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.

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".

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.

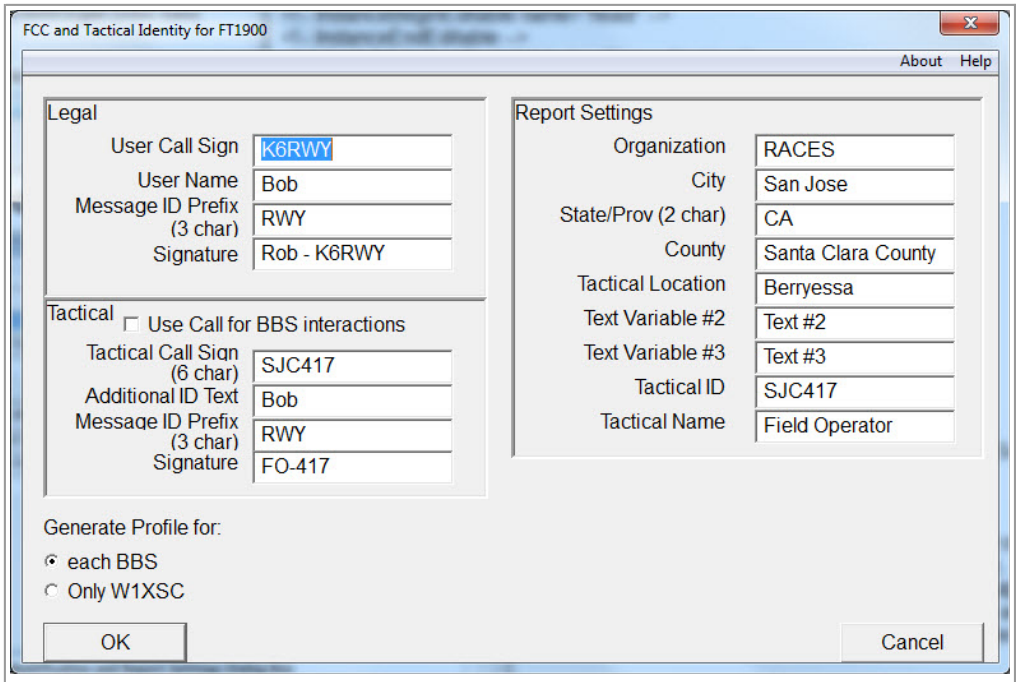

Fig. 2 -- Legal and Tactical Identification and Report Settings Dialog Box

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> '~' 'W' <BBS number> '~'

For example, if the Original Profile Name is "FT1900" and all six profiles 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.

