PROTEUS (tm)

A Communication Program from Microsoft Windows

Version 0.22

Public Domain Version

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GENERAL

PROTEUS (tm) is a communication program that executes under the Microsoft Window Environment as a Window Application. It permits terminal emulation and XMODEM/CRC, YMODEM, Batch YMODEM and Kermit (Kermit is receive only currently) file transfers. You can now perform a file transfer and use another window application at the same time. If you have two modems, perform two file transfer simultaneously! Current features are as follows:

IBM PC-ANSI, VT52 and 3101 terminal emulation.

XMODEM/CRC, YMODEM, Batch YMODEM and Kermit file transfer.

Automatically switches from 7 bits to 8 bits during file transfers.

Capture all output to disk, can be left on during file transfers.

Permits user to change the size and type of FONT used.

Thirty User Macro Keys.

Paste text from other Windows Applications (e.g., WRITE).

Icon displays information during a file transfer.

Proteus can communicate with a Kermit Server.

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Instructions (or lack of)

Getting Started:

1. Go to 'DATABASE' menu and select the 'PROFILE' entry. To select a current Profile, click with mouse and click 'OPEN' pushbutton. To define a NEW profile, enter a new name in the current profile entry (the top edit box) and click the OPEN pushbutton!

2. Go to 'Connect' menu item and select 'Dial...' to dial an entry in the phone directory. (notice that an '*' will appear at the top).

3. You must be disconnected to change the COM setting for a profile. Use HANGUP to disconnect the line.

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COMMENTS

1. If you see double characters (e.g, AATT HHII TTHHEERREE), then go to SETTING/TERMINAL dialog and turn off ECHO.

2. If the BBS seems to be sending too many blank lines then go to SETTING/TERMINAL dialog and turn off 'AUTO LF'.

3. The letters between the brackets in the Window Title are:

    * - Connect
    C - Capture to Disk is Active
    K - Kermit Server Mode
    M - Line Monitor is Active (not in)
    P - Capture to Printer is Active (not in)
    X - File transfer is active

5. Selecting the CAPTURE menu when the capture is active will terminate it.

6. Holding down a MENU too long or running non-window apps, will cause problems with PROTEUS (tm) in the file transfer mode.

7. Try changing FONT while in terminal mode. Use the FIND.

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The Proteus Icon

The ICON can be used to display information on a file transfer in progress. While in terminal emulation mode the Proteus ICON will be displayed (Picture of a terminal). During a file transfer the ICON will display the number of blocks (1 block = 128 bytes) transferred. If the Proteus ICON has the focus (e.g., click it with the mouse), the 'Enter' key can be pressed to display different formats on the ICON. There are six different display formation for the ICON:

1. Picture of a Terminal (Normally used in Terminal Emulation Mode.

2. Number of 128 byte blocks transferred.

3. Number of 1024 byte blocks transferred, the suffix 'K' is used.

4. Percentage of data transferred, the suffix '%' is used.

5. The amount of time in minutes to complete the transfer, the suffix 'm' is used.

6. Error has be incountered, and the number of retries for the current block.
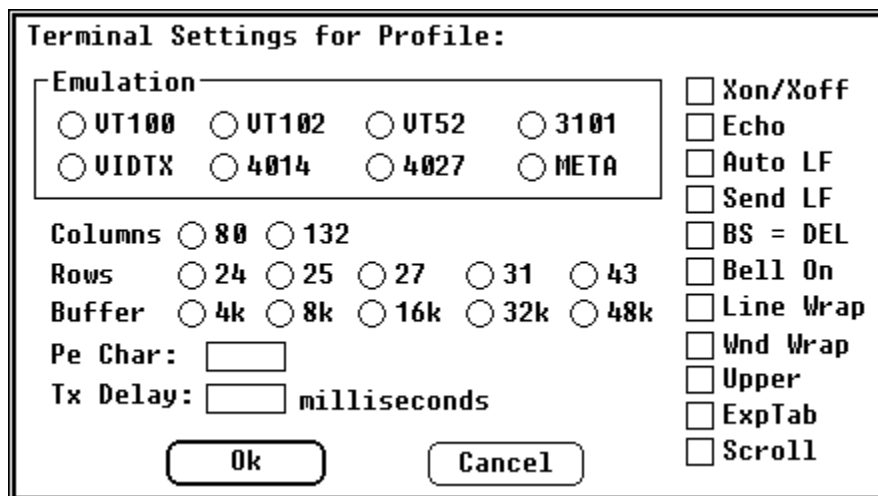
When Proteus can not compute a value, it will replace it with '***'. For example: On a XMODEM download, Proteus does not know the size of the file being downloaded. Therefore the percentage and time ICON values can not be computed.

