

Com Version 4.1

Com 4.1 is a full featured Windows telecom program. It has many features demanded by todays ever changing communications world.

[Basic Communications](#)

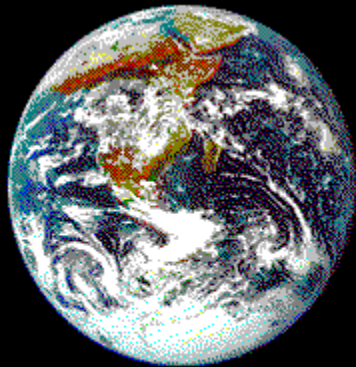
[Coms Terminal](#)

[Phone book](#)

[Scripting and Script reference](#)

[Macro Keys](#)

[Registering](#)



Making the World Smaller

Communications

Windows serial communication is a complex system. In the DOS world communications were relatively simple. This is not so in a Cooperative multitasking operation system. I will not attempt to explain every aspect of Windows communications but I will give you a little introduction.

All low level communications in windows are handled by the communications driver, usually COMM.DRV.' The communications driver monitors the physical comports of the computer and sends windows messages when certain events occur. There are a few of third party communications drivers that you can obtain that handle high speed communications better than the stock driver installed with windows.

A few of the terms you need to become familiar with are:

Baud Rate:

Data bits, Stop bits and Parity:

File transfer protocols

Flow Control

Baud Rate

The term baud rate is a measurement of the number of events per second in a communications line. This usually means the higher the speed the better the performance. Generally a 80386 machine should be able to handle 9600 without much problem. Most 486 and Pentium systems can handle baud rates as high as 115.2K. Because of the way Windows handles communications even fast computers may have problems with baud rates that high.

Another limitation on your baud rate is the UART chip. This chip is the heart of all serial communications. There are basically 3 types of UARTS:

8250: Slow. Baud rates above 14400 are NOT recommended.

16450: This is a little better chip but not much

16550: Much better. Can handle extremely high baud rates.

As a general guideline you can use these settings depending upon the speed of your modem.

2400: 2400 - 9600

9600: 19200 should give you good performance.

14400: 38400-57600 are acceptable baud rates.

28800: 38400 - 115200 will be the baud rates of choice.

NOTE:

You can experience performance losses if you set your baud rate too high also. For instance, a computer with a 486 processor, 8250 UART chip and an external modem can not handle baud rates above 14400 reliably. To see what UART you have try running Microsofts MSD program.

Data Bits

Data bits are usually set at 7 or 8 bits. These data bits are the actually information carrying bits. Most BBS systems use 8 data bits, while some on-line services, such as CompuServe, use 7 data bits.

Com supports both with ease.

Stop Bits

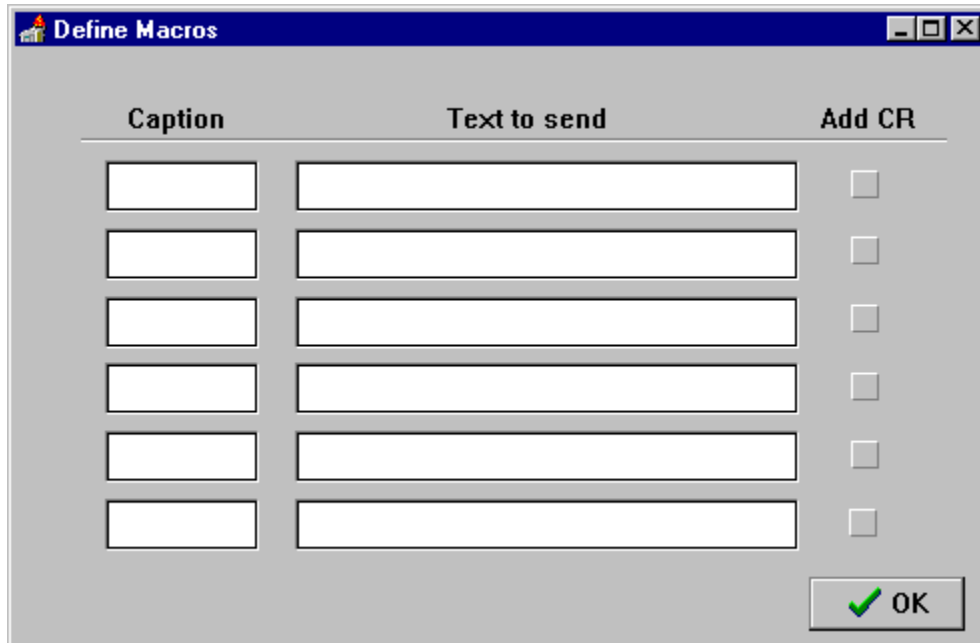
Stop bits follow the data bits in the serial communications stream. This can be either 1 or 2 bits. Most of the time you should set this to 1 stop bit.

Parity

Parity is a kind of error checking scheme. In a typical communications session, the transmitter adds all the data bits together. It then adds a Parity bit so that the sum of all the bits is either Even, Odd or whatever you want. The receiver also calculates these bits. If they match then it is assumed that the data was received without any errors.

Most BBS systems do not use parity. Most on-line services do use parity.

Macro buttons



Caption	Text to send	Add CR
<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
<input type="text"/>	<input type="text"/>	<input type="checkbox"/>

OK

Macro buttons are used to send frequently used strings to the remote system with the single press of a button. For example, you could define a macro button with the caption Name and a text value of Tod Liverseed. Whenever you are prompted for your name just press the macro button with the caption Name.

