

# Commodore Telnet BBS Server 1.2



## User's Guide

### 1.0 Introduction

Telnet BBS Server is a small Windows program that provides Internet connectivity for Commodore (or other 8-bit) computers. Essentially, it performs these two functions:

- Provides incoming Telnet access to 8-bit BBSes.
- Provides outgoing Telnet functionality for 8-bit Terminal programs.

BBS Server acts as a “modem emulator”, appearing as a modem to either end of the connection. This means that the BBS or Terminal program can run without modification. It runs as a background task and uses negligible CPU time.

It is possible to run multiple instances of BBS Server, each listening on a different TCP port and linking to a different COM Port. This allows multiple (or multi-node) BBSes to be run through a single PC, or simultaneous operation of a BBS and a Terminal program.

A “busy message” is provided. When the BBS is in use and another caller attempts a connection, the new caller is informed that the BBS is busy and is invited to call back. The amount of time the current user has been connected and idle is also given.



Features that are new in version 1.2 are highlighted with this “new” icon.

## 2.0 Installation

### Cabling

Set up the system as shown in Figure 1. COM 1 is shown as an example, but you may use any free COM port. A null modem cable is used to connect between the Commodore RS232 Interface and the COM port. Refer to Appendix A for supported null modem cable schematics.



Figure 1 - Telnet BBS System Setup  
(Courtesy of [www.telbbs.com](http://www.telbbs.com))

### BBS Server Software (PC)

Simply unzip the files into a single folder. The files that make up BBS Server are:

<b>BBS Server.exe</b>	- The main program executable.
telnetbbs.ini	- The initialization and settings file.
mcomm32.ocx	- ActiveX component for serial communications.
mswinsck.ocx	- ActiveX component for TCP/IP sockets and communications.
c64bbsaway.ini	- Away message when the BBS is down (see Section 4.1)
ascii_petscii.ini	- Lookup table for providing ASCII/PETSCII translation (see Section 5.2)
phonebook.ini	- An optional list of aliases and addresses (See Section 5.6)
busy.txt	- An optional file to send to callers when the BBS is down or busy.

Also, a file called "c64bbslog.txt" is created with a log of all BBS events.

### BBS or Terminal Software (Commodore)

Set up the BBS or Terminal software according to its documentation.

## 3.0 Starting and Stopping the Server

### 3.1 Starting

Double-click on the **BBS Server.exe** icon (Commodore Logo). For use with a BBS, it's recommended to put a shortcut to the program in your Startup Menu.

### 3.2 Reminder Icon

When BBS Server is running, a small reminder and information icon is shown in your System Tray. It can appear as follows:

- White: Waiting for caller.
- Green: Caller currently online.
- White with Red "X": BBS is not accepting callers.



*Figure 2 - BBS Server Reminder Icon in System Tray*

### 3.2 Stopping the Server

Pressing the "X" at the top right corner of the window only closes the information panel, the server remains running. Press the red **Exit** button to fully shut down the server.

## 4.0 Program Overview

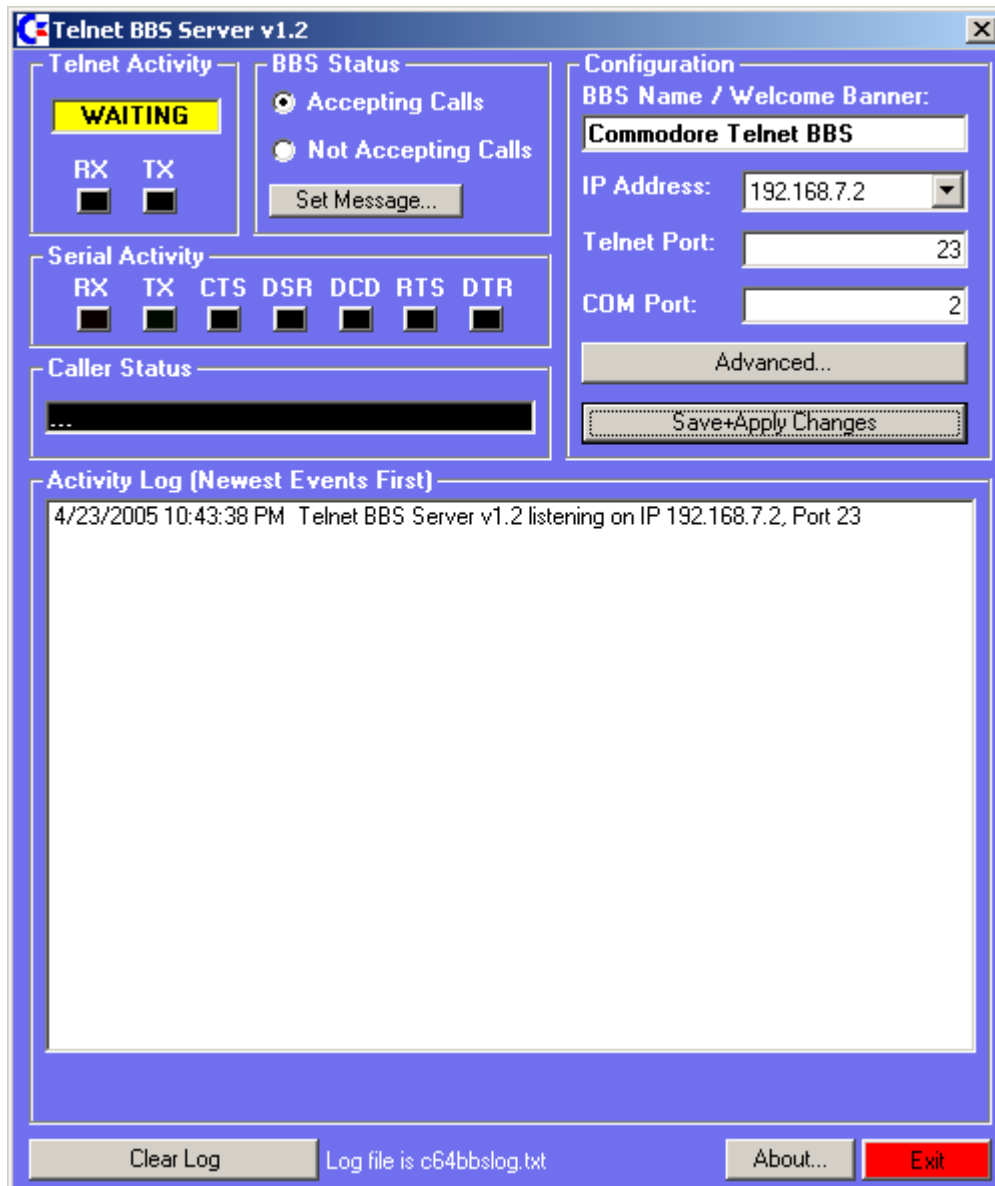


Figure 3 - Main Server Window

The main window will appear as shown in Figure 2. This window is divided into the following panels: Telnet Activity, BBS Status, Serial Activity, Caller Status, Configuration, and Activity Log.

