (iii) cursor positions to the first data input point. See Section 12 Online Reports for more details. **Save**. Edit-only Form. Checks that at least the Subject field is filled in, saves this message to the DRAFT Folder, and then closes the Message. If the message is greater than 10,000 characters, a warning is issued. If the user presses OK, the message is truncated to 10,000 characters. Also a button on the toolbar. **Save As.** Allows the user to save the message to an ASCII text file on the system disk. Address information is also saved, but not in a format that can be reloaded back into the message heading fields. **Save As, No Headers**: Saves the body of the highlighted message to an ASCII text file without the message headers (From, To, Date, Subject). See the General Settings menu for information on enabling this feature. **NTS Message Maker**. Edit-only Form. Brings up a separate form that guides the user through the process of creating and addressing an NTS-compatible packet message. **Process a Report**. Edit-only Form. Manually causes Outpost to search a loaded On-line report for input prompts. This option is enabled only after an Open a Report command (above) is performed. **Clear Remaining Prompts**. Edit-only Form. Causes Outpost to remove all remaining On-Line Report prompts. This option is enabled only after an Open a Report command (above) is performed. **Print**. Allows the user to select a printer, and then print the currently highlighted message to the printer. **Print Setup**. Allows the user to select a default printer for Outpost. **Close**. Closes the form without saving or sending any message started.

Menu	Description
Edit	**Delete**: Deletes this message. Also, same as the button on the toolbar. **Cut**: Edit-only Form. Copies and deletes any highlighted text from any field. The text is placed in the MS-Windows clipboard. **Copy**: Copies any highlighted text in any field. The text is placed in the MS-Windows clipboard. **Paste**: Edit-only Form. Inserts text from the clipboard at the position where the cursor is located.
Actions	**Reply**: View-only Form. For an existing message, opens a new message window, initializes the address fields, and formats the message as a Reply Message. **Forward**: View-only Form. For an existing message, opens a new message window, initializes the address fields, and formats the message as a Forwarded Message. **Private Message.** Edit-only Form. Sets this message as a Private Message. It will be sent with the SP command. Also a button on the toolbar. **NTS Message.** Edit-only Form. Sets this message as a NTS Message. It will be sent with the ST command. Also a button on the toolbar. **Bulletin Message.** Edit-only Form. Sets this message as a Bulletin Message. It will be sent with the SB command. Also a button on the toolbar. **Request Delivery Receipt.** Edit-only Form. Requests that the receiving Outpost station automatically sends back a message indicating that the message was downloaded and received. **Request Read Receipt.** Edit-only Form. Requests that the receiving Outpost station automatically sends back a message indicating that the message was downloaded and opened.
Help	No On-line help enabled. Points the user to this User Guide.
URG	Tool Bar only, Sets this message as an Urgent Message. See the figure 33 for an example of how an Urgent Received message is displayed.

7.4 Address information

For a message to be considered valid and ready for sending, all 3 address fields and the Subject line must be to be filled in prior to sending a message.

Field	Description
BBS	When opening a new message, this field is set to the currently selected BBS. However, it could be changed to a different BBS if desired. For received messages, this field contains the name of the originating BBS.
From	For new messages, this field is set to the currently configured Station Call Sign or Tactical Call (if enabled). When viewing a received message, this field contains the Station Call Sign or Tactical Call of the sending station.
To	For new messages, enter the FCC Call Sign or Tactical call of the station to which this message is to be delivered. The To Field can also hold a full hierarchical address for forwarding beyond the BBS. This is in the form (i.e.): KN6PE@N0ARY.#NOCAL.USA.NOAM. When viewing an existing message, this field contains the Cal Sign or tactical call of the destination station.
Subject	For new messages, enter a subject for this message. When viewing an existing message, this field contains the subject of the message.

7.5 Message Area

The Message Area is a free-form text area that supports cut and paste, tabs (**Cntl-Tab**), word-wrap, text importing, and other simple formatting functions. Rich Text is not supported.

Because of the ultimate transmission speed, Packet messages should be long enough to convey the intended meaning while being short enough to conserve bandwidth and minimize channel congestion.

NOTE: Most HF BBSs have a 3000-character limit on packet messages. If you must send large messages, it is recommended that you break them up into smaller messages to reduce channel contention.

NOTE: Outpost enforces a hard 10,000-character limit for sent and received messages. If the out-going message is greater than 10,000 characters, a warning is issued and the message is truncated. For incoming messages, Outpost will truncate the message up to 10,000 characters, and then write the entire message to the Session Log file.

7.6 Creating a message

The Steps for creating a message are:

1. From the main Outpost Window, click on the **New** button. A new message window will open. The "BBS" and "From" fields are pre-loaded with the current system information. These can be changed if necessary.
2. Enter the To: (Destination) call sign. Press **Tab** or use the mouse to move to the next field.
3. Enter the Subject. Press **Tab** or use the mouse to move to the Message Area.
4. Enter the message. Outpost will wrap any text that reaches the right side of the form. If you are sending it to another Outpost station, word-wrap is handled correctly and all formatting is preserved.

NOTE: For non-Outpost users, the message may not look as "neat" at the receiving end due to limitations of the receiving program and its ability (or inability) to handle line wraparounds.

5. Verify the message type. From the **Actions** Menu, set the message type (Private, NTS, or Bulletin) if you want something different from the default message type. The message type is displayed in the highlighted area below the Tool Bar buttons.

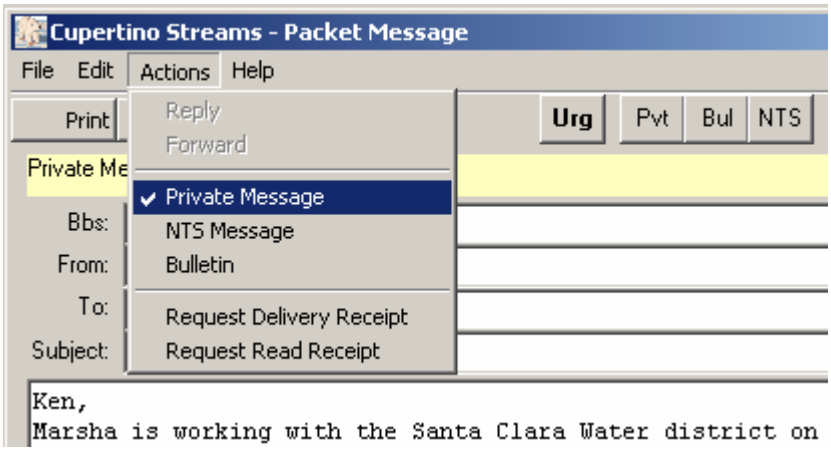


Figure 31: Selecting the Message Type

6. The message Type can also be set using the three buttons on the message form:
   - Pvt: Private
   - Bul: Bulletin
   - NTS: NTS message
7. When you are done with your message and satisfied that it is the way you want it to look and read, press the **Send** button. The message is placed in the Out Tray and will be transmitted during the next TNC Session.
8. If you are not done, you can press the **Save** button. The message is placed in the Draft folder. You can retrieve, edit, and send it at a later time.

7.7 Creating Urgent Messages

Outpost allows you to set up a message so that it is indicated as an **URGENT** message at the receiving end. To do this, proceed as follows:

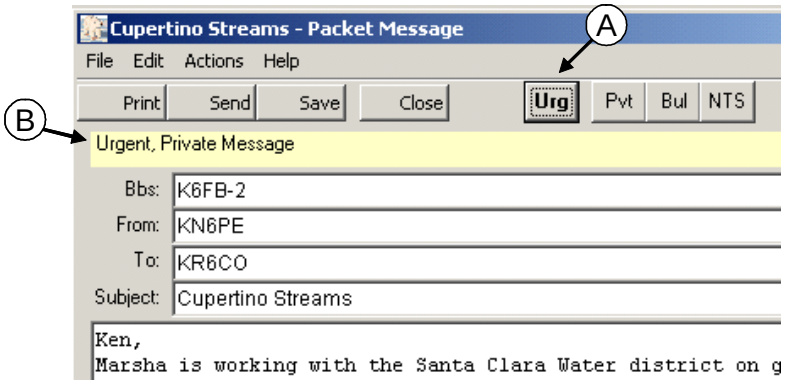


Figure 32: Setting Message to Urgent

1. On the Message form, press the "**Urg**" button (**A**). The message is then indicated to be Urgent (**B**). Pressing the "**Urg**" button again changes the message back to non-urgent.

2. Once the message is sent and downloaded by the receiving station, it is listed in the In Tray with all the other messages, and indicated by:
   (i) 2 red "**!!**" in the "**U**" column, and
   (ii) a highlighted message listing in **RED** as an Urgent Message (**C**).

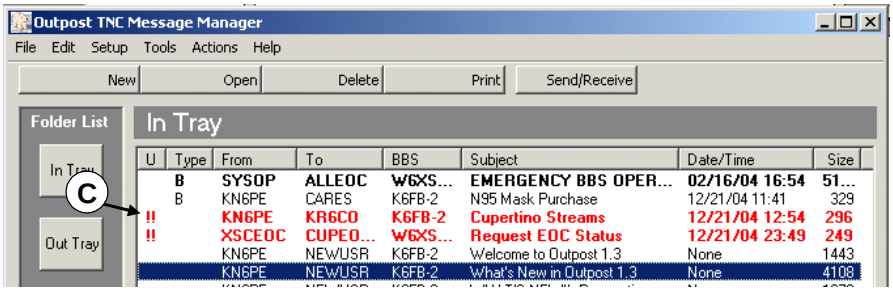


Figure 33: Receiving an Urgent Message

3. The message will continue to remain listed in red until it is deleted from Outpost, forwarded, or replied to. The message will also change from **BOLD** text to unbolded text to indicate it has been opened and read.

7.8 Requesting Message Receipts

Outpost also allows you to request a Delivery Receipt and/or a Read Receipt from the receiving Outpost station.

- A **Delivery Receipt** is a request for notification that the Sent Message was actually downloaded. It does not mean that it was successfully stored at the BBS.

  Once the receiving station retrieves their packet messages, the receiving station's Outpost detects that a delivery receipt was requested. During the same Packet Session that the message was downloaded, Outpost automatically formats and sends back a short Delivery Receipt message to the requesting station. No user interaction is required.

- A **Read Receipt** is a request for notification that the Sent Message was actually opened. It does not guarantee that the message was actually read or understood.

  When a received message containing a Read Receipt is opened, Outpost detects that a read receipt was requested and automatically formats a short Read Receipt message. This message will be sent back to the requester during the next send/receive session.

- Both Delivery and Read receipts can be requested at the same time if desired.

- To request a delivery or read receipt, from the message form, press **Actions > Request Delivery Receipt**.
  Repeat this for **Actions > Request Read Receipt** as required.

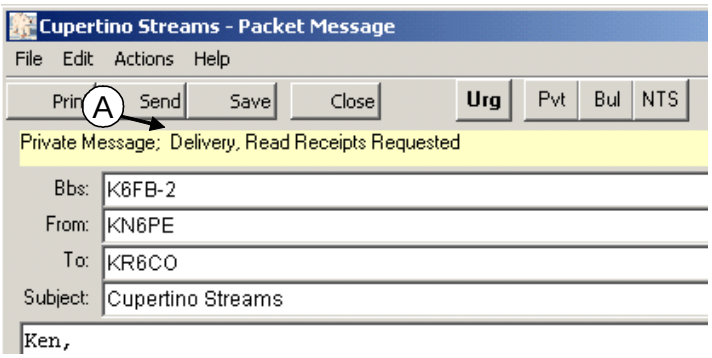


Figure 34: Setting up a message with Receipt Requests

After the message is delivered to the receiving station, the requesting station sees the following:

- Entry in the message listing indicating a Delivery Receipt (**B**)
- A short Delivery Receipt message containing date and time details of the receipt.

A similar message listing and message is returned for Read Receipts.

