Answer

Use Enable's Communications module to answer incoming calls from another computer system. To do this, place your computer in what we call answer–mode.

Use Quick–connect with your autodial modem to access the communications screen and perform the following:

1. From the Top Line Menu, select Modem. The Telephone Sub–menu displays.
2. Select Autoanswer to set your modem to answer mode. Any incoming call will be answered on the third ring. An A displays in the Status Line and indicates that the modem is in answer mode.

If you are using a rotary phone connected to a system that expects a touch tone phone and you have an autodial modem, type *t* after the telephone number to change the dial type (for example, *p9,555–1212,,,,t*). Also, you may have to increase the number of commas (,) to pause long enough to connect to the remote computer.

Capture Data

When you communicate with another computer, you may want to save some of the information that appears on your screen. Use Enable's Capture feature to "capture" this information and save it on your data disk. You can also use Enable's Word Processing module to edit the captured data and compose a report or letter.

Once you establish a connection, data enters the computer's memory and scrolls across the screen. To save this data, you must capture it. Save all or some incoming data from an entire session:

Capture data to memory. Store any data received while capture to memory is active in RAM. However, to keep this information after you have completed the session, you must then save it to a file. Capture to memory to capture small amounts of data or if you wish to see the captured data anytime during the session.

Capture data directly to disk. Store any data received while capture to disk is active to an ASCII file on disk. Capture to disk when you need to store large amounts of incoming data that might, if captured in memory, exceed your computer's memory capacity. Also, if you are using terminal emulation, you should capture data to disk. You cannot view data captured to disk during the session.

Capture data to your printer. Print any data received.

These methods are not mutually exclusive. Capture data to memory, disk and printer simultaneously.

Capture Data to Memory

Capture incoming data to memory by turning capture on at the beginning of a session or during a session.

To capture data to memory when a session begins or to capture all data during a session:

1. At the Open Capture to Memory File dialog box (during the connection steps), enter a file name at `File Name` to tell Enable where you want to store the incoming data and select **Accept**. Remember, Enable uses this file only to capture incoming data to RAM. You must save this data to a file to use it again.
2. If you enter an existing file name, the prompt `File Exists: Add to end of file. Re-use File` displays. Select **Add to end of file**, the default, to add the new data to the data in the existing file or select **Re-use File** to write over existing data in the file. Enable turns on capture mode and begins capturing incoming data in the file you specified.

   If you do not specify a file extension, Enable uses .WPF.

   If you do not enter a file name, Enable uses the file name TPNONAME.WPF. However, Enable will not automatically activate capture to memory. In this case, to begin capturing data to memory you must activate capture to memory during the session.
3. `CAPTURE` displays in the Status Line, and the capture to memory file name displays in the screen border as Enable performs the connection steps and when you view the captured data. Enable will capture all incoming data to memory. If you only want to capture some of the incoming data during the session, press **F7** to turn capture to memory on/off. Enable will not save data that was received while capture to memory was not active.

To turn on capture to memory during a session:

1. Press **F7** to turn on capture mode. (**F7** toggles capture mode on/off during a session.)

   or

   From the Top Line Menu, select File, Capture settings, Memory capture, Accept. (These commands toggle capture mode on/off during a session.)
2. `CAPTURE` displays in the Status Line, and Enable begins capturing data starting with the text on the top line of the screen. Enable will not capture data that was received while capture to memory was not active.

   If you did not specify a file in which to save data captured to memory, Enable will capture the data to memory in the file TPNONAME.WPF.
3. If you only want to capture small pieces of data, use **F7** to turn on and off capture to memory during a session. However, Enable cannot display data that scrolled off-screen while capture to memory was not active.

When capturing data to memory, you can view captured data anytime by switching to word processing mode. See CM:Capture Data to Memory:Edit Data Captured to Memory for information on word processing mode.

Edit Data Captured to Memory

At any time during a communications session, enter word processing mode to edit or view the data captured to memory:

1. Press **PgUp**

   or

   From the Top Line Menu, select **W**P, **F**10 Menu.

   The data display freezes on the Communications Screen and the word processing window displays. Use any of Enable's word processing features (except Page Preview) to manipulate the captured data. For example, mark a block of text and save it as a file.

   This window also contains a second Status Line (the word processing Status Line), the word processing Top Line Menu, and the word processing screen borders. Displayed in the screen border is the name of the file you specified at the Open Capture to Memory File dialog box during connection or TPNONAME.WPF.

2. Edit any data using the word processing features. Manipulate the captured data just as you would any word processing document. Enable continues receiving data to both the Communications Screen and the Screen Capture window. While you are in word processing mode, use the cursor keys to view the newly received data that has been added to the end of captured data.

3. To return to communications mode and leave word processing mode, press **Shift/F9**.

   CAUTION: If you issue a command to quit from the word processing window such as **F**ile, E**x**it from the Top Line Menu, **Alt/End** or **F9 W C**, Enable closes the communications window and returns you to the previous open window or the Main Menu (if only one window is open). Any call in progress will be disconnected.

Save Data Captured to Memory

To use data captured to memory in the future you must save it to a file. Save the data at any time during a session or at the end of a session. Enable will also remind you to save the data when you attempt to return to the Main Menu or disconnect.

To save the data during the session:

1. From the Top Line Menu, select **W**P, **F**10 Menu.
2. From the Top Line Menu, select **F**ile, **S**ave to save the data in the file whose name is displayed in the screen border (you specified the file name at the Open Capture File to Memory dialog box during the connection process).

   or

   From the Top Line Menu, select **F**ile, Save **A**s to save the data in a different file or format.

See REF1:WP:Save a File for information on saving a file.

CAUTION: If you captured data to the TPNONAME.WPF file (this file name will be displayed in the Screen Border), you must save the data you captured to memory to a different file name. Enable will write over the information in this file, if you use

TPNONAME.WPF again to capture data. Use the word processing Save As option to rename this file.

To save the data captured to memory at the end of the session:

1. Finish the session (by selecting **F**ile, E**x**it (Disconnect) from the Top Line Menu), a prompt will ask if you wish to save captured data.
2. Select **Yes** to save the data in the file you specified at the beginning of the session or during connection in the Open Capture to Memory File dialog box.

Capture Data to Disk

Save the data that scrolls across your screen during a session including related characters (carriage returns, line feeds, control characters, escape sequences) to an ASCII file. However, when you capture data to disk you cannot view it during a session. Capture data to memory and disk simultaneously, by following both procedures.

CAUTION: If you are capturing data to a floppy disk, do not remove the disk from the drive until you have turned capture off or ended the session.

To capture data to disk:

1. From the Top Line Menu, select **F**ile, Disk capture **O**pen. Enter the name of a new file to which you want to save captured data. If you do not enter an extension, Enable uses .TPF. Do not use the name you entered at the Open Capture to Memory File dialog box during the connection process. That file is for capture to memory only.

   or

   Enter the name of an existing file (saved in ASCII format) to append the data to existing data. To append disk–captured data to an Enable word processing file, save the file in ASCII format. See REF1:WP:Save a File for information on saving files to ASCII format.

   Enable automatically activates disk capture. When disk capture is active, `DISK CAPT` displays in the Status Line.

   You can capture data to memory and disk at the same time. The Status Line indicates where the data is going. `CAPTURE` means it is going to memory; `DISK CAPT` means data is going to disk; `CAPT (W+D)` means data is going to both disk and memory.

   Be sure you have enough disk space to store the incoming data. If not, a `DISK IS FULL` error message displays and you must cancel the capture. You cannot use the DOS window while capturing data to disk.

2. If you want to stop capturing data during a session from the Top Line Menu select **F**ile, Disk capture **C**lose. Enable closes and saves the file you have been capturing data to. Otherwise, when you perform step 3, Enable automatically closes and saves the capture file.

Remember, you can always append data to this file or any file that contains previously captured data, or capture data to a new file during the same session by repeating the preceding steps.

3. When you finish the session (by selecting **F**ile, E**x**it (Disconnect) from the Top Line Menu), a prompt will ask if you wish to save captured data. Select **No** if you are not capturing data to memory. Select **Yes** if you want to save data you are capturing to memory in addition to capturing it to disk.

Capture Data to a Printer

To print any data received from another computer.

1. From the Top Line Menu, select **F**ile, **P**rint capture device.
2. Select the appropriate port to which the printer is connected.
3. From the Top Line Menu, select **F**ile, C**a**pture Settings, **P**rint Capture. Enable will begin printing incoming data. Since this option is a toggle, select **F**ile, **C**apture Settings, **P**rint Capture to stop printing.

   or

   Press **`Shift/F2`**. Enable begins printing incoming data. Since **`Shift/F2`** is a toggle, press **`Shift/F2`** again to stop printing.

   `PT` displays in the Status Line. If the printer is in use, material to be printed will not be queued.

WARNING: The printer may not print as quickly as data is received. If the other system does not support Xon/Xoff (handshaking), you may lose data. Using 300 baud usually prevents you from losing data.

Commands

Use the following Modem Table/Unattended File Transfer Script commands in either Unattended File Transfer Scripts and/or Modem Tables. See CM:Modem Table and CM:Unattended File Transfer Scripts for more information.

You'll find an alphabetical listing of the commands in the following format:

Name of the Command

Use: Where the command can be used (Modem Tables and/or Unattended File Transfer Scripts).

Syntax: The format in which you should use the command. All commands information appears in uppercase. All optional variables are enclosed by brackets ([ ]). All variable information is enclosed by braces ({ }). Commands with multiple syntax statements will described under purpose. be. For example, .COMMAND [optional variable] {required variable}.

Where: Explanation of variables.

Purpose: When you use the command and any other pertinent command information.

Example: An example of the command.

.ALTERNATE

Use: Modem Tables

Syntax: .ALTERNATE

Purpose: Instructs Enable to end the current connection attempt and perform an alternate Setup you have specified in the current Setup. Performs the same function as pressing A during the connection attempt.

Example: Type `.alternate` to tell Enable to perform the commands in the alternate Setup you have specified in the current Setup.

