

0. Introduction

tinyTerm is a terminal emulator created by network engineer for network engineers, with specific features like command auto completion and scripting, to help network engineers manage network devices effectively and efficiently. It is designed with minimalist philosophy, minimal user interface, minimal executable file size (48KB), no installation required, no registry entry altered.

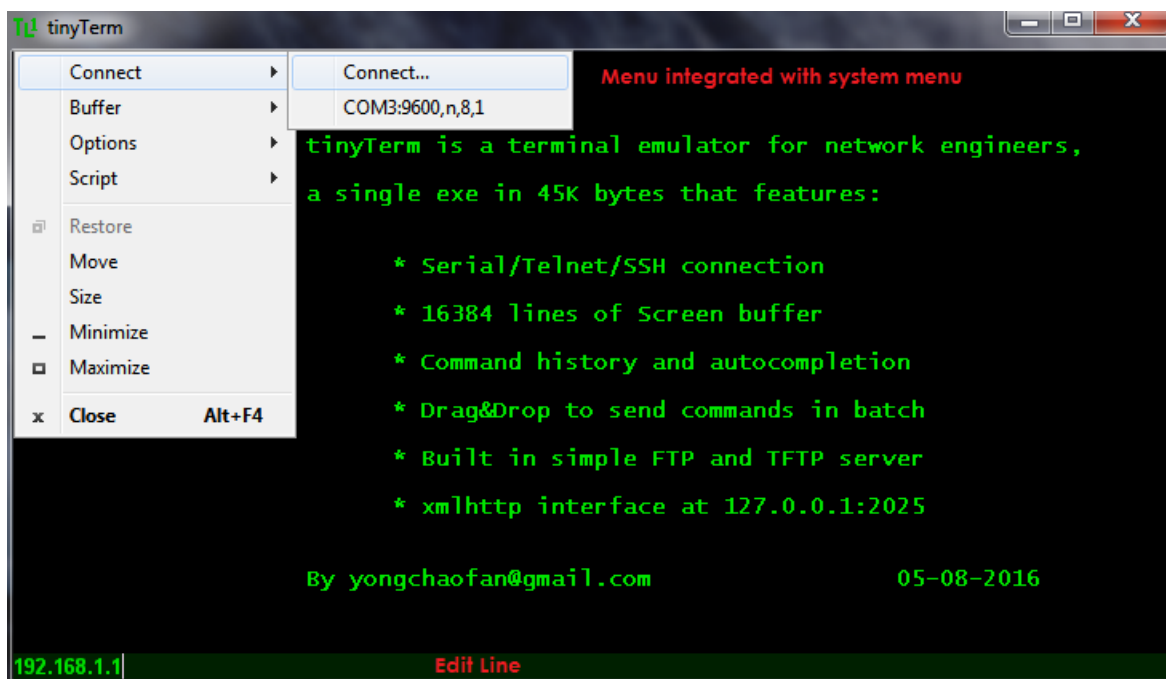
tinyTerm is free to use and free to distribute, this file should be included when distributed.

1. Making Connection

Serial connection can be made by selecting COM ports from connect menu, existing Serial ports are auto detected at the start of tinyTerm. Or type COM port with settings in the edit line and press enter, e.g. "COM1:115200,n,8,1"

Telnet connection can be made by type IP address or hostname with optional port number in the edit line and press enter, e.g. "192.168.1.1" or "172.16.0.1:2024"

SSH connection requires an external program "plink" from the putty freeware package, download plink and save in the same folder as tinyTerm. Then type "ssh -l user -pw pass hostname" and press enter.