### 4.1. Telnet Activity

This panel shows the state of the Telnet connection. At the top is an indicator showing the state of the Telnet connection.

**WAITING**  
**ONLINE**  
**DOWN**  
**OFF-HOOK**  
**OUTGOING**

- The BBS is waiting for a call to come in over Telnet.
- A caller is currently connected over Telnet.
- The BBS is down (see below), incoming Telnet is disabled.
- The BBS has gone offhook with the ATH1 command.
- The BBS or terminal program is making an outgoing Telnet call.

Underneath are two virtual LEDs that indicate when data is being sent (TX) or received (RX) over the Telnet connection.



## 4.2. Serial Activity

This panel shows the state of the Serial connection to your BBS. It consists of seven virtual LEDs that show the state of the various signals on the null modem cable. The signals are named based on the connection at the \*PC\* end of the cable. The signals are:

- RX - Receiving serial data from BBS.
- TX - Transmitting serial data to BBS.
- CTS - The Clear To Send signal is High.
- DSR - The Data Send Ready signal is High.
- DCD - The Data Carrier Detect signal is High.
- RTS - The Request To Send signal is High.
- DTR - The Data Terminal Ready signal is High.

Signals under control of the BBS are Red when High. Signals under control by the PC (RTS and DTR) are Green when High. Note that when Hardware handshaking is enabled (see Section 5.1), RTS will be shown as on all the time. This is independent of the actual line state, which is controlled by the operating system.

**Tip:** It possible to click on the RTS and DTR LEDs to toggle their state. This should be used for debugging only!

The RI (Ring Indicator) signal is usually never passed through a null modem cable and is not shown.

## 4.3. BBS Status

Two selector buttons allow the Sysop to set the BBS to either be **Accepting Calls** or **Not Accepting Calls**, such as when it is down for maintenance. The Set Message window (Figure 3) allows a custom message to be set. This message is displayed to anyone who calls when the BBS is set to "Not Accepting Calls."

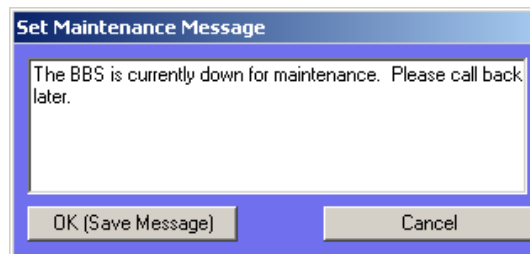


Figure 4 - Maintenance Message Window

Press OK to save the message or Cancel to keep the old message. The away message is stored in the file **c64bbsaway.ini** .

**Tip:** It is highly recommended to disallow calls while working on the BBS (i.e. while reading feedback), otherwise callers may be able to see and interact with the Sysop session!



When a caller calls your BBS but it is either down or busy, BBS Server will send the contents of the file **busy.txt**, if it exists, to that caller. This file could contain a list of other BBSes, or details about the BBS and alternate ways to reach it, or anything you want.

## 4.4 Configuration

This panel allows you to set up various aspects of the BBS. Changes are not saved or applied until the “Save and Apply Changes” button is pressed at the bottom of the panel.

**BBS Name:** Give your BBS a name. This is displayed when callers first connect.

**IP Address:** Shows a drop-down list of all the IP addresses found in your computer, for example if you have multiple Network Interface Cards (NICs). Select the one you want the server program to “listen” on.<sup>1</sup>

**Telnet Port:** Specify the TCP/IP port you want the server to “listen” on. The default Telnet port is 23, but any number between 1 and 65535 may be used. If 0 is used, a port number is chosen at random. Note that other servers may be using other ports, for example, Web servers commonly use port 80.

Your callers will have to specify the Port when calling, unless it is the default (23). Examples:

```
telnet bbs.jammingsignal.com          (Assumes Port 23)
```

```
telnet bbs.jammingsignal.com 1000    (Explicitly calls Port 1000)
```

**COM Port:** Provide the COM port number that the BBS is connected to using the null-modem cable.

The **Advanced** button brings up the Advanced Settings window (Section 5.0)

## 4.5 Caller Status

This panel shows how long the current caller has been connected, and how long they have been Idle (no keystrokes sent). If no caller is connected, this panel simply shows “...”

## 4.6 Activity Log

The Activity log lists the time, date and a description of all server events. Program startup, when callers connect and disconnect, and their IP addresses are logged. Most recent events are displayed at the top of the list.

Pressing the **Clear Log** button clears the online log display, but the log file is not affected. The log file is **c64bbslog.txt** .

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<sup>1</sup> Note that this feature prevents you from calling the BBS from your own PC using the loopback address of 127.0.0.1 . Use the real IP address instead.

# 5.0 Advanced Configuration

The Advanced popup provides a series of different panels with options for configuring the server. Most options provide a Tooltip with hints on their intended usage. Press the **Save+Apply Changes** button to enable the settings and close the window. This also saves and applies the settings on the main window. Press **Cancel** to undo all the changes and return to the main window.

