Getting Started with Outpost

A presentation for the

Alameda County
Sheriff’s Communications Team

7 January 2009
Jim Oberhofer  KN6PE
1. Introduction to Outpost
   - What is Packet Radio?
   - Overview
   - A Closer Look

2. Getting Started
   - Finding Outpost
   - Hardware configuration
   - Confirm your BBS
   - Outpost configuration
   - First Message

3. Summary
What is Packet Radio?  
… in a nutshell

- Amateur Packet Radio is one of many digital modes that Hams can use to build wireless computer networks.
- Amateur Packet is built on the AX.25 protocol, a mature extension of the industry standard X.25. This protocol comes with transparency, error correction, and automatic control.
- Data transfer speeds range from 1200 baud up to 19.6K Baud (frequency dependent; higher speeds = wider bandwidth).
- AX.25 Packet establishes a “private connection” between two stations while sharing a frequency with other stations.
- Packet can use Bulletin Board Systems (BBSs) for dropping off and retrieve messages between users.
What is Packet Radio?

What are the components?

- **Computer:** runs a “terminal emulation” program
- **TNC:** Terminal Node Controller; similar to a telephone modem; the interface between your radio and your computer; Sound-card TNCs also exist.
- **Radio:** …and antenna; transmits the digital data sent to the TNC to another packet station
What is Packet Radio?

What can we connect to?

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

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

Outpost Packet Message Manager

What is Outpost?

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

Main purpose…

• Enables ARES / RACES teams to support the response efforts and requirements of our local served agencies by pass digital traffic
Overview
Outpost Packet Message Manager

The California environment… and our served agencies

State OES…

Three state regions…

Counties…

Local Level towns and cities

CA State OES

Coastal Region

Inland Region

Southern Region

Op Area/SCC

Op Area/SF

Op Area/Alameda

CBL CUP LGT MTV SJC...
Overview

Outpost Packet Message Manager

Why use Outpost?

• **Leverages** the existing packet hardware, network, & BBS infrastructure
  - Compatible with many existing BBSs and TNC PBBSs
  - Uses your existing TNC and packet radio equipment
  - Only a packet client (end-user) change is required

• **Hides the complexity of the packet operating environment**
  - Similar look and feel to contemporary email programs
  - Shorter learning curve for packet operations
  - Allows users to… “focus on the message, not the medium”

• **Implements most local emergency management policies for digital communications**

• **Still under active development based on user requests and on-going alignment with the Outpost mission**
Overview

Outpost Packet Message Manager

General Outpost Features

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

• Send/Receive Sessions
  • Supports Serial, AGWPE, and Telnet interfacing with over 20 of PBBS and BBSs
  • Automatically controls the sequence for initializing the selected interface, connecting to, and sending messages to and retrieving messages from the BBS

• Configurations and Setups
  • BBS, TNC, and Interfaces – manages a list of BBSs & Interfaces
  • Message Retrieval – choose the message types to be retrieved
  • Send/Receive automation – 3 ways for automatically initiating S/R sessions
A closer look
Outpost Packet Message Manager

Managing Messages

- Familiar email-app look and feel
- Separate folders for message storage
- Clear message identification (unread=**BOLD**, urgent=**Red**)
- Follows a typical message workflow
- Manages BBS and interfaces
- Various settings to control how Outpost behaves
A closer look
Outpost Packet Message Manager

Creating Messages

- Familiar email-app look & feel
- Supports Private, Bulletin, and NTS message types
- Freeform message formatting before sending
- Set messages to **urgent**
- Delivery and read receipts
- Different ways for originating messages
  - NTS Message Maker
  - Online Reports
A closer look
Outpost Packet Message Manager

Viewing Messages

- Supports viewing, printing, deleting or saving a message to a local file
- Reply and Forward message formatting
A closer look
Outpost Packet Message Manager

Application setups

- TNCs: create, update, or delete
  - Configure Serial Comm Ports that are associated with each TNC
- BBSs: create, update, or delete
- Change the Station Identifier (the call sign assigned to the TNC)
A closer look
Outpost Packet Message Manager

Types of controls

- Controls the flow of each Send/Receive Session
- Sets how messages are created and handled
- Set various data fields to automatically populate on-line reports, messages, other areas
- Set up default Directory Names
- Various Log Settings
- Controls to re-size message listing column widths
- Separate Packet programs for Serial, AGWPE, and Telnet where the user can manually interact with the TNC or BBS
A closer look

**Outpost Packet Message Manager**

**Aligning features to needs**

**Mission:** How do we support our served agencies in their efforts to minimize loss of life and property, and speed the recovery?