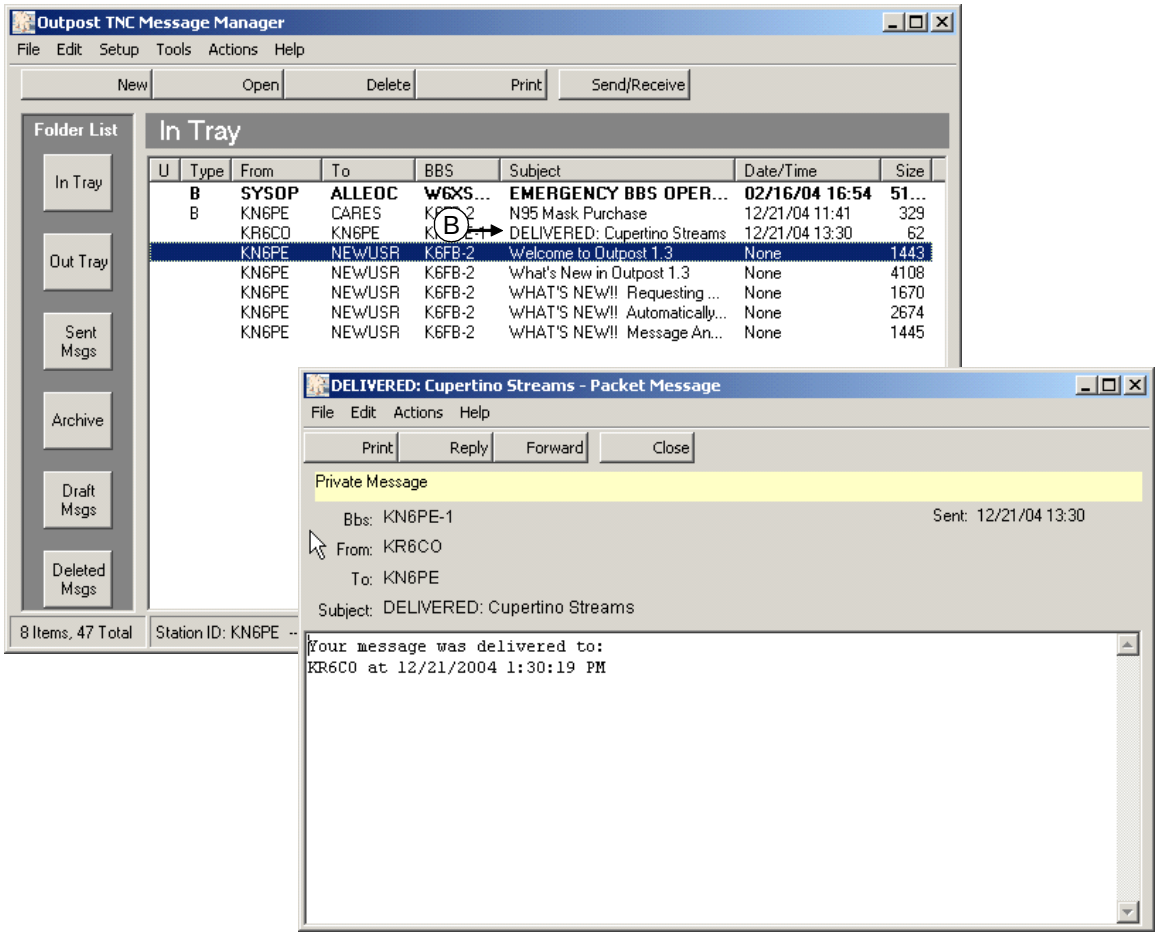


Figure 35: A Delivery Receipt Message

7.9 Forwarding or Replying to a message

Messages that you receive from another packet station can be forwarded to a different user, or replied back to the originator. Outpost helps with the formatting so that the original message can be referenced.

1. **Forward**. After you select a message for viewing from the Outpost main window, you can press **Forward**. This action does the following:
   - A new copy of the message is created and reformatted with an "original message" header. The original message is preserved.
   - The From: field is set to the current Station Call Sign.
   - The To: Field is cleared and should be set to the station to receive this message.
   - The user can now add or edit the text message as appropriate.
   - Press **Send** when done.

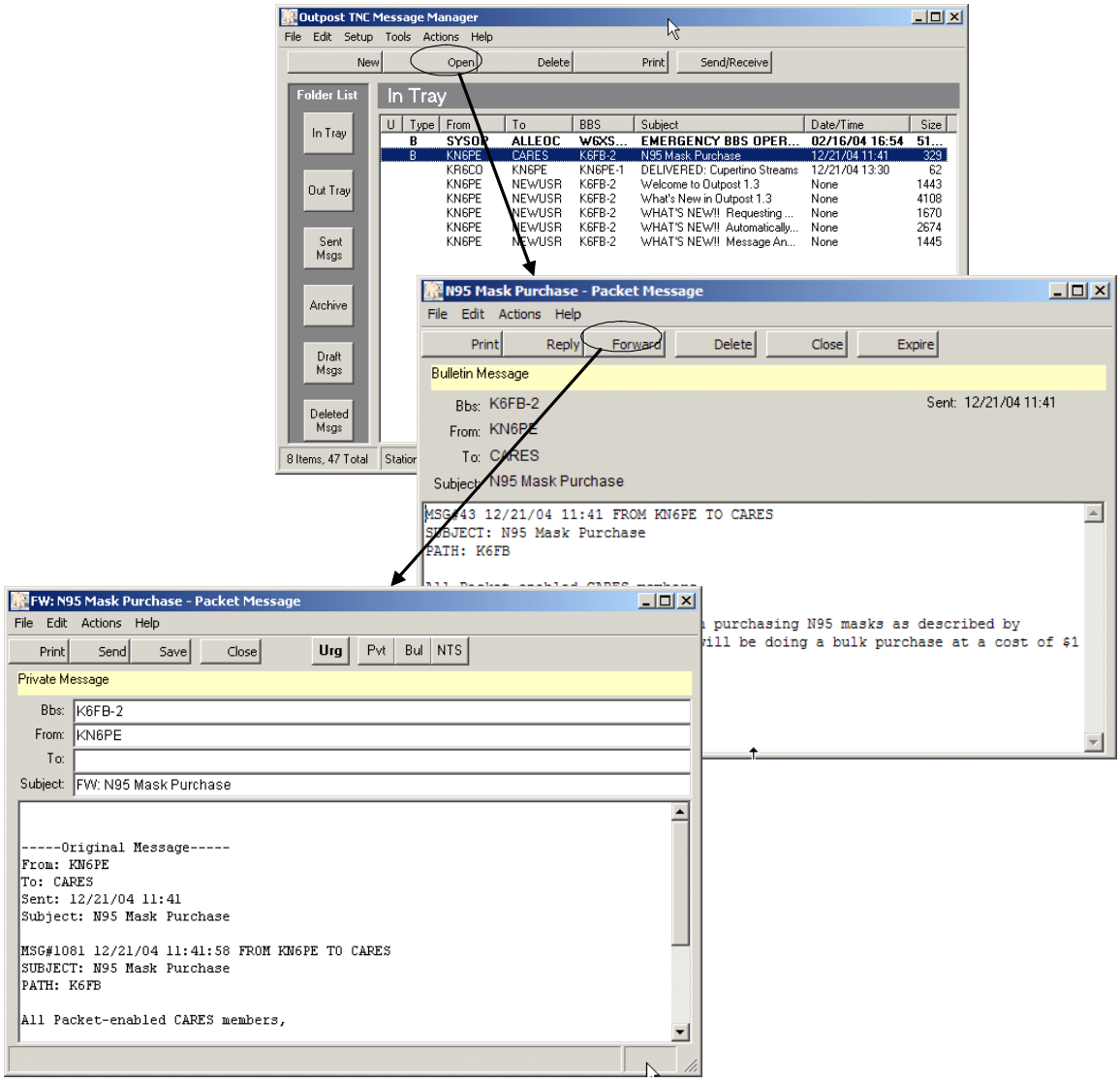


Figure 36: Forwarding a message

2. **Reply**. This command operates exactly the same as the **Forward** with the following exception:
   - The From: and To: fields of the original message are swapped so that the message will be sent back to the originator.

7.10 Forward and Reply Considerations

1. The Forwarding and Replying feature does add text to the message that (i) may not always be needed, and (ii) consumes channel bandwidth. This should be of particular concern if the packet channel is heavily used.

   If you need to reply to a message, consider editing the original message of unnecessary text to reduce the message bulk, provided you do not alter the meaning you want to communicate. Your organizational policies on handling Forwards and Replies should be considered.

2. When replying or forwarding a message, the message type is set according to the Message Settings found at **Tools > Message Settings**. Regardless of the setting, you can override this setting from **Actions** Menu by setting the message type as described above (Private, NTS, or Bulletin).

7.11 Sending a text file

The text of the message can also originate from a text file created elsewhere. To import a message from a text file, do the following:

1. From the main Outpost Window, click on the **New** button. Fill on the To: and Subject: fields.
2. Select **File > Open**. Navigate to the directory where the file resides and select the file. Press **OK**.
3. The text will be loaded into the Message area and the message title is set to the text file name.

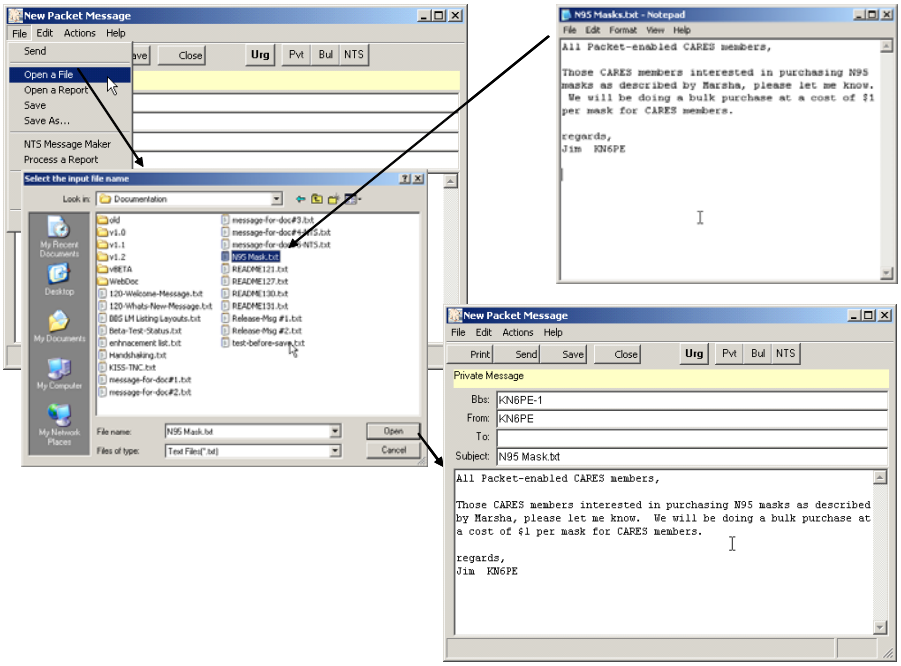


Figure 37: Sending a text file

8 Customizing Message Settings

8.1 Introduction

While Outpost works fine "out of the box," it does provide several options for controlling how the program behaves. This section addresses Message Settings.

There are several options that you can set to control how messages are handled. These settings are accessed from the main Outpost menu **Tools > Message Settings**.

The form is made up of a series of Tabs across the top. These tabs are:

Tabs	Description
New Messages	This tab covers how new messages are set up. See the field descriptions below.
Replies/Forwards	Chooses how replies and forwards are handled.
Tracking	Allows the user to set global Delivery and Read Receipt requests.
Deleting	Controls for what happens when you delete a message.

The following sections describe these tabs in detail.

8.2 Settings for New Messages

This is the first tab on the Message Settings menu and controls how messages are created.

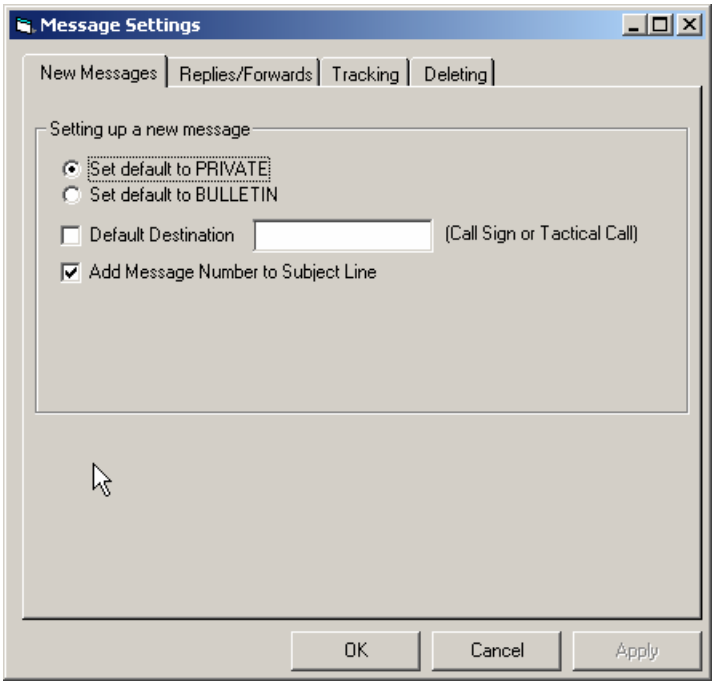


Figure 38: New Messages Tab

This set of options control how Outpost handles new messages.

