INSTALLATION AND USE OF WINPAK/3.1 Version 1.0

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QUICK START GUIDE

If you're in a hurry to get started, and know your way around Windows fairly well, the following steps will get the program up and running with the minimum amount of fuss:

1. Copy WINPAK31.EXE to your hard disk, in any directory you choose. No unzipping is required (Unless you are getting it from a BBS that has "zipped" it). Place it in one of your Windows program groups.

2. Using Program Manager/File/Properties, edit the command line for WINPAK31.EXE and add an argument for the com port you wish to use (the one your Tnc is connected to).

   Example: C:\WINPAK\WINPAK31.EXE COM3

   IMPORTANT: The com port should be entered in all caps, as above (the directory can be any you wish to place WinPak/3.1 in).

3. Using Window's Control Panel/Ports, enter appropriate parameters for the Tnc you are using. It is probably best to start with a baud rate of 4800, 7 data bits, 1 stop bit, even parity, and "Xon/Xoff" flow control.

   IMPORTANT: WinPak/3.1 will not function properly without software (Xon/Xoff) flow control.

4. Perform a hard reset (by removing all power and removing the battery jumper), or a software reset (by entering the command RESET) on your Tnc using your former program. The hard reset is more likely to be the best bet, especially if you have been using PcPakratt... if you have, the instructions for performing a software reset are more complicated, and are given later in this document, in the "PROBLEMS" section.

5. Start WinPak/3.1 by double-clicking on it's icon. The main "LogFile" window will appear with a list of menu selections. If any error messages appear, you may not have have specified your com port properly, or you may have set incompatible settings in the Control Panel. Refer back to Step 2.

6. From under the "Tnc" menu-item, click "AutoBaud." This will send an autobaud character (the '*') to the Tnc and you should then see the sign-on message. The Tnc is now configured for the default settings, and if any packets arrive they will appear in the LogFile window if they conform to the MONITOR setting of 4 the (default). You can now configure the Tnc to your own taste by using the menu items, as explained further below. If no error messages have appeared up to now, but you do not see the sign-on message, it is probable that the Tnc was not RESET properly. In this case, refer back to Step 4.

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IN DEPTH EXPLANATION OF PROGRAM FEATURES

The Command Line

The command line can accomodate three parameters, the com port, the program parameter (INI) file, and the action to take on program start up. The parameters should be separated by commas.

The only parameter that is mandatory is the com port, and it must be in all caps, such as COM3, or COM2, and it must be the first parameter in the command line.

The second parameter is the complete path and filename you wish to use for the INI file; it can be omitted (the default, if you leave out this parameter, is WINPAK31.INI, in the Windows directory). If you wish to omit this parameter and still use the third, just use two commas in succession, ie: COM3,,T

The third parameter is the type of Tnc initialization you wish to use.

The types of initialization presently available are:

A -send autobaud "*" to Tnc on startup

T -send time and date to Tnc on startup

C -send time and date, and also initialize the Tnc with a custom set of parameters in the file CUSTOM.INI (must be in the same directory as the program) these parameters should not duplicate any that are controlled by dialog boxes or the program and Tnc will not be in agreement. A sample CUSTOM.INI is included with the program.

If you leave off this parameter only the XON character, which is always sent on startup, will be sent to the Tnc.

The Comport and initilization arguments should be all caps. On the first running of the program, other com port parameters, such as baud rate, data bits, parity, etc. should be set in Window's Control Panel...however, software flow control (XON/XOFF) is required for the program to function properly. After the first running, the program builds a parameter (INI file) according to the path specified on the command line, and stores com port parameters there, except for flow control. Changing the parameters in the control panel will therefore no longer affect the program, as long as you don't change the flow control from "XON/XOFF." However, there is no need to use Control Panel again, since the other com port parameters can be changed from within the program and will be stored in the

INI file. If you should delete the INI file for some reason, the program will again get the initial com port parameters from what is set in Window's Control Panel (these parameters are read from WIN.INI).

An example of the command line (assuming you've installed the program in a separate directory called "WINPAK") is:

C:\WINPAK\WINPAK31.EXE COM3,C:\WINPAK\WINPAK31.INI,T

This command line can be set using Window's Program Manager's "File/Properties," so you just have to click on the program icon to start up (see Windows docs). This will cause winpak/3.1 to use Com3; an initialization file (created on the first run of the program) C:\WINPAK\WINPAK31.INI; and will send the date and time to the tnc on startup.

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THE MAIN WINDOW

The main window of WinPak/3.1 is for output (monitoring, etc) only. You will not be able to type into this window, although mouse clicking in the window will result in certain actions being carried out (to be explained below).