You may also set whether the text is sent with or without a carriage return.

These boxes hold the button caption. You should limit your caption to 8 characters in length.

These boxes hold the text you want to send to the remote system

Check these boxes if you want to add a carriage return to the text you are sending.

Choose a modem

In this dialog box you will choose your modem. Included with Com is a modem database with a lot of popular modems. Unfortunately not all modems on the market are in here. In that case just select a modem that is close, or select the 2400 baud Hayes modem. Then you can edit the modem parameters accordingly

Also see: [Configuring your modem](#)

Registering Com

Registering Com will get rid of the nag screen and enable the scripting ability. The price I am asking is a darn good price compared to other communications packages. So I ask that you register Com and support the shareware concept.

The only way I accept registrations is either by check or money order. When you do register all you need to do is send me your First and Last name and a check for \$20.00. I will then send you your registration code to unlock the program. I will either send it through E-Mail or Postal Mail. You can also contact the Magic BBS at 1-507-334-1648. I will leave your registration code in a message there also.

Now for the real boring stuff!

I have tried to put together a good communication program for all Windows users. I cannot guarantee that it is bug free. I will try to fix bugs in a timely manor. I am also open to any gripes or suggestions. I made this for YOU the user.

One more thing.... I am NOT liable for ANYTHING! If you install Com and your hard dive is thrashed.... Oh, well. I will lend tech advice but thats were it ends.

**Tod Liverseed
PO BOX 422
Morristown MN
55052-0422**

File Transfer Protocols

In most communications sessions you will either be sending or receiving binary files. These files are transferred between the two computers using certain protocols. Here I will give you an idea of each one that Vcomm supports.

XMODEM: This is the oldest (or near) file protocol out there. Xmodem is very simple and slow. It transfers data in 128 Byte blocks then waits for an acknowledgment from the receiving system.

XMODEMCRC: This is basically the same protocol as Xmodem except that a CRC (Cyclic redundancy check) has been added to the protocol making it a little more reliable.

XMODEM1K: This is another mutation of the Xmodem protocol. This version uses 1024 byte data blocks and CRC checking. This is a much faster protocol than regular Xmodem.

YMODEM: This protocol is basically Xmodem1K with a new feature. It allows multiple files to be transferred, one after another. This is called a batch protocol. Another plus is that the transmitter supplies the filename, size and date information to the receiver.

YMODEMG: This is a very fast mutation of YMODEM. It is a streaming protocol that does not perform error checking. It relies on the modem to perform any error correction. You should not even try this protocol unless your modem supports error correction.

Zmodem: Is probably the most popular file transfer protocol there is. It is almost as fast as YMODEMG, and can easily recover from errors. It even allows interrupted file transfers to be continued at a later time. This is probably the protocol you should use.

KERMIT: This protocol was made to handle file transfers under special conditions. Conditions like serial data bits of only 7 bits, and transferring between mainframe computers and PCs.

CompuServe B+: CompuServe B+ is a protocol that is only used by the on-line service CompuServe. Com only supports the B+ version.

Flow Control

Flow control allows either the transmitter or receiver to limit the flow of information. This is needed because the receiver may not be able to accept the serial data as fast as it is being received.

There are two main types of flow control (or handshaking).

Hardware: Hardware handshaking uses control lines of the serial link to control the flow of information. This is the preferred type in most situations.

Software: Software flow control uses control characters to control the flow of information. This type is sometimes referred to as Xon/Xoff flow control. The way this works is the receiver will send the Xoff character (typically ASCII 19) to stop the transmitter. When the receiver is ready to start receiving information it will send the Xon character (typically 17). This tells the transmitter to start sending again.

Without flow control it would be very easy for the receiving end to overflow the input buffer resulting in a loss of data.

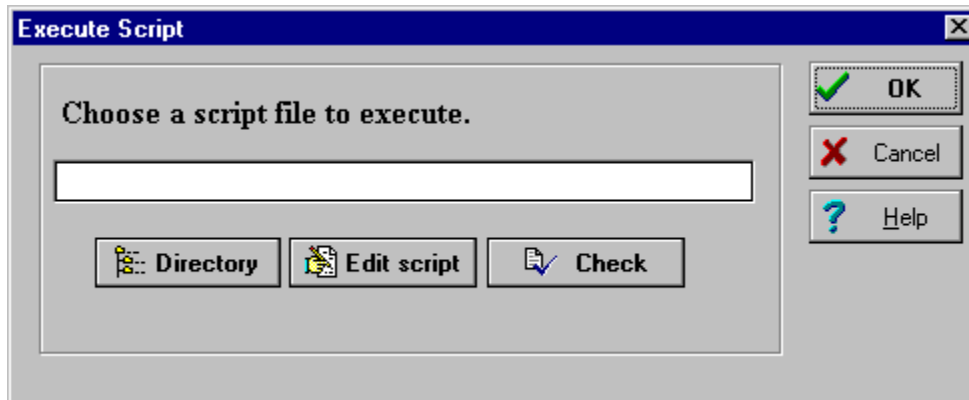
By default Com sets flow control to hardware.

Also see: [Flow control options](#)

Execute script dialog

When you want to execute a script while a session is active then this is your answer. You may start a script anytime you wish. Just select a script file and hit OK. You may also edit and check a script file here also.

Also see: [Script reference](#)



The name of the script file you want to execute is placed here

This displays a directory dialog allowing you to choose a script file.