Changing Proteus to an ICON is the recommended method, if you are planning to use other WIndow Applications. Proteus will display a Dialog when the file transfer is completed. For example: I will start a file transfer and move the MS-DOS ICON over the Proteus windows, this automatically changes Proteus to an ICON and displays the MS-DOS window. While in WRITE, Proteus will display a dialog when a file transfer is complete, I just move the Proteus ICON over the WRITE window and they switch. I start another file transfer and move the WRITE ICON over the Proteus window.

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The Terminal Dialog

The Terminal Dialog is presented through one of two methods: by selecting the TERMINAL item under the SETTING menu entry, or selecting the TERMINAL pushbutton under the PROFILE item under the DATABASE menu entry. The TERMINAL item under the SETTING menu entry is used for FAST changes to the terminal settings to the current Profile. For example: While on a DEC system you discover that it requires the DEL character (0177) to be used to delete the previous character, not the BackSpace (0010) character. You can quickly select the TERMINAL item under the SETTING menu and check the BS=DEL checkbox to make the change. The DATABASE menu entry in used to change the terminal settings for any Profile, not just the current one.

```
┌─────────────────────────────────────────────────────┐
│ Terminal Settings for Profile:                       │
│ ┌─Emulation───────────────────────────┐ ☐ Xon/Xoff  │
│ │ ○ VT100   ○ VT102   ○ VT52   ○ 3101 │ ☐ Echo      │
│ │ ○ VIDTX   ○ 4014    ○ 4027   ○ META │ ☐ Auto LF   │
│ └─────────────────────────────────────┘ ☐ Send LF   │
│                                          ☐ BS = DEL  │
│  Columns ○ 80 ○ 132                      ☐ Bell On   │
│  Rows     ○ 24 ○ 25 ○ 27 ○ 31 ○ 43      ☐ Line Wrap │
│  Buffer   ○ 4k ○ 8k ○ 16k ○ 32k ○ 48k   ☐ Wnd Wrap  │
│  Pe Char: [      ]                       ☐ Upper     │
│  Tx Delay: [      ] milliseconds         ☐ ExpTab    │
│       ( Ok )         ( Cancel )          ☐ Scroll    │
└─────────────────────────────────────────────────────┘
```

Emulation: Select the terminal emulation to be used. A more detail description of each

    terminal emulator can be found in the following sections.

Columns: Select the width in the logical screen in characters, 80 or 132. If the requested

    number of characters can not be display a scroll bar will be display on the

    bottom of the screen. You can also change the FONT size to permit more

    characters to be displayed across the screen.

Rows: Select the number of row in the logical screen in characters, 24, 25, 31
or 43.

             Used in Proteus for hosts that use direct cursor addressing (everything
except a

             TTY emulation).

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Buffers: The amount of memory to be used for vertical scrolling of previous
data.

Pe Char: The Parity Character is a user defined value to be used if an incoming
character

has a bad parity, else the bad character is ignored. If the parity
replacement is

not needed, put the string 'None' in the Parity Character field.   If the
NOPARITY

is set on the communication port, this field is ignore.

Tx Delay: The transmission delay value is the number of milliseconds to wait
between

characters transmission.

Xon/Xoff: If checked, the XON/XOFF handshaking protocol is used.

