PreOutpost

Introduction

Outpost is the software that sends and receives packet messages using X.25 protocols and rf transmission on Amateur Radio frequencies. A message is prepared using Outpost and when it is sent it is transformed from a digital form to an analog form using a modem (modulator/demodulator) which is also called a Terminal Node Controller (TNC). To assist the operator in performing his task a set of configuration parameters may be saved in a file. The file is given a name and is called a "profile". Once a profile is created and then selected any change made in the configuration parameters of Outpost may be saved in the profile. The latest version of Outpost allows the user to change the "save" behavior of profiles. But the mere fact that it is possible to save changes to a profile make them unreliable in the long term for Packet stations that are not under a single person's management.

The latest version of Outpost has introduced another kind configuration file: [callsign].usr or [tactical ID].tac. There is one of these files for each callsign or tactical ID used with Outpost. Over time with a packet station used by many different operators there will be many operator ID files generated. The operator ID files contain the "human" name of the operator, the message prefix and an optional "signature" to be used in each message.

Profiles contain a whole host of configuration parameters:

- Operator Identification
- Tactical Identification
- Report Information
- Modem Type
- Baud rate between computer and modem
- Buad rate between modem and radio
- Message Settings
- Etc…

Now picture a situation where a trained Outpost operator approaches a computer/modem/radio/antenna which is not his, which has been just taken from storage and arranged for use. Perhaps he is the one setting it up for use this time. Everything is connected, turned on and a message is prepared. Wait, in order to be legal his identity information must be entered into Outpost. Furthermore, the tactical situation may require a tactical ID be entered. Reporting information may also be required so that reports printed during operation give a complete picture of the station.

There are four (at the time of this paper) BBSes on mountain tops and buildings any one of which may be used to send messages. Each city has two designated as primary and backup.

So, here is the dilemma. The station has been in storage since the last event. We don't know how it was configured the last time it was used. We don't know if it was operational the last time it was used. There are 109 parameters stored in a profile. Some of them, perhaps many of them can prevent Outpost from performing as needed. In a rapidly developing event, having a proven starting point for an Outpost configuration would be a useful thing. Since a profile may be modified by any change, a profile cannot be relied upon to provide a good starting point.

Subject Lines

Recently (Fall 2018) the format of subject line on raw messages have become important. To this end a feature of PreOutpost is to add most of a subject line to the Clip Board. It may be added to a message by using the paste feature of windows: ctrl-V, Mouse Right Button Select Paste. The user may specify the severity, handling and one of four formats (Weekly Practice (Form or New), Standard Check-In/Out, and Bare). In addition PreOutpost will calculate the net date (required in Weekly Practice). A set of radio buttons allows one to set Monday or Tuesday as the target for the net date. Note, the net date is computed based on the current date and the current date is Wednesday preceding the net day through the Net day of the week (i.e. only for the week preceding the net).

Outpost has a check box for adding a separator after the message number.

- Tools

- Message Settings
- Msg Numbering Tab
- Uncheck "Add message number separator"

Then the paste will go in exactly the right place right after the "p" of the number.

Address Book

When forms are sent by Outpost the "To" field and "Loc" field describe the recipient of the form but do not describe the actual packet address. The actual packet address is added after the browser sends the form to Outpost. Fortunately the log contains both addresses in a convenient manner to capture them together.

The OPaddress application may be started (as an option) by PreOutpost, cobbles up the address records held by Outpost and presents them in an independent window. Furthermore, when the refresh menu item on the window is selected (left mouse click) OPaddress will capture any new form addresses in the current day's log and present them. More information may be found on the Address Book page.

What is a Profile?

A profile is a set of parameters. The parameters are represented as ASCII text in a file. A profile file has an extension of ".profile" and is stored in a specific directory. At the moment that directory is in Windows Users AppData Roaming directory. In the recent version it was suggested to move the data directory to a "central" location such as "C:\SCCo Packet".

The INI format is used in the profile files. The INI format was used in windows operating systems in the 80s and replaced by the System Registry in WinNT. A similar format is present in Unix and other operating systems. More information about the INI format may be found in Wikipedia: en.wikipedia.org/wiki/INI_file .

```
[GENERAL VARIABLES]
Version=3.0.0 c328
StationID=K6RWY
NameID=Bob UserName
TacticalCall=SJC417
TCnPEnabled=1
BbsCName=W6XSC-1
BbsFName=XSC_W6XSC-1
TncName=XSC_Kantronics_KPC3-Plus

[REPORT TAGS]
TacID=TID
UsrID=UID
```

Fig. 1 -- Example Profile File

An INI file is composed of text lines (see Figure 1) so it may be easily read by humans and easily parsed by software. There are three interesting entities in an INI file: sections, property names and values. There may also be blank lines and comments.

More importantly, an INI file is managed by functions in the programming language's library (or in the operating system itself which for our purposes is unimportant). A program may read a value given a section and property name or it may write a value to a section and property name.