## 5.1 Communications

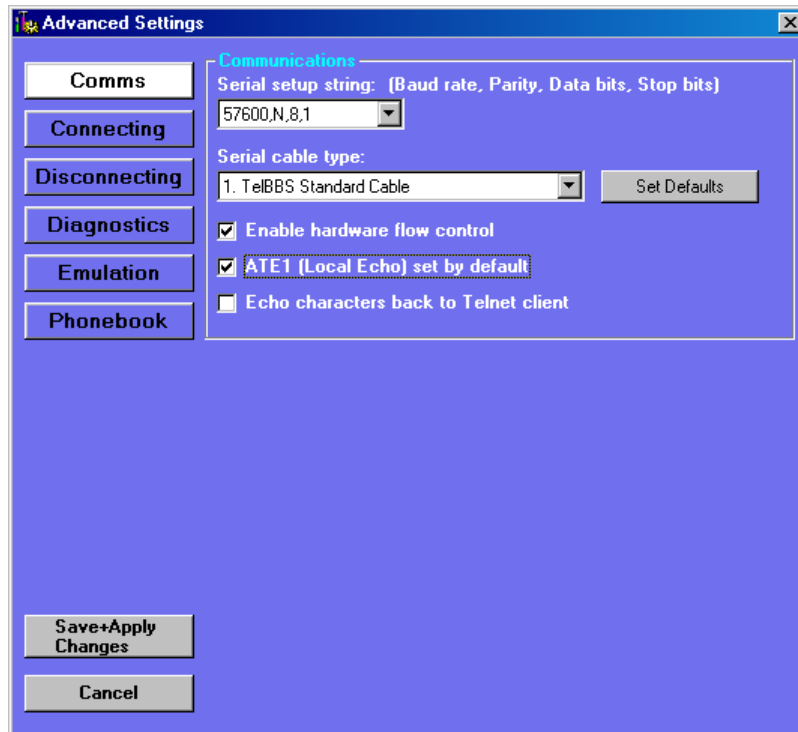


Figure 5 - Communication Options

**Serial Setup:** This is a setup string used by the program to configure the COM port. The default is **2400,N,8,1** which should work for most BBS packages. Refer to your BBS documentation for the correct settings. This string is in the format:

**<baud rate>,<parity N/E/O/S>,<#data bits>,<#stop bits>**



**Serial Cable Type:** Select your null modem cable type from the list. See Appendix A for supported null modem cable schematics. Press “Set Defaults” to select the recommended options for that cable type.



**Enable Hardware Flow Control:** For high baud rates over 9600 baud, or if your RS232 Adaptor and/or BBS program require it.

**ATE1 (Local Echo) on by default:** This setting is normally required. When set, BBS Server will echo back what is sent, just like a standard modem. It may be overridden by the BBS or terminal program by sending ATE0.

**Echo characters back to Telnet client:** Some BBS programs may not echo what the caller types back to them. If this is the case, select this option. Note that if this is selected *and* the BBS echoes back data on its own, the caller will get ddooublllee lleetteerrss.

## 5.2 Connecting

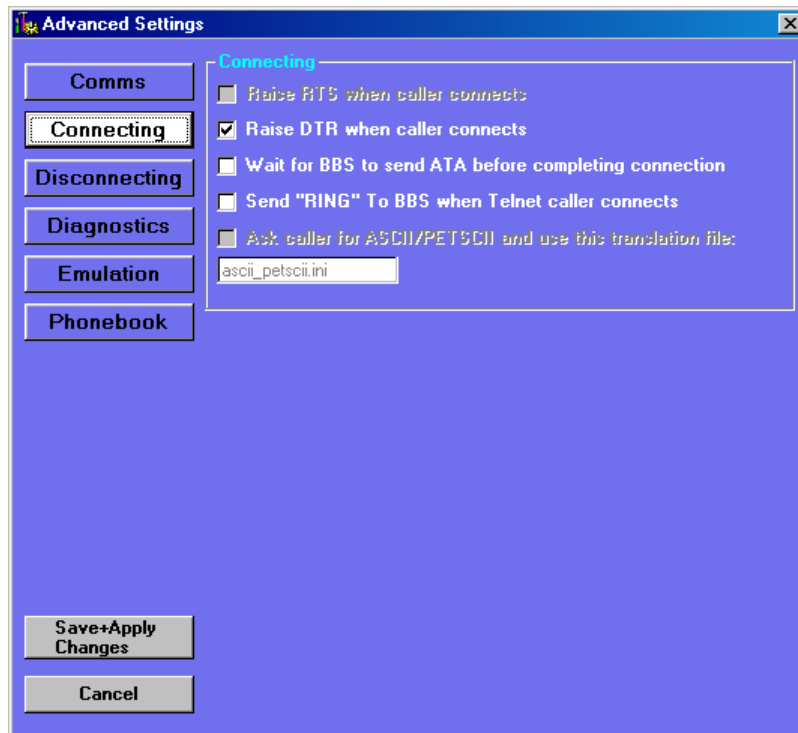


Figure 6 - Connecting Options

**Raise RTS when caller connects.** Depending on your BBS and cable configuration, this option “wakes up” the BBS and informs it that of the incoming call. Not available when hardware handshaking is enabled (see Communications panel).

**Raise DTR when caller connects.** Depending on your BBS and cable configuration, this option “wakes up” the BBS and informs it that of the incoming call.

*(Note that the above options refer to the signal name on the **PC end** of the null modem cable.)*

**Wait for BBS to send ATA before completing connection.** Depending on your BBS software, this step may be required for a complete connection sequence. (Normally not required).

**Send “RING” to BBS when Telnet caller connects:** Enable this option if your BBS requires it.

**Ask caller for ASCII/PETSCII:** When this option is selected, the BBS server translates characters as they are passed, based on the lookup table in the file specified. This is useful for translating ASCII to PETSCII, or changing backspace characters. Character codes not listed in the file are routed transparently. Specify the lookup table (a default file is provided) in the box below. *This feature is deprecated, and is only available on certain ASCII-only systems.*



## 5.3 Disconnecting

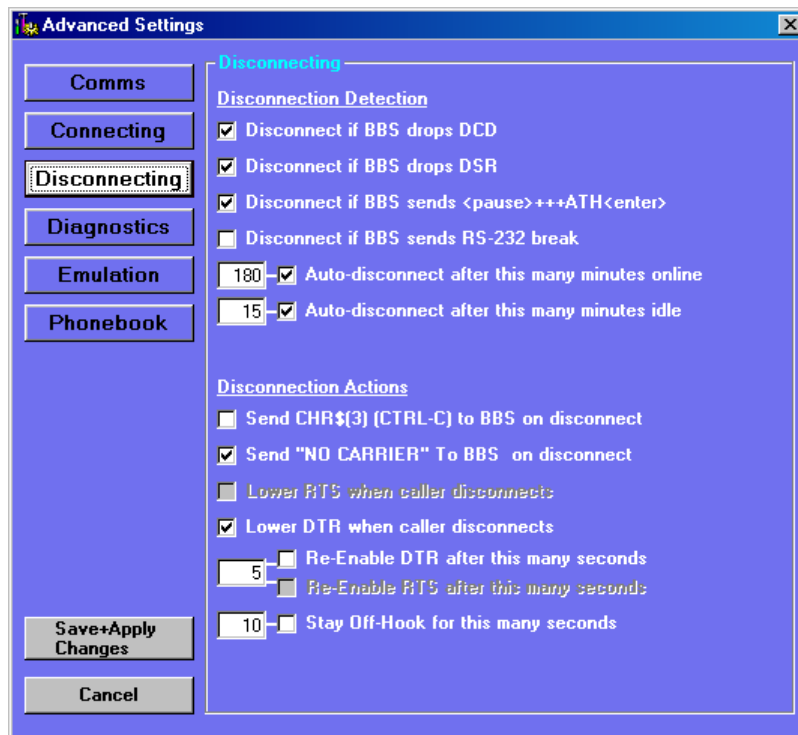


Figure 7 - Disconnecting Panel Options



This panel has been divided into two main sections: **Disconnection Detection** (for detecting when the BBS has logged the caller off) and **Disconnection Actions** (actions to take when the caller disconnects normally or terminates the Telnet connection).