Echo: If checked, characters transmitted are also echoed, half-duplex.

Auto LF: If checked, when a carriage return (CR) is received, a line feed (LF) will
be also

written to the display. Alternatively, when a LF is received, a CR will be
used.

If you are receiving too many blanks lines, turn this option off.

Send LF: If checked, when a carriage return (CR) is transmitted, a line feed (LF)
is also

added after the CR.

BS = DEL: If checked, the DEL character is sent in replace of the BS character.
Required

for some mainframe and mini computers.

Bell On: If checked, the BELL character will cause a beep sound to be heard.

Line Wrap: If checked, characters received passed the end of the line will be
wrapped to the

next line.

Wnd Wrap: If checked, characters received passed the end of the current window
will be

wrapped to the next line.

Upper: If checked, all characters are converted to upper case.
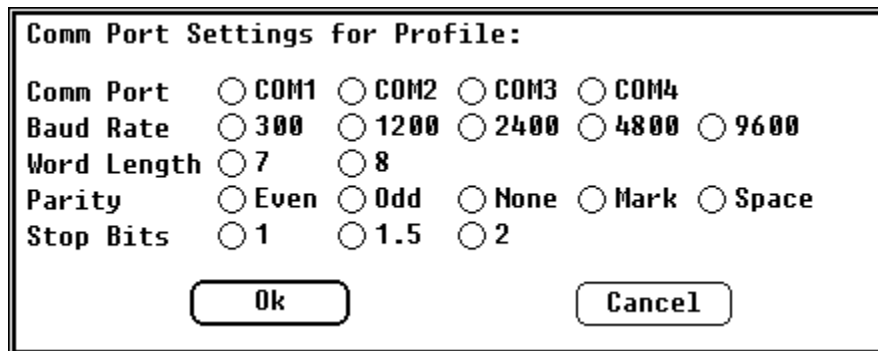
ExpTab: If checked, TAB characters will move the cursor to the next tab position. Every
                eight (8) character positions by default.

Scroll: If checked, the screen will scroll after receiving data pass the user defined
                screen size (see Rows above). Normally checked.

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The COMMPORT Dialog

The Comunnication Port Dialog is presented through one of two methods: by selecting the COMMPORT item under the SETTING menu entry, or selecting the COMMPORT pushbutton under the PROFILE item under the DATABASE menu entry. The COMMPORT item under the SETTING menu entry is used for FAST changes to the communication settings to the current Profile. Anytime that you are connected, '*' in the title bar, you can not change the communication port. For example: If you are connected to COM2, the COM1 button will be grayed (and disabled), you must disconnect first to select anyother port. Use the HANGUP item in the CONNECT menu entry to disconnect Proteus. The DATABASE menu entry in used to change the communication settings for any Profile, not just the current one.

```
┌──────────────────────────────────────────────────────┐
│ Comm Port Settings for Profile:                        │
│                                                        │
│ Comm Port     ○ COM1  ○ COM2  ○ COM3  ○ COM4           │
│ Baud Rate     ○ 300   ○ 1200  ○ 2400  ○ 4800  ○ 9600  │
│ Word Length ○ 7       ○ 8                              │
│ Parity        ○ Even ○ Odd    ○ None  ○ Mark  ○ Space │
│ Stop Bits     ○ 1     ○ 1.5   ○ 2                      │
│           ╭──────────╮          ╭──────────╮           │
│           │    Ok    │          │  Cancel  │           │
│           ╰──────────╯          ╰──────────╯           │
└──────────────────────────────────────────────────────┘
```

Comm Port: The communication port push buttons are used to select the port to be used. If
        Proteus is currently online (connected) the current value can not be changed.

Baud Rate, Word Lenght, Parity and Stop Bits: These communication parameters must
        match the system that you will be calling. See documentation for that system for
        the correct settings. For example:

        Compuserve: Even Parity, seven bits, one stop bit.