One final point about INI files. The extension (that part of the file name after the period) need not be "ini". In fact the INI files used for profiles have the extension ".profile" and for operator ID files the extension is either ".usr" or ".tac".

Relationship Between Profiles and usr/tac Files

The tactical identity is now housed in part (or completely) in a ".tac" file. The FCC identity information is now housed in part (or completely) in a ".usr" file. The Tactical ID is used to find the correct ".tac" file. Likewise the FCC ID is used to find the correct ".usr" file. Each file contains the following fields:

- Call Sign
- Name
- Numbering Prefix
- Signature used in plain text messages

The Call Sign field of each file is used to find the file. All the fields except the Signature is also housed once or twice in the profile file.

PreOutpost Overview -- One Master Profile

In the simplest case, PreOutpost asks for Identify and Report Information and starts Outpost (see Figure 2). In this case only one Master Profile is present and the operator need only fill in the blanks. PreOutpost the uses a Master Profile file (which is not available to Outpost to modify) to create one or six profiles and the user and tactical ID files that Outpost may see and use. These profiles are a useful starting point for operating the station. They will all contain the Identity and Report Information. The other properties in the profiles are unchanged. When Outpost is started one of the profiles produced by PreOutpost may be selected to configure Outpost for a specific BBS.

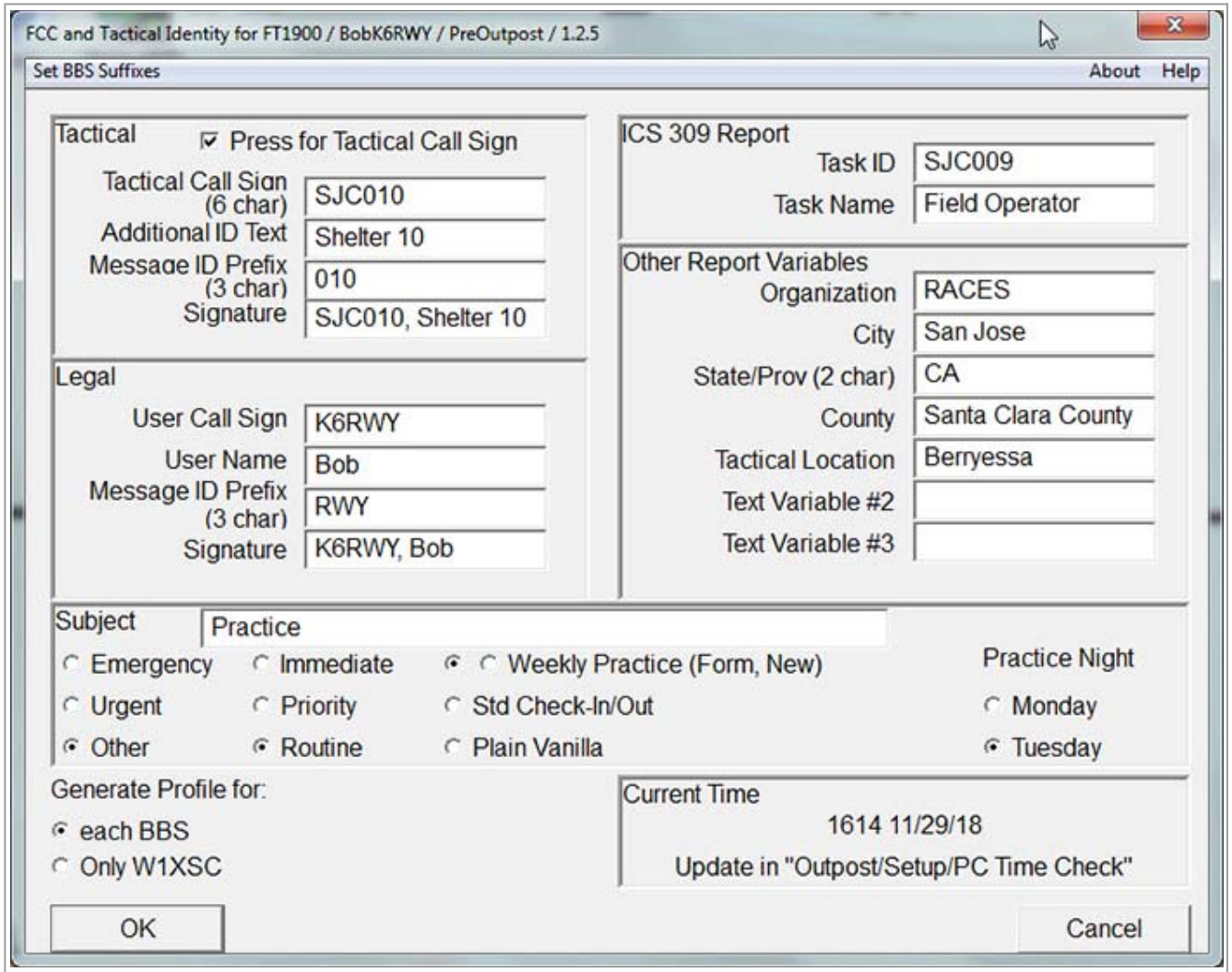


Fig. 2 -- Legal and Tactical Identification and Report Settings Dialog Box

These new profiles should not over write existing profiles. Since the names of the profiles are the names of the files a convention of using the "~" character in the names to reduce the chance of over writing an existing profile. The new profile names are constructed as follows:

'~' ‹Original Profile Name› '~' <User supplied Suffix>'~'

For example, if the Original Profile Name is "FT1900" and all six profiles with "W1" through "W6" suffixes are generated then the following profiles will appear in the list of profiles (and see Figure 3):

- ~FT1900~W1~
- ~FT1900~W2~
- ~FT1900~W3~
- ~FT1900~W4~
- ~FT1900~W5~
- ~FT1900~W6~

Fig. 3 -- Outpost's Profile Dropdown List with PreOutpost created profiles

The BBS name was shortened so that Outpost Profile edit box would contain the entire profile name. The original profile was named FT1900 to reflect the modem/radio configuration (I also have a D710 profile).

All six profiles are produced so that by changing profile and the radio's frequency one may quickly send a message on using another BBS. If the option to produce one profile is selected a profile which contains W1XSC as the BBS is produced.

After the new profiles are produced, PreOutpost starts Outpost. The user may then select one of the profiles produced, set the correct frequency on the radio and begin composing and transmitting and receiving messages.

When Outpost terminates (e.g. the user has completed his shift) PreOutpost will delete all the profiles of the form "~*~W?~".

To summarize then, the operator starts PreOutpost, inputs his identity information into the dialog box and selects one of the profiles produced after Outpost starts. The Master Profile name is on the title bar of the dialog box (i.e. see Figure 1: FCC and Tactical Identity for FT1900). All six profiles will contain the FCC and Tactical and Report information provided in the dialog box. The profiles will be deleted when Outpost terminates.

Two or More Master Profiles

When one computer will be used with two or more modem/radio configurations things become more complex for PreOutpost. Now PreOutpost must allow the user to create two or more profiles, add identity information to one of them (or all of them) and in some cases to delete a master profile.

When two or more master profiles are present the first thing that must happen is that the user must select which master profile to use. Alternatively all profiles can be processed by PreOutpost. The default is to use one Master Profile but the user can choose to process all Master Profiles by selecting the "Process all Master Profiles" radio button (see Figure 4).

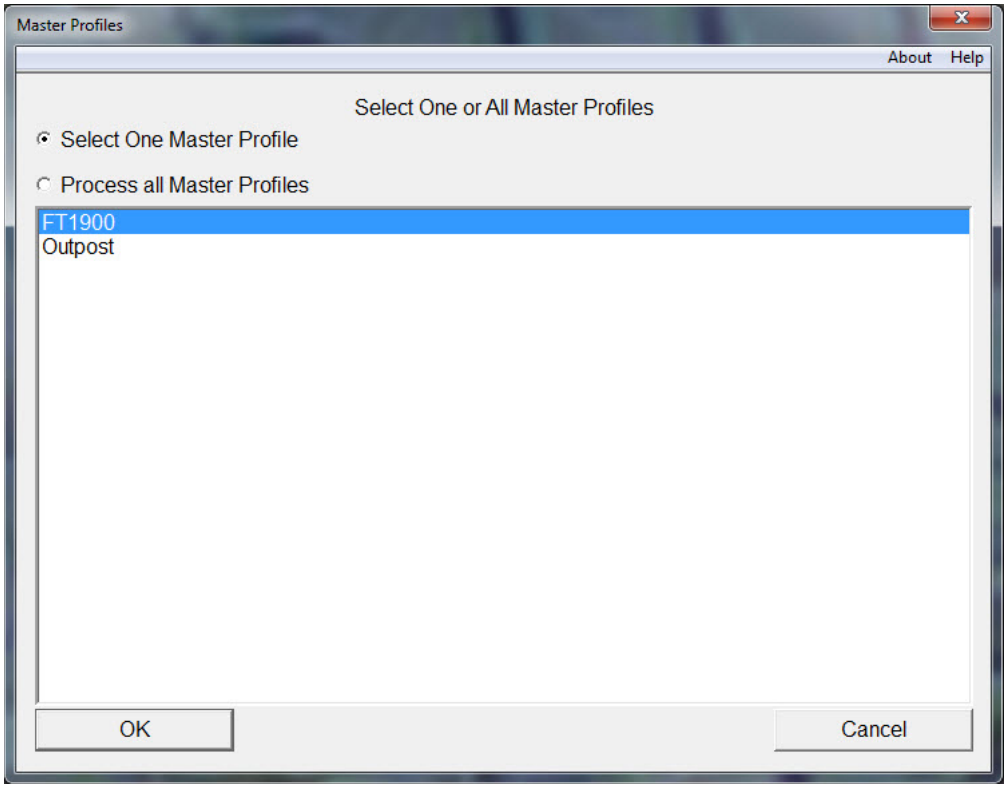


Fig. 4 -- When there are two or more Master Profiles the user must select one.