.BEEP

Use: Modem Tables, Unattended File Transfer Scripts

Syntax: .BEEP

Purpose: Causes your computer to alert you to an event such as connection. If you want to sound multiple beeps, indicate a delay between each of your .BEEP commands.

Example: Type `.beep` to have your computer produce a beep at a specific time.

.CLEARIF

Use: Unattended File Transfer Scripts

Syntax: .CLEARIF {number},{number}

Where: {number} is the number of .IF commands.

Purpose: Tells Enable to cancel one or more .IF commands. If you do not specify a number, Enable cancels all previous .IF commands. Follow this command with the number(s) of the if command you want to cancel.

Example: Type `.clearif 1,3,5` to cancel the first, third and fifth .IF commands.

.DAY

Use: Unattended File Transfer Scripts

Syntax: .DAY {day}, {label name}

Where: {day} can be MON, TUE, WED, THU, FRI, SAT, SUN.

{label name} is the label name whose commands you want to perform.

Purpose: Perform a command or group of commands in a specific label or section name only on particular days.

Example: Type `.day mon, stock` to have Enable perform the commands in the label or section stock only on Mondays.

.DELAY

Use: Unattended File Transfer Scripts, Modem Tables

Syntax: .DELAY {number}

Where: {number} is the number of seconds up to 255.

Purpose: Tells Enable to pause a specific number of seconds before executing the next Modem Table command (up to 255). Use this command when you want Enable to pause while the other computer system transmits a prompt. Specify seconds in 1/10th of a second intervals, such as 1.5 or 2.2.

Example: Type `.delay 1.5` to have Enable pause for one and one–half seconds before executing the next Modem Table command.

.DIAL

Use: Modem Tables

Syntax: .DIAL {prefix},{suffix}

Where: {prefix} is the for the modem.

{suffix} is the suffix for the modem.

Purpose: Tells your modem to dial the number you have specified in your Setup (this number must be under 40 characters). If the number is over 40 characters, use .DIALOUT instead. Remember, if you are using a Hayes–compatible autodial modem, type the prefix `"ATDT"` followed by the suffix `"~"`. Enable will automatically insert the number specified in your Setup between the prefix and suffix.

If you have indicated pulse in your Setup, type the string `"ATDP"` following the .DIAL command.

You can also use .DIAL to deactivate call waiting. Insert `*70` after ATDT to cancel call waiting. This command may be different in your area, consult your local phone company.

Example: Type `.dial "atdt", "~"` to tell your autodial modem to dial ATDT followed by the telephone number specified in the Setup and perform a carriage return.

.DIALOUT

Use: Modem Tables

Syntax: .DIALOUT {prefix}, {suffix}

Where: {prefix} is the for the modem.

{suffix} is the for the modem.

Purpose: Tells your modem to dial the number you have specified in your Setup. Use .DIALOUT when the number exceeds 40 characters. Remember, if you are using a Hayes–compatible autodial modem, enter the prefix `"ATDT"` followed by the

suffix "~". Enable will automatically insert the number specified in your Setup between the prefix and suffix.

If you have indicated pulse in your Setup, type the string *"ATDP"* following the .DIALOUT command.

You can also use .DIALOUT to deactivate call waiting. Insert **70* after ATDT to cancel call waiting.

Example: Type *.dialout "atdt",;"~","atdp",;"~"* to tell your autodial modem to dial ATDT followed by the telephone number specified in the Setup and perform a carriage return.

.DROPDTR

Use: Modem Tables

Syntax: .DROPDTR

Purpose: Tells the modem to drop the connection with the other computer system by turning off the DTR (data terminal ready) signal. Use the .DROPDTR command only if your modem supports the DTR signal and you have set your modem switches to recognize DTR.

Example: Type *.dropdtr* to tell the modem to drop the connection.

.END

Use: Unattended File Transfer Scripts, Modem Tables

Syntax: .END

Purpose: Tells Enable to stop executing the commands in the script. Placing .END at the end of an Unattended File Transfer Script is required, but is optional for a Modem Table. Enable will automatically terminate the execution of subsequent commands when it encounters. .END.

Example: Type *.end* at the end of an Unattended File Transfer Script or Modem Table to tell Enable it has reached the end.

.ENDL

Use: Modem Tables

Syntax: .ENDL {index number}

Where: {index number} is the integer that identifies the loop.

Purpose: Tells Enable to end processing commands in a specified loop.

Example: Type *.endl 1* if you want Enable to stop processing commands in the loop of index number one. Use with .LOOP.

.EXIT

Use: Modem Tables, Unattended File Transfer Scripts

Syntax: .EXIT

Purpose: In Modem Tables tells Enable to stop executing the rest of the commands in the table and return to Enable's Main Menu. (Performs the same function as pressing Q to quit).

In Unattended File Transfer Scripts, tells Enable to stop executing script commands, save the TPLOG.WPF file and return to the Main Menu.

Example: Type `.exit` if you want Enable to quit the Modem Table and return to Enable's Main Menu at a particular point such as an error condition.

.GOSUB

Use: Unattended File Transfer Scripts

Syntax: .GOSUB {label name}

Where: {label name} is the label name of the section where the subroutine resides.

Purpose: Tells Enable to perform the subroutine in the Unattended File Transfer Script identified by the label name that follows the .GOSUB command.

Enable will process the commands grouped under this label name until it reaches a .RETURN. At the .RETURN command, Enable will return to the line immediately following the .GOSUB command.

Example: Type `.gosub password` to make Enable jump to the lines in the label PASSWORD until it encounters a .RETURN. Enable will then return to the line immediately following .GOSUB PASSWORD.

.GOTO

Use: Unattended File Transfer Scripts, Modem Tables

Syntax: .GOTO {label name} or {section name}

Where: {label name} or {section name} is the label or section of the section where the commands you want to got to reside.

Purpose: Branches to a specified label or section name. The .GOTO command can be used to transfer program control to another area of the Modem Table. When Enable encounters a .GOTO in a Modem Table, it will look for a .LABEL or .section command that contains the same name, transfer control to that line and process the commands below that label or section command.

Example: Type `.goto initialize` to tell Enable to go to the label or section "INITIALIZE" and begin executing the commands following the label.

.IF

Use: Unattended File Transfer Scripts

Syntax: .IF {number},{string action}

Where: {number} is the integer that identifies the command.

{string action} what action you want to perform if the string is true.

Purpose: Establish a condition under which Enable should perform a particular action. You must use the .IF command before the .WAIT4 command. Follow this command with an appropriate number, so you can later identify it, the string of characters Enable should look for and the action Enable should take if it receives the string. Separate each item of information by using a comma. An .IF command will remain in effect until it receives the specified string or encounters a .CLEARIF. .CLEARIF cancels an .IF command.

Example: Type `.if 1,"No Carrier",.goto quit`, This .IF command is identified by 1. Enable will check to see if the string message NO CARRIER is received. If Enable receives NO CARRIER, it will transfer program control to the line that contains the command .LABEL QUIT.

.KEY

Use: Unattended File Transfer Scripts

Syntax: .KEY {macro statement}

Where: {macro statement} is the macro statement you want Enable to perform.

Purpose: Causes Enable to perform the task in the macro statement such as capturing data to disk or printing. Use any of the Enable's macro codes for keyboard commands (you cannot use macro programming codes) to perform the task. See REF2:IN:Macros for information on macros.

Example: Type `.key {F10}MCT9,,5551234~` to tell Enable to dial the telephone of the other system rather than use a Setup.

LABEL or .SECTION

Use: Modem Tables, Unattended File Transfer Scripts

Syntax: .LABEL {name} or .SECTION {name}

Where: {name} is the name that identifies a series of commands.

Purpose: Identifies a specific location in the script. Include any number of .LABEL commands within a script as long as each .LABEL is followed by a unique name which identifies its location in the program. The name can be any combination of letters, numbers or special characters on the keyboard (except commas, semicolons or spaces) up to 30 characters long.

When you use .LABEL or .SECTION in combination with other commands such as .GOTO, the name identifies where you want Enable to go in the script.

The commands .LABEL or .SECTION are interchangeable.

Example: Type `.label porttest` or `.section porttest` to define a group of commands or portion of the Modem Table as PORTTEST.

.LOCAL

Use: Modem Tables, Unattended File Transfer Scripts

Syntax: .LOCAL "{text}"

Where: {text} is the text you want to display.

Purpose: Tells Enable to display a comment message on your screen and save it in the log file (TPLOG.WPF). For more information on the log file, see CM:Unattended File Transfer Script. Enable sends the message to your screen, but will not transmit it to the other computer system. Use .LOCAL to tell you what steps Enable is performing in the script. When you later view the log file, these comments will help you review the transmission.

Example: Type *.local "Connecting to the Host Computer"* before the connect commands in a Modem Table. When you use the Modem Table to establish a connection, Enable displays CONNECTING TO THE HOST COMPUTER on your screen before it processes the connect commands.

.LOOP

Use: Modem Tables

Syntax: .LOOP {index number}, {number of iterations}

Where: {index number} is a number that identifies the loop.

{number of iterations} is the number of times you want to perform the commands in the loop.

Purpose: Tells Enable to perform a command or series of commands that follow this command and are before .ENDL a specified number of times.

Example: Type *.loop 1,10* to cause Enable to perform index number one's sequence of commands ten times. The commands in index one fall between this command and .ENDL 1.

.PASSW

Use: Unattended File Transfer Scripts

Syntax: .PASSW {string}

Where: {string}

Purpose: Tells Enable to transmit your password to the other computer system. If you are using a Setup, do not include the password in the Setup. Use the .PASSW command instead. Remember to include a tilde (~) within the string if you are required to press Enter after giving the password.

Example: Type *.passw "Enable~"* to send the password Enable and a carriage return to the other computer system.

.REDIAL

Use: Modem Tables

Syntax: .REDIAL

Purpose: Instructs Enable to perform the initialization and dialing sequence again if a connection has been established. This command performs the same function as pressing **R** for redial.