MAIN WINDOW MENU ITEMS

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LogFile — Under this item you will find the following:

Scroll to Top — This scrolls the scroll-back buffer to the top and suspends Tnc output by sending the Xoff character so you can page through it.

Scroll to Bottom — Scrolls to the bottom of the scroll-back buffer, and resumes Tnc output by sending the Xon character.

SaveAs... — Allows you to save the scroll-back buffer to a disk file. However, it will not work when the buffer goes over 32K, (the program uses a trick to go over this limit), and so this selection is disabled (dimmed) after the buffer passes 32K.

Clear Log — Clears the scroll-back buffer, but does not affect the disk capture file.

Print — Enables printing of monitored data to your default printer port (from WIN.INI). This item can be toggled on and off.

Capture to Disk Allows you to open a file to capture all monitored data (according to your Monitor settings) to disk. Sub-items under this selection allow you to toggle the capture on or off, choose a new file, or close the disk capture file.

Exit Exits the program directly. Using the system menu bar method of exit will subject you to the message of "file changed... save?" but this item won't.

Edit Under this item you will find:

Compose Message Opens an editor similar to Notepad where you can compose your messages for uploading. See THE COMPOSE MESSAGE EDITOR later in this document.

Monitor...
--- Opens a Monitor Options dialog that allows you to set Tnc parameters related to monitoring data. For the most part, these are identified by the same command names you will find in the Tnc documentation. If the Tnc is in converse mode when you alter one of these settings it will be switched to command mode in order for the appropriate command to be sent. (This principle of switching to command mode to alter settings applies to all dialog boxes dealing with Tnc settings, in order to prevent commands being mistakenly sent out as packets). To return to converse mode, if you wish to do so, use the command mode dialog (see below). This particular dialog box is a "nonmodal" type, which you can keep hanging around. The commands given in this box take effect immediately.

Tnc Under this item you will find the following:

Pause Sends the Xoff character to the Tnc (to allow you to scroll back through the buffer). You can also pause the Tnc by double-clicking the left mouse button in the main window.

Resume Sends the Xon character, resuming Tnc output. Clicking the left mouse button in the main window will also resume Tnc output.

RESET Sends the RESET command to the Tnc. Also, resets all Tnc parameters in the program to their default values, so that the Tnc and the program will be in synch.

RESTART Sends the RESTART command to the Tnc, and afterwards,

sends the date and time (as set in your computer).

AutoBaud Sends the autobaud character (*) to the Tnc.

Command...

Opens a command line dialog that allows you to type in commands, or conversational packets. The <Ctrl-C> button sends a Ctrl-C to the Tnc, switching it to command mode, if it isn't already in it.

IMPORTANT: Do not alter the command mode entry character (using the "command n" command), as the program expects it to remain set as "Ctrl-C" for proper operation.

The <Converse> button sends the converse command to the Tnc, switching it to converse mode from command mode.

IMPORTANT: The program is not written for host mode and therefore does not "know" whether it is in command or converse mode. The buttons are there for convenience.

Parameters

Under this item you will find further menu items for dialog boxes that allow you to control various Tnc parameters. These are grouped in a reasonably logical way, and the parameters are named the same as in the AEA documentation, to avoid confusion. Boolean (on/off) parameters are controlled by check boxes, and numerical parameters by small boxes (edit controls) that allow you to type in your desired parameter. If you try to use a number that is out of range for a parameter the program will let you know and allow you to re-enter it. If you get stumped, cancelling out of the dialog will leave the original settings intact, no matter what you have tried to enter. Text fields are represented by larger edit controls. Usually, the edit control box will not be as long as the text you are allowed to enter, but they are scrollable. By using the arrow keys, or the backspace key you can move to any point in the text or edit control.

Remember the principle, stated previously, that altering Tnc parameters in the dialog boxes causes the Tnc to be switched to command mode if it is not already in it.

Over 60 parameters and text fields can be controlled by dialog boxes. (It is best to explore these to find out what they can and cannot control). Parameters or commands that you do not find here can nevertheless be put in manually with the "command mode dialog."

In addition, by clicking "Terminal" and then "communications..." you can alter the parameters that affect the com port connection between the Tnc and your computer. Since RESTARTing the Tnc is needed for new com port settings to take effect, changing these will automatically cause the RESTART command to be sent, unless you uncheck the "Restart Tnc?" box.

When the program is first run, or when RESET, from under the Tnc menu, is selected, all parameters are set to their default values so that the Tnc and the program are in agreement as to what the parameter settings are.

When exiting the program, it is advised to always use the "Save settings on exit" option, so that the program will remember what the parameters settings were when it was last run (see below).

Options — Under this menu item you will find the following:

Fonts — This allows you to choose from any font you have on your system. The terminal or fixed sys fonts are helpful since packet uses spaces instead of tabs for formatting.