### Disconnection Detection

**Disconnect if BBS drops DCD:** Some BBS programs signal caller logoff by lowering this signal. Set this option if your BBS and/or RS232 adaptor operate in this manner.

**Disconnect if BBS drops DSR:** Some BBS programs signal caller logoff by lowering this signal. Set this option if your BBS and/or RS232 adaptor operate in this manner.

*(Note that the two above options refer to the signal name on the **PC end** of the null modem cable.)*

**Disconnect if BBS sends <pause>+++ATH:** This is the standard way for a BBS using Hayes commands to signal caller logoff. Set this option if your BBS uses Hayes commands.

**Disconnect if BBS sends RS-232 break:** This option is normally not required, but some rare BBS programs disconnect in this manner.

**Auto Disconnect after this many minutes online:** Use this option to force the caller off the BBS after a certain time period, if the BBS itself does not have this option. Specify the number of minutes.

**Auto Disconnect after this many minutes idle:** Use this option to force the caller off the BBS after a certain idle period, if the BBS itself does not have this option, or to recover from hung client connections. Specify the number of minutes.

## Disconnection Actions

**Send CHR\$(3) on disconnect:** Some BBS programs require CHR\$(3) (representing CTRL-C) in order to hang up properly when the user disconnects. Set this option if your BBS requires it.

**Send "No CARRIER" to BBS when Telnet session disconnects:** Enable this option if your BBS requires it. The string is also sent at the completion of an outgoing call.



**Lower RTS when caller disconnects:** Set this option if your BBS requires it to detect or complete logoff. Not available when hardware handshaking is enabled (see Communications panel). *(This option refers to the signal name on the **PC end** of the null modem cable.)*

**Lower DTR when caller disconnects:** Set this option if your BBS requires it to detect or complete logoff. *(This option refers to the signal name on the **PC end** of the null modem cable.)*

**Re-enable DTR and/or RTS this many seconds after logoff:** Some BBS programs require that DTR and/or RTS be brought back after a short period to await the next caller. Set this option if your BBS requires it. *(This option refers to the signal names on the **PC end** of the null modem cable.)*

**Stay Off-Hook for this many seconds after disconnect:** Set this option to give the BBS time to reinitialize, update caller logs, etc. after a logoff. Callers who call during this short time period will be given a busy message.

## 5.4 Diagnostics

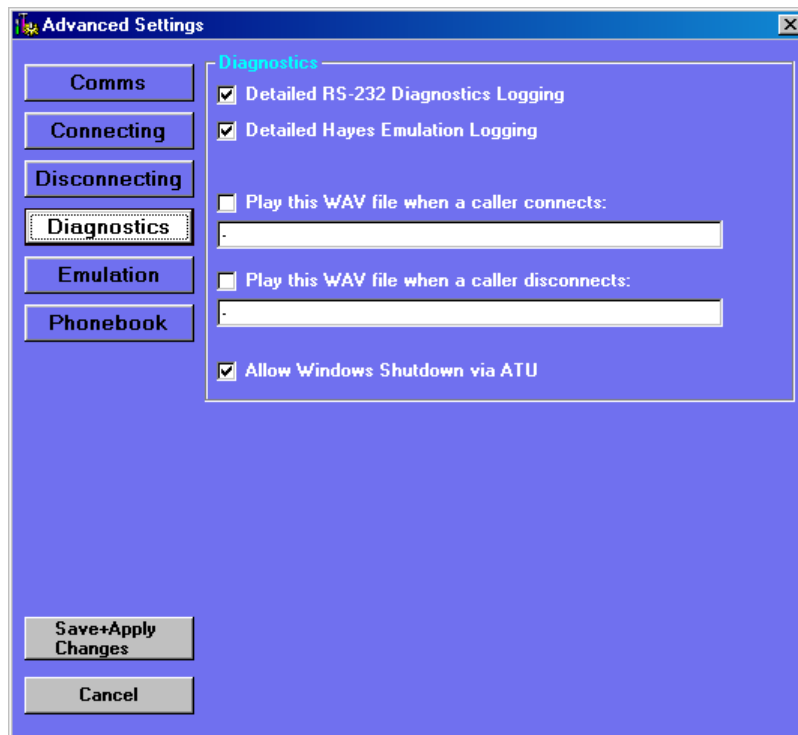


Figure 8 - Diagnostic Options

**Detailed RS-232 Diagnostics Logging:** This option causes the program to log more detailed information such as changes in RS-232 line states, and COM port opening/closing. Use this option for debugging communications issues, or characterizing BBS connect/disconnect behavior.

**Detailed Hayes Emulation Logging:** This option causes the program to log all Hayes commands sent by the terminal program or BBS and responses. (See Section 6.0).

**Play this WAV file when a caller connects:** Use this option to be notified when a caller connects to the BBS.

**Play this WAV file when a caller disconnects:** Use this option to be notified when callers disconnect from the BBS.



Two sample .wav files are bundled with BBS Server 1.2, named simply **connect.wav** and **disconnect.wav**. Give them a try!

**Tip:** *Don't forget to turn your PC speakers off overnight if these options are set!*

**Allow Windows Shutdown via ATU:** Used for headless systems with no monitor or keyboard attached. Refer to Section 6.0 for details.