Opens the selected file with Windows notepad and allows you to edit it.

Check the selected script file for errors then displays any errors and their line number. You should do this before running a script you have just created or edited.

Coms terminal window

Most of your time will be spent in Coms terminal window. This is where all the serial information will be displayed. This version of Com presently only supports a hybrid version of the ANSI emulation. To be more precise, It not only emulates the ANSI standard, it also is tailored for CompuServe users.

You may Copy and Paste text to Coms terminal window also. There are two ways to do this. The first is probably the easiest.

Copying terminal text

Use your mouse to select the text you want to copy. When you release the mouse button the selected text is automatically copied to the clipboard. This really comes in handy for file transfers. Simply highlight the file name you want to download. Then when you are prompted for the file name simple paste it in.

The other way is to use the copy button above the terminal window.

Pasting text to the terminal

Pasting text is just as easy. When you paste text to the terminal window you are also sending that information to the communications port. You may only paste text to the terminal window. To paste simply press the Paste text button or press the right mouse button.

Below are the main Com button panel and their explanation.





Phone Book

Coms phone book holds all the information and selections for the systems you connect to. Each entry can have completely different settings although most will probably have the same.

The first time you start Com your phone book is empty. You are then automatically placed in the Add mode. Simply type in the name and phone call for the entry. You will then have to choose a modem. Press the button next to the modem selection box and a list of popular modems appears. Dont worry if your modem isnt in the list. Pick a modem that is similar, or use the Hayes generic modem entry.

Set the other protocols and youre set to go.

Entry	Port	Transfer	Terminal	Misc	Flow
AAAA BBBB					
Name AAAA					
Phone # 685-2899					
Total connect time 0:00:00:03 					
Last time online Tuesday, January 16, 1996 16:47:02 					

Here you type the entry name. Whatever you wish to call the connection.

Place the phone number you want to dial here. If you dont want to dial a number, then leave this entry blank.

Here your total time on-line for this session is displayed.

Pressing this button clears or resets the on-line time for this session.

Shows the last time you actually connected to this session. It does not show the last time you attempted to connect.

Clear the last connect date.

This is where all your sessions are listed. Simply click on the session you wish to use. Com will then load all the sessions' settings.

Session Communication port settings

Entry	Port	Transfer	Terminal	Misc	Flow
Com Port					
<input checked="" type="radio"/> Com 1					
<input type="radio"/> Com 2					
<input type="radio"/> Com 3					
<input type="radio"/> Com 4					
<input type="radio"/> Com 5					
<input type="radio"/> Com 6					
<input type="radio"/> Com 7					
<input type="radio"/> Com 8					
Data Bits					
<input checked="" type="radio"/> 8					
<input type="radio"/> 7					
<input type="radio"/> 6					
Stop Bits					
<input checked="" type="radio"/> 1					
<input type="radio"/> 1.5					
<input type="radio"/> 2					
Parity					
<input checked="" type="radio"/> None					
<input type="radio"/> Even					
<input type="radio"/> Odd					
<input type="radio"/> Mark					
<input type="radio"/> Space					
Baud Rate					
<input type="radio"/> 1200					
<input type="radio"/> 2400					
<input type="radio"/> 4800					
<input type="radio"/> 9600					
<input type="radio"/> 14400					
<input type="radio"/> 19200					
<input checked="" type="radio"/> 38400					
<input type="radio"/> 57600					
<input type="radio"/> 115000					
Device					
<input checked="" type="radio"/> Comm.drv					
<input type="radio"/> Fossil					
Modem					
2400 baud Hayes clone					

Note: If you change these settings while the session is active the changes will not take effect until you exit and restart the session.

Select your communications port. Most personal computers support com1 -- com4. IBM PS/2 computers support com1-com8. Be sure you select the port your modem is on or the serial port you are trying to communicate with.

Choose the number of data bits your session will use. Most BBS applications use 8 data bits. CompuServe uses 7 data bits. If this setting is wrong you will most likely see garbage in the terminal window when you connect.

Here you choose the number of stop bits to use. If this setting is incorrect, expect garbage.



Parity is a form of error checking. Most BBS systems use NO parity.

Baud rate selects the speed of your connection. Be sure to set it at least or higher than the speed of your modem.

Choose the device driver used to control your communications. To use a fossil driver you must load before Windows.

This is the name of your modem. Press the button to the right to select a modem from the database.

File transfer settings

Entry	Port	Transfer	Terminal	Misc	Flow
File transfer protocols					
Output buffer	16414	Input buffer	16414		
Protocol Options					
Download Path					
 <input type="text"/>					
UpLoad Path					
 <input type="text"/>					
Protocol					
<input type="radio"/> X Modem Checksum					
<input type="radio"/> XModem CRC					
<input type="radio"/> XModem 1K					
<input type="radio"/> YModem Batch					
<input type="radio"/> YModemG					
<input checked="" type="radio"/> ZModem					
<input type="radio"/> Kermit					
<input type="radio"/> Compuserve B+					
<input type="radio"/> Ascii					

Windows communications port output buffer size. This value should be at least 8192 for high speed communications in windows. 16414 is the minimum size for using the Zmodem 8K option.

Windows Communications port input buffer Set this to the same size as the output buffer.
See the output buffer for more details.

Select the directory where you wish your downloaded files to go. You may also create a directory using the directory button.

Select the directory where you want to begin searching for files to upload.

