CTerm 2.0

This is a shareware product. If you find it useful, please register your copy by sending $20 to one of the addresses below. This will enable me to send you information on improvements that I may add to the program and bugs I may fix. (Upgrades are free, as long as you download them from an on-line service. For a copy of the most recent version, send me $5 and I will send a copy to you.)

If you have any comments, suggestions, etc., feel free to contact me by phone, electronic mail, or the postal service:

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If you have problems, let me know and I will see to it that they are resolved if possible. If CTerm does not meet your needs, let me know why.

I will normally return phone calls. However, since the phone calls outnumber the registrations by about a 20 to 1 ratio, this is a losing proposition on my part and may not be continued in the future.

Introduction

This is version 2.0 of CTerm, a package designed to let a Macintosh talk to an **IBM** mainframe though an **IBM** (or compatible) protocol converter by emulating an asynchronous **3270** terminal (as does **IBM**'s **PC/Host [FTTERM]** software).

The following protocol converters (and any others that are compatible) should be compatible with CTerm:

IBM 3174 Subsystem Controller with the Asynchronous Emulation Adapter
Feature (Terminal type FC or FM)
IBM 3708 Network Conversion Unit (Terminal type FTTerm Color or FTTerm
Mono)
IBM 3710 PA-8 Network Conversion Unit

IBM 7171 ASCII Device Attachment Control Unit (Terminal type user-defined)
IBM 9370 ASCII Subsystem (Terminal type FTTERMC or FTTERMM)

Prior versions of CTerm did not properly send the function key codes to the protocol converter when using **IBM** 7171 and 9370 protocol converters. This should be fixed in this version, although I do not have the equipment available to verify this. If this version still does not work properly on this equipment, please let me know.

Requirements

This program requires a **Macintosh Plus** or better. Color support is achieved using standard **QuickDraw** (not **Color QuickDraw**). Memory requirements are small (I currently have it set around 200K, but I am sure that it could safely be lowered). A single floppy is sufficient to run the program. CTerm is System 7.0-compatible. Currently, **System 6.0.5** or better is needed. Version 2.1 may require **System 7.0**, so consider upgrading (it is definitely worthwhile).

The **Communications Toolbox** software must be obtained from **APDA**, Apple Software Licensing, or any other approved source (such as CompuServe) when using **System 6.0.X**. The **Communications Toolbox** is included in **System 7.0.** However, no connection tools are provided. These tools, the **Basic Connectivity Set,** can be obtained from **APDA** or from an on-line source**.**

Some type of asynchronous connection to an **IBM** protocol converter (or some other compatible protocol converter) is also required. Normal communications parameters appear to be even parity, seven data bits, one stop bit, although this could differ from site to site.

This program has been tested at speeds up to 2400 baud, and should be able to support higher speeds without any problems.

Setup

With version 2.0 of CTerm, the name of the configuration file has changed. The old file was named "CTerm Config"; it is now called "CTerm Preferences".

The first time you run this program (or this version), you will need to configure the communication parameters. These parameters are saved in the System Folder in a file named "CTerm Preferences". If running under **System 7.0**, this file will be placed in the Preferences folder. (After upgrading to **System 7.0** you will need to move this file by hand for CTerm to be able to find it. It will not look in both places.)

The location of the terminal window is also saved in this configuration file. By default, the window is positioned in the upper left corner of the screen (so the whole window can be seen on a small screen). Be careful if running on multiple machines, since the saved window position could be off the screen on a different machine.

In addition to the communication parameters and terminal window location, other information is saved, including the background color, emulation type, font, and font size.

For those inclined to use ResEdit, command keys on any menu may be changed (including the pop-up key menu). Also, additional fixed-width fonts may be added to the font list contained in 'STR#' resource number 129. (Fonts not found in any standard point size will not be added to the menu even if they are in this list. Scaled or proportional fonts will not work properly.)

For best performance on color machines, use fonts that have the same depth as the screen or that are marked "not to be expanded" in the fontType field of the font resource. Speed increases are noticeable. (One font that is well suited is "TTYFont", provided with the **Basic Connectivity Set**.)