2. Sending Commands

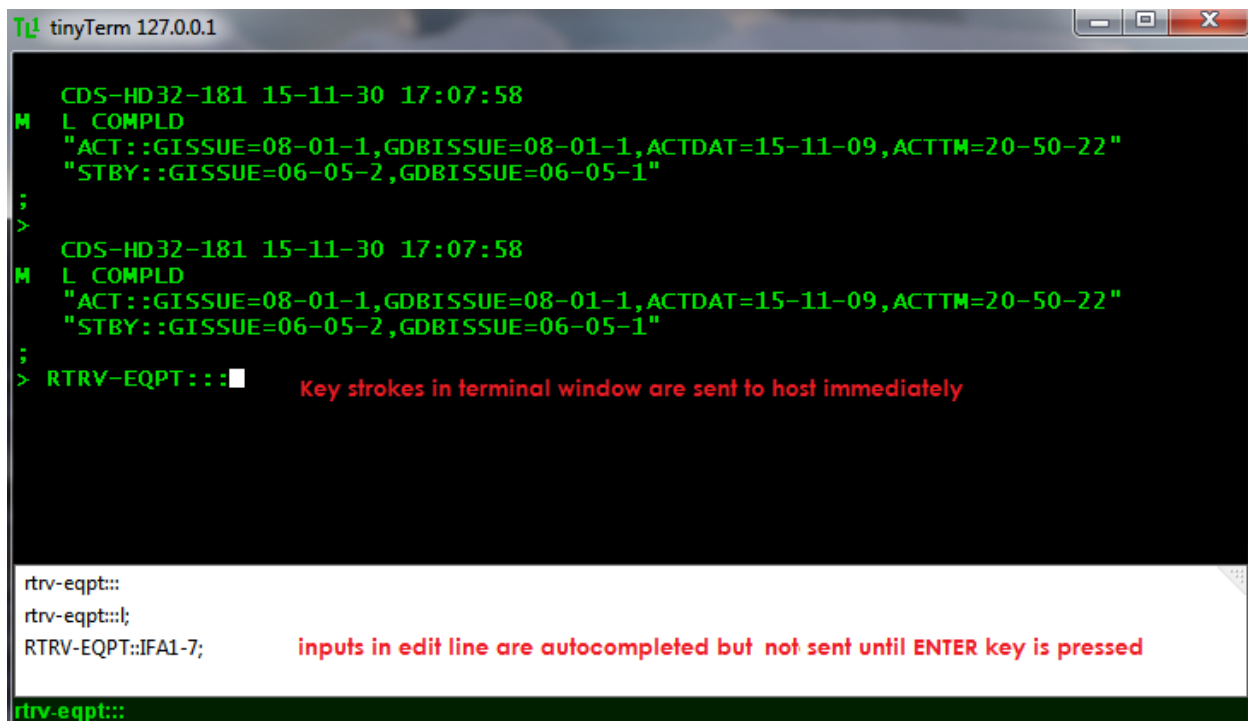
Like any other terminal program, key strokes in the terminal window is sent immediately.

A unique feature in tinyTerm is the Edit Line at the bottom of the terminal window, input in the edit line is not sent until user presses "Enter".

Additionally, Edit line input is auto completed with commands typed previously and commands read from dictionary file at the start of tinyTerm. Default dictionary file is named "tinyTerm.dic", to use any other text file as dictionary, pass the filename as parameter when starting tinyTerm, one easy way is to drag the text file and drop onto tinyTerm.exe

Commands/Key strokes with special meaning in edit line:

up arrow	previous line in command history
down arrow	next line in command history
page up	previous page in scroll buffer
page down	next page in scroll buffer
^{letter}	send ctrl-{letter} to host
/ {str}	search scroll buffer for {str}
# {cmd}	execute tinyTerm command like Clear, Save etc.
! {cmd}	execute external command (eg. !ping 192.168.1.1)