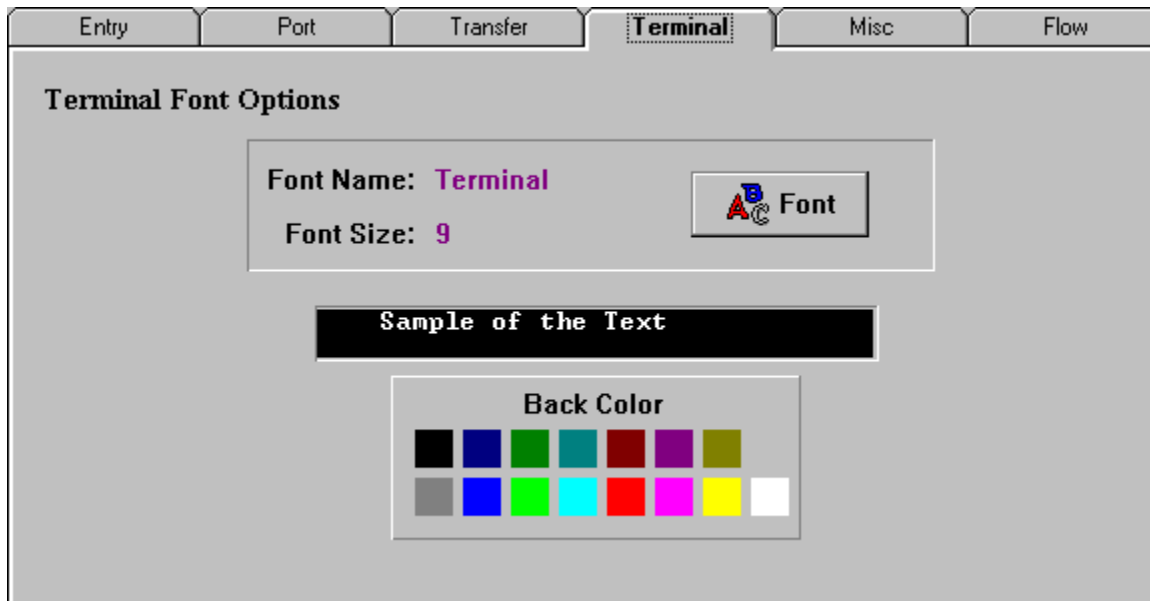
This button shows a directory dialog box. You may create or choose a default download directory.

This button shows a directory dialog box. You may create or choose a default upload directory.

This option selects the default file transfer protocol for this session.

Also see: [File transfer Protocols](#)

Terminal settings



You should note that most ANSI BBS systems will change the colors of the terminal window. Also to display ANSI graphics you must use the Windows Terminal font. This is the only font supplied with Windows that supports ANSI graphics.

Shows a font dialog box that allows you to select the terminal font. Note: to display ANSI graphics you need to use the Windows Terminal font.

This is a sample of the terminal font and color.

Here you select the starting background color of the terminal. Note: Most ANSI systems will change this.

Misc. options

Entry	Port	Transfer	Terminal	Misc	Flow
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Dialer Options

Options




- Abort on VOICE
- Abort on BUSY
- Abort on NO CARRIER
- Abort on NO DIAL TONE
- Abort on ERROR

Maximum Retries

Time Between Retries

Auto Answer

Script File



When this option is checked Com will abort the current dialing process when the modem returns a Voice string.

Abort the dialing cycle when a BUSY signal is reported by the modem.

Abort the dialing cycle when a No Carrier string is detected from the modem.

Abort if the modem does not detect a dial tone before dialing

About the dialing cycle when an error is reported by the modem.

This is the path to your script file. See [scripting](#) for more information on script files.

Press this button to see a file dialog that will let you select a script file. See [scripting](#)

Opens the script file in Windows notepad so you may edit it. See [_scripting](#)

Checks the syntax of a script file and displays errors in the file. See [scripting](#)

This is the maximum retries Com will try to connect to a system, after trying this amount of times Coms dialer aborts.

The number of seconds Com will wait before dialing again.

Auto Answer mode

Com has a special mode called auto-answer. When you check this box Com will enter the answer mode with you dial this entry. It will not dial the phone number in the entry even if there is one.

When in answer mode, Com watched the modems ring indicator. When Com detects a ring it picks up the phone and attempts to connect.

This option is handy for transferring files between friends.

Note: you may need to set the local echo option in the TERM menu. This allows you to see the text you are typing.

Flow control options

Entry	Port	Transfer	Terminal	Misc	Flow
Modem flow control options					
HardWare Flow Control					
<input type="checkbox"/> Use DTR		<input type="checkbox"/> Require DSR			
<input checked="" type="checkbox"/> Use RTS		<input checked="" type="checkbox"/> Require CTS			
Software Flow Control					
<input type="checkbox"/> Both		XOn Char (decimal)	<input type="text" value="17"/>		
<input checked="" type="checkbox"/> None					
<input type="checkbox"/> Receive		XOff Char (decimal)	<input type="text" value="19"/>		
<input type="checkbox"/> Transmit					

Note: You should use the default values in most cases. Also use hardware flow control always for connections 14400 and above.

Use the DTR signal line to control incoming data

Use the RTS control line to control incoming data

When this option is checked, Com will not transmit data until the remote raises the DTR signal.

When checked Com will not transmit data until the remote raises the RTS signal line.

These options allow you to choose the type of software flow control to use. By default Com uses hardware flow control and disables all software flow control.