Example: Type *.redial* to tell Enable to retry the .DIAL command if a connection has not been established.

.RETURN

Use: Unattended File Transfer Scripts

Syntax: .RETURN

Purpose: Used in conjunction with .GOSUB to indicate the end of a subroutine. Tells Enable to return to the line following the .GOSUB STRING.

Example: Type *.return* to tell Enable it has reached the end of the subroutine and to return to the line following the .GOSUB it came from.

.RUN

Use: Unattended File Transfer Scripts

Syntax: .RUN {script name}, {label name}

Where: {script name} is the name of the script you want to run.

{label name} is the section of commands in the script you want to run.

Purpose: Causes Enable to leave the original script file and run another script. For example, you might create one script that contains commands to sign on to a system and another that contains commands to connect to the service and download the files. You can use .RUN to run the second script from the first script so Enable signs onto the service according to one script and download files according to another script. If you want Enable to begin processing another script at a place other than the beginning, enter a label name after the script name.

Example: Type *.run script2, signon* to tell Enable to run the commands beginning with the label name SIGNON in script2.

.RX

Use: Unattended File Transfer Scripts

Syntax: .RX {protocol}, {filename}

Where: {protocol} is the protocol you want to use to receive the file. Enter the protocol according to the following abbreviations:

C – CRC Xmodem protocol

E – Enable protocol

K – Kermit protocol

X – Xmodem protocol

Y – Ymodem protocol

1 – 1K Xmodem

{filename} is the name of the file you will receive.

Purpose: Tells Enable what name to call the file you are receiving and what protocol to use.

If you want to use the Kermit protocol in server mode, you do not need to enter a file name. If you are using Kermit in server mode, you can also use the rename option by specifying /R.

Example: Type `.rx e,a.wpf` to receive the file using the Enable protocol and call it A.WPF. Type `.rx k,/r` to receive the file using the Kermit protocol and the Rename option.

.SEND

Use: Unattended File Transfer Scripts, Modem Tables

Syntax: .SEND {string}

Where: {string} is the string you want to send to the other computer system.

Purpose: Tells the modem to send a string to the other computer system. Use .SEND followed by a blank space and a string (enclosed within quotes).

Example: Type `.send "+++"` to have the modem send the characters +++ to the other computer system.

.SETDELAY

Use: Modem Tables

Syntax: .SETDELAY 0, {delay char}

Where: {delay char} is the delay character you want to use.

Purpose: Tells Enable to use the ASCII character in quotes as the delay character.

Example: Type `.setdelay 0,","` to use the comma as the delay character.

.SETUP

Use: Unattended File Transfer Scripts

Syntax: .SETUP {setup name}

Where: {setup name} is the name of Setup

Purpose: Tells Enable to establish a connection to the other system by using the specified Setup.

Example: Type *.setup test* to use the information in the test Setup to establish the connection.

.STOP

Use: Modem Tables

Syntax: .STOP

Purpose: Tells Enable it has completed executing the commands in a particular section.

Example: Type *.stop* at the end of the INITIALIZE section to tell Enable it has completed executing the commands in the INITIALIZE section.

.SUBFILE

Use: Unattended File Transfer Scripts

Syntax: .SUBFILE {script name}, {label name}

Where: {script name} is the name of the script you want to run.

{label name} is the section name of the commands you want to run in the script.

Purpose: Instructs Enable to run another script (or commands in another script) and return to the original script.

Example: Type *.subfile password begin* to tell Enable to leave the script and process the commands in script Password under the BEGIN label. At the end of the commands in the password script, Enable will return to the original script and begin processing command on the line following .SUBFILE PASSWORD BEGIN.

.TELECOMMUNICATIONS DIVISION

Use: Modem Tables, Unattended File Transfer Scripts

Syntax: .TELECOMMUNICATIONS DIVISION

Purpose: Tells Enable that it is at the beginning of the script. The .TELECOMMUNICATIONS command is required at the beginning of an Unattended File Transfer Script and optional for a Modem Table. Enable will automatically terminate the execution of subsequent commands when it encounters .END.

Example: Type *.telecommunications division* on the first line of the Modem Table or Unattended File Transfer Script to tell Enable this line is the first in the script.

.TEST

Use: Modem Tables, Unattended File Transfer Scripts

Syntax: .TEST "{character}"

Where: {character} is the character you want to send to test the comm–port.

Purpose: Tells Enable to test the comm–port you will be using your modem with. For example if your Modem Table is ACOM1.TPX, the test is run for comm–port 1. Verifies that the appropriate comm–port is present, not that it is functioning.

The .TEST command will actually place the specified character on the data port and transmit it. If transmitting a character might cause a problem, type only the quotes without a character or omit the .TEST command.

Example: Type *.test "~"* in the Modem Table ACOM1.TPX to tell Enable to verify that comm–port 1 is present.

.TIME

Use: Unattended File Transfer Scripts

Syntax: .TIME {time}

Where: {time} is the time the file transfer should begin.

Purpose: Tells Enable what time the file transfer should begin. The .TIME command is usually the first command in the Unattended File Transfer Script. If you do not use this command, Enable begins the transfer as soon as you enter the name of the script from the Main Menu or the Communications Top Line Menu.

Enter the time in military format. After the .TIME command, enter either .SETUP or .KEY to make a connection to another computer. If you enter .TIME after you have established a connection, Enable will disconnect the current session.

Example: Type *.time 20:00* to tell Enable to begin the transfer process at 8 pm.

.TX

Use: Unattended File Transfer Scripts

Syntax: .TX {protocol},{filename}

Where: {protocol} is the protocol you want to use to transmit the file. Enter the protocol according to the following abbreviations:

C – CRC Xmodem

E – Enable protocol

K – Kermit protocol

N – None protocol

X – Xmodem protocol

Y – Ymodem

1 – 1K Xmodem

{filename} is the name of the file you want to transmit.

Purpose: Tells Enable the name of the file you want to transmit, and what protocol to use.

Example: Type *.tx K, STATS.WPF* to transmit the STATS file using the Kermit protocol.

.WAIT4

Use: Modem Tables, Unattended File Transfer Scripts

Syntax: WAIT4 {N},"{string}","{labelname}"

Where: {N} is the number of seconds to wait.

{string} is the string you want to be returned from the other computer.

{label name} or {section name} is the section of commands you want to perform when the string is returned.

Purpose: Causes Enable to wait a number of seconds (up to 255) for a particular string to be returned from the other computer system. If the proper string is not returned within the specified time, Enable will return to the label or section name specified and re–execute the commands. If you did not specify a label or section, Enable will continue to execute the commands following the .WAIT4 command. When the string is received, it will immediately execute the next command. Enable will not wait the full amount of time.

Example: Type `.wait4 60, "connect", "retry"` to tell Enable to wait for 60 seconds for the connect string to be returned from the other computer system. If connect is not returned, Enable will go to the label named retry and process the subsequent commands.

Communications Options

Change communications options such as baud rate or time display for the current session. The new settings will override those you specified in your Setup or during Quick–Connect. For example, suppose you chose not to display the time in the Status Line for the ESI_BBS Setup. You could use the time display option to turn on the time display during the session. See CM:Setup for more information on any of these settings.

Break Signals

If the computer you are communicating with supports break signals, you can tell Enable to send a break signal to stop the remote computer from processing and abort the instruction. For example, if you asked an information service to list an section and realize you asked for the wrong one, you could send a break signal to interrupt the service.

To send a break signal:

1. From the Top Line Menu, select Options, Send Break.
   Enable sends the break signal to the other computer system.

Enable uses a default break signal of 350 milliseconds used by most computers. If the computer you are connected to does not stop processing after you send a break signal, it probably needs a longer break signal.

To change the length of the signal:

1. From the Top Line Menu, select Options, Break Length.

2. At the `Enter Break Value` prompt, enter a value in milliseconds to use as the signal length. Check with the computer to which you want to connect to find the correct value.

Baud Rate, Parity, Stop Bits, Word Size

To change the baud rate, duplex, number of stop bits, parity or word size during a session:

1. Selects Options, Comm Line. An abbreviated Quick–Connect Form displays.
2. Change the appropriate settings. Enable will automatically use the new setting. See CM:Connect for information on the Quick–Connect Form.

Duplex

To change the current duplex setting:

1. From the Top Line Menu, select Options, Duplex. Enable toggles the settings between half and full duplex.

Pause Time

Since some computers may be unable to receive data as fast as you send it, such as during an information service's peak usage times, you may have to change the length of time Enable pauses between sending lines of data. To change the pause time:

1. From the Top Line Menu, select Options, Pause time.
2. Select the number of seconds you want Enable to pause after sending each line of data. Enable will automatically use the new setting.

Flow Control

If you find, during a session, that the computer system you are communicating with requires a different flow control than what you specified in your Setup:

1. From the Top Line Menu, select Options, Flow control.
2. Select the new flow control.

Cost

To turn on or off the display of the estimated connection cost in the Status Line during a session:

1. From the Top Line Menu, select Options, Settings, Cost Display.
   Enable will turn the cost display off/on appropriately. Enable retrieves the cost value from either your response to the Setup prompt `What is the approximate cost per hour for the connection` or the value you entered during the session using the Set options.

To set the cost during a session:

1. From the Top Line Menu, select Options, Cost/hour.

2. At the `Enter Cost/hour` prompt, enter the hourly connection cost using numbers only; do not use a dollar sign ($).

Line Feed

If you transmit to a hard–copy terminal, it keeps printing on one line unless it receives a line–feed signal from the sending computer. If you transmit with **F8** or **Alt/F8** and do not press Enter at the end of each line, the other system may lose data. You can send a line feed to cause the terminal advance to the next line when it reaches the end of a line. To set how Enable transmits line feeds:

1. Select Options, Settings.
2. Select one of the following:

   CR ends line (TX) to transmit a line feed whenever a carriage return is sent

   CR/LF ends line (TX) to transmit a line feed whenever a carriage return or line feed is sent

   or

   LF ends line (TX) to transmit a line feed only when a line feed is sent.