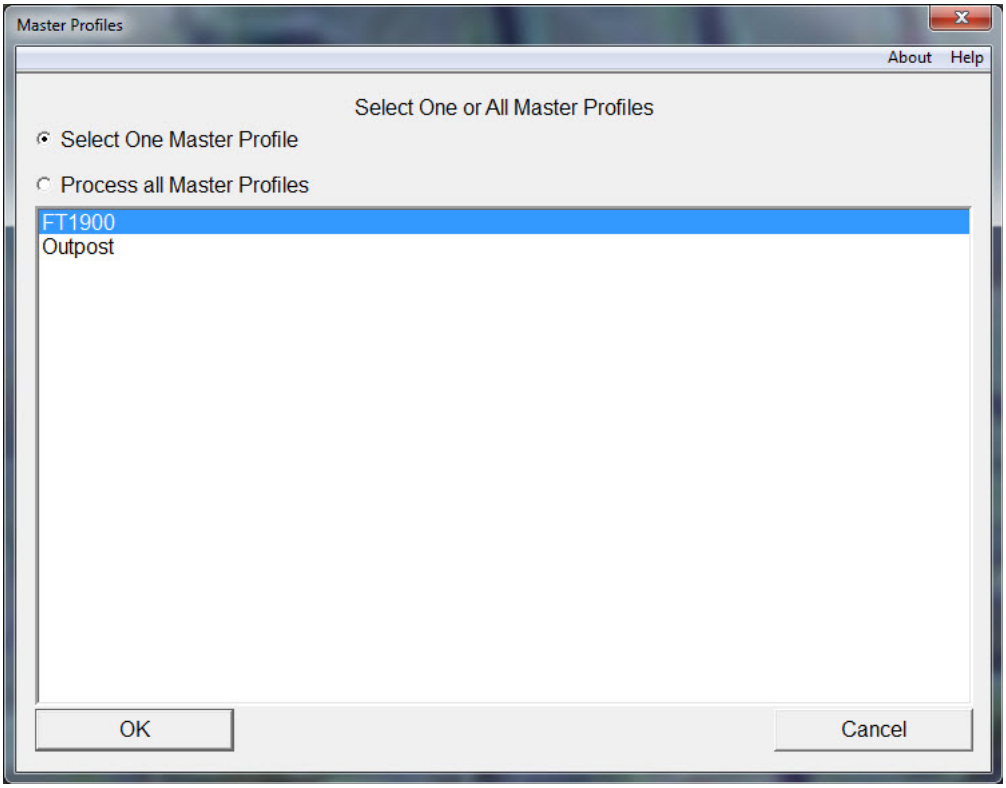

Fig. 4 -- When there are two or more Master Profiles the user must select one.

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).

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.

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.

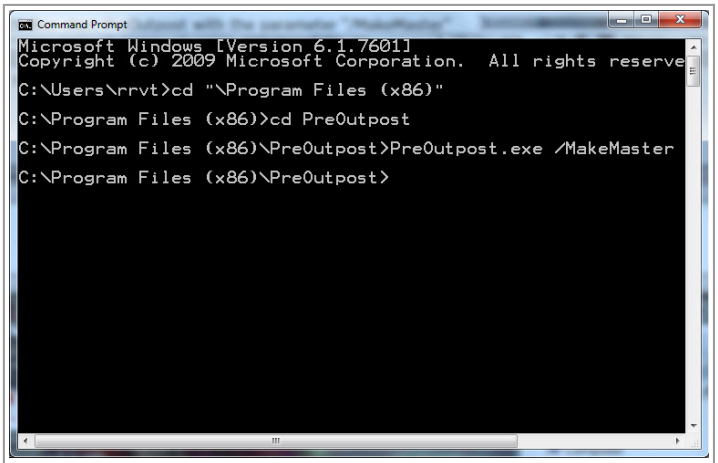

Fig. 5 -- Starting PreOutpost in a Command Prompt (DOS Box)

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 5). 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 6).