Define the character that will start data transmission. This MUST be an ASCII value. The default is 17.

Define the character that will stop data transmission. This also must be an ASCII code. The default is 19.

Exit Com. This option will also drop carrier and close the comport if desired.

This button displays the phone book.

Hangs up the modem if a carrier signal is detected. This will also cancel an auto answer mode.

This allows you to start a log file of your session. It will write everything that is transmitted or received from the comport. You may then use notepad or any text editor to inspect it.

If the comport is open Com will send the default modem initialization string for the session that is active to the modem.

Press here to start an upload. It will display a dialog that allows you to select a file or files from your computer to upload(send) to the remote system.

Press here to start a download. You will only need to use this option if you are not using Zmodem without the auto start option.

This button will toggle the scroll back mode. You may also use the Insert key to toggle this. This allows you to view up to 500 lines.

Pressing here pastes the text in the clipboard to the terminal. It also sends the text to the remote system.

Pressing here copies the selected text in the terminal window to the clipboard.

About Com

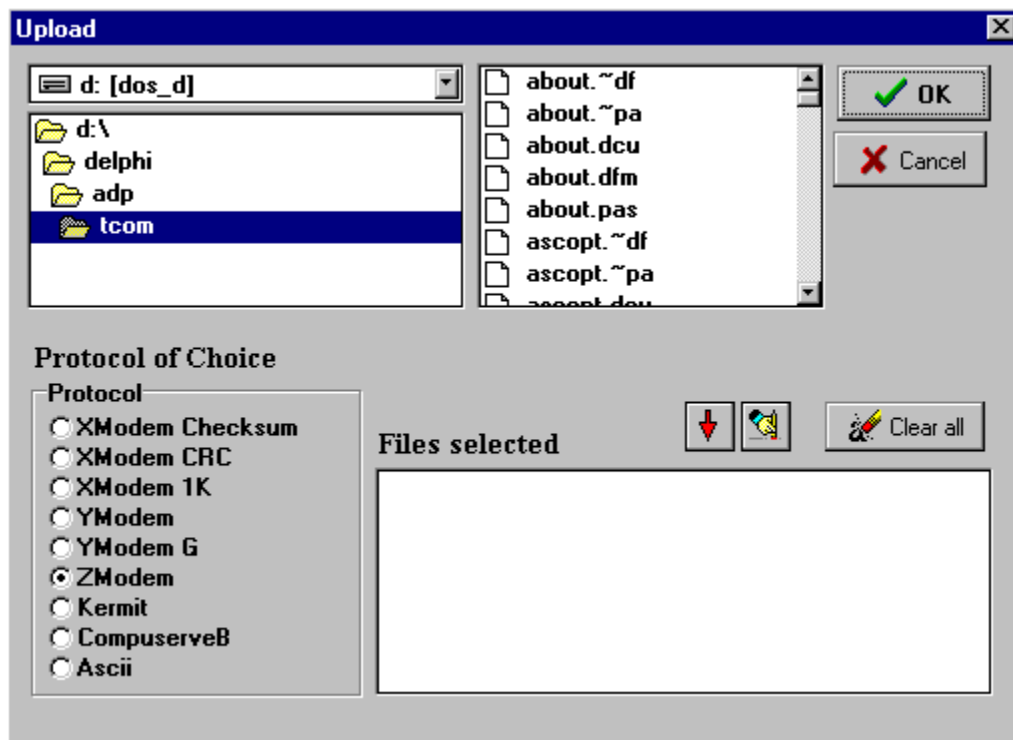
This will cancel any currently running script file.

Select, edit, check or run a script file.

File upload dialog

Here is where you select the files you want to send to the remote system. It allows you to select the protocol you wish to use.

Note: Protocols like Xmodem do not allow you to select more than one file to upload. You should avoid Xmodem anyway as this protocol is very slow.



These boxes allow you to select a drive and directory to search for files.

This is a list of files in the currently selected directory. You may just double click on a file to add it to the file list.

Choose the protocol you want to use.

[Press here to add the selected files from the directory to the file upload list below.](#)

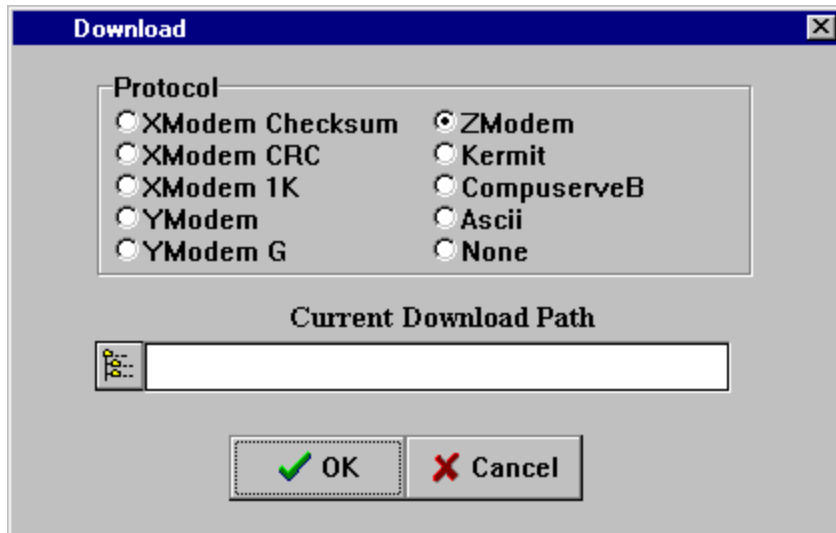
Clicking here removes the selected file from the list below.