Save Settings On Exit — If checked, the program will save all parameters and settings, including window size and position. This is highly recommended because otherwise the parameters stored in the Tnc and those the program is using will not be in agreement. However, if you use more than one packet controller program and another modifies the Tnc parameters, WinPak/3.1 will not be aware of the changes. It is best to always use RESET when changing from another packet program to WinPak/3.1 so that both the program and the Tnc are in agreement, with default parameters.

Wake Up Mode — When checked, this will cause the program to come to the top of the Window desktop when it receives data from the Tnc. If you use the screensaver "After Dark", WinPak/3.1 will "wake up" when data comes in. If you put your mouse cursor in After Dark's sleep-now corner (see the After Dark documentation), Winpak/3.1 will monitor with After Dark's screensavers still running behind it. WinPak/3.1 will not appear until the first data comes in from the Tnc, however. If you also use the password option, you will not need to worry about jostling the mouse out of the corner, since the screensavers will not be disabled until you enter the password. Use of After Dark's "IQ Monitor" is recommended. Other screensavers such as the native Windows one, do not have an IQ option to watch com ports for activity, and may cause Winpak/3.1 to lose data.

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CONTROL OF TNC OUTPUT TO THE MAIN WINDOW

If you want to stop output from the Tnc to scroll thru the log you can:

1- double click the left mouse button in the main window (a message box will come up confirming your request)
2- select "Tnc/Pause"
3- select "Log File/Scroll to Top"

To resume Tnc output you can:

1- click the left mouse button once in the main window
2- select "Tnc/Resume"
3- select "Log File/Scroll to Bottom"

For the AEA PK-88 and PCB-88, data received while the output is paused is stored in the Tnc buffer (up to 18k) and will be read by WinPak/3.1 when you resume Tnc output.

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THE COMPOSE MESSAGE EDITOR

"Edit/Compose Message" opens an editor window, similar to Notepad, where messages can be composed for uploading. The window caption bar will inform you of total line length for the line you're working on. The window has a menu item "Connect/Upload" to allow connection to other stations and line by line upload of the text in the window. However, if the line is too long for your "Paclen" parameter it will be truncated during uploading.

To connect, enter a station callsign or id in the top of the list-box and click the "connect" button. This will cause the program to issue a connect request, and if you have selected "save settings on exit" any stations you have connected to (or tried to) will be saved on exiting the program.

Clicking "Upload" will send the text in the editor, line by line, to the Tnc. Keep in mind, that with the PCB- and PK-88 at least, if not other Tncs as well, the text will be uploaded into the Tnc transmit buffer almost instantaneously, but will be sent out to the distant station gradually according to your Maxframe and other parameters. The maximum amount of data the editor will upload is about 20k, but the PCB/PK-88 will only hold about 18k anyway, and this will be reduced by any messages you have stored in your mailbox. At the end of the text in the editor, a "/EX" will be automatically added to indicate the end of the message to the remote station. You do not need to add this manually at the end of the message.

If for some reason, such as a bad link, you wish to stop the upload from the Tnc to the distant station, click the "Abort" button. This will cause a "Tclear" command to be sent to the Tnc, clearing the tranmist buffer except for "a few remaining packets" (per AEA). A message box will confirm this, and the Tnc will be put back in converse mode. You can then use the command mode dialog to send "bye", or enter command mode and give the "disconnect" command.

After successful uploading, you will still be in converse mode, and you can then use the command mode dialog to send other commands to the remote station, or send "bye."

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MAILBOX OPERATION

When "Maildrop" is switched on, in the mailbox dialog box, WinPak/3.1 will not send an XOFF upon exiting. This will prevent the memory from being used up by monitored data. Otherwise, it will send an XOFF, and the available Tnc memory will store incoming data until the program is run again. If you wish to leave the maildrop off, but still not store data in the Tnc, merely set monitor to 0.

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PROBLEMS

I/O ERROR MESSAGES

These will be preceeded by the phrase "READCOM ERROR." Unlike most other communication programs, WinPak/3.1 will inform you of the exact nature of any I/O errors. Often, there will not even be any loss of data, but at least you will know something unusual has occurred. I/O error messages are almost always seen when you change communications parameters and RESTART the Tnc, but these are nothing to be concerned about. If, on the other hand, you see the error "HARDWARE OVERRUN," this indicates Windows is not reading bytes from the UART in time to prevent incoming data from overwriting the data already in the UART buffer. An accompanying document, MODS.TXT, will have some information about the causes of and solutions to this situation.