Control Group	Description
Message Type Default:	**Set Default to Private**: When set, a new message defaults as a Private message. Usually, most messages are sent as Private Messages to ensure that only the recipient sees the message. **Set Default to Bulletin**: When set, a new message defaults as a Bulletin. ***NOTE***: If an NTS message is created, the default is overridden and the message is set as an NTS message. **Default**: Set Default as Private
Default Destination	For stations operating in the field or at a local municipality, it may be typical for them to address the bulk of their message traffic to the same Operational Area EOC or some other single station. To reduce the risk of addressing errors, this option allows the user to define a default destination address. To use this feature, check the Default Destination box, and then enter the destination address in field provided. The next time a new message is created, the To: field

Control Group	Description
	on the message form is automatically filled in with this address. If necessary, this field can be subsequently changed for "one-off" messages going elsewhere. **Default**: Not Set
Add Message Number to Subject Line	See the description below.

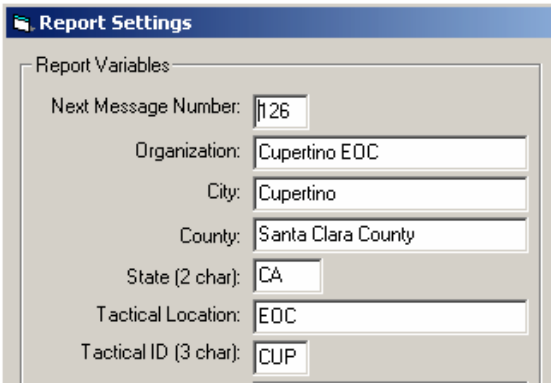
Adding Message Number to the Subject Line

It is good operating practice (if not possibly a requirement of your organization) that all messages be uniquely identified so that they can be subsequently referenced. This option automatically places a Message identifier in the subject line of a message.

To automatically add a message number to the subject line, do the following:

1. Select **Tools > Report Settings**.
2. Verify the "Next Message Number" field is set to the first number with which you want to start your message numbering.
3. Verify the "Tactical ID" field is set to any special 3-character string identifier you may be using. This field is Optional.
4. Press **OK** when done.
5. Select **Tools > Message Settings**.
6. Click on "Add Message to Subject Line".
7. Press **OK** when done.

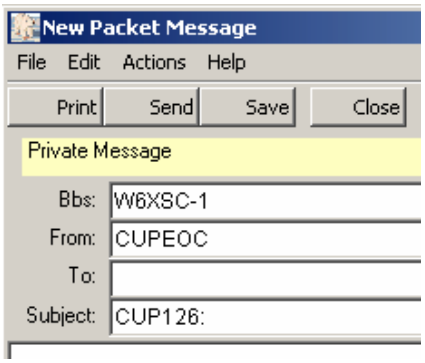
For instance, suppose this option is enabled and the **Report Settings** form is filled in as follows:



In Santa Clara County, "CUP" is the 3-character county designation for the City of Cupertino. The next time a new message is created, Outpost automatically places a message identifier in the subject line in the following format:

<tactical id><next message number>:

So, assuming the above report settings, the following is the result the next time a message is created:



At this point, the user can enter additional subject line text following the identifier. In Santa Clara County, the combination of the Tactical ID and the Message Number uniquely identifies this message for the County EOC.

The next message created after the above message would have the Message ID of "CUP127: ", and so on.

NOTE: If the Tactical ID is left blank on the Report Settings form, then only the number is entered in the subject line.

8.3 Settings for Replies and Forwards

This tab controls how a message behaves when it is selected for Replying or Forwarding.

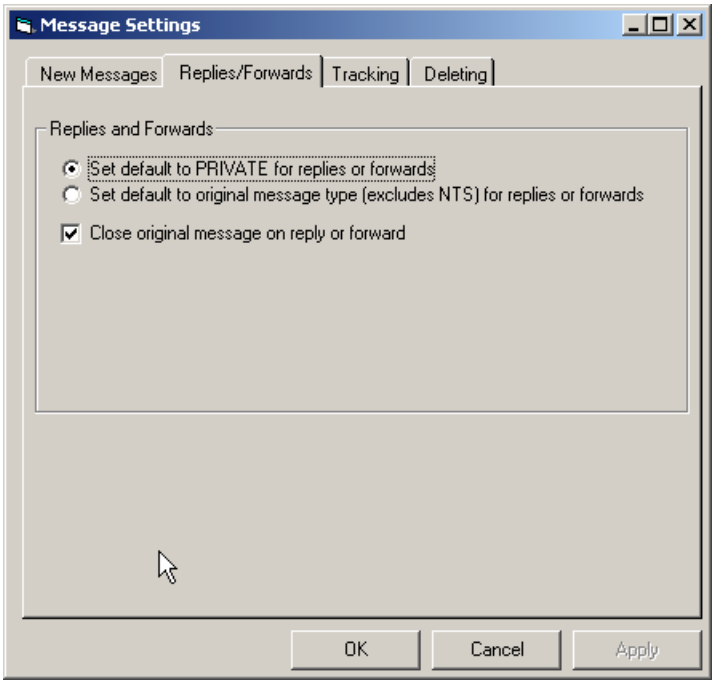


Figure 39: Replies/Forwards Tab

The following table summarizes the options available.

Control Group	Description
Replies/Forwards defaults	**Set default to Private Message**: When this item is checked and when replying to or forwarding a message, regardless of the original message type, the message will be set as a Private message. **Set default to Received Message Type**: If this item is checked and when replying to or forwarding a message, the message type will be set to be the same as the original message type. ***NOTE:*** This option excludes NTS messages. **Default**: Set Default to Private
Close original message…	To avoid desktop clutter, checking this box will close the original message after selecting it for replying or forwarding. If you want to leave the original message open, uncheck this box. **Default**: Checked: close message on reply or forward.

8.4 Tracking Messages

This tab controls how Outpost will behave for setting up global message receipt requests.

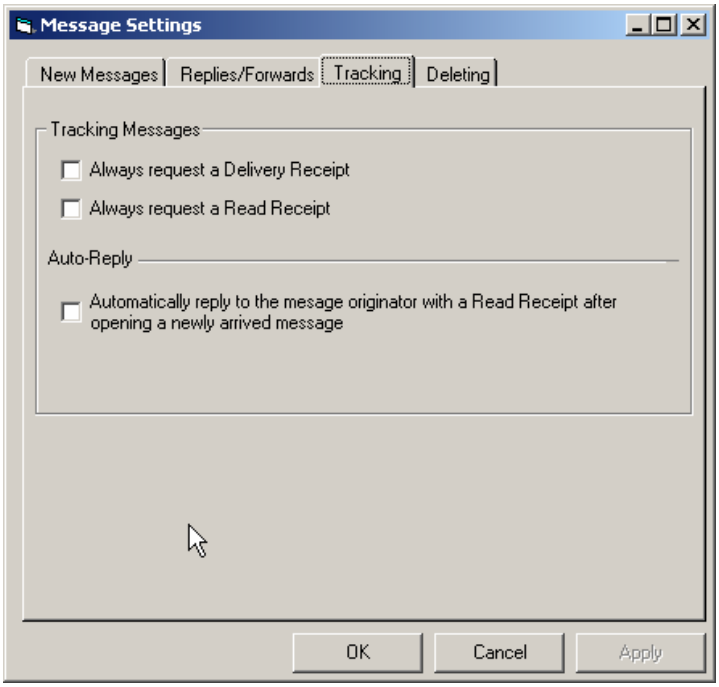


Figure 40: Tracking Tab

The following summarizes the options available.

Control Group	Description
Always request a Delivery Receipt.	This option is set by the originating station. When this setting is checked, all messages will be sent with a delivery receipt request set. This option can be overridden for individual messages at the time the message is being created.
Always request a Read Receipt.	This option is set by the originating station. When this setting is checked, all messages will be sent with a read receipt request set. This option can be overridden for individual messages at the time the message is being created.
Auto-Reply	Whereas the above 2 options are set by the originating station, this option is set by the receiving station. Sometimes, it is useful for the receiving station to send an acknowledgement that the message was read. This is particularly useful for the EOC or some other central message location. This option sends a Read Receipt back to the originating station, REGARDLESS of whether a Read Receipt was requested by the originating station.

8.5 Settings for Deleting Messages

This tab controls how outpost behaves when deleting messages.

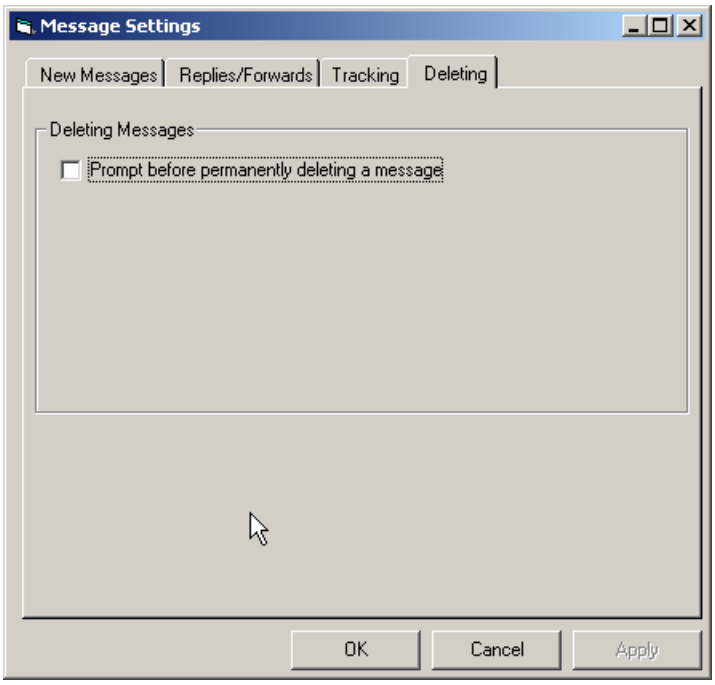


Figure 41: Deleting Tab

The following summarizes the options available.

Control Group	Description
Deleting Messages	In general, deleting a message from any folder (other than the "Deleted Mgs" folder) will cause the selected message to be moved to "Deleted Mgs" folder. However, deleting a message from the "Deleted Mgs" Folder will permanently delete the message from the system. This option determines whether the user is prompted to confirm that they want to permanently delete the message. **Default**: Prompt for final delete

9 Packet Session Manager

9.1 Introduction

The Packet Session Manager is the Outpost process that manages the entire interaction with the BBS through the selected interface (TNC, AGWPE, or Telnet). It initiates all commands needed to configure the interface and connect to the BBS, detects all TNC and BBS prompts, and controls the sequence of events to send and receive messages.

After pressing **Send/Receive** from the Outpost main window, or if Send/Receive Automation is enabled, the following window opens and reports on the progress of the session.

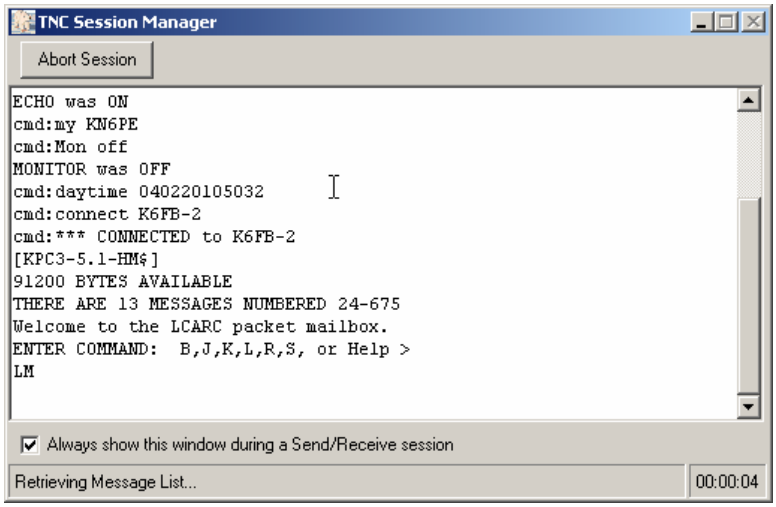


Figure 42: Serial Port Packet Session Manager Screen

9.2 Toolbars

Because the Packet Session Manager is an automated process, there is only one control on this form. An additional option switch is also provided.

Control	Description
Abort Session	Attempts to terminate the Packets Session. Depending on where you are during the Packet session, the control will perform differently. Prior to completing a BBS connection, the session is terminated. After a BBS connection is established, Outpost attempts to force a disconnect from the BBS.
Always show this window…	Unchecking this box immediately minimizes this window, and causes it to be minimized for subsequent Packet Sessions. However, the Packet Session window will be available on the Windows Task Bar.

9.3 Status Line

On the bottom of the form, status messages are displayed describing where we are during the session.