Clicking OK on the dialog box will present the FCC and Tactical Identity dialog box and the results will be similar to the single Master Profile case.

Data Input

FCC Credentials

The FCC Credentials are the FCC call sign, the user's name, a three letter prefix used in numbering messages and a signature that is placed in plain text messages. The Tactical Credentials include the same information, Tactical call sign, user's name, three letter prefix and a signature.

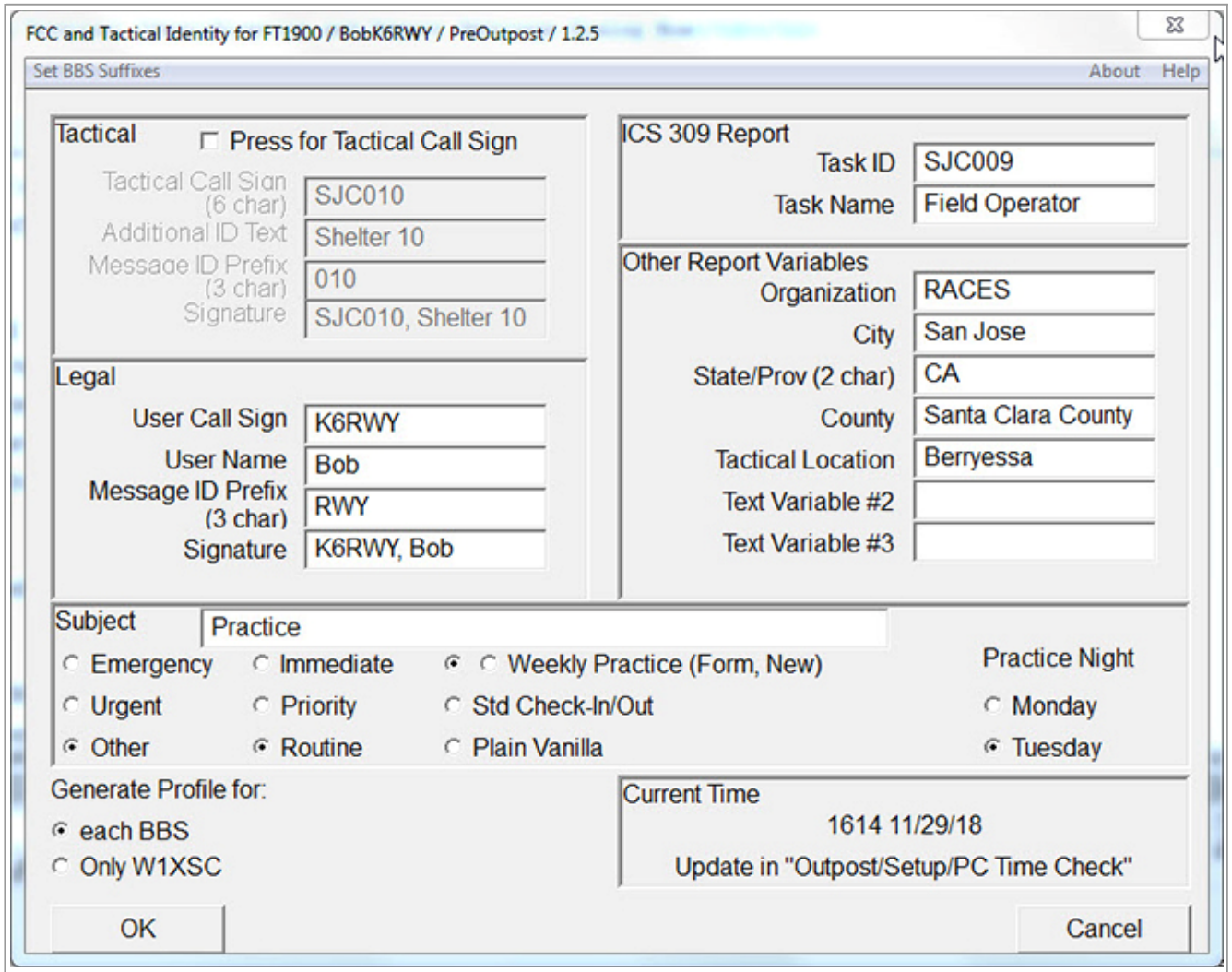


Fig. 5 -- Legal (FCC) and Tactical Identification and Report Settings Dialog Box, Tactical Greyed Out

When the FCC credentials only are to be used in Outpost the Press for Tactical Call Sign check box is left unchecked. This causes the tactical credentials to be unavailable for change. Using the mouse to "select" the check box will install a check mark in the box and also allow modification of the Tactical credentials.