The screenshot shows the tinyTerm 127.0.0.1 terminal window. The main display area has a black background with green text. It shows a command history list with two entries, each starting with 'M' and containing a timestamp and a command. The command is 'RTRV-EQPT:::'. Below the history list, the text 'Key strokes in terminal window are sent to host immediately' is displayed in red. At the bottom of the window, there is an edit line with a white background and black text. The edit line contains the text 'rtrv-eqpt:::' and 'rtrv-eqpt:::'. Below the edit line, the text 'inputs in edit line are autocompleted but not sent until ENTER key is pressed' is displayed in red.

```
tinyTerm 127.0.0.1

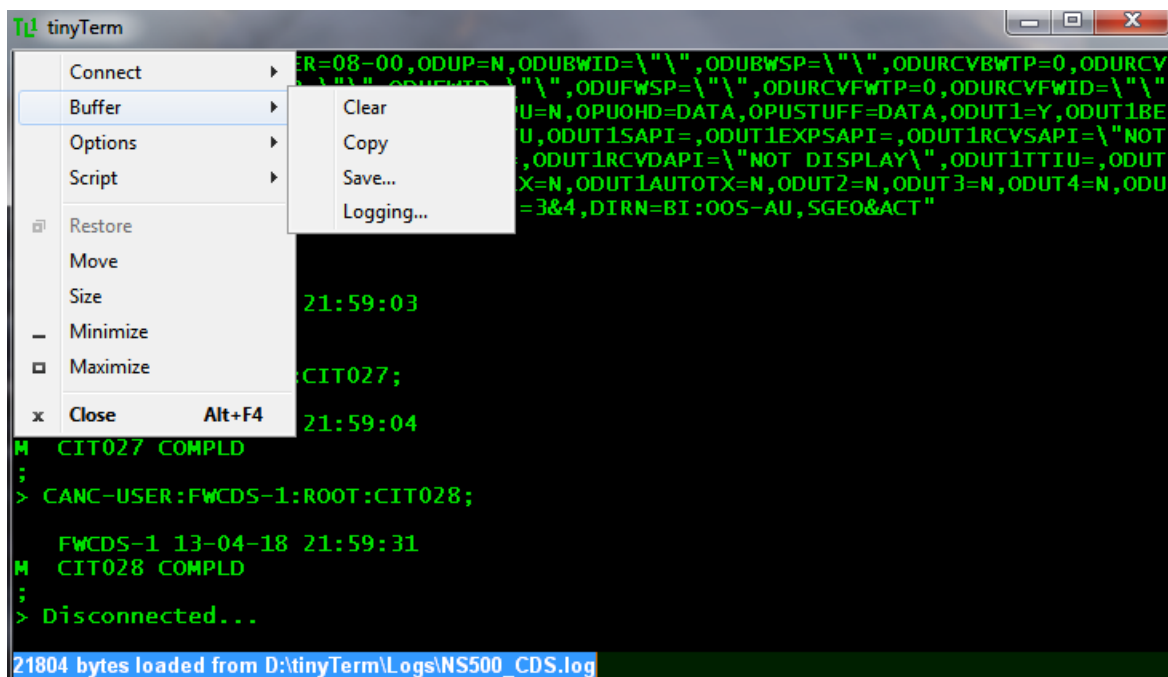
CDS-HD32-181 15-11-30 17:07:58
M L COMPLD
"ACT::GISSUE=08-01-1,GDBISSUE=08-01-1,ACTDAT=15-11-09,ACTTM=20-50-22"
"STBY::GISSUE=06-05-2,GDBISSUE=06-05-1"
;
>
CDS-HD32-181 15-11-30 17:07:58
M L COMPLD
"ACT::GISSUE=08-01-1,GDBISSUE=08-01-1,ACTDAT=15-11-09,ACTTM=20-50-22"
"STBY::GISSUE=06-05-2,GDBISSUE=06-05-1"
;
> RTRV-EQPT::: ■ Key strokes in terminal window are sent to host immediately

rtrv-eqpt:::
rtrv-eqpt:::
RTRV-EQPT:::IFA1-7; inputs in edit line are autocompleted but not sent until ENTER key is pressed
rtrv-eqpt:::
```

3. Buffer Functions

Screen buffer content of a tinyTerm can be cleared, copied to clipboard or saved to a file. Logging is the function to save all future session output into a file.

Loading previously saved buffer back into memory is a unique function of tinyTerm, which allows not only the reviewing of a previously saved session, but also simulating network devices behavior during the saved session. Other programs can connect to tinyTerm at 127.0.0.1:2024 and send commands, tinyTerm will respond to the commands using data captured in the log file.