Item	Description
Status	Displays the current activity that the Packet Session Manager is performing.
Session Timer	Displays the time the Session has been in progress in minutes and seconds. This timer is reset to zero at the beginning of each session.

9.4 How the Packet Session Manager works

The Packet Session Manager process relies on the correct configuration of the Interface and BBS. During the configuration of these two items, various TNC (for Serial Port interfacing) or BBS prompts are loaded as defaults, added, or changed by the user. The accuracy of setting these commands and prompts is critical to the correct operation on the Packet Session Manager.

The following information describes the general flow of the Packet Session Manager. Other than the interface initialization, the process is essentially the same. Interface specifics are described in this table below.

Operation	Description
1. Start-up	The Packet Session Manager is scheduled either manually from the Outpost Main form by pressing the **Send/Receive** button, or automatically. Prior to doing anything, a check is made to ensure: (i) Outpost has an FCC Call Sign set as the Station ID, (ii) an interface is selected, and (iii) a BBS is selected. If any of these are missing, an error message is shown. This error will also disable any automatic Send/Receive settings that were previously defined. Automatic scheduling can be set up by selecting the time interval between TNC Session runs. Once a TNC Session ends, it will wait for the time period to expire before running again. This is enabled from the **Tools > Send/Receive Settings** menu (see the next chapter for details).
2. Interface Initialization	Depending on the interface type selected, the initiation sequence is different. However, the end result of all processes is to get to the point where Outpost can log on to the BBS. See the following 3 sections for specifics on the different interface initiation sequence.
3. BBS Log-on	A connect request is sent to the currently selected BBS. Once sent, Outpost looks for the BBS prompt as

Operation	Description
	defined during the BBS Setup. If the Tactical Call box was checked during the BBS Setup, Outpost looks for the Tactical Call prompt and responds with the Tactical Call previously entered in the Log-on window.
4. Process Bulletin or NTS Deletes	For bulletin messages, you can issue a Delete Bulletin for a bulletin you previously posted. Additionally, for NTS messages, you can accept an NTS message by deleting it off of the BBS. This step of the Send/Receive Session issues deletes for messages on the BBS for either of the above 2 cases.
5. Send Messages	Outpost checks for valid messages in the Out Tray that are addressed to this BBS. A valid message is any message that has been checked by pressing the **Send** button in the Message Window. ***NOTE:*** Pressing **Send** ensures all fields are complete. Opening a previously validated message in the Out Tray, then pressing **Save** will not perform the validation, and the message will not be sent. For each message, Outpost uses the appropriate BBS Send command to format the message for sending, and then sends the message. After the message is sent and a valid BBS Command is received, Outpost moves the just sent message from the Out Tray to the Sent Msgs Folder, changes the message status to "Sent," and sets the message time to the time it was sent. Outpost repeats this process until all valid messages are sent.
6. Retrieve Messages	Outpost retrieves messages based on the Retrieve Message option settings: 1. Checks which messages should be retrieved. Any combination of Private, Bulletin, NTS, and Selected messages can be selected. Also, if no message type is selected, no messages are retrieved. 2. Checks the "Keep Messages on BBS" option to determine if the downloaded messages should be deleted. 3. Checks the "Print on Receiving" option to determine if new messages should be printed and 4. Checks the "Play on Arrival" option to determine if a .wav file needs to be played. These settings can be made from the **Tools > Send/Receive Settings** menu.

Operation	Description
	Assuming there are messages to be retrieved, the retrieval process begins with Outpost sending the appropriate BBS List command to generate a listing of private messages, bulletins, or NTS messages. For each message found in the BBS message list, Outpost does the following: (i) issues a BBS Read <message number> command, (ii) receives the message from the BBS, (iii) sets the message's Date/Time , then (iv) stores the message in the In Tray. The Date/Time is set to the date and time listed on the BBS message list. The 5 date/time formats that Outpost supports are: ▪ mmdd/hhmm ▪ dd/mm/yy hh:mm:ss ▪ dd-mmm-yy hh:mm ▪ yymmdd ▪ dd/mmm ***A note on Selected Retrievals***: Up to 10 filter masks can be defined on the **Send/Receive Settings** form. If "Retrieve Selected Messages" is checked, then for each filter mask defined, Outpost will generate the list of BBS messages that satisfy that filter, and then retrieve those messages. ***A note on Bulletins***: Because only the originator or SysOp can delete bulletin messages, an additional check is performed before retrieving a bulletin. If a bulletin shows up on the BBS message list, Outpost first checks to see if it has previously downloaded that bulletin based on the BBS Msg Nunber and the BBS Name associated with each message Outpost retrieves. If a copy exists anywhere on Outpost (regardless of the folder), then the bulletin is not downloaded. If it does not exist, then bulletin is downloaded. After storing a received message in the In Tray, and depending on the message type, Outpost does 1 of 2 things: • For Private messages, Outpost will either keep or delete the received message from the BBS based on a **Tools > Send/Receive Settings**. • For NTS and Bulletin messages, Outpost will not attempt to delete the message at this point. See Step 4 above for details. ***A note on undeleted Private messages***: If the user has enabled the setting to "Keep messages on the BBS" option, than a similar check is performed each time the TNC session is run to ensure duplicate messages are

Operation	Description
	not downloaded. Once this option box is unchecked, the message then will be deleted off the BBS next time Outpost runs.
7. Send Receipt Messages	Prior to ending a session, any pending Message Receipts are sent out. This second "Send" cycle allows for incoming messages with Delivery Receipt requests to be immediately processed without waiting for another session.
8. BBS Log off	Outpost sends a command to exit the BBS. The command is considered successful when a TNC prompt is detected for a serial connection, or other termination statuses are reached for AGWPE or Telnet.
9. Interface Shut-down	Finally, the interface is shut down based on the interface type. See the following 3 sections for details.

9.5 Serial Port Packet Session Specifics

Outpost's Serial Port operations follow a typical method for setting up and communicating to a device on a comm port.

Operation	Description
1. Start-up	See the description above. Once Startup is complete, the serial port process picks up from here.
2.1 Initialize the Comm Port	Comm Port initialization is performed at the beginning of each Packet Session where a Serial Port Interface is selected. The Comm Port is initialized based on the data entered into the Comm Port Settings menu, and then the port is opened. If the port is already in use by another program, an error message is displayed, and the Session ends.
2.2 TNC initialization	The TNC is initialized each time the TNC session is run. The first command Outpost sends to the TNC is a "b." While the command typically causes the TNC to reply with its Broadcast status, it also forces a TNC prompt to be displayed (if the TNC is working correctly). Outpost looks to see if the TNC sent back a TNC Prompt string as defined during TNC Setup. On detecting the prompt, a "TNC ok" message is displayed in the status window at the bottom of the display. Outpost then sends the following commands to set up the TNC:

Operation	Description
	• Echo. Sets the TNC echo status according to the setting entered in the Comm Port Setting. "Echo On" causes the TNC to echo all Outpost commands sent to the TNC back to the Packet Session Manager window. "Echo Off" causes all Outpost commands not to be displayed. • Mycall/TNC Identifier (call sign). Sets the TNC to the call sign that is currently the Outpost call sign. • Monitor. Forces TNC channel monitoring to OFF. This prevents the TNC buffer from filling up with unwanted text between TNC sessions. • Date/Time. Sets the TNC to the date and time of the host computer.
Normal Packet Session processing	See steps 3 through 7 above
8. Close Comm Port	The Comm Port is closed thereby allowing other programs to access the serial port without closing Outpost.

9.6 AGWPE Packet Session Specifics

Outpost's AGWPE implementation follows the standard interface approach as specified by SV2AGW. The AGWPE sequence of events is as follows:

Operation	Description
1. Start-up	See the description above. Once Startup is complete, the AGWPE process picks up from here.
2.1 Connect to TCP/IP Interface	The first action for an AGWPE interface is to establish a TCP/IP connection to the AGWPE program. Outpost uses the previously identified Host Name (or IP Address) and Port number to establish the connection with the AGWPE Program. Outpost attempts to establish the connection, and then tests to determine if the connection succeeded. If the connection failed, an error message is displayed, and the Session ends. Connection failures will be caused by AGWPE not running or the Host name or Port information being incorrect.
2.2 AGWPE Log on & Registration	Once a connection is established, Outpost does 2 things: 1. If a logon was identified as being required, Outpost sends the Logon and Password command sequence. 2. Outpost registers itself with the AGWPE program under the call sign of the currently defined Station ID.

Operation	Description
	While AGWPE does not return an error on a logon/password failure, it does indicate if the registration failed. Reasons for a failed registration attempt are: (i) either the logon/password is required but were missing, (ii) the logon/password was required but was incorrect, or (iii) Outpost is already registered with AGWPE under this station ID.
Normal Packet Session processing	See steps 3 through 7 above
8. AGW Disconnect	Outpost sends a BBS disconnect command, then a TCP/IP disconnect command, and then an AGWPE Unregister request. Short of an AGWPE failure, this sequence will process correctly.

9.7 Telnet Packet Session Specifics

Outpost's Telnet implementation follows the standard Telnet protocol. The sequence of events is as follows:

Operation	Description
1. Start-up	See the description above. Once Startup is complete, the Telnet process picks up from here.
2.1 Connect to TCP/IP Interface	The first action is to connect to establish a TCP/IP connection to the Server on which the BBS resides. Like AGWPE, Outpost uses the previously identified Host Name (or IP Address) and Port number to establish the connection with the BBS Server. Outpost attempts to establish the connection, and then tests to determine if the connection succeeded. If the connection failed, an error message is displayed, and the Session ends. Connection failures will be caused by network problems or the Host name or Port information was incorrect.
2.2 BBS Server Log on	Immediately on connecting to the BBS server, the BBS will send back a logon prompt. Because Outpost's initial concern is to check for the connection, it does not watch for this prompt. Instead, on testing that a connection to the BBS is successful, Outpost sends a Carriage Return to the BBS to force a new logon prompt. The result on the Packet Session window is an error from the BBS complaining that no Logon was issued, followed by a new Logon Prompt. At this point, Outpost detects the Logon Prompt, and

Operation	Description
	sends the Logon name. It watches for the Password prompt, and then sends the password. It is now looking for the BBS prompt. Once it sees this, Packet Session processing continues as usual. If there is an error with the logon sequence, Outpost thinks it is waiting for the BBS prompt when instead the Logon sequence is probably being presented again. Here is where the Network time out value comes in. Outpost waits the value of the timeout, and then exits with an error message.
Normal Packet Session processing	See steps 3 through 7 above
8. Telnet Disconnect	Outpost sends TCP/IP disconnect command, and exits.

10 Customizing the Packet Session

Outpost provides several options to control how the Send/Receive session executes. The control options are accessed from the Outpost main menu, **Tools > Send/Receive Settings**… These settings are discussed here.

10.1 Automating the TNC Session

Messages can be sent to the BBS whenever the **Send/Receive** button is pressed on the main Outpost Window.

However, if Outpost is used as part of an ARES/RACES network for moving packet traffic within an Operational Area, then having the means for automatically sending outgoing traffic and polling the BBS for incoming traffic on a periodic basis allows Outpost to operate unattended, thereby making more efficient use of the emergency Responder staff.

The Automation Section controls how TNC Sessions will be executed.