To set how Enable receives line feeds:

CR ends line (RX) to start a new line after receiving a carriage return

CR/LF ends line (RX) to start a new line after receiving a carriage return and a line feed

or

LF ends line (RX) to start a new line after receiving a line feed.

Time

To turn the elapsed connection time Status Line display on or off:

1. From the Top Line Menu, select Options, Settings, Time Display.
   Enable turns the elapsed connection time Status Line display on/off.

Terminal Emulation

To switch between emulation modes, or stop and restart emulation during a session:

1. From the Top Line Menu, select Emulation.
2. Select the new emulation. Enable will automatically use the new setting.

See CM:Terminal Emulation for more information.

Connect

Establish a connection to another computer system by using either a Setup or Quick–Connect. See CM:Setup for information on creating a Setup.

If you plan on connecting to another personal computer before the communications session starts, you and the other user must decide who will be originating the call, answering the call and what communications settings you will use:

Enable will automatically initialize a modem as the originating modem. You can use either Setup or Quick–Connect to originate a call.

Use Quick–Connect to set your modem to answer mode. You and the other user must decide on the settings you will use for baud rate, duplex, parity, word size and number of stop bits. If you will be communicating with another personal computer, set the duplex to half duplex.

Setup

To use a Setup to connect to another computer:

1. From the Main Menu, select Use system, Communications, Use Setup.
2. From the Setup Selection Screen, select or enter the appropriate Setup name.
3. From the Open Capture to Memory File dialog box, if you want to capture all data received during a session or begin capturing data immediately, enter or select the appropriate file name and path.

   or

   If you do not want to capture data, press **End**. (If you decide to capture data later, you can turn capture mode on after you begin receiving data. See CM:Capture Data for information on capture mode.)
4. Enable displays the Setup Connection Screen that lists each of the steps required to make the connection. Each step is listed on the right side of the screen. On the left, YOU OR ENABLE WILL TAKE THESE ACTIONS displays to indicate who must perform the step and summarizes each part of the process and, in case of failure, identifies where a problem occurred.

   Complete each step marked with `YOUR ACTION` as needed.
5. Enable will sign on (if necessary) using the information from your Setup (such as password, first response or second response).

   When the other system responds, the prompt `Your password and Enable will send the above Hello Message` displays on the Connection Screen. Press ↵ to send the Hello message (the initial signal sent by the modem) and password to the other system.

   The first response (if the sender entered any) displays on the receiver's screen.

   If it is accepted, a welcome message from the other system displays, and the connection is established.

Connection Problems

If the connection fails (and you are using an autodial modem), Enable calls the remote system the number of times you specified at `Enter number of times to retry this setup` prompt. If the connection still fails and you specified an alternate Setup, Enable automatically uses the alternate Setup you specified at the `Enter name of setup to retry if this one fails` prompt. If you did not specify an alternate setup, you can press **A** any time before the connection is made to use the alternate Setup.

Quick–Connect

To use Quick–Connect to connect to another computer:

1. From the Main Menu, select Use System, Communications, Quick Connect. The Quick–Connection Form displays prompts for baud rate, parity, word size, number of stop bits, duplex and port.

   See CM:Setup for information on what these settings are.

2. Select the appropriate settings according to the system you are connecting to. Contact the service you will use or review its documentation to find out what settings are required. If you will be communicating with another personal computer, set the duplex to half duplex. The default Quick–Connect settings are those you have set (or Enable has set) in your profile. To modify these defaults, revise your profile (see REF2:IN:Profiles). If the Quick–Connect settings are fine, press End to accept the settings and bypass the on–screen prompts.

3. After you answer the Quick–Connection Form prompts, the Word Processing Interface Screen may display if you have it set to display in your profile. This screen explains how to review, edit, capture and save data. See REF2:IN:Profiles for more information.

   You must capture data to save it. If you want to begin capturing data at once, or to capture all data in the session, enter a file name at the `File Name` prompt. If you do not enter a file extension, Enable uses .WPF. If you type an existing file name, Enable prompts `File Exists: Add to end of file Re-use File`. Select **Add to end of file**, the default, to append new data to an existing file or **Re–use File** to write it over existing data.

   If you do not want to capture data, press **End**. If you press **End** without entering a name, Enable does not turn capture to memory on and names the capture data to memory file TPNONAME.WPF.

Connect to the other computer as follows:

1. From the Top Line Menu, select Modem. The Modem menu displays.

   Select Call. Enable displays `Enter Phone#`.

   Type *P* if you have a rotary tone phone. If you must dial special digits for an outside line, type them after the P. With an autodial modem, you can pause between the outside line number and the phone number by typing one or more commas between the numbers. Each comma produces a two second pause. For example, *p9,,555-1212* dials 9, pauses four seconds, and dials the telephone number.

Once you are connected, sign on to the other system by entering the appropriate information, such as your terminal identifier, connection address, password, etc. (See the system's instructions.)

Once You are Connected

Once you are connected, you are ready to communicate with the other system. If you are connected to another PC, all keyboard entries are displayed on both computers' screens. If you both type at the same time, the words will become garbled on the screen, so you and the other user should arrange a signal to indicate whose turn it is to type.

Disconnect

When you have finished performing all your tasks in communications and want to end your session:

1. Make sure you first exit the other computer system or information service by issuing any sign–off messages required by the system. Otherwise, the other system may not realize that you have logged off and will continue to charge you for computer time.
2. Disconnect from the other computer system.

Disconnect from the Other Computer System

To disconnect from the other computer:

1. Return to the Communications Screen.
2. If you want to end your communications session and return to the Main Menu, from the Top Line Menu, select File, eXit (Disconnect). If you are capturing data to memory or disk, you will be prompted to save captured data.

   or

   Press `F9 T P`

   You will be disconnected from the other system, the Communications window will close and you will be returned to the Main Menu.

   or

   If you want to end your communications session, but remain in communications mode so that you can connect to another system, from the Top Line Menu, select Modem, Hang–up.

Enable disconnects your computer from the other system. If you have an autodial modem, it will automatically hang–up. You can then send and receive calls.

Forms

Use forms during a communications session to automate some of the processes you would otherwise perform from the keyboard, or to perform some features that are not available through Setups or the Top Line Menu. A communications form is a list of commands that tells Enable what actions to take and what steps to follow. You can create the following types of forms:

Setup. Store information Enable will use to connect to another computer system. CM:Setup for information on Setups.

Unattended File Transfer Script. Transmit and receive files and capture messages and data without being present. For example, you can transfer or receive files late in the evening, when rates are lowest, without being at your computer. To perform an unattended file transfer you must use an autodial modem. See CM:Unattended File Transfer Script for more information.

Modem Table. Use a modem that Enable does not support or customize the way an already supported modem operates. See CM:Modem Table for more information.

Transmit/Receive Map. Ignore or replace certain transmitted or received characters. See CM:Transmit/Receive Map for more information.

Keyboard Map. Define a single key as a series of keys when you transmit data. See CM:Keyboard Map for more information.

Keyboard Map

A Keyboard Map is a form that lets you define a function key, control character, or keyboard character with the **Ctrl** or **Alt** key as a series of keystrokes. For example, if you connect to an information service often, you can define one key to operate as the series of keystrokes used to download files, and another key as the series of keystrokes used to sign off from the system.

To use a Keyboard Map:

1. Create a Keyboard Map
2. Connect to the other computer by using a Setup that specifies the map or activate the map during a session.

Create a Keyboard Map

To create a Keyboard Mapping table:

1. From the Main Menu, select Use System, Communications, Forms, Keyboard Maps.
2. Enter the name you want to assign to the map. If you do not include an extension, Enable will use .WPF.

   Enable displays a blank keyboard map.

Format Rules

The Keyboard Map command format is similar to that for user–defined menus and unattended transfer forms. Use the following general formatting:

1. Use any of the word processing options to enter text by selecting Tools, WP F10 Menu from the Top Line Menu.
2. Type `.telecommunications division` on the first line of the map. This statement is called the heading.
3. Begin each command with a period (.) in column one.
4. Type `.keyboard mapping section.` in column one of the second line.
5. On the line following the section heading, enter the key or keys you want to define. Enter the key as you would for a macro (see REF2:IN:Macros for information on referring to keys in macros). These keys include function keys alone or together with **Ctrl**, **Alt** or **Shift**.

   Following the key to be defined, type an = (equal sign), and the key's definition.

   Enter one key definition per line. The definition can be a single key or character, phrases or a combination of phrases, as long as it fits on one line. Separate items in the definition with spaces or commas.

   You cannot map the **Alt**, **Shift**, **Num Lock** or **Scroll Lock** keys, or any key on the numeric keypad.
6. Enter phrases or sentences in single or double quotes, such as `"list files"` or `'list files'`. If you type sentences without quotation marks, Enable will not recognize the spaces. If you use single quotes, use a right single quote on both sides of the phrase.
7. Type `.end` on the last line of the table.

Suppose an information service you often use requires you to enter the command "go business." You could define the **F2** key so it transmits GO BUSINESS and a carriage return. You could also define the **Shift/F3** key combination so it transmits these commands:

D (for DOWNLOAD) and a carriage return. (Use tilde (~) to represent a carriage return.)

1 (for the XMODEM option) from the information service's menu and a carriage return.

F10 to display the Top Line Menu.

P (for Protocol), 1 (for 1K–Xmodem) and R (for Receive.)

The Keyboard Map would look like the table shown in the figure below.

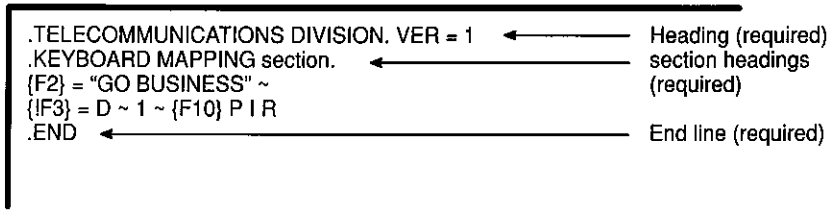

Figure 1: Sample Keyboard Map.