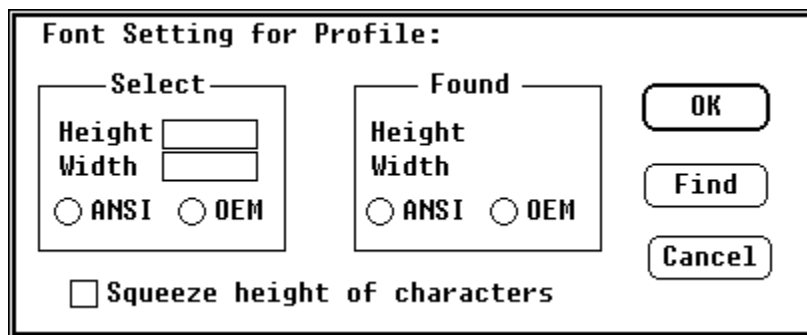   Genie: Even Parity, seven bits, one stop bit.

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PC-RBBS: No Parity, eight bits, one stop bit.

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The FONT Dialog

The Font Dialog is presented through one of two methods: by selecting the FONT item under the SETTING menu entry, or selecting the FONT pushbutton under the PROFILE item under the DATABASE menu entry. The FONT item under the SETTING menu entry is used for FAST changes to the terminal settings to the current Profile. For example: While on a IBM-PC RBBS system you want to get the IBM-PC graphic character set. You can quickly select the FONT item under the SETTING menu and check the OEM radio button to make the change. The DATABASE menu entry in used to change the terminal settings for any Profile, not just the current one.

```
Font Setting for Profile:
  ┌──── Select ────┐   ┌──── Found ────┐   ┌─────────┐
  Height [      ]      Height             │   OK    │
  Width  [      ]      Width              └─────────┘
  ○ ANSI  ○ OEM       ○ ANSI  ○ OEM       ┌─────────┐
                                          │  Find   │
                                          └─────────┘
    □ Squeeze height of characters        ┌─────────┐
                                          │ Cancel  │
                                          └─────────┘
```

The FONT dialog is difficult to understand without documentation and it's function is unknow to most users (that I have talk to). Microsoft Windows has a large number of FONT to be used for character display. The user is able to select different character FONT to increase or descrease the size of the characters. For example: Selecting a small character FONT will permit more characters on the screen at one time.

As with most things, what you want is not always what you get. The SELECT parameters are used to input the type of FONT that you will like, the FOUND display is what Windows will give you. The FIND pushbutton can be used to update the FOUND display using the SELECT parameters. The current FONT setting can be changed are anytime without destroying any data. Therefore you can experiment with different combination of parameters to find the best one for you and your hardware. (Something to do during a file transfer).

The SQUEEZE checkbox can be used to reduce the size of the current FONT by one pixel. The characters displayed are mostly readable and it will add a few more lines to the screen. This is another parameter to 'play' with to get the best effect. It may cutoff part of the character, but is optional and can be useful at times. (Another one

to play with a file transfer time).

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The PROTOCOL Dialog

The Protocol Dialog is presented through one of two methods: by selecting the PROTOCOL item under the SETTING menu entry, or selecting the PROTOCOL pushbutton under the PROFILE item under the DATABASE menu entry. The PROTOCOL item under the SETTING menu entry is used for FAST changes to the protocol selection of the current Profile. The DATABASE menu entry in used to change the Protocol selection for any Profile, not just the current one.

```
Select Protocol for
 ○ XMODEM           ☐ Icon
 ○ YMODEM
 ○ YMODEM/Batch     ☐ Save
 ○ WXMODEM          ☐ Fast
 ○ ZMODEM
 ○ MODEM7          ┌────────┐
 ○ Telink          │   OK   │
 ○ ??????          └────────┘
 ○ ASCII           ┌────────┐
 ○ Compuserve B    │ Cancel │
                   └────────┘
```

The Protocol dialog is used to select a file transfer protocol to match the other system (host) can you are connect to. Only the protocol not grayed are available at this time, the rest will be added at a later time (or not all).