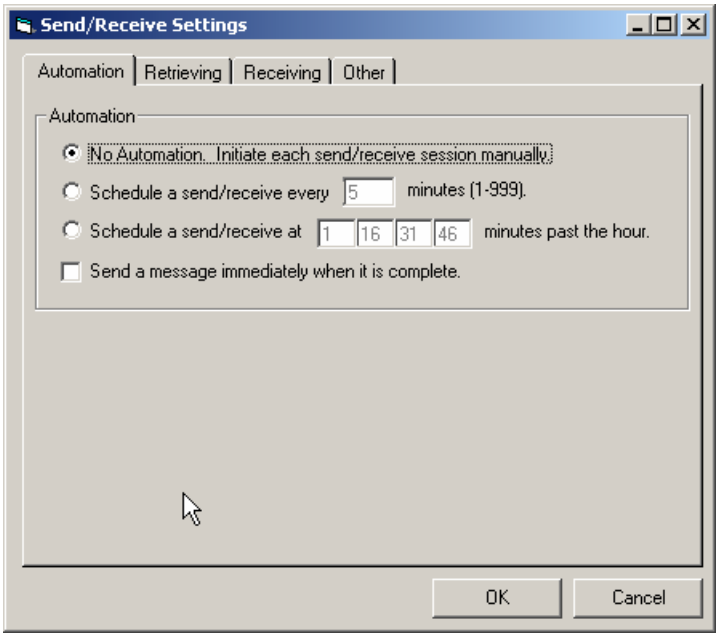


Figure 43: Send/Receive Automation Menu

Operation	Description
No automation	When this option is checked, no scheduled Send/Receive Sessions are run. This means that to initiate a session, the user needs to: ▪ Press the Send/Receive button on the Outpost main form, or ▪ Have Outpost send the message immediately after a message is created (discussed below).
Schedule every "X" minutes	Interval Scheduling: when this option is checked, Outpost will initiate a Send/Receive session every "X"

Operation	Description
	number of minutes. The timing for this is determined by the operator, with valid settings ranging from 1 to 999 minutes (about 16 hours and 40 minutes). To use this feature: ▪ Check the "Schedule a send/receive every [ ] minutes." box. ▪ Enter the number of minutes between sessions. ▪ Press **OK**. ▪ The time remaining until the next Send/Receive Session will be displayed on the status bar, bottom right, just to the left of the System Time. ▪ To disable this setting, check the "No Automation" button, then press **OK**. See the **Automaton Considerations** section below for more information about how to use Send/Receive Automation.
Schedule at "X" minutes past the hour	Slot Time Scheduling: There are times when it is desirable to explicitly control when a TNC Session is to run. This is handled by using a concept known as "slot times." Valid slot times are in the range of 0 to 59, and correspond to the minutes pass the current hour. To use this feature: ▪ Check the "Schedule a send/receive at [ ] [ ] [ ] [ ] minutes past the hour." box. ▪ Enter up to 4 absolute times in minutes when you want Outpost to run. The times are the minutes during an hour when a session will run. For instance, entries of 2, 17, 32, and 47 mean 2 minutes past the hour, 17 minutes past, etc. ▪ Press **OK**. ▪ Based on the current PC system time, Outpost will determine the next time to run a TNC Session, and the time remaining until that Session will be displayed on the status bar, bottom right, just to the left of the System Time. ▪ To disable this setting, check the "No Automation" button, then press **OK**. See the **Automaton Considerations** section below for more information about how to use Send/Receive Automation.
Send a Message immediately when it is complete.	This setting causes Outpost to initiate a TNC Session immediately on completing a message and it is validated by pressing the "Send" button on the message form. A full TNC Session will then run. This option does not have any impact on any other existing Automation timing that may already be selected. The session timer will continue to count

Operation	Description
	down to the time of the next TNC Session regardless if it is 15 minutes from now or 30 seconds from now.

Automation Considerations

In general, automatic message retrieval allows Outpost to be physically located in the radio room and periodically check for incoming or out-going messages. This meets the requirement for having a control operator present.

The rules around applying automatic message retrieval timing will need to be worked out within the Operational Area. For instance, in a configuration with a low traffic/low station count, setting an interval time may work with little or no collisions. However, this may not be the case with a high traffic volume or a large number of stations needing access to a single BBS.

For instance, consider an environment of 5 Hospitals needing access to a single BBS using a single channel. If the objective is to avoid all transmission collisions and maximize the times to check for messages, then the 5 Hospitals could be coordinated and assigned time slots with 3 minute intervals. For instance:

	Slot times			
	Slot 1	**Slot 2**	**Slot 3**	**Slot 4**
Hospital 1	0	15	30	45
Hospital 2	3	18	33	48
Hospital 3	6	21	36	51
Hospital 4	9	24	39	54
Hospital 5	12	27	42	57

Similarly, 8 hospitals could be assigned time slots with 2 minute intervals:

	Slot times			
	Slot 1	**Slot 2**	**Slot 3**	**Slot 4**
Hospital 1	0	15	30	45
Hospital 2	2	17	32	47
Hospital 3	4	19	34	49
Hospital 4	6	21	36	51
Hospital 5	8	23	38	53
Hospital 6	10	25	40	55
Hospital 7	12	27	42	57
Hospital 8	14	29	44	59

In the above case, Hospitals 8 and 1 are within 1 minute of each of their slots and some contention may result.

- Most BBS's are very robust and can handle multiple connections at the same time. There is no requirement to avoid concurrent access to a channel by multiple Outpost users. Channel contention is still handed by the TNC.
- When configuring the Outpost environment with time slots, all Outpost deployment teams should take into account available transmission speeds (1200 vs 9600 baud), expectations for packet traffic volume, number of packet stations on a channel, and the willingness of served agencies to accept delays due to time-outs when channel contention occurs. Some experimenting may be required.

- Not all slot times need to be filled in. At least 1 time slot must be configured for this feature to be used.
- There could be situations where some packet stations may generate more packet traffic then others and need access at least 4 times an hour. Other stations may need fewer slots. Again, these assignments should be carefully planned and coordinated to fully optimize the channel.

10.2 Selecting messages for retrieval

The 2nd tab allows you to configure Outpost to selectively retrieve three types of messages from the BBS:

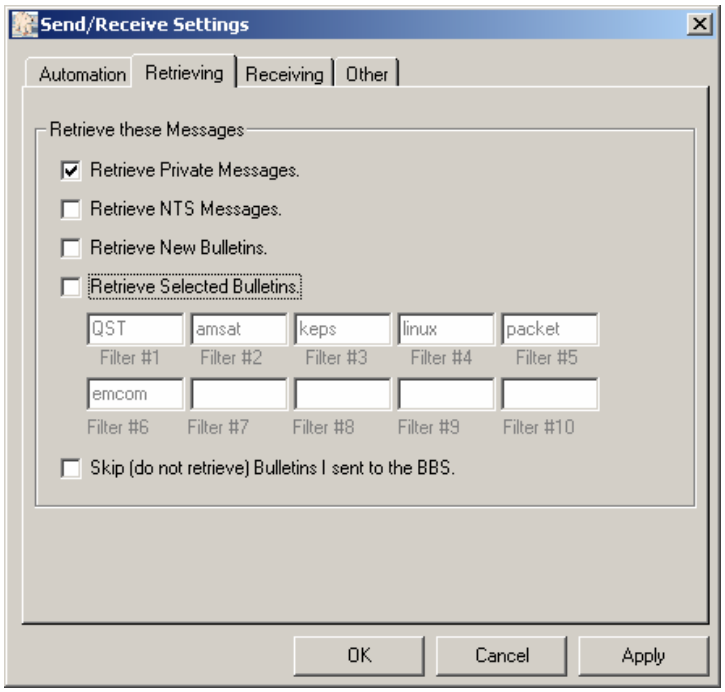


Figure 44: Retrieving Menu

Operation	Description
Retrieve Private Messages	Private messages are addressed to an individual. Once Outpost retrieves and stores a private message, the message is deleted off of the BBS (unless configured to do otherwise).
Retrieve NTS Messages	NTS messages are identified by an address that includes a zip code and state (95014@NTSCA). Once Outpost retrieves and stores an NTS message, the message is deleted off of the BBS (unless configured to do otherwise).
Retrieve Bulletins	Bulletin messages are addressed to anyone who can access the BBS. Outpost will not attempt to delete retrieved bulletin messages off of the BBS. When Retrieve Bulletins is selected, Retrieve Messages based on Filters will be disabled.

Operation	Description
Retrieve Messages based on Filters	Selected Messages are one or more messages that satisfy a filter or mask. At least 1 filter must be entered. When set, during the next Packet Session, Outpost will perform a message list and retrieval cycle for each filter mask that is identified. When Retrieve Messages based on Filters is selected, Retrieve Bulletins will be disabled. See **Filtered Retrieval Considerations** below for more details on this feature.
Skip Bulletins I sent	Bulletins that you originate will normally be retrieved. If this option is checked, the bulletins you send will not be retrieved, thereby reducing channel contention by not downloading a bulletin that is now currently in your Sent Folder.

Filtered Retrieval Considerations

When Emergency Response Organizations rely on a networked BBS for their message traffic where operational and non-operational traffic may be present, or when a BBS is used to post a variety of bulletin data, retrieving ALL bulletins is neither an effective option nor an efficient use of the frequency.

Most BBSs offer one or more commands that allow the user to retrieve messages based on the destination (To:) Call Sign or the message's category (category @ route). Outpost supports the capability to selectively retrieve messages during a TNC Session based on the message list-matching capabilities of the BBS.

A cursory check of a few BBSs shows that there are different commands for filtered message listing. Some of these commands are:

`L> string`	List the messages where "*string*" matches the call sign of the destination address; could match the category field in a destination address (category @ route). BBS: AA4RE, F6FBB, some TNC PBBSs.
`L string`	List the messages where "*string*" matches the category field in the destination address (category @ route). BBS: MSYS

NOTE: Check your BBS for the exact command options for selective retrievals.

The Filtered Retrieval Option is intended for selective retrieval of BULLETIN messages. This means:

1. The "Retrieve Private Message" option should still be used to retrieve private messages addressed to you.
2. Selectively retrieved messages are bulletins; no attempt will be made to delete them off of the BBS.

3. BBS retrieval rules apply: if a selectively retrieved message was previously downloaded and is still on Outpost, no attempt is made to download it again.

Other Considerations

- If a Bulletin is sent to a specific individual (such as KN6PE) instead of a general category (such as ALLCTY, etc.), that message will be picked up as a Private message regardless of the BBS message setting and is subject to the Private Message handling rules described above. However, the receiving Outpost station will not be able to delete it because it was not the author. Only the originators of Bulletins can delete the bulletin.
- NTS messages will be deleted from the BBS if Outpost retrieves them. If you have no intention of servicing an NTS message, DO NOT SELECT NTS MESSAGES FOR DOWNLOAD. If you accidentally download an NTS message, please post it back to the BBS for proper handling.

10.3 Once a message is received

The 3rd tab handles settings once a message is downloaded by the receiving station.

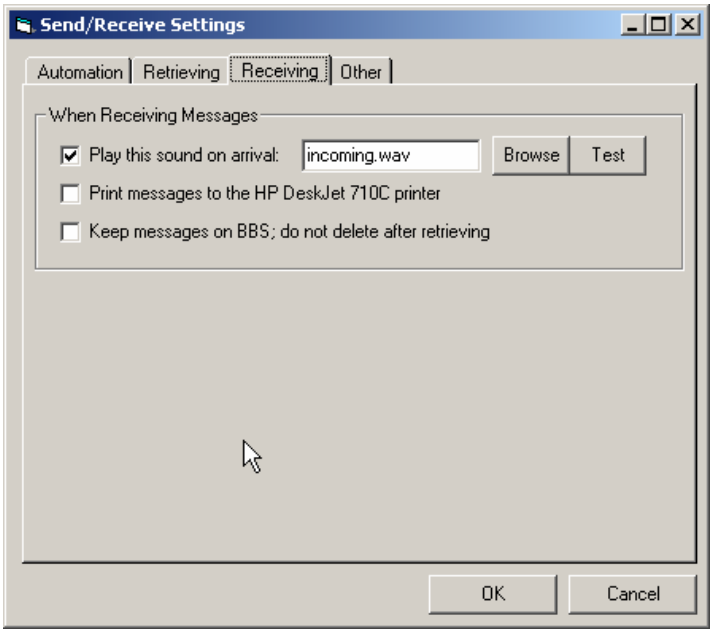


Figure 45: Receiving Menu

Operation	Description
Play this sound on arrival	This option allows you to select a .wav file to be played when a message is saved in Outpost. The user can browse for a .wav file, select it, and test it to confirm that it is suitable for their environment.
Print Messages	Checking this box will cause Outpost to print each new message received on their arrival. Newly arrived messages can be printed automatically to expedite routing incoming messages to the EOC or Operational Area staff.

Operation	Description
Keep on BBS, do not delete after retrieving	There are cases where it may be desirable to leave Private or NTS messages on a BBS after they are downloaded. For instance, a municipality or response team may be operating 2 Outpost stations in different locations under the same Operational Call sign (if the BBS supports it) and wants both stations to see messages specifically intended for them.

Play on Arrival Considerations

This feature requires that an operational Sound Card is installed. Once you choose a .wav file, pressing the "**Test**" button will cause the .wav file to be played. If there is a problem with the file or the sound card, the system will issue a "beep" instead.

Two .wav files were included with the v2.0 distribution as examples for how this feature could be used.

- Sound38.wav – an obnoxious alarm. If you use this file with the sound turned up, you will definitely know when a message arrives.
- incoming.wav – a spoken notification. The phrase "Attention, incoming packet message" is spoken.

Essentially, you can use any .wav file found on your system, or you can create your own. The "incoming.wav" file was created using the Microsoft "Sound Recorder" program that comes standard with Windows.

Print on Arrival Considerations

This feature requires a printer to be configured. If no printer is installed, this option will be disabled.