While you are connected to the other system, press **F2** and **Shift/F3** to execute these commands.

Save and Compile a Keyboard Map

After you have entered all headings and associated commands, you must compile the map to save it and use it. When Enable compiles a map it saves the map under the same name in two formats: source and compiled. Enable uses the compiled format (.TPK file) during a communications session. The source format (.WPF file) stores the map commands so you can edit them later.

To compile/save a map:

1. To compile and save the map with the same name, from the Top Line Menu, select File, Compile.

   or

   To compile and save the map with a different name, from the Top Line Menu, select File, Compile As. Enter the name you want to give the compiled form at the `Filename` prompt.

   Enable assigns a .TPK extension to the compiled script and a .WPF extension to the source file.

2. Enable creates the compiled form and word processing source map form from your map. If Enable detects an error in your map, it signals and displays a Down Arrow (↓) in the line preceding the error.

Correct an Error in the Keyboard Map

To correct an error in a Keyboard Map:

1. Correct the error.
2. Delete the line containing the Arrow by using **Alt/F3**.
3. From the Top Line Menu, select File, Compile.

Use a Keyboard Map

Use a Keyboard Map if you connect using either a Setup or Quick–Connect or during any communications session.

In a Setup

To use a Keyboard Map with your Setup:

1. Answer the following prompts in your Setup:

   `Do you wish to select any of the options listed below?` Select **Yes.**

   `Will you use a Keyboard Mapping table?` Select **Yes.** Enter the name of the Keyboard Map (.TPK) you will use at the `Name of keyboard mapping table` prompt.

2. Establish a connection with the other system by using the Setup. See CM:Connect for information on how to establish a connection by using a Setup.
3. When you press any of the keys you defined in the Keyboard Mapping table, the appropriate commands will be sent. When you are in the Word Processing window the keys will not be mapped.

During a Communications Session

To use a Keyboard Map during a session:

1. From the Top Line Menu, select Tools, Keymap open.
2. Enter the name of the compiled Keyboard Map (.TPK file extension) you want to use at the Open Keymap dialog box.
3. To temporarily stop using the correct Keyboard Map, from the Top Line Menu, select Tools, Activate, Key mapping, Accept.

Modem Table

A Modem Table is a type of form that acts as a translator during the dialog between Enable, your modem and the other computer system. With a Modem Table, you can tell Enable to use modems that would otherwise be unsupported. Enable will follow the instructions in the Modem Table to perform particular tasks specified by the Setup or during Quick–Connect.

Enable supplies you with the following already created Modem Tables that you can use as a guideline.

ACOM1.HAY – for Hayes–compatible modems

ACOM1.PRO – for Prometheus modems

ACOM1.PBX – for systems that use a PBX switch

ACOM1.300 – for 300 baud modems

ACOM1.MIC – for systems that use the MicomData Switch

ACOM1.RVK – for Racal–Vadic VA212 modems.

To use a Modem Table:

1. Create a Modem Table
2. Set the appropriate profile option
3. Place the Modem Table in your data directory or the Enable directory.
4. Rename supplied Modem Table file extension to .TPX.

Create a Modem Table

You can customize any of the existing tables or create a new Modem Table by using one as a guide.

To create/revise a Modem Table:

1. From the Main Menu, select Communications, Forms, Modem tables.
2. Enter the name you want to assign to the Modem Table or the name of the modem table you want to edit. If you do not include an extension, Enable will use .TPX.

   Enable displays the Modem Table.
3. Edit/create the Modem Table as you would any word processing file by using the following formatting rules.

Format Rules

Use the following rules to format your Modem Table:

1. Use any of the word processing options to enter text by selecting Tools, WP F10 Menu.
2. Type `.telecommunications division` on the first line of the Modem Table. This statement is called the heading.
3. List the commands you want Enable to perform after the heading. See CM:Commands for a list of Modem Table commands. Group commands that perform similar tasks. Enter one command per line in the order Enable should perform them. See your modem's documentation for information on what commands you can use in your Modem Table.
4. Begin each command with a period (.) in column one. See the modem manual to find out what strings or codes you will need to enter for each command. Enclose strings within double or single quotes. Enable will recognize spaces within quotation marks. Since some networks require that you press ↵ (carriage return) after a string, type a tilde (~) at the end of the string before the right quotation mark to represent ↵.
5. None of the commands are mandatory. If a command requires additional information, leave a blank space between the command and the information. If you need to enter more than one item of information, separate them with commas.

6. Make sure the table is written in top–to–bottom format since Enable can only process the commands this way when the table is executed
7. Include any tasks you want your modem to perform when you are using either the Setup or Quick–Connect to connect to another system. Enable will not be able to perform tasks whose instructions are not in the Modem Table. You might include the following information:

   verify that a communication port exists

   initialize the modem

   dial the appropriate number and establish a connection

   drop the connection and hang up the modem

   place the modem in autoanswer mode.
8. Include comments for your own use to document the functions of commands or sections in your Modem Table. Each comment must be preceded by a semicolon (;). Begin comments in any column, on separate lines or in combination with commands as long as they are preceded by the semicolon.
9. Type the command `.end` on the last line of the table.

Save and Compile a Modem Table

After you have entered all headings and associated commands, you must compile the Modem Table. During compilation, Enable saves the Modem Table in ASCII format. To save and compile your completed Modem Table:

1. To compile and save the Modem Table with the same name from the Top Line Menu, select File, Compile.

   or

   To compile and save the Modem Table with a different name from the Top Line Menu, select File, Compile As. Enter the name you want to give the compiled form at the `Filename` prompt.

   Enable saves the compiled Modem Table in ASCII format and assigns it a .TPX extension.
2. Select File, Exit to return to the Main Menu.

Use a Modem Table

Enable decides which Modem Table to use based on the Modem Table Choice option in the communications profile and the comm–port you specified during Setup or Quick–Connect. If you set the Modem Table Choice option to ACOM, Enable will select from the Modem Tables with the ACOM prefix. If you set the option to BCOM, Enable will select from the tables with the BCOM prefix. For example, if you set the Modem Table Choice option to ACOM and you specified comm–port 1 in either the Setup or Quick–Connect, Enable will use the ACOM1.TPX Modem Table.

If you want Enable to use your Modem Table whenever you use a specific comm–port and profile option, save this table in your Enable data directory as one of the following: ACOM1.TPX, ACOM2.TPX, ACOM3.TPX, BCOM1.TPX, BCOM2.TPX, BCOM3.TPX. If

you do not want to use this particular table each time, save the table with a different name and rename before you use it.

To use the Modem Table:

1. Copy the Modem Table to your data directory or your Enable system file directory. Make sure the table has the appropriate name for the profile option and comm–port you will be using. For example, if you have specified ACOM in the profile and are using comm–port 1, the Modem Table name should be ACOM1.
2. Establish a connection with the other system by using either a Setup or Quick–Connect. Enable will automatically search for the Modem Table with the appropriate name according to the profile option you set and the comm–port you are using. If Enable cannot find a Modem Table, the default internal Hayes–compatible Modem Table will be used.

   After Enable finds the Modem Table, it begins executing the Modem Table commands as directed by either the Setup or Quick–Connect. If you are using a Setup, Enable will use the information in the Setup after a connection is established.

   If Enable encounters an error in your Modem Table, the appropriate error message and the number of the line containing the error displays.
3. End your communications session in the usual way (from the Top Line Menu, select File, Exit (Disconnect). When Enable receives a request from you to disconnect, it will automatically search for the Modem Table and execute the commands in your Modem Table for disconnect.

Modem Table Example

Remember to construct your Modem Table in the same format that Enable, your modem and the other computer system communicate. Use the following sample Modem Table shown in Figure 2 as a guide to constructing your own Modem Table. In this example we will use a Setup, the profile is set to ACOM and we will use comm–port 1.

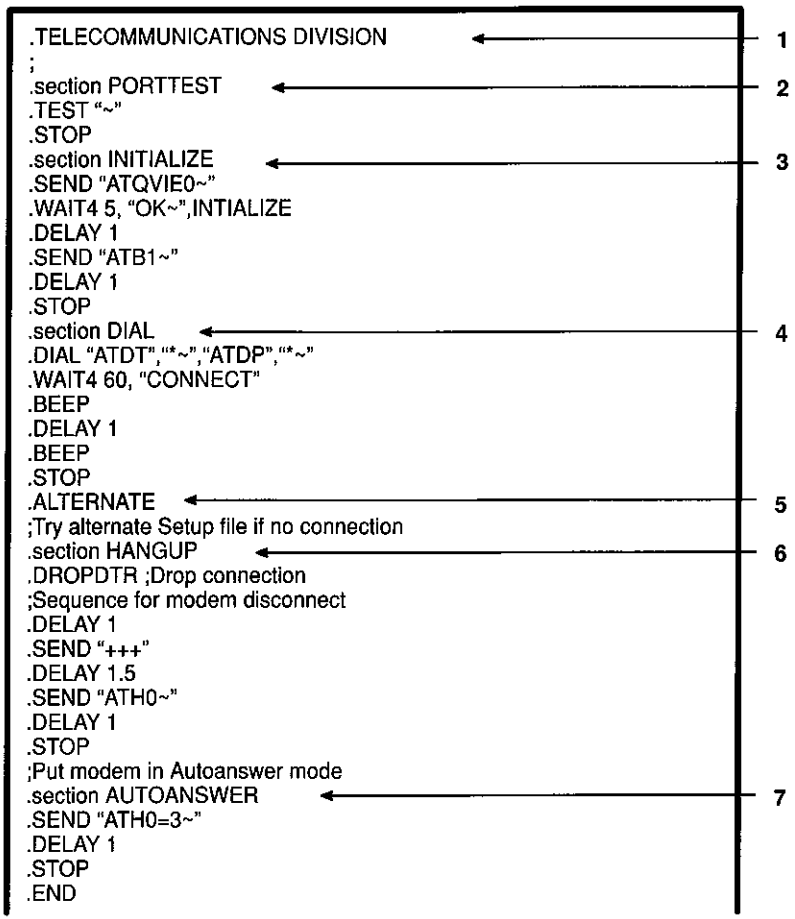

Figure 2: Sample ACOM1.TPX Modem Table.