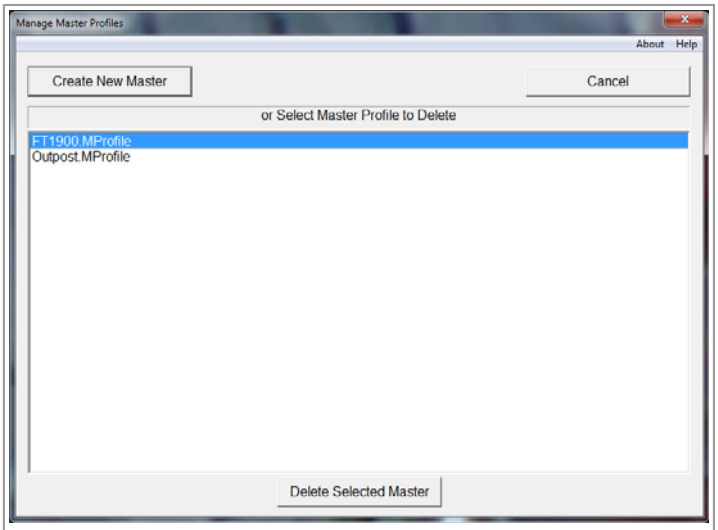

Fig. 6 -- Create a New Master, Delete an Existing Master or Abort

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

Selecting a Profile to Make into a Master Profile

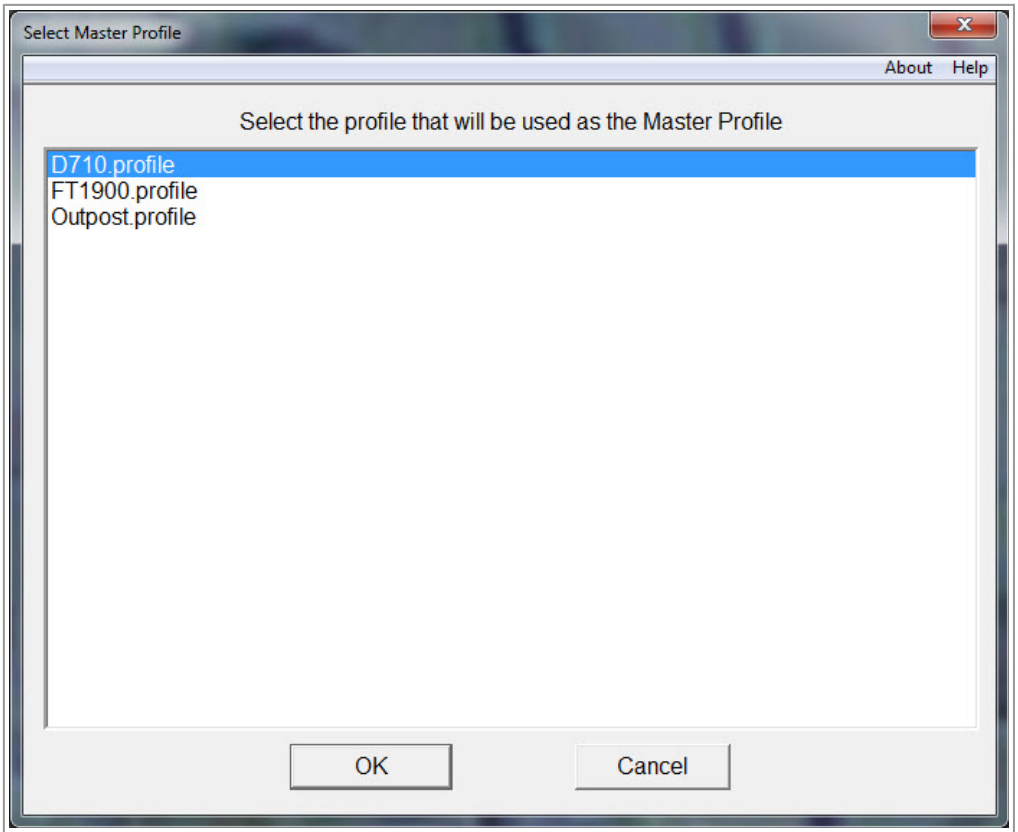

Fig. 7 -- Select one of the Outpost's Profiles from which to create a Master Profile

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 7). 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.

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. 8).

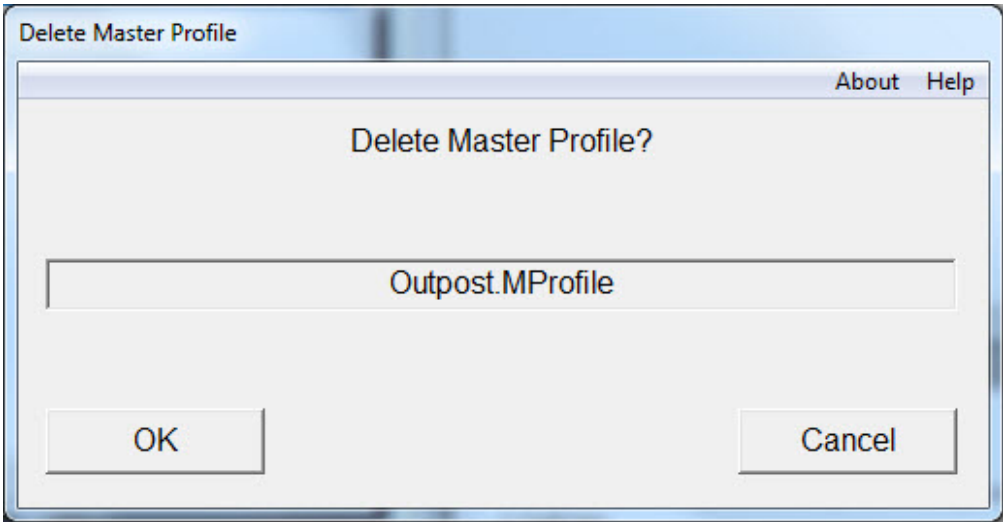

Fig. 8 -- Confirm or Abort the Deletion of a Master Profile and all of its Progeny