4. Simple Scripting

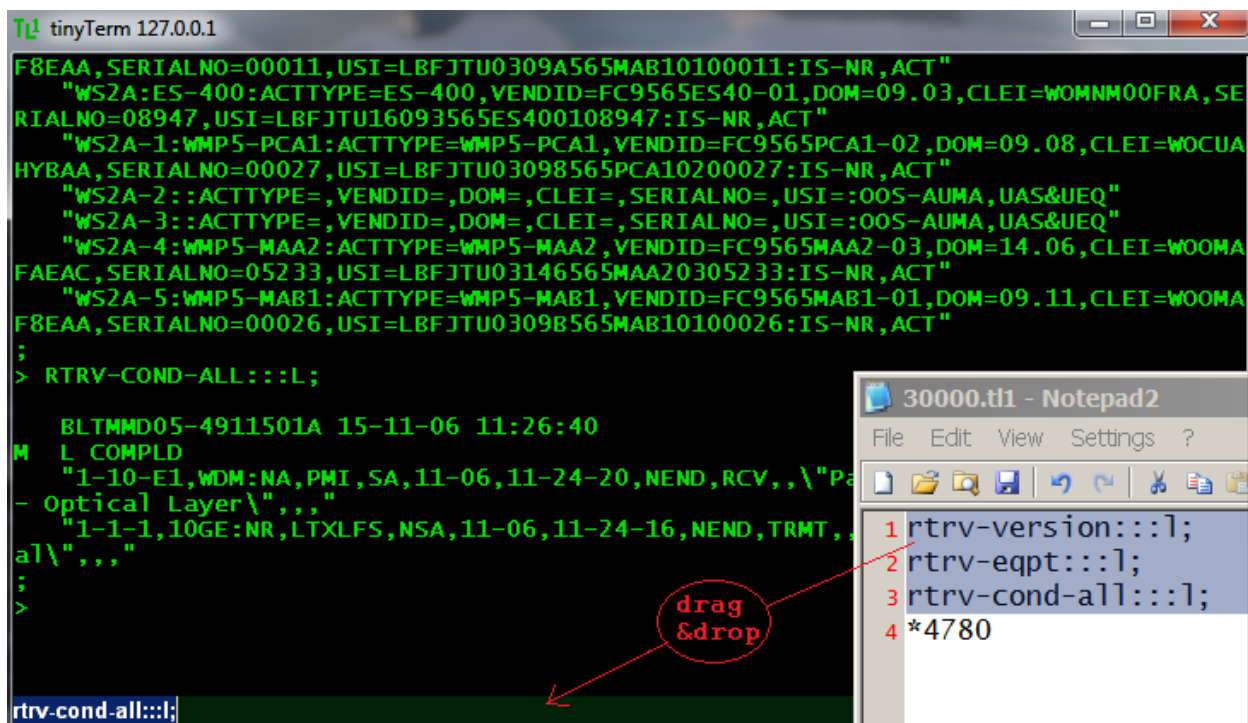
Command batch can be executed automatically by selecting the commands in an editor, drag and drop the selection to the edit line.

Some letters provide extra function when put at beginning of a line in batch command list:

#	Comment line, will not be sent as command
#Timeout {number}	set command time out to {number} seconds
#Prompt {letter}	set prompt, wait for {letter} before each command
#Wait {number}	wait {number} seconds before sending next command
#Waitfor {str}	wait for {str} before sending next command
#Loop {number}	repeat command list {number} times

Example:

#Prompt #	#set prompt to '#'
#Connect 192.168.1.1	#connect to 192.168.1.1:2024
show runn	
tracert 192.168.2.2	
#Waitfor 100%	#wait for "100%"
#Connect	#disconnect
#Wait 5	#wait 5 seconds
#Loop 3	#repeat 3 times