Distribution of modified versions of this software is prohibited.

If you used any version of CTerm before, your old configuration file "CTerm Config" will need to be deleted. The contents and format of this file have changed in this version, requiring a reconfiguration of the program.

Features

Different background colors are now supported. Select these from the "Background Color" menu. Be careful not to choose a color that matches the color of any text on the screen -- the text would disappear. (Black and white are exceptions: if you make the background white, white text will become black; if you make the background black, black text will become white.)

Note that on machines without color, all colors (except white) are converted to black. Therefore, white is the recommended background color for these machines. For others, black is recommended, mainly for unscientific (aesthetic) reasons.

Function keys and special keys can be selected by holding down the Option key and clicking on the title bar of the terminal window. This replaces the floating palette that was in version 1.03v2.

Printing the contents of the screen can now be accomplished by using the "Print Screen" option in the "File" menu. This should work for all printers, although it has not been tested. (Personally, I don't own a printer.)

Cursor positioning can be achieved by holding down the Option key and clicking on the location to which you want the cursor to move. Notice that the pointer will change into a transparent rectangle to help you determine where the cursor will move when you click.

Copy and paste functions are supported. When selecting the text that you want to copy, the selection box will show the exact text that will be copied; no guesswork is required. Selections will always be rectangular, since that is the most useful method in an **IBM** environment (to eliminate sequence numbers, etc.). To copy the full screen, do not select any text; just choose the "Copy" menu item.

Support for both monochrome and color **3270** emulations is included in the program (it will recognize either); color emulation is the preferred mode, however.

Non-Features

You may notice that basic file transfer support is included in this version. However, it is not even close to functional. Use at your own risk. The only function it serves currently is the building of the TSO command to initiate the file transfer. If you have some time, you may want to try to decipher what **IND$FILE** responds with.

If you have any information that may help to decode this protocol, please let me know. I would like to add this in the near future, but reverse-engineering this type of protocol is not a simple task.

You may notice that text scrolling with the TTY emulation does not work properly when portions of the screen are obscured. Since this is not a problem with standard asynchronous **3270** emulation, the overhead of remedying the situation has not been added.

Multiple logical unit support (for a local printer) has been added to this version, but I have very little faith that it will work as intended. If someone needs this feature and is willing to work with me, please give me a call and we can try to get everything working correctly.

Key Mappings

3270 Key	Standard Keyboard	Extended Keyboard
PF1	Option-1	F1

PF2	Option-2	F2
PF3	Option-3	F3
PF4	Option-4	F4
PF5	Option-5	F5
PF6	Option-6	F6
PF7	Option-7	F7
PF8	Option-8	F8
PF9	Option-9	F9
PF10	Option-0	F10
PF11	Option--	F11
PF12	Option-=	F12
PF13	Command-1	Option-F1
PF14	Command-2	Option-F2
PF15	Command-3	Option-F3
PF16	Command-4	Option-F4
PF17	Command-5	Option-F5
PF18	Command-6	Option-F6
PF19	Command-7	Option-F7
PF20	Command-8	Option-F8
PF21	Command-9	Option-F9
PF22	Command-10	Option-F10
PF23	Command--	Option-F11
PF24	Command-=	Option-F12
Tab	Tab	Tab
Backtab	Option-Tab	Option-Tab
ATTN	Command-A	Command-A
Clear	Clear	Clear
Enter	Return	Return
Home	Option-Cursor Up	Home
Left Cursor	Left Cursor	Left Cursor
Right Cursor	Right Cursor	Right Cursor
Up Cursor	Up Cursor	Up Cursor
Down Cursor	Down Cursor	Down Cursor
New Line	Enter (keypad)	Enter (keypad)
Insert	Command-I	Command-I
Insert (Alternate)	Option-Delete	Option-Help
Fwd Delete (x>)	Option-Right Cursor	Fwd Delete (x>)
Erase EOF	Command-E	Command-E
Reset	Command-R	Command-R
Refresh Display	Command-K	Command-K
PA1	(Menu)	F13
PA2	(Menu)	F14
PA3	(Menu)	F15