The ICS Report use two of the Report variables, the Task ID and the Task Name in the header of the report. Choose something appropriate for those values. At the time

of this writing the use of the Other Report Variables is unknown.

Finding Credentials Prepared in the Past

The Credentials are saved in files that are identified by type and the Call Sign. PreOutpost will find and display the credentials if they exist by merely inserting the call sign into the appropriate call sign edit box and leaving the edit box. Then the credentials found (if any) may be modified or left as they are. There is one slight problem with this scheme. If the user modifies the "User Name" or the "Additional ID Text" for the Tactical credentials (for example) then the search feature is for those credentials is shut down. This is because you went to all the trouble to change something, the search feature would override it if something was found.

In the event that nothing is found during the search, the current content of the edit boxes is unchanged. All the non-greyed fields may be modified while the dialog box is present on the screen. The entire content of the dialog box is saved appropriately so that it appears the next time PreOutpost is invoked and so that the searches for the credentials will succeed the next time. Furthermore, Outpost will be started with the values found in the dialog box when OK is pressed.

Creating a Master Profile

Creating a Master Profile is more difficult than using PreOutpost to collect identity and report information. This is deliberate. The whole point of PreOutpost is to preserve a profile that works.

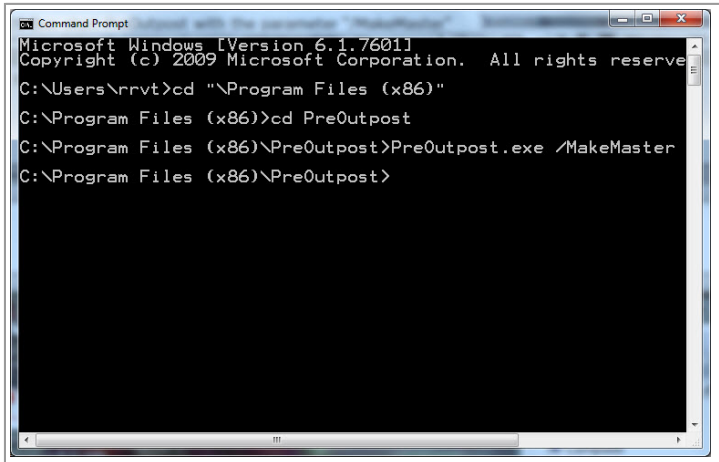


Fig. 6 -- Starting PreOutpost in a Command Prompt (DOS Box)

The first step is to enter Outpost and create a working profile for the modem/radio configuration. Test it thoroughly with one of the BBSes (it doesn't matter which). Be sure to name the profile with some identifier that indicates the modem/radio combination. Keep the name short (I've noticed that on some laptops the Profile name edit box is short). Exit Outpost.

Then start a DOS box in your computer (e.g. Start/Accessories/Command Prompt in Win7). Change directory to the directory in which PreOutpost.exe is located, "C:\Program Files (x86)\PreOutpost\".

In the DOS Box start PreOutpost with the parameter "/MakeMaster" (see Figure 6). At that point a dialog box will appear that will give the user one of three options: Create a new Master Profile, Delete an existing Master profile or Cancelling the operation (see Figure 7).

There is one special case for creating a Master Profile. If there are no Master Profiles present then PreOutpost starts the Make Master process.

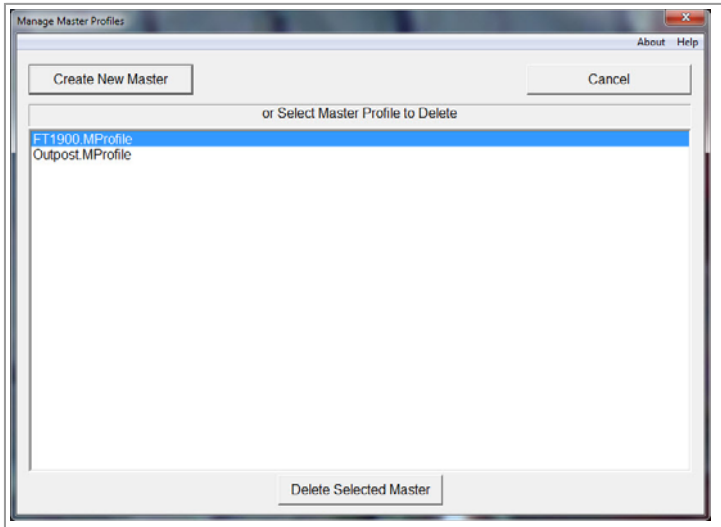


Fig. 7 -- Create a New Master, Delete an Existing Master or Abort

BBS Suffixes

BBS Systems

As with all radio systems, packet requres a repeater or bulletin board system (BBS) somewhere nearby to receive and record transmissions from the operator of a packet station. There may be several. Whoever configures Outpost for use in a