**Environment:** Environments are different... how do we adapt our tools to our environment?

**Policy:** In a community of packet users, what policies do we adopt to ensure order, consistency, and efficiency in what we do?
A closer look

Outpost Packet Message Manager

 Helps implement packet operating policies…

1. All stations will identify with a tactical call sign
2. All messages are sent as private messages
3. All messages are uniquely identified
4. All messages are as short as possible
5. All stations will poll the BBS periodically for traffic
6. All stations will poll for specific message types
7. All message traffic becomes part of the official event documentation package
Getting Started
Outpost Packet Message Manager

1. Finding Outpost
2. Hardware configuration
3. Confirm your PPB or PBBS
4. Outpost configuration
5. First message
1. Finding Outpost

Outpost Packet Message Manager

1. Where to find it…
http://www.outpostpm.org/

2. Download the latest version into a temp directory

3. Run the install program

4. Choose the install type
   - Update for existing users
   - First time installation for new users
   - Custom installation

5. Outpost is installed in c:\Program Files\Outpost
2. Hardware configuration

Outpost Packet Message Manager

What you should have

1. PC – Windows’98 or greater
2. TNC – 1200 baud is the most common speed TNC
   - Several “TAPR2” TNCs mfgrs are supported: AEA/TimeWave, Kantronics, MFJ, Kenwood built-ins (see http://www.outpostpm.org/support.html)
   - Or… AGWPE Software: sound-card packet, KISS-only TNCs

What you need to know

1. Interface Type: [ TNC serial | AGWPE | telnet ]
2. PC’s Serial Comm Port number: _____
3. Serial Baud, data bits, parity, stop bits: (usually 9600,8,none,1)
4. When in doubt, consult your TNC manual
2. Hardware configuration

Outpost Packet Message Manager

1. Manually configure and conform your TNC connection
   - Use the Ipserial.exe program (in the c:\Program files\Outpost directory)
   - File > Comm Port Settings
   - Enter your TNC settings… OK
   - Power up your TNC
   - Press Connect… confirm the TNC is present!

2. Add Comm Port Settings to Outpost
   - Tools > “Add Comm Port settings to Outpost”… give the TNC a name, Press OK
   - Congratulations! Your TNC is configured
   - If you did not get this far, STOP! Do not Proceed!
3. Confirm your BBS/PBBS

Outpost Packet Message Manager

1. Type of your BBS/PBBS

2. What is the connect name? __________ (ie: K6FB-2)

3. What is the BBS frequency? __________ (ie: 145.050)

4. Set the radio frequency, and manually connect to the BBS/PBBS

5. For Software BBSs…
   - Register if prompted
   - Set yourself up as Expert
   - Turn off Paging
   - See the Outpost website/BBS Support pages for help

6. You are ready for Outpost!

<table>
<thead>
<tr>
<th>PBBSs (Firmware-based, resides in TNCs)</th>
<th>BBSs (Software-based)</th>
<th>Support pending (October 2008)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KPC3, KPC3+</td>
<td>AA4RE</td>
<td>KPC3 5.1</td>
</tr>
<tr>
<td>KPC9612</td>
<td>F6FBB</td>
<td>MAJOR</td>
</tr>
<tr>
<td>KAM, KAM-XL, KAM-98</td>
<td>MSYS</td>
<td>MFJ-1274</td>
</tr>
<tr>
<td>KAM Plus</td>
<td>N0ARY</td>
<td>OpenBCM</td>
</tr>
<tr>
<td>Kantronics’ Data Engine</td>
<td>DXNET</td>
<td></td>
</tr>
<tr>
<td>PK-88, PK-232, PK-88</td>
<td>RMS/Winlink</td>
<td></td>
</tr>
<tr>
<td>DSP-232</td>
<td>W0RLI</td>
<td></td>
</tr>
<tr>
<td>MFJ-1270x</td>
<td>JNOS</td>
<td></td>
</tr>
<tr>
<td>MFJ-1278</td>
<td>TNOS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SNOS</td>
<td></td>
</tr>
</tbody>
</table>
4. Outpost Configuration

Outpost Packet Message Manager

1. Run Outpost
   • from the Icon on the desktop, or
   • Start > Programs > Outpost > Outpost PMM

2. The Station Identification form is presented
   • Enter your call sign and name… press OK
   • Turn off this prompting at Outpost startup from Tools > General Settings tab
3. Confirm the TNC configuration...

4. From Outpost: Setups > TNC

- TNC Prompts and TNC command default settings should be valid.
- TNC Comm Port reflects your setup from Ipserial.exe.
- Press OK
3. Define the BBS configuration...