10.4 Show Session

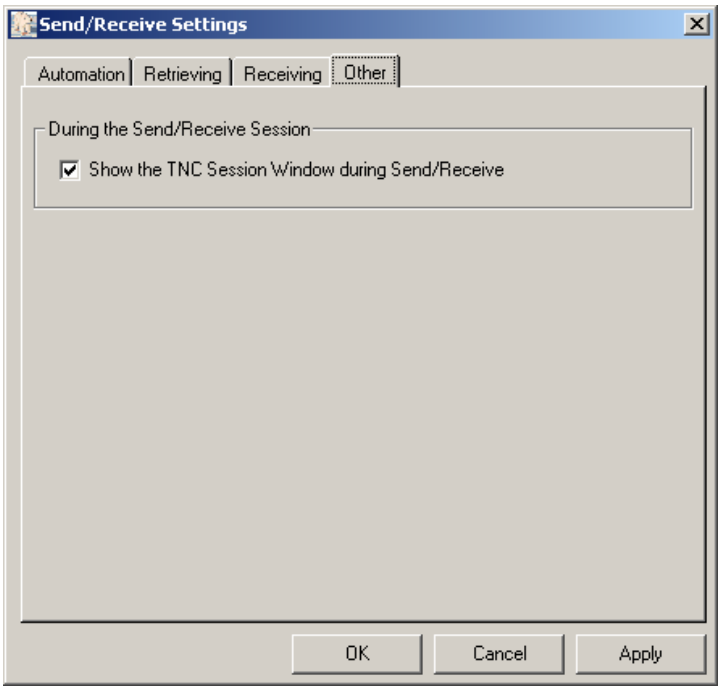


Figure 46: Other Menu

The 4th tab has only one option.

Operation	Description
Show TNC Session Window	When the TNC Session runs, a window pops up and displays the transactions between Outpost and the TNC. To hide this window, uncheck this option.

Considerations

This feature can also be set or reset directly on the TNC Session Window.

11 NTS Message Maker

NOTE: NTS and NTS Packet are significant topics by themselves and are beyond the scope of this document. For more information on NTS Packet, see the document titled: ***Introduction to the National Traffic System*** available on the Outpost website.

11.1 Introduction

Outpost supports NTS with the NTS Message Maker. This feature formats an NTS message by presenting the user with a form that enforces the addressing and formatting rules required to comply with standard NTS-formatted packet messages.

This section describes the NTS Message Maker form and how it works.

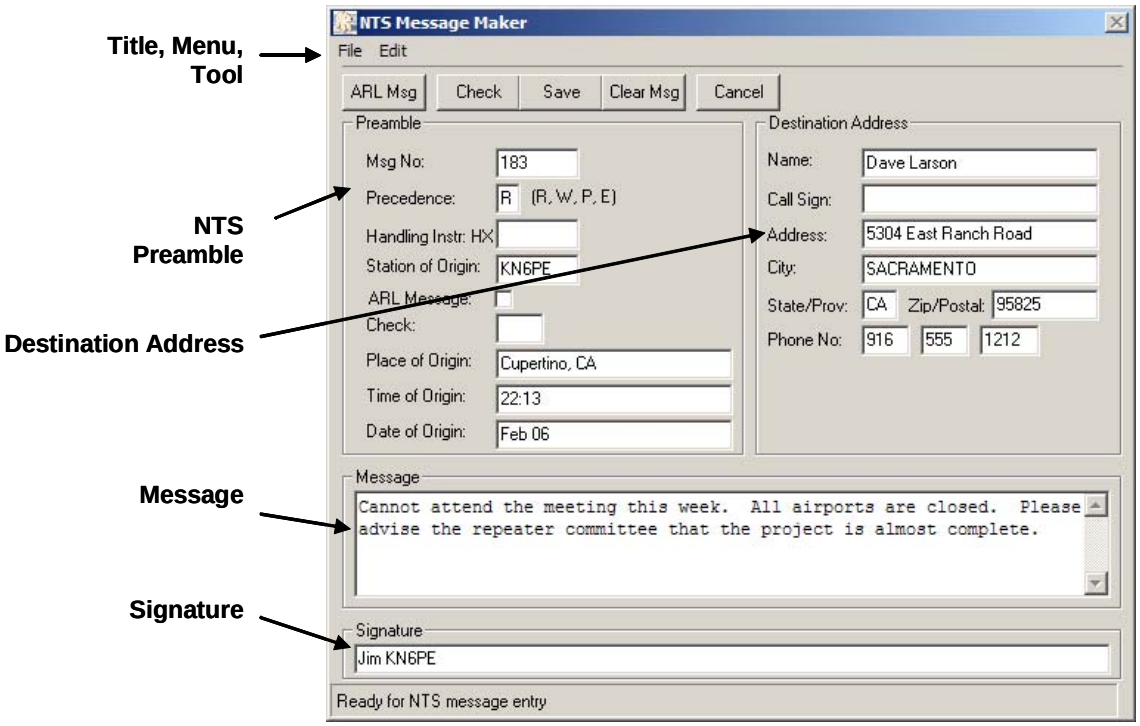


Figure 47: NTS Message Maker Form

11.2 Menus and Toolbars

The following controls are provided as part of the drop-down menus.

Menu	Description
File	**Close**: Closes the NTS Message Maker form without saving the message. Pressing the button will cause any message entered to be lost.

Menu	Description
Edit	**Cut**: Copies and deletes any highlighted text in any field. The text is placed in the MS-Windows clipboard. **Copy**: Copies any highlighted text in any field. The text is placed in the MS-Windows clipboard. **Paste**: Inserts text from the clipboard at the position where the cursor is located. **Clear Message**. Clears only the Address, Message, and Signature fields. **Clear All**. Clears all fields on the form.

Additionally, the following toolbar controls are also provided.

Controls	Description
ARL Msg	Brings up a form that allows the user to select either a Routine or Emergency ARL message. Once a message is selected, the user is prompted for any embedded data needed to complete the message.
Check	This button does the following: • Checks to make sure that all required fields are filled in. If a required field is missing, the field is highlighted. • Reformats the Message Text to be consistent with NTS packet formatting rules. This includes replacing each period "." with an "X" as well as ensuring there are only 5 words per line. • The Preamble "Check" field is filled in.
Save	Performs a Check of the message (same as above), then saves the message to the Message Form. The message form fields are filled in per the standard NTS packet message format.
Clear Message	Clears the Address, Message, and Signature fields.
Cancel	Closes the NTS Message Maker form without saving the message. Pressing this button will cause any message entered to be discarded.

11.3 NTS Preamble

The following fields are part of the NTS Preamble.

Field	Description
Msg No.	**Required field**. This is a sequential number beginning with 1 each month or year to be assigned by the originating station. Outpost stores the last NTS preamble used. No automatic Message Number incrementing is performed. The originating station should increment this number each time they create an NTS message.
Precedence	**Required field**. The Precedence is a single character to be entered in this field. The four categories of Precedence are: • **EMERGECNY**: Any message having life or death urgency to any person or group of persons. This includes official messages to welfare agencies during emergencies requesting supplies, materials, or instructions vital to relief of stricken populace in emergency areas. Use the abbreviation "E" in packet messages. • **PRIORITY**: Important messages having a specific time limit. Official messages not covered in the Emergency category are covered here. Use the abbreviation "P" in packet messages. • **WELFARE**: A message that is either (a) an inquiry as to the health and welfare of an individual in the disaster area or (b) an advisory or reply from the disaster area. Use the abbreviation "W" in packet messages. • **ROUTINE**: Most traffic normally will bear this designation. During a disaster, Routine traffic should be handled last or not at all when circuits are busy with other traffic. Use the abbreviation "R" in packet messages.
Handling Instr	Optional field. Handling instructions (HX) serve to convey any special instructions to handling and delivering operators. The following definitions apply: • HXA number - Collect landline (phone calls) delivery is authorized by the addressee within number miles (if no number, authorization is unlimited). Enter only "A number" • HXB number - Cancel message if not delivered within number hours of filing time; service the originating station. Enter only "B number" • HXC - Report date and time of delivery (TOD) to originating station. Enter only "C" • HXD - Report to originating station the identity of station from which received, plus date and time.

Field	Description
	Report identity of station to which relayed, plus date and time, or if delivered report date, time, and method of delivery. Enter only "D" • HXE - Delivering station get reply from addressees, originate a message back. Enter only "E" • HXF number - Hold delivery until number (date). Enter only "F number" • HXG - Delivery by mail or landline toll call is not required. If toll or other expenses are involved, cancel message and service originating station. Enter only "G"
Station of Origin	**Required field**. This is the first amateur station to handle the message. Typically, this would be your call sign if you are transmitting the message.
ARL Message	Optional Field. This is a check-box indicating this is an ARL message. These messages include an ARL message number in the body of the text. Check this box if an ARL message number is used.
Check	Optional Field. This is the number of words in the text of the message. This field will automatically be updated whenever the **Check** or **Save** buttons are pushed. If you enter a value in this field, it will be overwritten.
Place of Origin	Optional Field. This is the general location where the message originated (not necessarily location of station origin) and is usually a city and state, or occasionally an event, such as 2003 Moffett Air Show, CA.
Time of Origin	Optional field. Represented in Universal Coordinated Time (i.e.: 1230z).
Date of Origin	**Required field**. Usually is mmm dd format (i.e.: Sep 18) and must correspond with date of time that this message was first entered into the NTS system.

11.4 Destination Address

The following fields are part of the NTS Message Destination Address.

Field	Description
Name	**Required field**. The name of the individual to whom this message is to be delivered.
Call Sign	Optional field. If the recipient is an Amateur Radio Operator, enter his or her call sign here.
Address	Optional field. Street address if available.

Field	Description
City	**Required field**. The city where the recipient lives.
State/Prov	**Required Field**. The state or province where the recipient lives.
ZIP/Postal	**Required Field**. The 5 U.S. digit zip code or the 6 or 7 character Canadian Postal Code where the recipient lives.
Phone Number	Highly Desirable (but optional) Field. If a phone number is known, enter the Area Code, Exchange, and number.

11.5 Message Text and Signature

The last two fields hold the body of the message and the signature.

Field	Description
Message text	**Required Field**. If possible, the text should be limited to 25 words.
Signature	**Required Field**. This is the signature (and call sign of the message was sent from another Amateur radio Operator) of the person sending the message. This is not necessarily the person who is sending the message by packet.

11.6 Creating an NTS message

Refer to the example in *Figure 47: NTS Message Maker Form* for how the form is initially filled in. The steps for using the NTS Message Maker are:

1. From the Outpost main menu, press **New** to open the Message form.
2. From the Message form, select **File > NTS Message Maker**.
3. Fill in the fields. When done, press **Check** to validate the entries and complete the message formatting. If any required fields are missing, that field will be highlighted.
4. When done, press **Save**. The Message form is filled in with a correctly formatted NTS message.
5. From the Message form, press **Send**.

11.7 Finishing up an NTS message

Once the message is composed and all fields are filled in, press the **Check** button and Outpost updates the Preamble's "Check" and Message fields. Also, the status line indicates the results of the check. The following is what the above message would look like after **Check** is pressed.

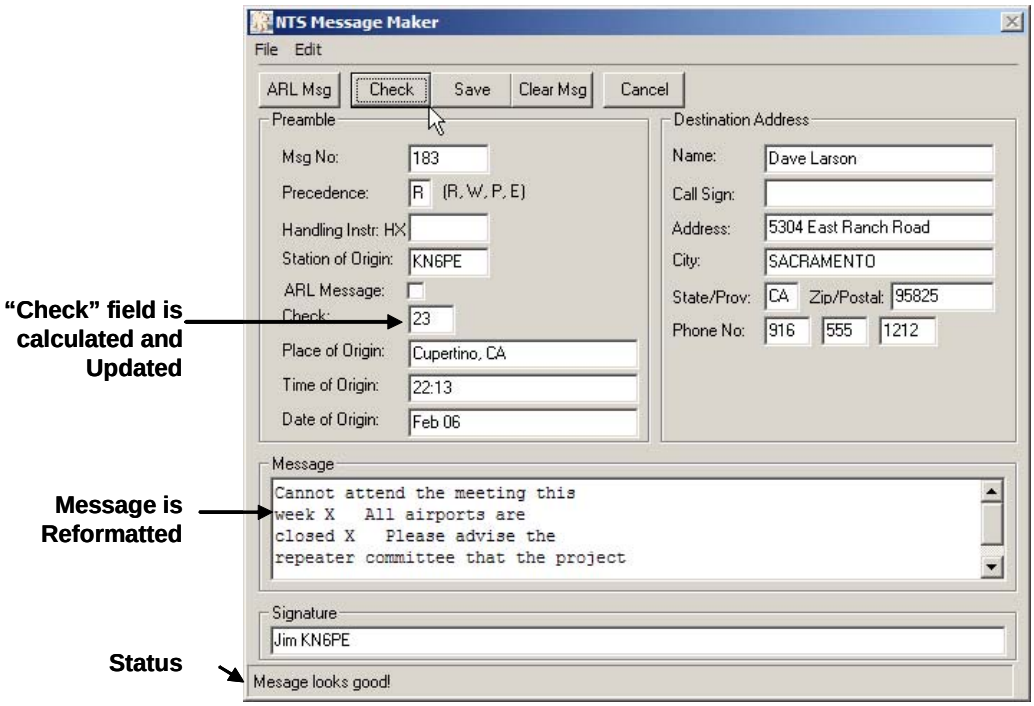


Figure 48: NTS Message Maker after performing a Check

Next, press the **Save** button. Outpost writes the contents of the NTS Message Maker back to the Message form. Note the Message Type is set to NTS.