## 5.5 Hayes Emulation

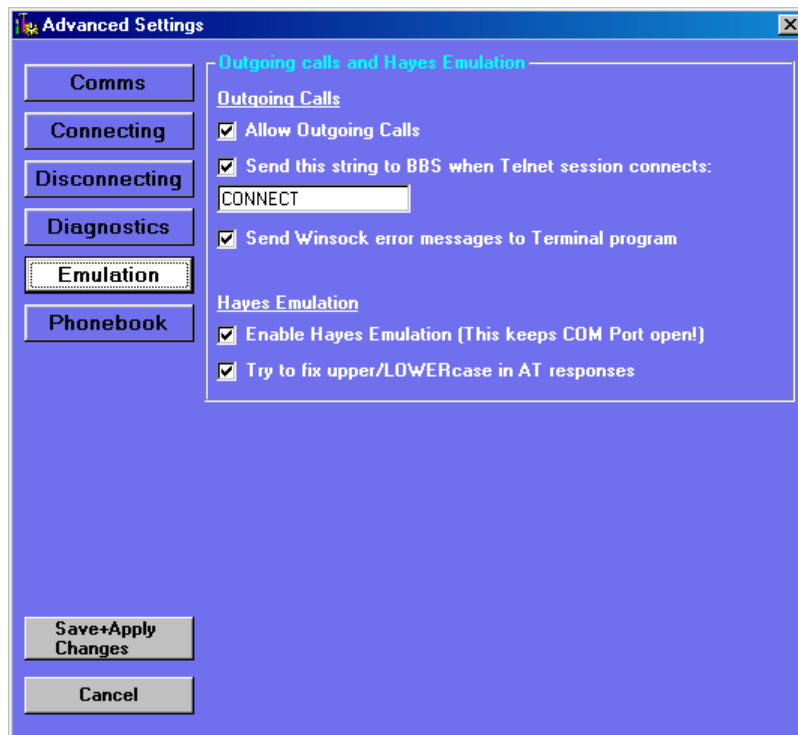


Figure 7 – Hayes Emulation Options

**Allow Outgoing Calls:** Enables dialout through the ATDT command. ERROR is returned in response to an ATDT if this option is not enabled.

**Send this string to BBS when Telnet session connects:** Enable this option if your BBS requires it, and specify the required connection string. The BBS may be case-sensitive, and the case may be different with PETSCII BBSes.

**Send Winsock error messages to Terminal program:** This option causes BBS Server to send Winsock messages to the Terminal program. This is especially useful for headless operation where you can't see the BBS Server panel. Example:

```
atdt nonexistentstestsite.testing.cx
Authoritative answer: Host not found.
NO CARRIER

atdt 192.168.7.20
Connection refused by remote host.
NO CARRIER
```

**Enable Hayes Emulation:** Enables the parsing of AT Hayes commands (see Section 6.0). Note that this option requires that the program “hold” the COM Port open at all times, even if no caller is connected.



**Try to fix upper/LOWERcase in AT Responses:** When this option is set, BBS Server attempts to determine whether it is connected to an ASCII or PETSCII terminal, and inverts the case of responses accordingly.



## 5.6 Phonebook and Aliases

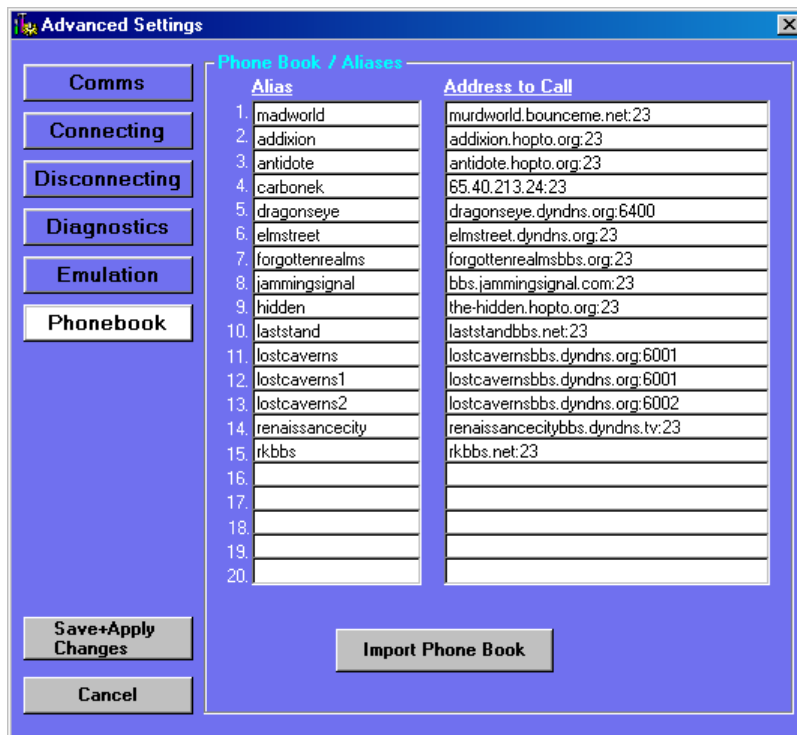


Figure 8 – Phonebook

This panel allows you to specify up to twenty “Aliases” for address that you call frequently, or are too long to fit in your Terminal program’s address book. Aliases may be dialed by typing “atdt<alias><RETURN>”. The address and port are taken from the Address definition. Aliases may contain letters, numbers, or a combination.

**Example** (referring to above screenshot)

**atdt lostcaverns1<RETURN>** will connect to **lostcavernsbbs.dyndns.org:6001** .

The Import button allows you to import the phonebook portion from tcpser4j’s configuration file to use with BBS Server.

## 6.0 Hayes Emulation

BBS Server implements a subset of the Hayes AT command set used by dial-up modems, with slight modifications to the syntax to support Telnet operations. These can be sent by BBSes, or sent manually from a Terminal program to use your Commodore as a Telnet client. All commands must be followed by a carriage return and/or linefeed. Commands that are not recognized are still responded to with "OK".



Compound commands are supported, for example, **atize0h1<RETURN>**

### atdt

**Syntax:** atdt <address>:<port>

**Description:** Makes a connection to a Telnet server. IP address or hostnames may be used. Telnet BBSes or other Telnet servers (i.e, Linux boxes) may be contacted. If :<port> is omitted, port 23 is used as default. Must appear alone.

**Examples:**     atdt www.jammingsignal.com:23  
                  atdt209.151.141.59

### ath1

**Syntax:** ath1

**Description:** Takes virtual "modem" off-hook.

### ath0 or ath

**Syntax:** ath0, ath

**Description:** Hangs up the virtual "modem".

### ati

**Syntax:** ati

**Description:** Returns an information string, giving the BBS Server version number and IP Address.

## **atd**

**Syntax:** atd

**Description:** Returns the virtual modem online while in command mode.

**Note:** Will return ERROR if not currently connected.

## **ata**

**Syntax:** ata

**Description:** Answers incoming call.

**Note:** If set in Advanced options, BBS must send this within 10 seconds of a RING otherwise BBS Server will cancel the connection.

## **a/**

**Syntax:** a/ (no carriage return required!)

**Description:** Redials the last IP address and port dialled.

**Note:** Returns ERROR if no IP address has been called, or after an ATZ.

## **atz**

**Syntax:** atz

**Description:** Resets virtual modem to all default values.

## **ate**

**Syntax:** ate1 or ate0

**Description:** Turns local echo in command mode on (ate1) or off (ate0)

## **atu**

**Syntax:** atu1 or atu2

**Description:** Shuts down Windows, for headless operation with no monitor or keyboard. atu1 shuts down the PC, and atu2 only shuts down BBS Server.