4. From Outpost: Setups > BBS

   • Press New
   • Enter the BBS Connect Name (ie: K6FB-2)
   • Enter a description of the BBS
   • BBS Prompts and BBS Commands default settings should be valid.
   • BBS Path defaults to Direct (change for digipeating or through KA-Nodes/NETROM)
   • Press OK
5. Note the Status Bar and the current Outpost settings
4. Outpost Configuration

Outpost Packet Message Manager

6. Tools > Send/Receive Settings

- Selects different ways to **automate** the message send/retrieve sessions
- Select which message types are to be **retrieved**
- Once a message is **received**, select what to do with it
- Additional controls (**Other** tab) manage printing received and sent messages
4. Outpost Configuration

Outpost Packet Message Manager

7. Message Settings

- Define default settings for new messages, includes
  - Default destinations
  - Auto message numbering
  - Message Signature

- Handling replies and forwards
- Set up defaults for requesting message receipts
- Setting for permanently deleting messages
4. Outpost Configuration

Outpost Packet Message Manager

8. Report Settings

• Message number automatically increments and populates…
  • Subject Line
  • NTS Messages
  • On-line reports

• Standard report variables automatically replace <tags> in On-line Reports (described later)

• Note where tags are used…
9. Create your first message

- From Outpost main form, press New
- Note what is filled in:
  - BBS
  - From
  - Subject Msg ID
  - Signature
- Address it to yourself for a round-trip message
- Fill in the balance of the subject line
- Fill in the body of the message
- Press “Send” when done
- Message is placed in the Out Tray
5. First Message

Outpost Packet Message Manager

10. Send your first message

- Initialize the Interface
- Connect to the BBS
- Exit the BBS, Shut down the Interface
- Send all messages from Out Tray
- If Private is set:
  - Retrieve List, Read, and Delete each message
- If NTS is set:
  - Retrieve List and Read each message
- If Bulletins is set:
  - Retrieve List, if don’t have it, read each message
- Send any message delivery, read receipts
- Process Bull, NTS deletes

Outpost Message Manager

TNC Session Manager

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

- Always show this window during a Send/Receive session
- Retrieving Message List...
5. First Message

Outpost Packet Message Manager

- **Influenced by…**
  - Send/Receive Settings

- **Send Messages**
  - Only sent from the Out Tray to this BBS
  - Messages must be “Sent” not “Saved”
  - Moved to Sent Folder when sent

- **Retrieve Messages**
  - Depends on the Retrieve settings; if none are selected, none are retrieved
  - Depends on the “Keep on BBS” setting
  - Bulletins are never deleted
  - New messages are stored in the In Tray

- **Send Receipts**
  - Any pending Delivery and Read Receipts are sent back to the requester

Flowchart:
- Initialize the Interface
- Connect to the BBS
- Process Bull, NTS deletes
- Send all messages from Out Tray
- If Private is set
  - Retrieve List, Read, and Delete each message
- If NTS is set
  - Retrieve List and Read each message
- If Bulletins is set
  - Retrieve List, if don’t have it, read each message
- Send any message delivery, read receipts
- Exit the BBS, Shut down the Interface
For more information
Outpost Packet Message Manager

Outpost How-To's

The Outpost program does not include any online help. Instead, a series of HOW-TO files are provided with the application and are available online here. See the Outpost Users Guide for other details.

Interface How-Tos

1. AGWPE Set up
2. Telnet Set up
3. Telnet Setup for Winlink
4. TNC Command file
5. TNC Setup

Messaging How-Tos

1. Acknowledge Read, send automatically
2. Add a signature
3. Annunciation
4. Automatic Retrieval
5. Creating a message
6. Drag and Drop
7. Forwarding/Replying
8. Numbering messages
9. Online reports
10. Online Reports, one touch loading
11. Printing Automatically
12. Requesting Delivery and Read Receipts
13. Retrieving selected bulletins
14. Send as Urgent
15. Sending a text file

BBS/PBBS How-Tos

1. BBS Set up
2. BBS Set up for Santa Clara County RACES
3. Connecting to a local KPC3/ KPC9612 PBBS
4. Connecting to a local MFJ-127X PBBS
5. Connecting to a local PK-232/DSP-232 PBBS
6. Using KA-Node/ Netrom (BPQ) Access

Miscellaneous How-Tos

1. Enhanced Channel Monitoring
2. Tactical Calls
For more information

*Outpost Packet Message Manager*

Visit the Outpost website…

http://www.outpostpm.org

And supporting links…

- Users Guide…  http://www.outpostpm.org/#documentation
- HOW-TOs… http://www.outpostpm.org/howto.html
- Support Info…  http://www.outpostpm.org/support.html
- Users group… http://groups.yahoo.com/group/outpostpacket/

Send inquiries to…

Jim Oberhofer, kn6pe@arrl.net