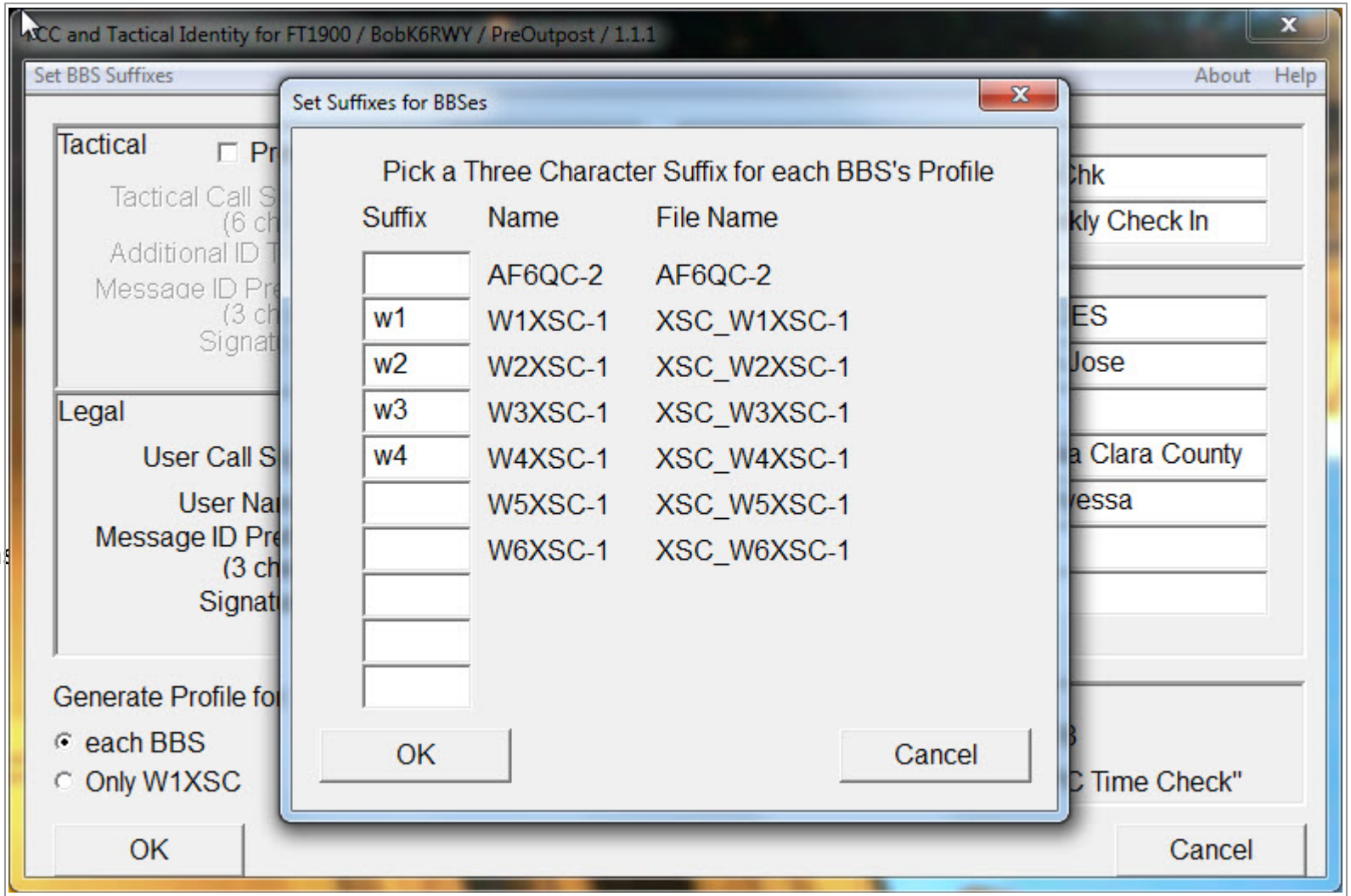


Fig. 8 -- Create unique suffixes for each BBS **(Do this once)**

particular area will create a file to hold the properties of a specific BBS.

PreOutpost will need to know the names of each BBS so that it can create a profile for each BBS before it starts Outpost. If the number and character of the BBSes is static then we need only find their details once. In order to use the profile which is configured for a particular BBS one needs a portion of the profile name to designate the BBS. PreOutpost uses a suffix of the profile name to designate the BBS.

During the creation of a Master Profile or entering the first Identity information the menu item "Set BBS Suffixes" will display all of the Outpost configured BBSes along with any known suffixes. The user can add or delete suffixes in the dialog box and press OK. Those BBSes with a blank (empty) suffix field will be ignored.