## **+++**

**Syntax:** <1 second pause>+++

**Description:** Returns the virtual modem to command mode.

**Note:** Use **atd** to go back online.



## 7.0 BBS Setup Notes

Every BBS package is unique and has its quirks. However, here are some general hints.

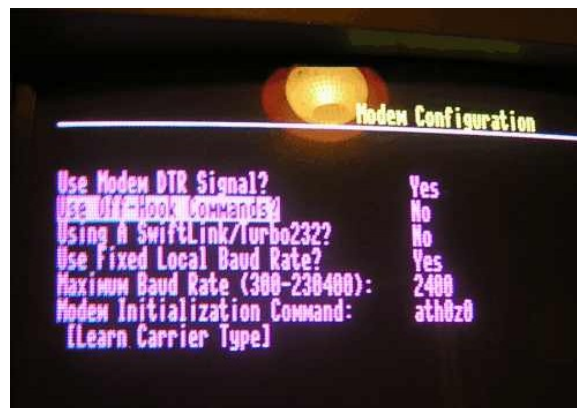
- Select an “RS232” modem in the BBS configuration as opposed to a specific brand/type “1670”, etc.
- Make sure you can “call” the BBS from a serial terminal program (i.e. HyperTerminal) running on the server PC first. If this does not work, it is unlikely the BBS Server will be able to connect to it as well.

### 7.1. EBBS 3.3

- In the configuration program, use Modem Type 3 (MT=3), and change RI=16 to RI=0.

### 7.2. Centipede 128

- Use these modem settings (select SwiftLink/Turbo232 and Baud Rate as appropriate)



- Disable the “upper/LOWERcase detection” option in the Hayes Emulation screen.

### 7.3 Image 1.2

- TBD

### 7.4 Ivory BBS

- TBD

## **8.0 Troubleshooting**

### **8.1. Can't Connect**

- If you have a firewall, make sure it is set up to allow the Telnet Port you selected.
- Try pinging the IP address of the server. If you can't, check your network settings and the network route to the server. If you can, check the Telnet Port # both in the configuration and the client software.
- Try telnetting to the IP address from the same computer running the server. If you can, then it is likely a network or firewall issue. If you can't, try a different telnet port or check your Windows Sockets installation.

### **8.2. BBS Doesn't Answer**

- Verify that the null modem cable you are using actually passes all signals. Some only pass the minimum used to exchange data, whereas most BBS programs require all the signals.

### **8.3. BBS Always Answers**

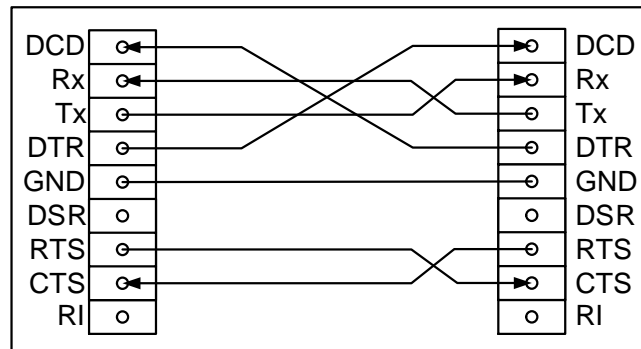
- The signal that the BBS uses to detect an incoming caller (usually DCD on the BBS side) is backwards. Swap it to the opposite value in the BBS software.



# Appendix A – Supported Null Modem Cable Schematics

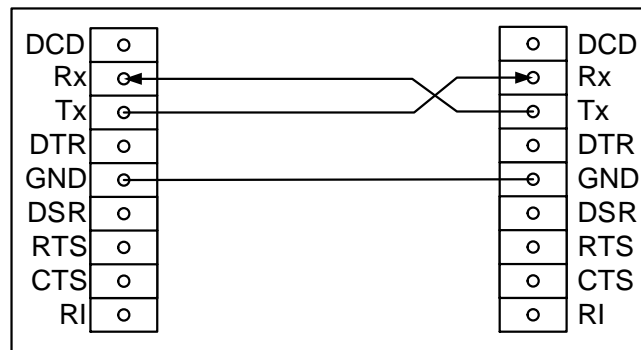
## A.1 TelBBS Standard Cable

This cable was proposed by Jim Brain, and is the preferred cable for any of the “TelBBS” gateway packages. It allows for hardware handshaking through RTS/CTS, and “wakeup” control through DTR. Works with VIC-1011A and equivalents, SwiftLink, Turbo232, and all BBS packages tested.



## A.2 Simple Null Modem Cable

This cable is not recommended, but is supported for low-speed operation, relying only on Hayes commands. Best used for Telnet dialout only.



## A.3 Radio Shack Cable

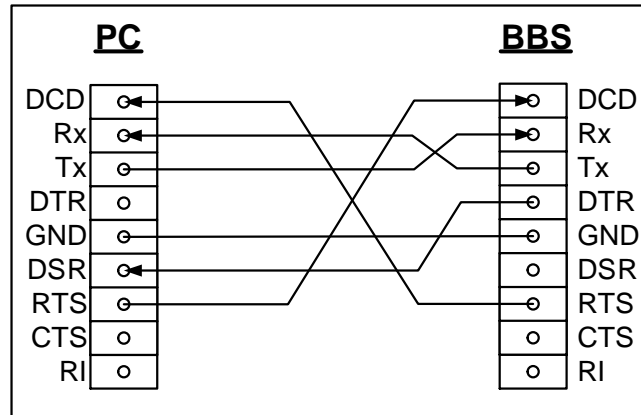
Sysop Dr. Video (Addixion BBS) reports:

“...we found it easiest to just buy the Radio Shack null adapter, **RS 26-264B** and break pin 6 off. This goes into the PC com port. Then just connect a standard serial cable to the T232/Swiftlink and connect it to the null adapter.”

(Exact Pinout TBD)

## A.4 Non-Standard Low Speed Cable

This unusual cable prevents the use of hardware handshaking and should only be used up to 9600 baud. However, it has been tested successfully with a VIC-1011A interface cartridge and a variety of BBS and Terminal programs.