Removes all files from the list below.

This box holds all the files you have selected to upload. These files are transferred in the order that they appear in the box. To add files to this box either double click a file in the list above or select the file in the same list then press the red down arrow.

Download file dialog

Here you start your file transfers. Simply choose a protocol and the download directory (the default for the session will be displayed in the box) then press OK. You will then see the file transfer dialog.



Choose the protocol you want to use for downloading

This is the directory that your files will be placed in after downloading. You may either type in the directory or press the button to see a directory dialog.

Scripting

Scripting is a way automatically execute instructions depending upon prompts received from the remote session. A good example of this is logging into a BBS. You are prompted for your name or user ID and then prompted for a password. You could have Com watch for these prompts and send your name and password automatically. Suppose you are logging in to a system that prompts you for login information like this:

What is your first name: <Tod>
What is your last name: <Liverseed>

You could make a script like this:

```
; Wait for the first name prompt for 20 seconds.  
Wait first name 20000
```

```
;Check for success. If not then exit script  
If fail error
```

```
;Send your name.  
send Tod
```

```
;Wait for the last name prompt for 5 seconds.  
Wait last name 5000
```

```
;Exit script if prompt not found in 5 seconds.  
if fail error
```

```
;Send last name.  
send Liverseed
```

```
;Label  
:error
```

Below is a list of supported commands and their function.

Script Reference

;<label>
;<comment>
INITPORT <COM1..COM9> <baud>
DONEPORT
SEND 'XXXXXX'
WAIT 'XXXXX' <timeout in ticks>
IF SUCCESS/TIMEOUT/FAIL <label>
WAITMULTI 'XXX|ZZZ|YYY', <timeout in ticks>
IF 1/2/3...127 <label>
GOTO <label>
DISPLAY 'Just did something'
SENDBREAK <duration in ticks>
DELAY <duration in ticks>
SET <option> <data>
RETRY <data>
DIRECTORY <drive:directory>
FILEMASK <filemask>
FILENAME <filename>
WRITEFAIL
WRITERENAME
WRITEANYWAY
ZWRITECLOBBER
ZWRITEPROTECT
ZWRITENEWER
ZSKIPNOFILE <true/false>
UPLOAD <protocol>
DOWNLOAD <protocol>
CHDIR <drive:directory>
DELETE <filemask>

`:<label>`

A point in the script file that can be jumped to via a GOTO or IF instruction. A label name can be any type of string without embedded spaces. For example `':TopOfLoop'`, `':TOP_OF_LOOP'` are both acceptable; `':top of loop'` is not.

`<comment>`

Any line that starts with a semicolon is considered a comment. Blank lines are also considered comments and may be freely added for readability.

INITPORT <COM1..COM9> <baud>

Open the specified port at the specified baud rate. The line parameters are always no parity, 8 databits and 1 stop bit.

Only one port at a time may be opened.

DONEPORT

Closes a port previously opened with INITPORT.

SEND 'XXXXXX'

Transmits the string 'XXXXXX'. Control characters may be transmitted by preceding a character with '^'. For example, a control C character is represented by ^C. You'll use this feature most often when sending carriage returns. For example, SEND 'myname^M' might be an appropriate response to a logon prompt where you would normally type your name and press <Enter>. NOTE: Unlike Object Pascal strings the control characters must be *inside* the quote marks, if quote marks are necessary.

If the string does not contain any embedded blanks the beginning and ending quotes can be omitted. The quotes are required if the string has embedded blanks. Here are some examples to illustrate this point:

```
SEND ABC      sends ABC
SEND 'ABC'    sends ABC
SEND A B C    sends only the A ('B C' is considered a comment)
SEND 'A B C'  sends A B C
```

WAIT 'XXXXX' <timeout in ticks>

Waits up to <timeout in ticks> ticks for a particular received string. The string comparison is always case insensitive. However, the string comparison need not be complete. If, for example, a host returns the string 'Host XXXX ready' where XXXX might vary from session to session, the WAIT command should wait for 'ready' only. As with the SEND command, beginning and ending quotes are only required if the string contains embedded blanks.

This command sets one of three conditions: SUCCESS, FAIL or TIMEOUT, which can be tested with the IF command. SUCCESS is set if the string is received before the timeout. TIMEOUT is set if the timeout expires before the string is received. FAIL is set if the timeout expires and all retries are exhausted.

IF **SUCCESS/TIMEOUT/FAIL** <label>

Tests the condition set by the last command and, if the tested condition is true, jumps to <label>. If the condition is not true then execution continues with the next statement.

`WAITMULTI 'XXX|ZZZ|YYY', <timeout in ticks>`

Waits up to <timeout in ticks> ticks for one of several substrings. The bar character (|) separates the substrings. The comparisons are always case insensitive. The maximum length of the entire string is 255 characters. As with the SEND command, beginning and ending quotes are only required if the string contains embedded blanks.

This command sets a numeric condition result based on the substring received: '1' is set if the first substring is received, '2' is set if the second substring is received, and so on. If none of the strings are received then TIMEOUT is set; if all retries have been exhausted then FAIL is set.

IF 1/2/3...127 <label>

Tests the condition set by the last WAITMULTI command and, if the tested condition is true, jumps to <label>. If the condition is not true then execution continues with the next statement.