1. **.TELECOMMUNICATIONS DIVISION.** Tells Enable that this line is the first line of the ACOM1.TPX Modem Table.
2. **.SECTION PORTTEST.** Verifies that the comm–port1 is present. This section is optional.
3. **.SECTION INITIALIZE.** Tells Enable to send a string to the modem that places the modem in a ready state. Enable then waits for 5 seconds for the "OK" string to be returned from the modem.

   If "OK" is returned, Enable stops executing commands for 1 second and then sends a string to the modem that places the phone line off–hook. Enable again

stops executing commands for 1 second to ensure the modem is in a ready state. This section is required.

4. **.SECTION DIAL.** Dials the number specified in the Setup (555–3232) and wait 60 seconds for the "CONNECT" response to be returned from the other computer system. The computer beeps to tell you it has completed the dial sequence, whether or not "CONNECT" is returned. Control is now returned to the Communications module. If the connection was established, you will be able to continue with your work. This section is required.
5. **.ALTERNATE.** Tells Enable to perform the commands in an alternate Setup file if the connection cannot be established. This section is optional.
6. **.SECTION HANGUP.** Tells Enable to run this section when you end your communications session. Enable will return to this Modem Table and use the instructions stored here to end the connection and send the characters +++ and ATH0 to place the phone on–hook. This section is required.
7. **.SECTION AUTOANSWER.** Places your modem in autoanswer mode by sending the string ATS0=3. In this example, the computer will answer after 3 rings. You can change the number of rings by changing 3 to the number you desire. This section is optional.

Phone Book

Use Enable's phone book to use a Setup to dial out during your communications session.

To use a Setup during a session:

1. From the Top Line Menu select Tools, Use Phone Book. Enable displays the Setup dialog box.
2. Select the Setup you want to use. Enable performs the commands in your Setup to connect to the other system.

Setup

A Setup contains information Enable needs to connect to another system, and transmit or receive data. You can save Setups for future use and revise them to reflect any changes in the computer systems or the network they connect to.

Each Setup contains eight types of information:

Telephone/network

Modem

Computer/transmission

Cost/time display

Ports

Alternate Setup

Terminal emulation

Additional communications parameters.

You can have up to 256 different Setups. For example, you might use one Setup to connect to CompuServe and another to connect to Enable's bulletin board. Enable saves all Setups in a file called TPSETUP.$TP, that you can review or modify at any time. When you select Communications, Forms and Setup from the Main Menu, you are accessing TPSETUP.$TP.

You can also apply a password to the TPSETUP.$TP file to protect the Setups. You might want to protect your Setups if they contain passwords you use to sign on to services. If you created Setups by using older versions of Enable, save them in this version before applying a password. Also, apply passwords to any files created during a communications session. For information on applying passwords, see REF2:IN:File Manager.

Create a Setup

To create a Setup:

1. Close all open windows.
2. Select Use System, Communications, Forms, Setup, from the Main Menu.
3. The initial Setup Screen displays. It is split into two parts. The top part shows summary information about any Setups you have created, under the headings Setup Name, Connect Method, Phone Numbers, Autodial, Baud Rate, Code/Duplex and Alt Setup. Only the summary information for the first eight Setups is displayed; scroll the list to look at any of the Setups following the first eight.

   Enable also supplies some already created Setups for use with popular information services and other computers. The Setups are named CompuServe, Genie, MCI and ESI_BBS. You will need to add some information to these Setups before you can use them. See CM:Setup:Revise a Setup:Revise Standard Setup.
4. The lower part of the Setup Screen contains instructions. Enter a Setup name at the `Enter the name of the setup you wish to create or revise` prompt. The Setup must begin with a letter and can use any combination of up to eight letters, numbers, colons (:) and underscores (_). You may want to use a name that describes the system you are connecting to so you can remember what the Setup is for.

   Enable prompts you for more information, beginning with telephone and network information. This information will be explained in detail later in this topic. The lower part of the screen contains instructions to help you answer each question.
5. After you provide all the data needed for the Setup, the Setup Screen will redisplay, with the new Setup summarized in the upper part of the screen.
6. To save the new Setup to the Setup file, from the Top Line Menu select File, Save. To return to the Main Menu, from the Top Line Menu select File, Exit.

Telephone/Network Information

From the first set of prompts, set the telephone line and network you will use. Answer the telephone number prompts regardless of your type of modem. Enable automatically dials the numbers for you.

This section of the Setup displays three prompts:

`Are special digits required to get an outside line?`

Specify any special digits you need to dial for an outside line in an office with a central switchboard – e.g. some office phone systems require you to dial "9." You will probably not have to dial any special digits when calling from your home. Select the appropriate answer to this prompt. If you select **Yes**, `Enter the number(s)to dial for an outside line` displays. Enter numbers, *, #, hyphen (–) or comma (,); no other letters or special characters.

Enable automatically waits two seconds for a second dial tone when a number is entered in response to this prompt. If you have an autodial modem, you can enter one or more commas (,) after the number(s) to make the modem wait longer for the second dial tone; each comma provides an additional two second pause. For example, if you dial "9" for an outside line and need a four–second pause, type *9,,*. Some DC Hayes compatible modems do not support this option. If yours does not, type the digits required to get an outside line in the communication network's or computer's phone number.

`Will you use an alternative telephone system?`

Many homes and offices have a telephone system not owned and operated by AT&T, such as MCI, Sprint or WATS lines. Each service has a different procedure, but you usually dial a code number, wait for a special tone, and then dial the number you want to reach. If you select **Yes** , `Enter the telephone number` displays. Enter the numbers. Use dashes to separate numbers. Enter the area code only if you must dial it to reach the alternative telephone system.

Some systems, such as Sprint, you must dial the authorization code after you dial a telephone number to get a special dial tone. Type the telephone number and authorization code. If you have an autodial modem, you can type one or more commas (,) between the phone number and the authorization code. Each comma causes Enable to pause two seconds.

For example, if the Sprint phone number is 555–1234, the authorization code is 123456, and you want Enable to pause four seconds to get a special dial tone, type 555–1234,,123456.

`Will you use a telecommunications network?`

If you will not use a network, select **No**. At the `Enter the computer's telephone number` prompt, type the number of the service, mainframe or personal computer. Separate numbers with hyphens (–); type the area code only if you must dial it. Systems such as Western Union's Easy Link require a touch tone phone. If you have a rotary phone and an autodial modem, type *t* after the number to change the dial type to touch tone – e.g. type *555–1212,,,,t*. Enable pauses two seconds for each

comma before connecting. If you are communicating with another personal computer and you are the receiver, leave this prompt blank.

If you select **Yes** to the `Will you use a telecommunications network?` prompt, Enable requests this information:

`Which network?` Choose **Telenet** or **Tymnet**. Choose **Other** for any other network and respond to Enter the name of the "other" network. (If you pick Telenet or Tymnet, Enable performs certain commands automatically.)

`Enter the telephone number of the network.` Type the number you dial to reach the network. Use hyphens (–) to separate numbers; type the area code only if you must dial it. To obtain a network's local phone number, contact the network or the service you want to use. Some network numbers depend on your baud rate or modem. Type the correct number for the baud rate and modem information you will supply later in the Setup.

`Enter your terminal identifier.` An identifier tells the network how your computer transmits and receives data. To find your identifier, consult the network or service you plan to use.

If you use Telenet or Tymnet, Enable sets the identifier automatically. You can leave this prompt blank.

The identifier may vary with the network. For example, when using Telenet to connect to Lexis/Nexis, the identifier may be a carriage return. When using Tymnet to access Lexis/Nexis, it may be "A." Type the identifier exactly as the network requires it. Some networks ask you to press a carriage return (the Enter key) after the identifier or as the identifier itself. In this case, type ~ (tilde) to represent a carriage return.

`Enter the connection address for the desired system.` A connection address tells the network the computer you want to communicate with. Addresses vary between networks. For example, Telenet's address for Lexis/Nexis may be C51330 while Tymnet's address for the same service is Lexis. You should be able to find a service's connection in its user information. If not, contact the service. If you have problems with Tymnet, try one or two tildes (~~) or two semicolons (;;) after the connection address – e.g. "Lexis;;".

Modem Information

Use the next prompts to define the type of modem and telephone you are using.

`Will you use an autodial modem?`

The term "autodial" means the phone number is automatically dialed by the modem. You may use a DC Hayes or compatible, internal or external autodial modem.

If your modem is not an autodial unit, select **No**. If you have an acoustic–coupler modem, you will be prompted to dial numbers on your phone at appropriate points in the connection process. If you have an autodial modem, Enable automatically dials the number you enter in the Setup. If you select **Yes**, Enable prompts:

`Select type automatic dial..`

Specify whether you have a touch tone or rotary phone line. If you have a touch tone line, select **Tone**. If you have a rotary line, select **Pulse**

Computer/Transmission Information

Use this set of prompts to define how data will be transmitted between computers.

`Baud rate`

The baud rate is the speed at which your computer will transmit and receive data.

If you are communicating with another computer that uses Enable, you should agree on a baud rate. Personal computer users usually communicate at 300, 1200, or 2400 baud. The rate you use depends on your modem, the network (if applicable) and the other computer. To find the right baud rate, see your modem manual or the information service's manual or contact the network or service directly.

In order to communicate correctly, you must know the parity, word size and number of stop bits supported by the other system.

`Parity`

Parity refers to an error–checking procedure. See your modem manual or check with the network you are using for parity settings.

`Word size`

Word size refers to the number of bits in a computer "word." See your modem manual or check with the network you are using for word size settings.