ICON: If checked, the

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File Transfers

The main reason to use Proteus is to perform file transfers will using other Window Applications. Proteus was design to use as little resources (memory and cpu) as possible. To perform a file transfer select the TRANSFER menu item, then the DOWNLOAD or UPLOAD item from the menu popup. A dialog with a list of protocol currently available will be display. If the protocol you wish to use is already selected, just click the OK push button, else click on the protocol that you want.

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VT100 & Terminal Emulation

Tab	Horizontal Tab
Delete	Character Delete
Home	Home Cursor
Cursor Up	Cursor Up
Cursor Down	Cursor Down
Cursor Left	Cursor Left
Cursor Right	Cursor Right
Ctrl-PgDn	Clear Screen
End	Erase end of line

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IBM 3101 Terminal Emulation

Tab   Horizontal Tab
Delete   Character Delete
Home   Home Cursor
Cursor Up   Cursor Up
Cursor Down   Cursor Down
Cursor Left   Cursor Left
Cursor Right   Cursor Right
Ctrl-PgDn   Clear Screen
End   Erase end of line
Ctrl-End   Erase end of screen

Alt-1   Program Function 1 (PF1)
Alt-2   Program Function 2 (PF2)
Alt-3   Program Function 3 (PF3)
Alt-4   Program Function 4 (PF4)
Alt-5   Program Function 5 (PF5)
Alt-6   Program Function 6 (PF6)
Alt-7   Program Function 7 (PF7)
Alt-8   Program Function 8 (PF8)
Alt-9   Program Function 9 (PF9)
Alt-0   Program Function 10 (PF10)
Alt-'-'   Program Function 11 (PF11)
Alt-'='   Program Function 12 (PF12)

The IBM-PC function keys are not used. You may redefined
them as macros to support other keys. (Do not use F1-F10,
you may use F1-F10 with the Alt or Ctl keys).

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Macros

Proteus permits the user to define thirty 'macro' keys, F1 through F10 and with the ALT and CTL keys being pressed while entering one of the function keys. Non-display characters can be defined by using of the following:

\r	Carriage Return (CR)
\n	Line Feed (LF)
\t	Tab
\\	The character '\'
\ooo	Define any character using three OCTAL numbers (like C).

For example: "myuserid\n" is m,y,u,s,e,r,i,d,CR. Or "\010" is a backspace character.

To enter a macro, select the function key (highlight it) and enter the macro in the edit box above. Then click on OK to save it. Yes I will be re-writing the macro logic at a future date.

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Kermit File Transfers

Kermit is a packet-oriented protocol developed at Columbia University and is to Mainframes and Minis as XMODEM is to Micros. XMODEM requires the use of a clean eight bit connection, typical of microcomputers that have complete control over the hardware. On larger systems, such control was impossible, seven bit per character limitation and special characters "eaten up" by the system make a new protocol for file transfers a necessity. Kermit was design to be flexible enough handle permit data transfer in "hositle" environment.

Kermit now seems to be everywhere, it is available on many different computer systems, including most remote bulletin board systems (RBBS). Kermit real power is in it's ability to communicate directly to the host computer using a Server/Client relationship. Files can be transferred between system without entering commands on both host and local computers (as in XMODEM).   Most microcomputer RBBS's that do support Kermit, are not servers. Although Proteus does support Server and Non-Server Kermits, the real power of Proteus's Kermit logic only shows when connected to a Server.
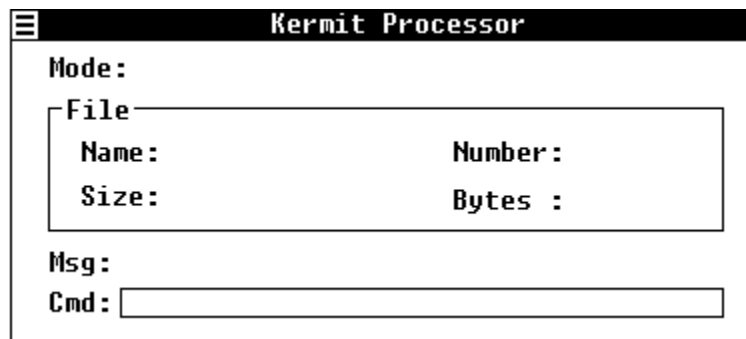
For more detail information of Kermit, please write to the following address:

Kermit Distribution
Columbia University Center for Computing Activities
7th floor, Watson Laboratories
612 West 115th Street
New York, NY 10025

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The Kermit Window

The Kermit Window is not Windowing Kermit, the Kermit Window appears when the KERMIT! menu item is selected. Is provides information to the user on the current state (what is is doing) and permits the user to enter Kermit commands. Kermit has lots of commands, so instead of designing many, many dialogs and menu I used the old command line for input. This will make Proteus easier to use for current Kermit users and to stay close (as possible) with the Kermit Manual written by Frank da Cruz, "Kermit a File Transfer protocol". With the design of Proteus's Kermit logic, no commands need to be entered to download a file from a non-server Kermit (e.g., microcomputer RBBS). And only two commands for a Kermit server (GET and BYE).

```
┌─────────────────────────────────────────────┐
│ ≡            Kermit Processor                │
├─────────────────────────────────────────────┤
│ Mode:                                        │
│ ┌File──────────────────────────────────────┐│
│ │ Name:                 Number:            ││
│ │ Size:                 Bytes :            ││
│ └──────────────────────────────────────────┘│
│ Msg:                                         │
│ Cmd: ┌──────────────────────────────────┐   │
│      └──────────────────────────────────┘   │
└─────────────────────────────────────────────┘
```

The Kermit Window is shown above. It may be moved around the screen and will disappear if Proteus is make into an ICON. Kermit will information the user (with a popup dialog) that it is readly for another command. And with Proteus is restored from an ICON, the Kermit Window will re-appear.

Mode: This display only field informs the user of the current mode or state that Proteus is in. Server Commands can only be enter while in Idle mode.

Name: This display only field contains the name of the file currently being processed.

Number: This display only field contains the number of the file being transfer, useful in multi-file transfers using wildcard parameters.

Size: This display only field contains the size of the file currently being transfer.

Bytes: This display only field contains the number of bytes transferred at this

time.

Msg: This display only field contains both Error messages from a Kermit Server or infomational messages from Proteus.

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Cmd: This input only field is use to specify commands to Kermit. Commands that are supported will closly follow the Kermit manual. Only the BYE, FINISH, GET, SEND and RECEIVE commands are supported.

The system window (the box in the upper left corner) contains additional commands that are generally supported by control-characters in other versions of Kermit.

Abort File   Abort the current file being transferred (same as control-X in other Kermits).

Abort Batch Abort the current batch of files being transferred (same as control-Z).

Abort Server   Sort of a last resort command, sends an 'E' (error) message to the Server to try and get it's attention. Used during testing, really not needed for the normal user.

Abort Kermit   Terminates the Kermit Window, nothing is transmitted., return to Proteus. Must be used to terminate from non-server host (e.g., microcomputer RBBS's). And sometime needed if Proteus doesn't end the Kermit Window after the user enters the BYE command.

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Non-Server Kermits

To download from a non-server version of Kermit (microcomputer RBBSs) you need to start the file transfer from the host and just select the "KERMIT!" menu option. Proteus will now take control and receive the file automatically. After the transfer is complete and the Kermit Window returns to the idle mode, hit the "Abort Kermit" in the system menu.

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Server Kermits

Communicating with a host system that supports Server is what Kermit all about. Proteus only supports a fraction of the Kermit commands, but does supports the four basic commands. With more to come in the future.

BYE   Shut down and log out a remote server.

GET   Request the server to send specifed files.

FINISH   Shut down but don't log out the remote server.

SEND   Send the specfied file or files to the other Kermit.