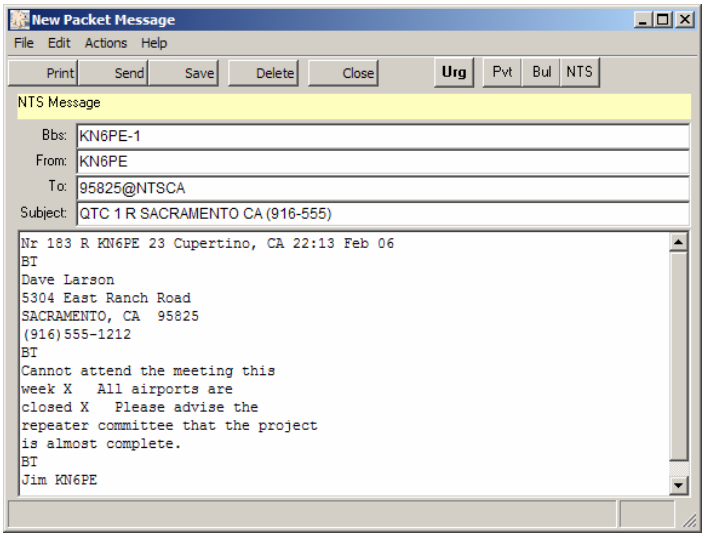


Figure 49: NTS Message written to the Message Form

Finally, press the **Send** button. The NTS message shows up in the Outpost Out Tray. This message will be sent during the next TNC Session.

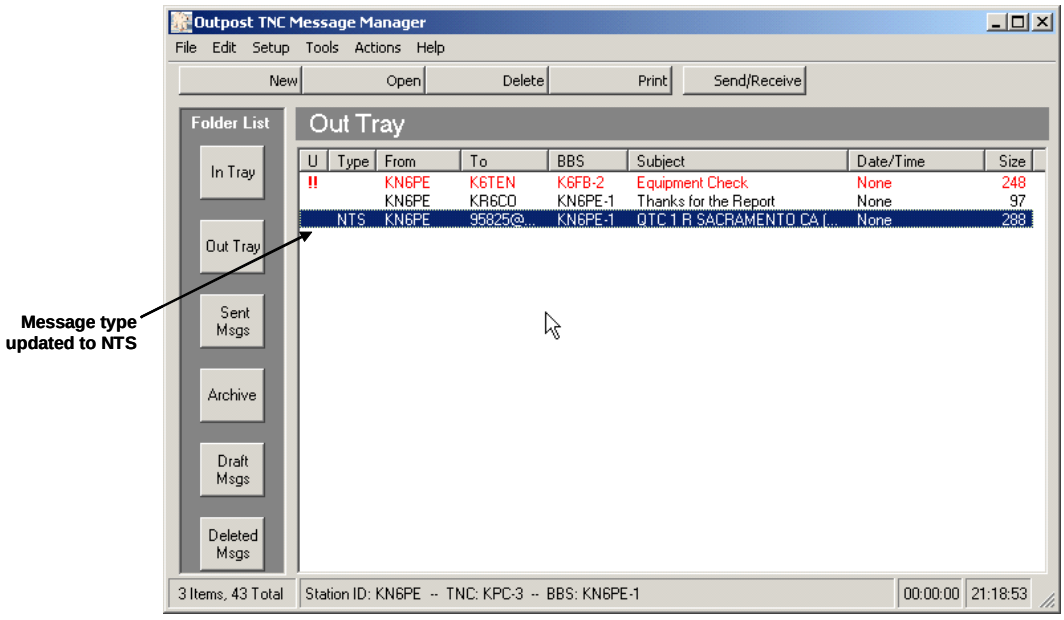


Figure 50: An NTS Message in the Out Tray

11.8 Selecting an ARL Message

Outpost lets the user select and apply one or more ARL standard messages to an NTS message. This works as follows:

1. From the Outpost main menu, press **New** to open the Message form.
2. From the Message form, select **File > NTS Message Maker**.
3. Fill in the Preamble and Destination Address fields as described above.
4. Press the **ARL Msg** button. The ARL Dialog box opens. The controls and fields associated with this dialog box are as follows:

Controls	Description
Message Type	Toggles between the list of Routine and Emergency ARL messages.
Next, Previous	Selects the next or previous ARL message based on the type selected.
Apply	Takes the ARL message and applies it to the NTS message.
Cancel	Cancels this operation.

Field	Description
ARL Number	The literal ARL number of the selected message.

Field	Description
Message Text	The message text associated with the selected ARL number. Some ARL messages require additional information to be provided by the user to complete the message. This information can be found between the "<" and ">" characters.

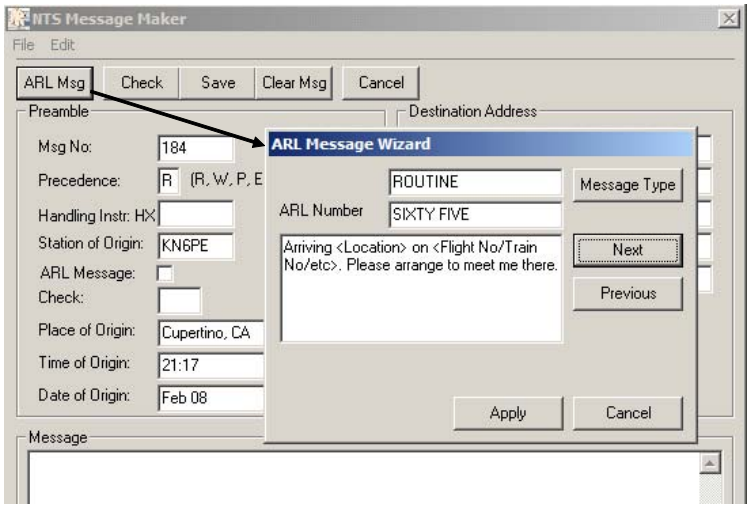


Figure 51: An NTS Message in the Out Tray

5. Select the Message Type (either Routine or Emergency). Using the Next and Previous buttons, select the desired message. Press Apply when done.
6. If additional information is required to complete the message, the user will be prompted for the fields that are required. In the above example, 2 additional prompts are issued: one for "Location", and one for "Flight No/Train No/etc".
7. After the field is filled in, the message is inserted into the NTS Form.

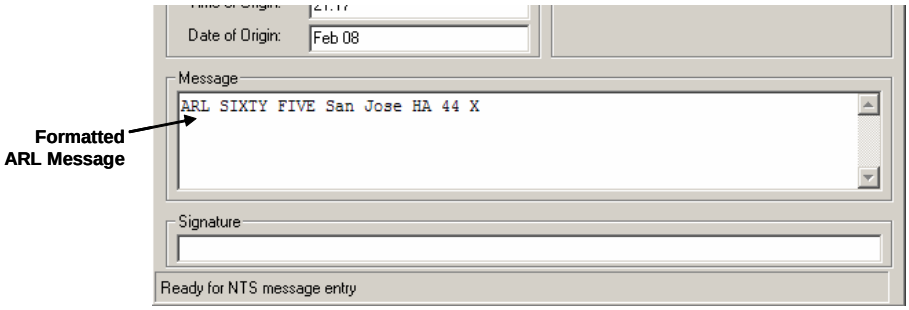


Figure 52: A completed ARL Message

8. Complete the balance of the NTS message as previously described.

12 Online Reports

Several ARES/RACES organizations have developed standard reporting tools and formats for collecting and transmitting information over packet. In some cases, automated tools have been used to generate the reports using pre-defined forms that could be interpreted for efficient processing. Online Reports is how Outpost addresses this requirement.

12.1 Introduction

An Online Report begins as a report form template that is developed outside of Outpost and saved as standard ASCII file. When loaded into an Outpost message, the form's embedded "tags" are updated and the user is guided to enter information in specific locations on the report form.

There are three things that need to occur for Outpost to generate an Online Report that is ready for sending:

1. Set up the report values
2. Create the report form (template)
3. Process the report form in an outpost message window

This section describes these steps.

12.2 Setting up the Report Values

Report values refer to information that is typically referenced by one or more reports. By defining these values up front, then referencing them with embedded <tags> in the report form, the report can be quickly filled in and sent on its way.

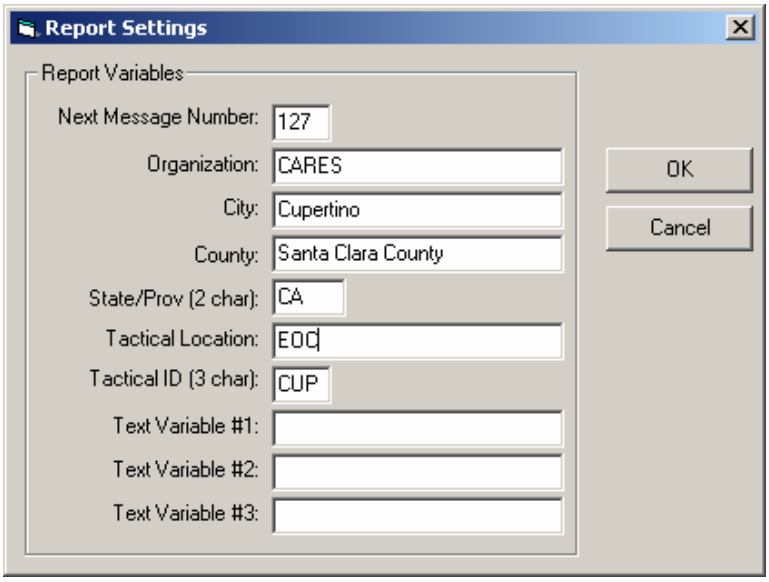


Figure 53: Report Settings Menu

To fill in the report variables, do the following:

1. From the Outpost main menu, select **Tools > Report Settings**.

2. Fill in the fields. When done, press **OK**.

Typically, defining report values only has to be done once for all reports. Once these fields are filled in, the report values will be referenced by a Report Form during processing. See the Tag Definitions below for a description of these fields.

12.3 Creating the Report Form

Report forms are essentially ASCII text files that are post-processed by Outpost to create the final report. The report form consists of 3 kinds of text entries:

- General text. This is canned text that is context-setting information to be sent as the report.
- Tags. Tags are variables that are embedded into a Report Form and then substituted with either automatic values or the values defined and stored by the "Report Settings" form.
- Prompts. A prompt is the character that is used to indicate the location where a user needs to input text for the report. Outpost uses the equal sign (**=**) as the prompt character.

Tag Definitions

The following table lists the report form tags and their meaning. Note the source from where the tag information originates.

Table 1: Definition of Report Tags

Tag name	Description
<D>, <date1>	Date. The current system date, the format being: mm/dd/yy (example: 5/21/04). Source: Automatic Value
<date2>	Date. The current system date, the format being: dd-mmm-yyyy (example: 21-May-2004). Source: Automatic Value
<T>, <time>	Time. The current system time, the format being: hh:mm (24 hour format). Source: Automatic Value
<M>, <msg#>	Message Number. The next message number as maintained by the application. Source: Report Setting Form
<C>, <call>	Call. The currently defined Station ID. Go to the Outpost menu **Setup > Change Station ID** to change. Source: Automatic Value
<name>	User Name. The name entered at the Station ID form. Source: Automatic Value
<bbs>	BBS. The currently selected BBS name. Source: Automatic Value
<subj>`text`	Subject. The text immediately following the <subj> tag is appended to the Subject Line. This tag should be on its own line with no other tags. It will not be included in the body of the report.
<org>	Organization. The organization to which the sending

Tag name	Description
	station is affiliated, such as Cupertino ARES, Lake County RACES, etc. Source: Report Setting Form
<city>	City. The City name. Source: Report Setting Form
<county>	County. The County name. Source: Report Setting Form
<state>	State. The 2-character representation of the state. Source: Report Setting Form, "State/Prov" field
<province>	Province. The 2-character representation of the Province. Source: Report Setting Form, "State/Prov" field
<tacloc>	Tactical Location. A reference to a location that is supporting a response, such as Quinlan Shelter, Deerfield Fire Station, or First Aid #1. Source: Report Setting Form
<tacid>	Tactical ID. A 3-character string that can be used as a prefix to the message number to further ensure the message's uniqueness. Source: Report Setting Form
<text1>	User-defined field. This is 1 of 3 user-defined fields. Source: Report Setting Form
<text2>	User-defined field. This is 2 of 3 user-defined fields. Source: Report Setting Form
<text3>	User-defined field. This is 3 of 3 user-defined fields. Source: Report Setting Form
=	Prompt. Causes Outpost to position the cursor at this location for the user to enter text.
/ comment	Comment. Any text following this is considered a comment that will not be included when loaded into Outpost. The "/" character must be the 1st character on a line. If the "/" character is any place else, it is considered part of the report.