`# Stop bits`

The number of stop bits indicates the end of data segments. It depends on your modem and the system to which you are connecting.

If you do not know the parity, word size and stop bit options to use, pick standard option **3** which works for most remote systems and modems. If you are communicating with another system using Enable, the sender and receiver should select option **3**. If you select option **4**, Enable prompts for specific parity, word size, and stop bit information. Make the appropriate entries.

`Select type of duplex`

The duplex setting determines whether each computer can simultaneously transmit and receive data. (If the setting is wrong, each character of data you enter may be doubled on the screen or not display at all.) Contact the service you plan to use for the duplex setting to use. Most communications take place in full duplex. Communication between two computers using Enable will take place in half duplex since Enable does not echo characters. In this case, you and the other user should select **Half**.

`Inter-character transmission delay`

Enable can sometimes send data faster than some computers or modems can process it. Selecting options 1–5 inserts a pause (delay) between the transmission of each character. The option number you select is multiplied by 1/9 to calculate the delay in seconds. Select **0** (zero) unless you are sure this delay is required.

Flow control

Flow control is used by the receiving system to tell the sending system to stop sending data. It is basically a stop–and–go signal that ensures the sending computer does not transmit data too quickly for the receiving computer. Depending on what flow control you select any of the following prompts may be displayed:

`Flow Control Characters`

Select what flow control the other system supports (**None**, **Xon/Xoff**, **ETX/ACK**, **User Defined**). Most information services use Xon/Xoff. Contact the service to find what flow control it uses.

`Does the system at the other end use turnaround character(s)`

Like the Xon/Xoff protocol, the turnaround character ensures that one computer does not transmit too quickly for the other to receive. For instance, when communicating with an information service, you may see a question mark (?) on your screen, indicating that it is your turn to enter data.

See the documentation from the other system to determine whether it issues a turnaround character and what that character is. The most common characters are the question mark (?) and exclamation point (!). If you select **Yes**, Enable displays `Enter the turnaround character(s)`. Type the appropriate characters. Some systems use a "character turnaround" sequence that contains special characters. Enter these character sequences by using Enable's macro facility (See REF2:IN:Macros:Macro Codes for Keyboard Commands for more information.) For example, if keystrokes **`Ctrl/C`**, **`Esc`**, **`Ctrl/S`**, formed the turnaround sequence, you would enter *{^c}{esc}{^s}*.

`Pause time`

If you communicate with a system that does not use the Xon/Xoff protocol or turnaround characters, indicate a certain pause time for Enable to wait between the transmission of each line of data. Select the number of seconds Enable should pause. You can choose to have Enable pause between transmission of each line of data from 0 to 4 seconds in half–second increments. A two or three–second pause is best when connecting to information services during the busiest time of day. Select **0** (zero) if you are not sure that a pause time is needed.

`Enter the flow control start character`

For user defined flow control define what character is used as a start signal. Enter the character (in its decimal numeric format) a receiving system will send to restart the data transfer from the transmitting system. See REF2:APP:ASCII Table for a full listing of characters.

`Enter the flow control stop character`

For user defined flow control define what character is used as a stop signal. Enter the character (in its decimal numeric format) a receiving system will send to stop the data transfer from the transmitting system.

`Enter the password or first response`

Most information and electronic mail services, bulletin boards and mainframe computers require that you identify yourself when you sign–on to them. This response may take the form of a password, number or code.

Enter your password here exactly as you would on the other system. For example, when you connect to Enable's BBS, you must enter your password. Type *.enable*. Although the highlighted area on the screen is twenty–eight characters long, type up to 120 characters for the password.

If a carriage return is required, type ~ (tilde). (Enter other special characters and keys as shown in REF2:IN:Macro Commands.) You do not need a password if you are communicating with another system that uses Enable.

If you do not want the password to display on your screen when you run your Setup, type *{Echo Off}* before the password.

`Enter the second response`

Some systems demand a second response to further identify you. For example, the other computer may want your ID number as a first response in the sign–on and a security password as the second response. When you connect to Lexis/Nexis, enter your personal identification number as the second response. If a second response is not needed, press ↵ to skip this prompt. Although the area on the screen is thirty–nine characters long, you can enter up to 130 characters for this password.

Enter this response exactly as you would when connecting to the other system. If a carriage return is required, type a ~ (tilde) for it. You do not need the second response if you are connecting to another computer that also uses Enable.

If you do not want the password to display on the screen when you run the Setup, type *{Echo Off}* before typing the password.

Cost/Time Display Information

This feature is available only in DOS; these prompts appear only in the DOS version of Enable/OA 4.0.

These prompts allow you to display how long you have been connected to another system and how much you have been charged. Since some information services are quite expensive, you may want to select **Yes** for these prompts.

`Do you wish to see the approximate cost in the status line?`

Display approximately how much your connection is costing. The cost, in the Status Line is computed to the nearest minute. The amount shown is approximate since the service rate may vary with the time of day and usually include additional charges for printing, royalties and so forth, which cannot be estimated. If you select **Yes** , Enable then prompts:

`What is the approximate cost per hour for the connection?`

The accuracy of the result depends on your entry here, which is multiplied by the length of time you are connected to the service. Type numbers only; do not use a dollar sign ($). For example, if your hourly cost is ninety–five dollars, type *95.00* or *95*.

When you compute the cost per hour, remember that the bill may consist of such charges as connection time, disk storage, royalties, print or display surcharges, and monthly minimums. The charge depends on the time of day you use the service. Many information services have prime–time rates as well as cheaper non prime–time rates.

```
Do you wish to see the approximate time of the connection?
```

Display how long you have been connected to the other system. The time appears in HH:MM format, where HH is hours and MM is minutes. For example, 05:23 means you were connected for five hours and twenty–three minutes. The time, shown in the Status Line, is approximate and is recalculated every minute.

Ports Information

Use this prompt to specify the communications port(s) you will use. Basically, a port is where data flows in and out of the computer. Your modem is connected to a port.

```
Which of your computer's comm-ports are you using?
```

If the computer has only one communications port, it is considered COMM1. If it has more than one, select the appropriate one (**Comm1**, **Comm2** or **Z404**). If you want to use Z404, the computer must have a Zenith Z404 board using an 8274 or 7201 UART. Make sure the "Carrier Detect" pin on the RS–232 cable is set high. See the cable documentation for information on this pin. If it is not set high, nothing will display on screen. Select **Comm1** if you are not sure which comm–port you are using.

Due to DOS limitations, Enable will only recognize Comm1 and Comm2 when running under DOS without a Z404 board.

Retry an Alternate Setup Information

Use these prompts to specify the number of times to try the current Setup. If a connection cannot be established, you can then specify an alternate Setup to try.

```
Enter number of times to retry this setup.
```

When you try to connect to a specified system, you may encounter busy telephone lines, no answer, a network or computer that is "down" or some other problem that prevents connection.

If you have an autodial modem, you can retry calling the system if the first connection fails. Enter the number of times to retry this Setup.

```
Enter name of setup to try if this one fails.
```

If you still cannot connect after calling a system a specified number of times, use this prompt to indicate another Setup to try. For example, you may have a "Lexistel" Setup to access Lexis/Nexis via Telenet and a "Lexistym" Setup to access Lexis/Nexis via Tymnet. In the Lexistel Setup, you could enter Lexistym as the Setup to try if Lexistel fails, and vice versa. As a result, Enable will try to access Lexis/Nexis through Telenet and Tymnet until it makes a connection.

Enter the Setup name exactly as you created and saved it. If you forgot the name, press **Esc** to return to the Setup Screen. The names and summary information for all your Setups will display. If you did not specify a number at the `Enter number of times to retry this setup` prompt, Enable waits 60 seconds (the default) for a response from the remote system. If that system does not answer, Enable will use the alternate Setup from the connection screen.

Terminal Emulation Information

Use this prompt to specify if you want to connect your personal computer to a mainframe and operate as a terminal. This process, called "terminal emulation," lets Enable interpret control commands passed between the mainframe and terminal and lets you use the personal computer just like a terminal.

`Terminal Emulation?`

Select **No** if you do not want to emulate a terminal. Use **VT100/102** to emulate a DEC VT100/102 terminal, **VT52** to emulate a DEC VT52, **VT220** to emulate a DEC VT220, **VT320** to emulate a DEC VT320, or **ANSI** to emulate an ANSI (X3.64–79) terminal.

Additional Communications Parameters Information

Use the last prompt to set the length of the break signal, options for characters, line feeds and tabs, or activate CompuServe B+ protocol. If you do not want to select any of the options, select **No** and the Setup Screen displays. If you select **Yes**, nine additional prompts display:

`Length of break signal in milliseconds`

If the other computer does not respond to the standard break signal of 350 ms, enter a different length. Leave this prompt blank to use the default 350 ms.

`Enter receive filter option: 1 2 3 use filter/mapping table`

Ignore certain groups of characters, replace them or use a transmit/receive map you have created. If you specify special handling for received line feeds or tabs at the next two prompts, it will be done after the received data is mapped and filtered.

`Specify how received linefeeds will be handled`

Some computers transmit a line feed and carriage return at the end of each line. Others do not use line feeds to indicate the end of a line. Specify how to treat line feeds received from the remote computer.

Select **1**, the default, to ignore line feeds when they occur in combination with carriage returns.

Select **2** to convert all line feeds to carriage returns.

Select **3** to ignore all line feeds.

`Specify how received tabs will be handled`

Interpret tabs received from a remote computer in four ways:

Select **1**, the default, to ignore all tabs.

Select **2** to convert all tabs to single spaces.

Select **3** to convert tabs to spaces. A received tab will move the cursor to the next column position that is a multiple of eight.

Select **4** to accept tab characters without modification. A received tab moves the cursor to the next tab position previously defined in word processing mode.

`Will you use a transmit filter/mapping table?`

If you want to ignore or replace some transmitted characters, you can create a transmit/receive map. If you do not plan to use a transmit/receive map, select **No**. If you created a table and want to use it for transmitted characters, select **Yes**. The action specified at the `Specify when linefeeds will be transmitted` prompt will be performed before the filter/mapping operation is completed.