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Easy Connect Logon

The Easy Connect option is a method that is far simpler than using a script to log on to a host. All you need to do is put in a string for Proteus to wait for, then the string to send when the wait string is found. The Easy Connect parameters are added to the DATABASE/PROFILE dialog. Just select the profile to work with using the LISTBOX and change the WAIT and/or SEND fields.

```
Profile:        [          ]
Description: [                              ]          (Terminal)
Phone No:    [                              ]
Capture Log: [                              ]          (CommPort)
             [                          ]↑
             [                          ]             (Protocol)
             [                          ]
             [                          ]               (Font)
             [                          ]↓
Wait: [                    ]  Send: [                    ]
Wait: [                    ]  Send: [                    ]
Wait: [                    ]  Send: [                    ]
Wait: [                    ]  Send: [                    ]
   (  Add  )    ( Delete )      ( Cancel )       (  Ok  )
```

1. To logon to CIS:

WAIT:	Host Name:	SEND:	CIS
WAIT:	User ID:	SEND:	70000,1234
WAIT:	Password:	SEND:	mypass:word
WAIT:		SEND:	

A carriage return is automatically added to the SEND string when the WAIT string is found. Proteus will wait for ten (10) seconds for each WAIT string, if it does not find it, it will timeout. The DIAL dialog will remain on the screen until the Easy Connect is completed. The first blank WAIT string will also terminal the DIAL dialog. All special character code are in effect, look under the section on macros for complete information.

2. To logon to EXEC-PC:

WAIT:	Name -->	SEND:	first;last;password
WAIT:		SEND:	

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```
        WAIT:                           SEND:
        WAIT:                           SEND:
```

3. To logon to PC-RBBS:

```
        WAIT:  Name                     SEND:  first;last;password
        WAIT:                           SEND:
        WAIT:                           SEND:
        WAIT:                           SEND:
```

4. To logon to GENIE:

```
        WAIT:  U#=                      SEND:  zzz12345,passwd
        WAIT:                           SEND:
        WAIT:                           SEND:
        WAIT:                           SEND:
```

PROTEUS/VT102 will have an 100% re-written dial logic and a much smarter and more flexible Easy Connect option.

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FATAL ERROR under Proteus

If Proteus can not continue processing it will terminate with a Fatal Error condition and return a Fatal Error code. The following defined the current Fatal Error codes:

           100   Failure to open database.

                    Proteus can not open it's database which is central to it's operation.

                    Make sure all the files are in the same directory as Proteus.

           101   Can not allocate Local Memory.

                    Should NEVER happen (but I check anyways). Report to Author.

           102   Can not allocate Global Memory.

                    Too many Window Applications are running, try a lower buffer size in the TERMINAL dialog or close some applications.

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Public Domain/Shareware MS Windows Software by other Authors

I the interest of promoting shareware Microsoft Windows applications, this section will contain a directory of Windows applications deemed to be worthwhile investigating. These programs are generally available from the same source from which Proteus was obtained.

Due to the current scarcity of this type of shareware, there is currently a limited number of entries that qualify.

Information of these applications are available from the authors. For a brief information sheet, please send a SASE (Self Address Stamped Envelope) to the address given. The information sheet usually includes licensing information, features of the lastest version, and how to obtain it.

BROWSER   A file browse window application for MS Windows

> Wilson WindowWare
> 3377 59th SouthWest
> Seattle, WA 98116
> 73260,2535 on Compuserve

> Browser is a fundamental tool for almost every computer application.
It allows
> viewing of files in a variety of different formats. It also implements
Hide&Seek
> features that allow database-like access to information in files.

PROTEUS   A communication (modem) program for Microsoft Windows.

> Kent Cedola
> 2015 Meadow Lake Court
> Norfolk, VA 23518
> 73277, 3616 on Compuserve
> K.CEDOLA on GENIE

> Proteus (tm) is a true application for Microsoft Windows, this make it
most efficient
> compared to MS-DOS communication programs using PIF's.   Please
read the
> beginning of the documentation file for more information.