OTHER PROGRAMS

The AEA supplied program for the AEA PCB-88, "Pakratt88", does not always co-exist peacefully with other programs. If you need to switch between it and WinPak/3.1, it is required to set Pakratt88 to "Host Mode on Exit=Disable". Also, since Pakratt88 uses non-default XON and XOFF methods, it is also helpful to do a RESET from Pakratt88 's dumb terminal mode just before exiting. If the latter is not done, you can still start Winpak/3.1 but you will get several parity error or other error messages. If you are hooked up to your radio and receiving packets there will be continual I/O errors and it will be difficult to accomplish the next step: select Tnc/RESET from the menu. These steps will also establish the default

XON/XOFF characters, without which Winpak/3.1 will not function correctly. If you do a RESET before exiting Pakratt88 things work much better: then you just have to select Tnc/Autobaud from Winpak/3.1 to start the Tnc again. Note that anytime you use RESET, the Tnc will lose its time and date information. You can restore this in WinPak/3.1 by using the Tnc/RESTART menu item.

By the same token, you MUST issue a RESET from the Winpak/3.1 command line (not the menu item, because it also sends the autobaud) before switching over to Pakratt88, or Pakratt88 won't even start up. Doing RESET from Winpak/3.1 gives a lot of I/O error messages, but don't worry about them. Its just my philosophy to be informed about any and all system and program occurences that are out of the ordinary.

Another factor to consider is what Terminal baud rate the Tnc is expecting, compared to the baud rate WinPak/3.1 is using. Some combination of software or even hardware RESET (battery disabled) may be needed if the program and/or Tnc is too confused.

Also, if any Tnc parameter settings have been set with WINPAK/3.1 and then modified by another program, when you next run WINPAK/3.1 it will not be aware of the changes, and the settings in the dialog boxes may not agree with the internal Tnc settings. The same thing can happen if you change settings with the command line dialog. If you toggle the settings back and forth or change them from their respective dialog boxes, they will become synchronized again.

MULTIPLE CHANNELS (CONNECTIONS)

Sorry, but WinPak/3.1 is not designed to handle each connection channel in a separate window. You type your output in a separate window (the command mode window) but all data coming from the Tnc, whether it is from one or more connectees, or just monitored packets, will all be output in the main window (LogFile scroll-back buffer). I've tended to design the program to fit my own needs and uses, and I rarely ever connect to anything but a BBS. Selfish, perhaps, but I would rather put my time into something I use. I do plan to buy that other Window's packet program, you know, the one that's "the only Windows controller program on the market" only its not actually on the market yet (as of this writing), but to program all that capability myself would take 5-10 years.

BUGS AND AREAS UNDER CONSTRUCTION:

When you use the custom initialization option, the program turns ECHO OFF and BBSMSGS ON to prevent all the commands being sent from appearing in the log However, the "cmd:" prompt is not being filtered out properly (like I want it to be). When initialization is over, echo is restored to whatever state the user had it set to, and the program is supposed to do the same with bbsmsgs, but the bbsmsgs part isn't working properly. So, bbsmsgs will probably end

up in the ON state even if it's supposed to be off.

Borland C++ with ObjectWindows uses signed 16 bit pointers for the type of "edit control" window I am using, so if you go over 32k in the log file window, they overflow and go negative. Normally, this doesn't happen. However, I use a trick to get more than the normal 32K in the window. When it goes over 32K, "SaveAs" won't work since the byte counter is now negative... I guess since Windows then thinks there's nothing in the file, it saves 0 bytes. This appears to be a Borland bug that I can do nothing about at present. Since Borland shows no interest in coming up with a work-around, the "SaveAs" menu item will be disabled when the file first exceeds 32k. Note that you can still capture to disk until you run out of disk space.

Do not use the same file to "SaveAs" that you are using for disk capture, or vice-versa. In a future version the program will automatically prevent this, since it leads to undesirable results (the file is messed up, overwritten, or truncated).

When the log buffer has reached the end of its memory (may vary up to to 57k) stuff is deleted from the beginning to make way for the new. When this happens you may be able to see a very rapid scrolling to the top of the window, followed by selection and deletion of the text, and a return scrolling to the bottom. Depending on the speed of your system and video card this may be barely noticeable or very annoying. I'm still working on eliminating this.

The program attempts to filter out any appearances of the "cmd:" prompt in the monitor log, but at present is not entirely rigorous about it, so as not to slow down the program I/O. Therefore you may see some "cmd:"s imbedded in the log from time to time.

Since the program doesn't yet know whether it is in command or converse mode, or whether a connect is in progress or not, trying to use RESET or RESTART in converse mode or while a connect is in progress will not work correctly.

CTRL- type keys are not sent out through the Tnc as they usually would be with a normal terminal program. Instead, they get the default Windows handling. If you use a CTRL-Z for example, you will get the "UNDO" function. You need to use /EX to end any messages, but the Compose Message Editor does this automatically.

Please get in touch with me about any bugs/problems/suggestions etc.
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