## A.5 Pinout Reference

<u>Name</u>	<u>9</u>	<u>25</u>
DCD	1	8
Rx	2	3
Tx	3	2
DTR	4	20
GND	5	7
DSR	6	6
RTS	7	4
CTS	8	5
RI	9	22

**DB-9 Female**

Cable Face

**DB-25 Female**

Cable Face

# Appendix B – 8-Bit Telnet BBS List

As of April 15, 2005

Send all change notifications & correspondance to:  
addixionbbs-at-yahoo.com

```
=====
BBS Name ..... The Grave Yard
Telnet Address ..... telnet://thegraveyard.dyndns.org:23
Location .....
BBS Software/Networks .... Centipede 128
BBS Platform/Hardware .... Commodore 128
System Operator Handle ... Dwezel
Maximum Modem Speed ..... 38.4K
Web Page .....
Open Status Verified ..... 14 Apr 2005 by Dr. Video
Comments .....
```

```
BBS Name ..... The Warp Zone
Telnet Address ..... telnet://warpzone.thebbs.org:23
Location .....
BBS Software/Networks .... CNet Amiga
BBS Platform/Hardware .... Amiga (emulated)
System Operator Handle ... Tommy Watt
Maximum Modem Speed ..... 38.4K
Web Page ..... warpzone.the
Open Status Verified ..... 10 Apr 2005 by Dr. Video
Comments ..... Multi-line chat BBS for Commodore/Amiga
interests
```

```
BBS Name ..... Addixion
Telnet Address ..... telnet://addixion.hopto.org:23
Location ..... Orange County, California
BBS Software/Networks .... Centipede 128
BBS Platform/Hardware .... Commodore 128/CMD HD
System Operator Handle ... Dr. Video
(addixionbbs-at-yahoo.com)
Maximum Modem Speed ..... 38.4K BPS
Web Page .....
Open Status Verified ..... 15 Apr 2005 by Dr. Video
Comments ..... Official BBS of Driven Magazine
Large NTSC demo, tool, & bbs program
archives!
```

```
BBS Name ..... Antidote
Telnet Address ..... telnet://antidote.hopto.org:23
Location ..... Bjuv, Sweden
BBS Software/Networks .... C*Base 3.3 (Tao)
BBS Platform/Hardware .... Commodore 64/CMD HD
System Operator Handle ... Taper
Maximum Modem Speed ..... 2400 BPS
Web Page .....
Open Status Verified ..... 12 Apr 2005 by Dr. Video
Comments ..... TRIAD HQ, European Scene-oriented
```

```
BBS Name ..... Castle Carbonek
Telnet Address ..... telnet://65.40.213.24:23
Location ..... Houston, TX
```

BBS Software/Networks .... Centipede 128 (coming early April)  
BBS Platform/Hardware .... Commodore 128  
System Operator Handle ... King Pelleas (pelleas-at-legendtech.net)  
Maximum Modem Speed ..... 38.4K  
Web Page .....  
Open Status Verified ..... 31 Mar 2005 by Dr. Video  
Comments ..... C64 Warez based theme

BBS Name ..... The Dragon's Eye  
Telnet Address ..... telnet://dragonseye.dyndns.org:6400  
Location ..... Springfield, Oregon  
BBS Software/Networks .... Image 1.2A  
BBS Platform/Hardware .... Commodore 64/CMD HD  
System Operator Handle ... Pinacolada  
Maximum Modem Speed ..... 19.2K BPS  
Web Page .....  
Open Status Verified ..... 14 Apr 2005 by Dr. Video  
Comments ..... Online Games & File Section

BBS Name ..... Elm Street  
Telnet Address ..... telnet://elmstreet.dyndns.org:23  
Location .....  
BBS Software/Networks ....  
BBS Platform/Hardware .... Commodore 64  
System Operator Handle ... Dslman  
Maximum Modem Speed .....  
Web Page .....  
Open Status Verified ..... 01 Mar 2005 by Dr. Video  
Comments ..... Under Development, Keep checking back if its  
down!

BBS Name ..... The Forgotten Realms  
Telnet Address ..... telnet://forgottenrealmsbbs.org:23  
Location ..... Boardman, Ohio  
BBS Software/Networks .... Image 1.2B  
BBS Platform/Hardware .... Commodore 64  
System Operator Handle ... Metal Mage  
Maximum Modem Speed ..... 19.2K BPS  
Web Page ..... www.forgottenrealmsbbs.org  
Open Status Verified ..... 14 Apr 2005 by Dr. Video  
Comments ..... Image Y2K fix/19.2K mods/ECS

BBS Name ..... Jamming Signal  
Telnet Address ..... telnet://bbs.jammingsignal.com:23  
Location ..... Toronto, Canada  
BBS Software/Networks .... EBBS  
BBS Platform/Hardware .... Commodore 64  
System Operator Handle ... Schema (Leif Bloomquist,  
leif-at-schemafactor.com)  
Maximum Modem Speed ..... 1200 BPS  
Web Page ..... www.jammingsignal.com  
Open Status Verified ..... 11 Mar 2005 by Dr. Video  
Comments ..... Home of BBS Server Gateway Software

BBS Name ..... The Hidden  
Telnet Address ..... telnet://the-hidden.hopto.org:23  
Location ..... Germany  
BBS Software/Networks .... C\*Base 3.3 (Tao)  
BBS Platform/Hardware .... Commodore 64/CMD HD  
System Operator Handle ... L.A.-Style

Maximum Modem Speed ..... 2400 BPS  
Web Page .....  
Open Status Verified ..... 14 Apr 2005 by Dr. Video  
Comments ..... Motiv8 HQ!

BBS Name ..... The Last Stand  
Telnet Address ..... telnet://laststandbbs.net:23  
Location ..... Minneapolis, MN  
BBS Software/Networks .... Centipede 128  
BBS Platform/Hardware .... Commodore 128/CMD HD  
System Operator Handle ... Voyager  
Maximum Modem Speed ..... 38.4K BPS  
Web Page ..... www.snowpig.org/centipede  
Open Status Verified ..... 14 Apr 2005 by Dr. Video  
Comments ..... Centipede BBS HQ, Online Games, Files  
Section

BBS Name ..... The Lost Caverns  
Telnet Address ..... telnet://lostcavernsbbs.dyndns.org:6001  
telnet://lostcavernsbbs.dyndns.org:6002  
Location .....  
BBS Software/Networks .... Centipede 128  
BBS Platform/Hardware .... C128/Lt Kernal  
System Operator Handle ... CopyMaster  
Maximum Modem Speed ..... 2400 (Node 1)/ 38.4K (Node  
2)  
Web Page .....  
Open Status Verified ..... 14 Apr 2005 by Dr. Video  
Comments ..... The only C= \*DUAL\* line BBS in the world!