The following example sends a modem dial command, then waits for one of CONNECT, NO CARRIER, or BUSY responses. If none of the responses are received then control falls through to the GOTO statement:

```
send 'atdt260-9726^m'  
waitmulti 'connect|no carrier|busy' 1092  
if 1 HandleConnect  
if 2 HandleNoConnect  
if 3 HandleBusy  
goto HandleTimeout  
:HandleConnect  
    ...proceed with session  
:HandleNoConnect  
    ...handle noconnect error  
:HandleBusy  
    ...handle busy error  
...
```

GOTO <label>
Unconditionally jumps to <label>.

DISPLAY 'Just did something'

Generates a call to the TApdScript component's OnScriptDisplay event handler. If the DisplayToTerminal property is True and a terminal component exists on the form then the string is also displayed to the terminal. This can be used to monitor the progress of the script and to aid in debugging.

SEENDBREAK <duration in ticks>
Transmit a break of <duration in ticks> ticks.

DELAY <duration in ticks>

Delays for <duration in ticks> ticks. The script doesn't yield during delays so keep the delays as short as possible.

SET <option> <data>

Sets or resets a variety of script and protocol options. Some options require a <data> argument; some do not.

RETRY <data>

Sets an internal retry count that is incremented whenever WAIT or WAITMULTI result in a TIMEOUT condition. When <retry count> TIMEOUTS have occurred the FAIL condition is set. The default is 1, meaning no retries are attempted.

DIRECTORY <drive:directory>

Sets the destination directory used during protocol receives.

FILEMASK <filemask>

Sets the file mask used during protocol transfers. For non-batch protocols this must be a specific file name rather than a mask

FILENAME <filename>

Sets the received file name for protocols that do not transfer the file name (all Xmodem protocols).

WRITEFAIL

Sets the WriteFailAction property to wfWriteFail for all protocols except Zmodem -- meaning that if an incoming file already exists the incoming file is skipped.

WRITERENAME

Sets the WriteFailAction property to wfWriteRename for all protocols except Zmodem -- meaning that if an incoming file already exists the incoming file is renamed (the first character of the file name is replaced with \$).

WRITEANYWAY

Sets the WriteFailAction property to wfWriteAnyway for all protocols except Zmodem -- meaning that if an incoming file already exists the existing file is overwritten.

ZWRITECLOBBER

Sets the ZmodemFileOption property to zfoWriteClobber -- meaning that if an incoming file already exists the existing file is overwritten.

ZWRITEPROTECT

Sets the ZmodemFileOption property to zfWriteProtect option -- meaning that if an incoming file already exists the incoming file is skipped.

ZWRITENEWER

Sets the ZmodemFileOption property to zfWriteNewer option -- meaning that if an incoming file already exists the existing file is overwritten only if the incoming file is newer.

ZSKIPNOFILE <true/false>

Sets the ZmodemSkipNoFile property to True or False. When this option True incoming files are skipped if they do **not** already exist on the receiving machine.

UPLOAD <protocol>

Starts transmitting files using <protocol>. <protocol> must be one of XMODEM, XMODEM1K, XMODEM1KG, YMODEM, YMODEMG, ZMODEM or KERMIT. All files matching the mask previously specified by SET FILEMASK are transmitted.

DOWNLOAD <protocol>

Starts receiving files using <protocol>. <protocol> must be one of XMODEM, XMODEM1K, XMODEM1KG, YMODEM, YMODEMG, ZMODEM or KERMIT. If using any of the Xmodem protocols you must call SET FILENAME before DOWNLOAD to specify the name of the received file.

CHDIR <drive:directory>

Changes the current drive and/or directory to the one specified by <drive:directory>. If the drive or directory does not exist the FAIL condition is set.

DELETE <filemask>

Deletes all files matching <filemask>. If no path is specified the current directory is used.

File transfer options

ASCII options

ASCII	ZModem	B+	Kermit	General	
CR Handling <ul style="list-style-type: none"><input checked="" type="radio"/> Send<input type="radio"/> Send LF After<input type="radio"/> Strip		Terminators <ul style="list-style-type: none"><input type="checkbox"/> Stop on ^ZEOL Character <input type="text" value="0"/>		Download	
LF Handling <ul style="list-style-type: none"><input checked="" type="radio"/> Send<input type="radio"/> Send CR Before<input type="radio"/> Strip		Delays <ul style="list-style-type: none">Delay After Line (MS) <input type="text" value="0"/>Delay After Character (MS) <input type="text" value="0"/>		CR Handling <ul style="list-style-type: none"><input checked="" type="radio"/> Keep<input type="radio"/> Add LF After<input type="radio"/> Strip	
				LF Handling <ul style="list-style-type: none"><input checked="" type="radio"/> Keep<input type="radio"/> Add CR Before<input type="radio"/> Strip	
				Timeout (secs) <input type="text" value="0"/>	

How Com should handle a carriage return when sending one to a remote system.

How Com should handle a line feed when sending one to the remote system.

Tells Com to stop transmission when it encounters a ctrl Z character in the file.

This determines the ASCII end-of line character.

Sets the number of milliseconds Com should wait between transferring characters.

Sets the number of milliseconds Com will wait between sending lines.

Determines how Com handles carriage returns when it receives one.

This option determines how Com will handle a line feed when it receives one.

The number of system ticks before an ASCII file transfer is terminated.