Selecting a Profile to Make into a Master Profile

Selecting the Create New Master button will bring up another dialog box with a list of profiles that exist in Outpost's domain (see Figure 9). PreOutpost will not display any PreOutpost created profiles, just those that have been prepared by the user. Selecting the OK button and the new Master Profile will be created and PreOutpost will exit. The next time PreOutpost is started to collect identity information the new profile will be presented or used.

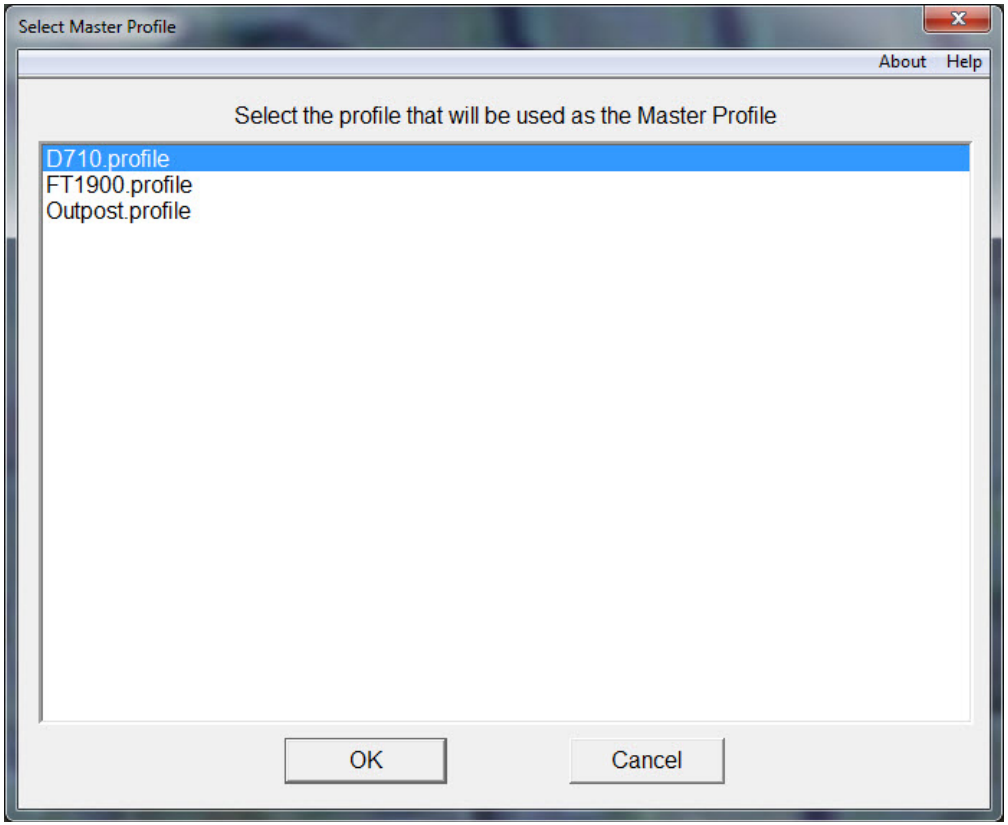


Fig. 9 -- Select one of the Outpost's Profiles from which to create a Master Profile

Deleting a Master Profile

Deleting an existing Master Profile requires choosing one in the dialog box and selecting the Delete Button. You get one more chance to abort with another dialog box but after confirmation (Selecting OK) of the delete the Master Profile will be gone (see Fig. 10).