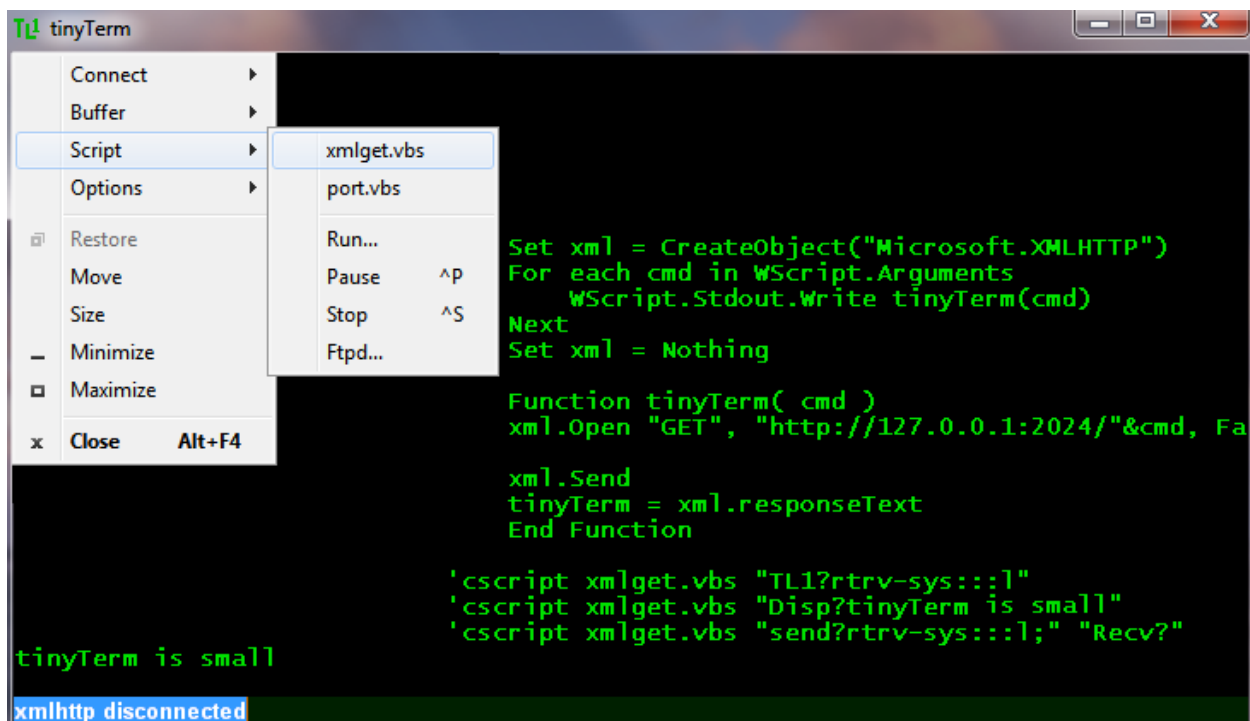
5. Advanced Scripting

tinyTerm has a xmlhttp interface built in at 127.0.0.1:2024 for advanced scripting. VBScript and JavaScript are two of the scripting languages that can take advantage of the xmlhttp interface. Script files with extension ".vbs" in the same folder as tinyTerm.exe will be listed in the script menu, select one to execute, or use "Run..." to choose a script file in the file system.

In the screen capture below is a VBScript example, using xmlhttp://127.0.0.1:2024 to send command through tinyTerm. When multiple instance of tinyTerm are started, each instance will use a unique port number starting from 2024 and counting up, 2025, 2026...etc.

Commands supported on the xmlhttp interface:

CLI?{cmd}	Send command, wait for prompt then return NE response
Disp?{str}	Display {str} in terminal window
Exec?{str}	Execute simple scripting command {str} at tinyTerm
Recv?	Return scroll buffer content since last Disp/Recv/Send command
Send?{cmd}	Send command and return immediately
TL1?{cmd}	Send command, wait for prompt then return NE response



6. Options

While the user interface is minimal, there are a few options to customize, either through menu selection or ctrl-Key combinations in the edit line:

- ctrl-E toggle local echo on or off, default off
- ctrl-F cycle font size between 12, 14 and 16, default 14
- ctrl-T toggle window transparency on or off, default on

Command line switches can be used at the start of tinyTerm, for example "tinyTerm -t -f" turns on transparency, and changes font size to 16

A built in FTP server can be used for simple file transfer tasks, like software download to network devices. Only one user name "tiny" is allowed to login to the FTP server, password is "term". For security, user session to the FTP server is timed out in 1 minute without action, and FTP server will time out in 15 minutes without active connection.

Similarly a built in TFTP server can be used for file transfer with simpler devices like cable modems. TFTP server times out after 5 minutes.