Zmodem options

Ascii	ZModem	B+	Kermit	General
<p>Auto Start Options</p> <p><input type="radio"/> Disabled</p> <p><input checked="" type="radio"/> Enabled</p>				
<p>ZModem 8K</p> <p><input checked="" type="radio"/> Disabled</p> <p><input type="radio"/> Enabled</p>				

Determines whether the Zmodem auto start feature is turned on. This is a feature that is very handy. When this option is enabled you may request a file download from the remote system without starting a download session on your end. Com detects the Zmodem download request then automatically starts a download.

This is a special version of the Zmodem protocol. It transfers data in 8K blocks instead of the usual 1K blocks. Not many systems support this.

CompuServe B+ option

Ascii	ZModem	B+	Kermit	General
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B+ Protocol

Disabled

Enabled

Determines whether the CompuServe B+ file transfer protocol is active.

KERMIT file options

Ascii	ZModem	B+	Kermit	General
Error Correction				
<input type="radio"/> One byte checksum				
<input type="radio"/> Two byte checksum				
<input type="radio"/> CRC				
Padding				
C ount <input type="text" value="0"/>				
C h _{aracter} <input type="text" value="0"/>				
Prefixes				
H _i bit <input type="text" value="0"/>				
R ep _{eat} <input type="text" value="0"/>				
C ontrol <input type="text" value="0"/>				
Packet				
M ax length <input type="text" value="0"/>				
T erminator <input type="text" value="0"/>				

Determines the type of error correction KERMIT should use.

How many pad characters Com will add to the beginning of a packet.

Determines the pad character the is added to a B+ packet. The default is ASCII code 32.

Determines how KERMIT will quote characters with their high bit set. When set to Y, the default, KERMIT will not use high bit quoting unless the remote system requests it. When it equals & or in the ASCII range of 32-62 or 96-126, it indicates that KERMIT requires high bit quoting and that its value is the character used for the prefix. If this option is set to N KERMIT will not use high bit quoting.

This is the prefix that KERMIT uses when compressing strings of repeated characters.

Sets the character that KERMIT uses to quote control characters.

This sets the maximum size of a KERMIT packet. This is usually 80 but can be set as high as 1024 if the remote system supports it.

Sets the character used to signal the end of a KERMIT packet. Usually #13.

General Protocol Options

Ascii	ZModem	B+	Kermit	General
<p><u>N</u>aming Conflicts</p> <ul style="list-style-type: none"><input checked="" type="radio"/> Fail Transfer<input type="radio"/> Rename Incoming File<input type="radio"/> Overwrite Existing File <p><u>O</u>ptions</p> <ul style="list-style-type: none"><input type="checkbox"/> Save Partial Files<input checked="" type="checkbox"/> RTS When Writing				

This determines what Com should do when the file being downloaded already exists in the download directory. Com will either Abort the transfer, Rename the file or Overwrite the file.

Determines whether Com will save partial files. For example, when a file transfer is aborted and part of the file is left on your hard drive.

When checked Com will lower the RTS signal when writing to the hard drive. In order for this option to be effective you must disable disk caching. Most often you will leave this option disabled.

Modem configuration

The image shows a Windows-style dialog box titled "Modem Info". It is divided into two main sections: "Commands" and "Return Codes".

Commands Section:

- Initialize:** ATE1Q0M1X4V1^M
- Dial:** ATDT
- Dial suffix:** ^M
- Cancel Dial:** ^M
- Hangup:** DTR
- Configure:** ATE1Q0M1X1V1^M
- Answer:** ATA^M

Return Codes Section:

- Okay:** OK
- Connect:** CONNECT
- Busy:** BUSY
- Voice:** VOICE
- No Carrier:** NO CARRIER
- No Dialtone:** NO DIAL
- Error:** ERROR
- Ring:** RING

Link Rate Section:

There is a checkbox labeled "Lock DTE Rate" which is currently unchecked.

Buttons: At the bottom right, there are two buttons: "OK" (with a green checkmark icon) and "Cancel" (with a red X icon).

This is where you will customize your modem settings. If you are not familiar with modem commands then I suggest leaving these settings alone or consulting your modems operators guide.

This is the modem initialization command. This command is sent to the modem just before dialing a number or entering answer mode.

This is the dialing command. Most likely you can leave this alone unless you are using pulse dialing.

The text in this box will be attached to the end of the dial command, after the phone number. This allows you to add special dial modifiers to the modem before dialing.

This command will cancel a dialing sequence. I suggest leaving this to its default value ^M (carriage return).

This field is a special field. It determines how the modem will attempt to hang up the connection. You can either have Com send the modem the hang up command you place in here (usually +++~::~ATH0^M) or have Com drop the DTR line for a second. To use this option you must have DTR in this field.

This command is sent to the modem before the initialization command is sent. This field allows you to enter multiple modem commands. Example: AT&F|AT&C1&D2. You separate your modem commands with the pipe character (|).

When you are in answer mode, this is the command that is sent to the modem to pick up the phone.

This option locks the baud rate of the port. When this option is checked the port speed will not be adjusted to match the modem. It is suggested that you do this especially with high speed modems.

This is the string the modem returns when a command has been executed properly.

This is the string sends to the computer when a successful modem connect is detected.

This is the command the modem returns when it detects a busy signal.

This is the string the modem returns when it detects a voice on the remote end.

This is the return code when the modem detects a loss in the DCD signal (carrier).

This string is returned by the modem when it tries to dial but cannot detect a dial tone.

This is the return string when the modem detects an error in the last command sequence.

This is the string the modem will report when it detects a ring on its line.