BBS Name ..... Mad World  
Telnet Address ..... telnet://madworld.bounceme.net:23  
Location ..... West Philadelphia, PA  
BBS Software/Networks .... Centipede 128  
BBS Platform/Hardware .... Commodore 128/CMD Floppy Drives  
System Operator Handle ... Cyberjank (murdok610-at-gmail.com)  
Maximum Modem Speed ..... 115.2K  
Web Page .....  
Open Status Verified ..... 14 Apr 2005 by Dr. Video  
Comments ..... A great new board, call it NOW!

BBS Name ..... Renaissance City  
Telnet Address ..... telnet://renaissancecitybbs.dyndns.tv:23  
Location ..... Killen, Alabama  
BBS Software/Networks .... EBBS 3.3  
BBS Platform/Hardware .... Commodore 64  
System Operator Handle ... Dark Vulcan  
(darkvulcan76-at-aol.com)  
Maximum Modem Speed ..... 1200 BPS  
Web Page .....  
Open Status Verified ..... 14 Apr 2005 by Dr. Video  
Comments ..... Unique text files section

BBS Name ..... Ricktronics  
Telnet Address ..... telnet://rkbbs.net:23  
Location ..... Boones Mill, VA  
BBS Software/Networks .... Image 1.2A  
BBS Platform/Hardware .... Commodore 64  
System Operator Handle ... Johnny Rotten  
Maximum Modem Speed ..... 2400 BPS



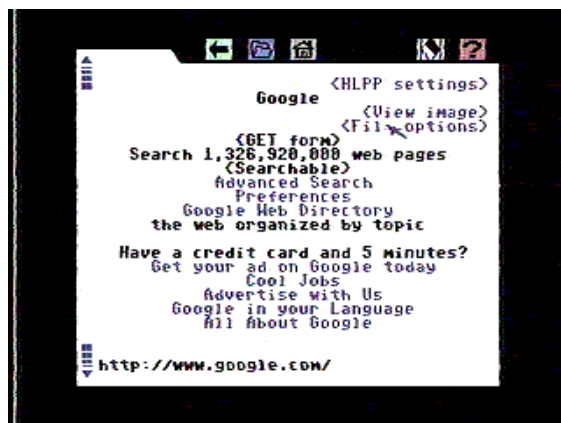




## Appendix C - BBS Server and HyperLink

BBS Server 1.2 has been tested and is fully compatible with HyperLink 2.5 from Computer Workshops, Inc. BBS Server is available for download from <http://www.jammingsignal.com/files/>

HyperLink is a Document Viewer and Web Browser for the Commodore 64. It consists of a client program that runs on the Commodore 64, and a perl 5.0 script called HLPP (HyperLink Parsing Proxy) that runs on a Unix or Linux shell account.



Screenshot courtesy of Computer Workshops, Inc.

A free evaluation copy of HyperLink can be downloaded from this site:

<http://www.armory.com/~spectre/cwi/hl/>

BBS Server can provide the Telnet connectivity required for HyperLink, similar to a Lantronix UDS-10 or equivalent. BBS Server does not provide the HLPP services; HLPP must still be run on your Unix or Linux shell account.

### Usage:

1. Set up BBS Server and your RS232 cartridge. Confirm correct operation with a standalone Terminal program (i.e. Novaterm 9.6).
2. After configuring and starting HyperLink, click a link to go online.
3. When you are entered into the terminal mode, "wake up" the virtual modem by pressing <RETURN>.
4. Type "ati" and press <RETURN>. BBS Server should respond with its version number and IP Address.
5. Type "atdt <address of your shell account>:<port of your shell account>" and press <RETURN>.
6. When connected to the shell system, log in and run HLPP as per HyperLink instructions.
7. Press F1 when prompted and proceed to use HyperLink as usual.

*If you do not have a Unix shell account, you may use the free HLPP account at **bbs.jammingsignal.com:6464** Login: **hlpp**, Password: **hlpp** HLPP will run automatically.*

# Appendix D - Changelog

```
' Commodore 64 (etc...) Telnet BBS program.
' Bridges data between a TCP port and a COM port.
'
' Copyright 2003-2005 Leif Bloomquist leifb@ica.net
'
' No warranty of any kind.
'
' Version 0.8a - General release. (LB)
' Version 0.8b - Added detection for DSR *or* DCD to be dropped. (LB)
' Version 0.8c - Replaced 'Sleep()' with 'DoEvents' after down/busy messages. (LB)
' Version 0.8d - Added option to set DTR as well as RTS on connect,
' expanded diagnostics and Advanced page. Added Sounds. (LB)
' Version 0.9a - Finally - Hayes Emulation. Also included Fox's changes.
' Revamped config file.
' 0.9b - Bugfixes
'
' Version 1.0a - RC1
' Mega Public release.
' Added IAC Telnet Response Code.
' Fixed bug with COM port initialization order.
' Fixed bug with ATH0 wrongly saying BBS was in "Waiting" state.
' CR or LF can now be used as delimiter before AT Commands.
'
' RC2
' Got rid of the popup boxes if an unknown IAC code is received
' (when a Real Telnet session is in progress).
' Check the first incoming byte of the session, and 255="Real"
' Telnet session (i.e. to Linux), anything else means a Telnet BBS.
' In the latter case, data will be passed transparently so
' file transfers should work.
' If there is only 1 IP address on the system, always use it.
' Replaced the Sleep() for staying offhook with a Timer.
' Added an option for echoing data back to BBS when in command mode.
'
' RC3 (final)
' Changed Connecting... to connecting...
' Fixed bug where "NO CARRIER" was sent even if nothing connected,
' which caused a RunTime error.
' Added option to hang up on an RS-232 break.
' Added option for sending Winsock errors to Terminal program.
' General code tidyup.
'
' Version 1.1
' Bugfixes and tidyup.
' Enabled backspace when typing an AT command. (finally!)
' Added auto-detection of command case (i.e. PETSCII),
' so rESPONSES aREN'T LIKE tHIS
' Added A/ support.
' Added ATEx support.
' Switched to a 'virtual modem' internal state structure.
' ATZ resets the virtual modem.
' Option to play a WAV file when callers connect or disconnect
' ATU (non-standard command) shuts down Windows, for headless systems. (!)
' ATU1 shuts down PC, ATU2 just exits BBS Server
' Pressing a key aborts the current call before it connects.
'
' Version 1.2
' Added an option to enable hardware flow control.
' Fancier Hayes emulation to parse entire string.
' Redesigned GUI to show more serial activity detail.
' Fixed A/ bug.
' Sends a busy file (busy.txt) to callers when busy.
' Added Phone Book and import routine.
' Better control of signals at disconnect.
' Different cable types and defaults.
```

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