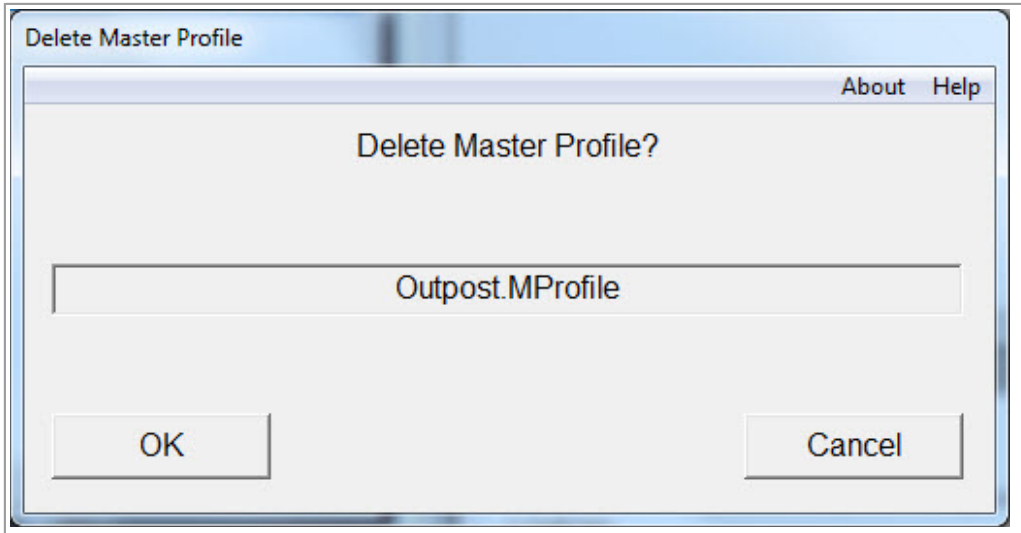
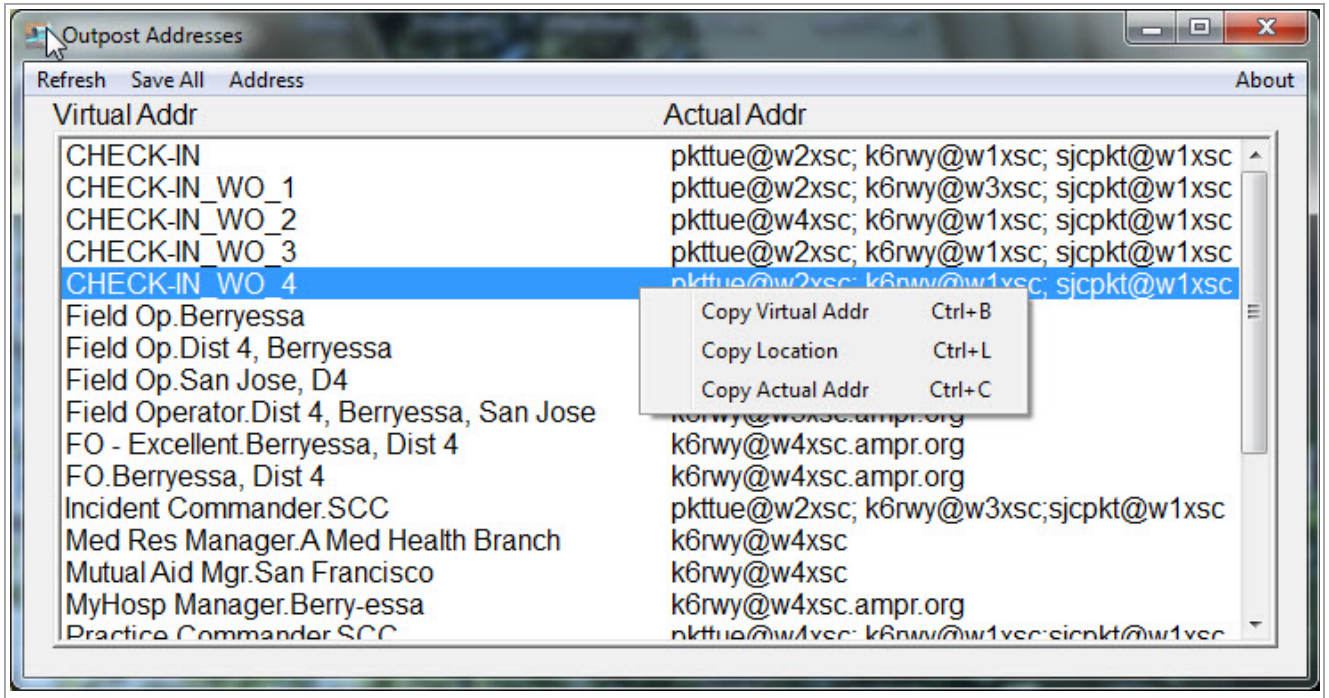


Fig. 10 -- Confirm or Abort the Deletion of a Master Profile and all of its Progeny

Address Book



Select address record and use right mouse popup menu to copy field of interest to scratch pad.

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The OPaddress application may be started (as an option) by PreOutpost, cobbles up the address records held by Outpost and presents them in an independent window. Furthermore, when the refresh menu item on the window is selected (left mouse click) OPaddress will capture any new form addresses in the current day's log and present them.

Each entry presents the "virtual" address (the address in a form), the "location/organization" and the "actual" address for each entry. Each entry takes one line. The dialog box may be resized and moved as needed by the user. The position and size are remembered from on instantiation to the next.

Using and entry may be done by copying one of the three fields into the scratch pad using the right mouse menu or one of three control characters (keyboard shortcuts). First select the line (Address Record) of interest and then either press the right mouse button or use one of keyboard shortcuts:

- Ctrl+C -- Copy Actual Address
- Ctrl+B -- Copy Virtual Address

- Ctrl+L -- Copy Location/Organization

Then select the field in the browser or Outpost where the item should be placed and use the shortcut Ctrl_V or Paste on the right mouse button popup menu.

The address menu includes the commnds:

- New -- Create a new Address entry
- Edit -- Allow editing the currently selected address entry
- Delete -- Delete the currently selected entry after confirming in a dialog box

Since OPaddress may affect entries already created in Outpost saving the new entries (or modified entries) is deferred. While the application is running all entries that appear are held in the application. No changes, additions or deletions in the Outpost files are performed until the SaveAll menu item is selected. Alternatively, when the application is closed a prompt to save the entries will be displayed before exiting.