Tag Considerations

- There are a few report variables that have 2 methods for representing them. Either method is valid.
- Tags can be entered as either upper or lower case.
- The same tag can be entered more than once in a report form.
- When using the user-defined tags, care must be taken to ensure all users interpret the fields the same way in particular if a Report Form with user-defined tags are shared among several stations.
- If any field on the Report Settings menu is left blank, and a tag referencing that field is used, the tag will be replaced with nothing.

Creating the Report Form

Report Forms can be created with any text editor PROVIDED it can produce an ASCII text file. The two text editors that are standard with MS Windows are Notepad and Wordpad. Additionally, any other word processor can be used provided it can produce an ASCII file.

The following is a sample report form developed with Notepad. Note the different tags used throughout the report, the comment lines (/), and the prompt locations (=) where user input is required.

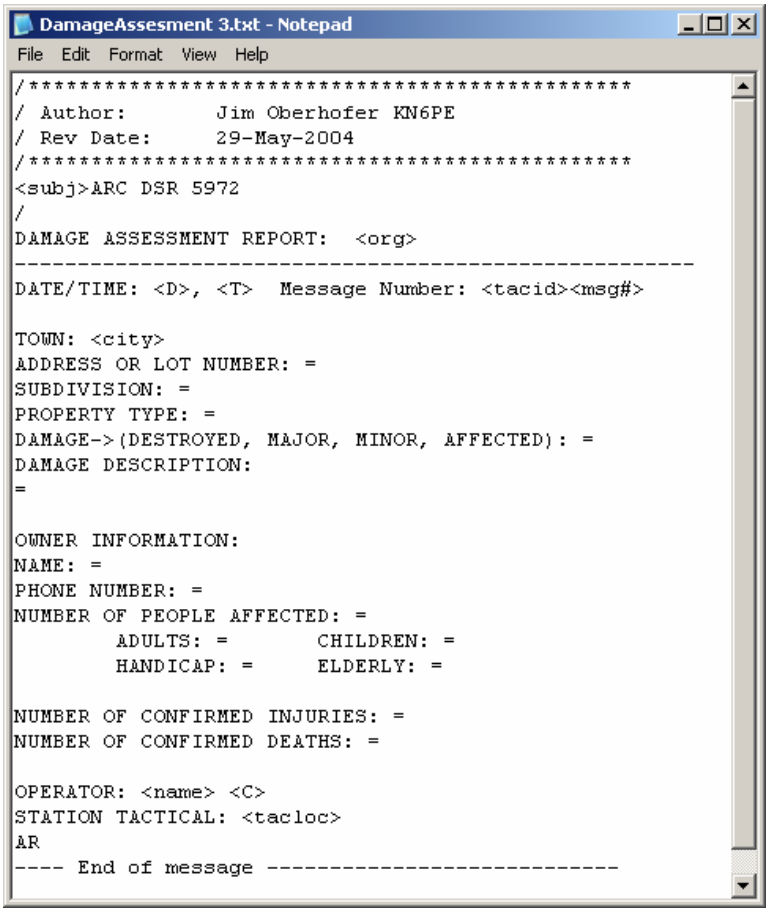


Figure 54: Report Form in Notepad

Once the report form is created, it should be stored in a common location with other report form files.

NOTE: Whatever location you select for storing report forms, you should enter that directory location in the **Directory Settings** menu.

12.4 Processing the Report Form

With the Report variables and Report Form defined, you are ready to process the report.

To process a report form, do the following:

1. From Outpost, select **New** to open a new message form.

2. From the Message Form menu, select **File→Open Report**. A file selection menu will open to the report directory you defined in the **Directory Settings** menu.
3. Select the Report Form to be processed, and then press **OK**.

In the following example, Outpost was set up to "Add a Message Number to Subject Line" and use the Report Settings as defined in *Figure 53: Report Settings Menu.*

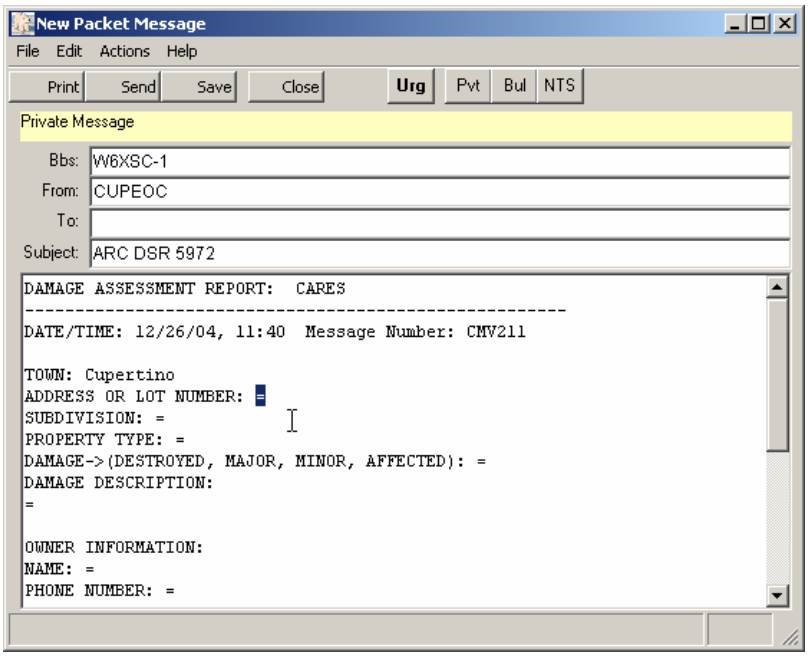


Figure 55: Report Form in Message Window

4. Once the form is loaded, all <tags> are substituted with their automatic (date, time) or Report Settings defined (Tactical ID, Message number, and City) values.
5. Next, the cursor is positioned over the first prompt (=). Type over the prompt (=) to answer that question, then press **Cntl-TAB** or **Right-Mouse-Click** to progress to the next prompt.
6. Continue entering all requested information until all prompts are replaced. You will be prompted if you want to start from the top, or tell you that there were no prompts found.
7. To re-start prompt processing if you stop, select **File > Process a Report.**
8. To clear any remaining Prompts that are not to be filled in, select **File > Clear Remaining Prompts.**
9. When done, fill in the balance of the Message header (To:, Subject:, etc) and press **Send**.

13 Interactive Packet Window

13.1 Introduction

There are times when you will need to directly interact with either the TNC or the BBS for system maintenance or troubleshooting. Outpost includes an interactive packet (IP) capability where the user can directly interact with the TNC or BBS. This section describes this feature.

There are 3 separate Interactive Packet programs that are called by Outpost to support the different interface methods: serial port TNCs (Ipserial.exe), AGWPE (Ipagwpe.exe), and Telnet (Iptelnet.exe). The menus and controls on all 3 programs are essentially all the same, with minor variations to deal with the key interface differences.

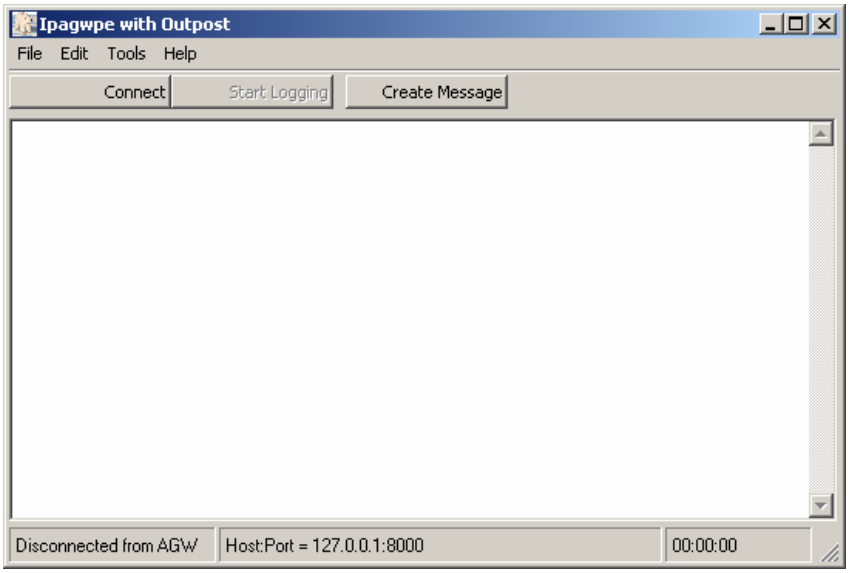


Figure 56: AGWPE's Interactive Packet Window

13.2 Menus, Tool Bar

The following describes the Interactive Packet Program menus:

Menus	Description
File	**Print**. Currently disabled.
	Comm Setting. SERIAL PORT ONLY. Sets up the serial port where the TNC is located.
	AGWPE Settings: AGWPE ONLY. Setup screen for identifying the AGWPE server, port, and logon information.
	Pick Via Stations: AGWPE ONLY. Identifies the list of via stations needed to get to the BBS.
	Telnet Settings: TELNET ONLY. Setup screen for identifying the BBS server and port information.

Menus	Description
	Exit: Causes the program to exit.
Edit	**Cut**: Copies and deletes any highlighted text from any field. The text is placed in the MS-Windows clipboard. **Copy**: Copies any highlighted text in any field. The text is placed in the MS-Windows clipboard. **Paste**: Inserts text from the clipboard at the position where the cursor is located. **Select All**: Takes a copy of the entire contents of the IPW window and copies it to the MS-Windows clipboard.
Tools	**Font**. Allows the user to change the font, Font style, and Size of all text in the window. **AGWPE Version**. AGWPE ONLY. Returns the version of the currently running AGWPE program. This menu option is enabled once you are connected to AGWPE. **Show AGWPE Packets**. AGWPE ONLY. When turned on, displays all raw AGWPE packets that are sent to and returned from the AGWPE Program. **Log to Text File**. Sets up the file that will be used to log all activities that occur once the **Start Logging** button is pressed.

The following controls manage how the program executes:

Controls	Description
Connect	The connect button does different things depending on whether you are running the Serial Port, AGWPE, or Telnet version of Interactive Packet. **Serial Port** Pressing Connect opens the Comm Port and sends a Carriage Return to the TNC. If the TNC is connected and turned on, you should see the TNC prompt. The Comm port is also automatically opened when the user starts to type in the IPW text window. If the Comm Port is open to another Outpost process (Outpost's Packet Session Manager) or program, an error will be displayed. Pressing Disconnect closes the Comm port. **AGWPE** Pressing Connect initiates the AGWPE sequence. 1. The user is prompted to enter his/her call sign. The last call sign used is entered as the default entry. Then,

Controls	Description
	the program attempts to register this call sign with AGWPE. 2. If the registration is successful, the user is then prompted to enter the BBS to which he/she wants to be connected. The last BBS name previously entered is listed as the default entry. AGWPE attempts to connect to the BBS. If the BBS is not reachable, AGWPE times out and reports an error. 3. If the AGWPE performs a connect, the user can then interact with the BBS as usual. **Telnet** Pressing Connect initiates the Telnet connect sequence. The program connects to the Telnet server, and the user is presented with the logon prompt. Once you log on, you can interact with the BBS as usual.
Disconnect	After the Connect sequence is initiated, the text on the Connect button changes to **Disconnect**. When this button is pressed, the Interactive Packet program will initiate a disconnect from the specific interface to which it is connected. In all cases, the disconnect is final. Once pressed, the button changes back to read **Connect**.
Start Logging	The Start Logging button is enabled once a file is selected and available for logging (Menu: **Tools > Log to Text File**). On pressing the Start Logging button, all subsequent text displayed in the text window will be written to the file regardless of whether it was entered by the user or returned from the device
Stop Logging	After the Logging is started as described above, the Start Logging button changes to read **Stop Logging**. When Stop Logging pressed, all logging to the file is stopped, and the button changes back to read **Start Logging**. If Start Logging is pressed again, the data is appended to the same file previously opened.
Create Message	Allows the user to create an Outpost message from any highlighted portion of the text window. If no text is highlighted, an error occurs. If the Interactive packet program is not in the same directory as the Outpost.exe program, this button will be disabled.