`Specify when linefeed will be transmitted`

Specify when to transmit line feeds with one of these options:

Select **1**, the default, if you do not want a line feed transmitted whenever a carriage return is sent.

Select **2** to transmit a line feed whenever a carriage return is sent.

Select **3** to transmit only line feeds (not carriage returns).

`Will you use a keyboard mapping table?`

Create a Keyboard Map to define a key as a set of commands or instructions to use during data transmission.

If you do not intend to use a Keyboard Map, select **No** . If you created a table and want to use it for transmitted characters, select **Yes**. At the `Name of keyboard mapping table` prompt, type the name of the Keyboard Map. For more information, see CM:Keyboard Map.

`Do you wish to change the default described below?`

Enable automatically changes the word size, parity, and stop bits when you select Xmodem or Enable File transfer functions. The word size is changed to 8; no parity; 1 stop bit. The original values are restored when the file transfer is finished.

If you select **No** and then transfer files using Xmodem or Enable protocol after you are connected to a remote computer, Enable automatically changes the settings to those shown above. Once the file transfer is finished, Enable restores the original value specified in your Setup or at the Quick–Connection Form Screen. Select one of the options described below. Select **Yes** if you want to change the default option – e.g. if you do not want Enable to automatically change the parameters.

`Activate CompuServe-B Protocol`

Select **Yes** to activate the CompuServe B+ protocol. This protocol is used by services such as CompuServe and will be started automatically by the host system. When it is active a B displays in the Status Line.

Save a Setup

After you respond to all the prompts, the Setup Screen displays, summarizing the information you entered for your new Setup.

You can save a new Setup to use later in making a connection with the designated system. To save a Setup, from the Top Line Menu, select File, Save.

To return to the Main Menu after saving the Setup:

1. From the Top Line Menu, select File, Exit

Revise a Setup

After creating a Setup, you may have to modify it due to phone number or modem changes.

To revise a Setup:

1. From the Top Line Menu, select Use System, Communications, Forms, Setup. The Setup Screen displays all existing Setups.
2. Make the appropriate changes to your Setup.

For extensive revisions, enter the Setup name at `Enter the name of the setup you wish to revise` or select the Setup from the list displayed.

The Setup screens display with your current selections highlighted. Make any changes at the appropriate prompt(s).

For minor revisions:

1. Highlight the Setup you want to modify.
2. Highlight the option on that line you want to change. Press **Space Bar**.
3. The option's prompt displays in the middle of the screen with the current selection highlighted. The lower part of the screen has instructions for the prompt. Make the changes.

   For example, to change the baud rate for the Lexis Setup, highlight Lexis using the Arrow keys. Highlight **1200** (baud) and press **Space Bar**. The related prompt will display. The choices are limited to those related to the item being changed. For example, the `Type of duplex` prompt allows you choose **Half** or **Full**; the `Telephone number` prompt only accepts numbers in a telephone number format. When you finish, press ↵. The Setup Screen will display.
4. When you finish the changes, press **Esc** to leave the display (for major revisions) or to exit expert mode (for minor revisions).
5. From the Top Line Menu, select File, Save to save the changes.
6. From the Top Line Menu, select File, Exit.

Revise Sample Setups

Before using one of the following sample Setups, you must revise some of its specifications – information that could not be supplied such as the network's telephone number for your area and your password for the service. Once you revise the Setup, you can use it without further revision until one or more specifications change.

CompuServe. Connect to the CompuServe information service to access news, commentary, current financial reports and analysis, on–line games and shopping, electronic clubs and discussion forums.

GEnie. Connect to General Electric Information Services to access news and commentary, other GEnie users, electronic mail, electronic clubs and discussion forms, games, and shopping.

MCI. Connect to MCI Mail, a major electronic mail service. From MCI mail you can deliver mail by using electronic telex, printed copy via first class I.S. mail or hand delivery by courier.

Files. Connect to other computers and transfer files.

ESI_BBS. Connect to Enable Software's own bulletin board. Use Enable's bulletin board to exchange ideas with other Enable users and keep up with the newest technical additions.

Rename a Setup

To rename an existing Setup:

1. From the Main Menu, select Use System, Communications, Forms, Setup.
2. Highlight the Setup you want to rename and press **R**.
3. At the `Enter new name` prompt, enter the new name.
4. From the Top Line Menu, select File, Save to save the Setup with its new name.
5. To return to the Main Menu from the Top Line Menu, select File, Exit.

Delete a Setup

To delete a Setup:

1. From the Main Menu, select Use System, Communications, Forms, Setup.
2. Highlight the Setup you want to delete.
3. Press **D**.
4. Select **Yes** to confirm the deletion.
5. From the Top Line Menu, select File, Save to save the Setup file.
6. From the Top Line Menu, select File, Exit.

Transfer Files

Use Enable's Communications module to send entire spreadsheets, DBMS files, word processing documents, or even computer programs. If you will be transmitting part of a file or transmitting to a system that requires keyboard–to–keyboard communication during transmission, you can use Communications together with Word Processing.

If you have an autodial modem, you can also transfer files without being present; see CM:Unattended File Transfer Script.

Transmit and Receive Files

To transfer files between computer systems:

1. Connect with the other computer system. (The other system does not have to be using Enable.) See CM:Connect for more information on connecting.
2. Tell the other computer you wish to upload or download a file and select a transfer protocol. (Be sure you select a protocol supported by Enable). See the list below for supported protocols. Next, tell the other computer the name of the file you wish to transfer and wait for permission to begin the transfer.
3. From the Top Line Menu, select Protocol. Select the protocol you and the other system will use to transfer the information. Protocol is a standard way of regulating data transmission between computers. A protocol allows you to transmit any type of file transparently, without having to watch the data in each file scroll by on your screen.

Since both the sender and receiver must use the same protocol, the protocol you decide to use will, of course, depend on the protocols the two systems support. Protocol is generally determined by the computer to which you are connecting. No two file transfer protocols work the same way although all use the same basic method to transfer files. See CM:Transfer Files for more information on transferring ASCII files.

You can select the following protocols:

None sets no protocol and allows you to transmit between systems that do not support any of the other protocols. None protocol is normally used with ASCII text files, but you can also use it for other, non–binary, data. None protocol is used for transmitting only.

If you use None, you and the other user should activate the Xon/Xoff flow control (from the Setup or the Top Line Menu) to make sure data is not lost during transmission. If you do not use Xon/Xoff, the receiving system may receive data before it is ready, and the data will be lost. See CM:Setup:Create a Setup:Computer/Transmission Information for information on Xon/Xoff. (The risk of loss rises as transmission speed (baud rate) rises.) Do not use None for files with binary data, including Enable format files.

Enable–1 is an enhanced version of Xmodem. Use it only if the other system is also using Enable–1.

Xmodem–Checksum is an error–checking procedure that ensures accurate transmission and is widely supported. Any of the Xmodem protocols are the most widely supported by personal computers.

CRC–Xmodem is another type of Xmodem error–checking procedure that ensures accurate transmission and is widely supported. Since CRC–Xmodem is more accurate than Xmodem–Checksum, we recommend that you use this protocol instead of Xmodem–Checksum if it is supported.

1K–Xmodem is another type of Xmodem error–checking procedure that transfers data more efficiently since it handles larger blocks of data. The 1K–Xmodem protocol transfers blocks of data in 1K sections instead of 128 byte sections used by other Xmodem protocols.

Ymodem–Batch is an extended version of Xmodem that can quickly handle batch transfers by using larger blocks of information. You can use this protocol when you want to transfer multiple files. Since this protocol does use large blocks of information, it may not be the best protocol to use if your transmission line has a lot of noise. The noise interference may cause loss of large sections of data. If the other system does not support Ymodem batch and you use it, Enable will automatically try CRC–Xmodem, 1k–Xmodem, and Xmodem–Checksum to find a protocol that works.

Kermit is an error–correcting file transfer protocol used by many mainframes and microcomputers. Enable's Kermit protocol is a subset of the Kermit data transmission program created at Columbia University. It is designed to let two Kermit programs communicate directly with each other in order to transfer files. Kermit lets you transfer data as 7–bit and 8–bit words. One benefit is that it can transfer data as 8–bit words even if both computers use 7 bits as a word size. You can also use Kermit to transfer multiple files.

Enable supports only the Kermit file transfer protocol, not the entire program. In order to transfer files, you should understand the operation of the Kermit program used by the remote computer in addition to understanding the way Enable uses Kermit. For information about the Kermit program used on the remote computer, consult that computer's manual.

CompuServe B+ is a file transfer protocol that is used by the CompuServe Information service.

The remaining steps depend on which protocol you are using. If you are using the CompuServe B+ protocol see CM:Transfer Files:Transmit and Recieve Files CompuServe B+ Protocol or if you are using Kermit, see CM:Transfer Files:Transfer files with Kermit for the remaining steps.

Enable–1, Xmodem and Ymodem Protocols

Select whether you will transmit or receive:

To transmit a file:

1. Make sure you from the Top Line Menu you have selected **P**rotocol. Select the protocol you and the other system will use to transfer the information. Protocol is a standard way of regulating data transmission between computers. A protocol allows you to transmit any type of file transparently, without having to watch the data in each file scroll by on your screen.
2. Select **T**ransmit.
3. Enter the name of the disk file to send including its path and extension at the `Enter Filename` prompt.
4. To perform a multiple file transfer, you can use wild card characters to send several files. The wild cards are an asterisk (*) that represents multiple characters, or a question mark (?), that represents one character. For example, *.wpf would transmit all files in the path with the extension .WPF. Too?.dat would transmit all files with the name TOO followed by any single character and the extension .DAT, such as TOOA.DAT or TOO1.DAT. Enable displays the senders screen.

To receive a file:

1. Make sure you from the Top Line Menu you have selected **P**rotocol. Select the protocol you and the other system will use to transfer the information. Protocol is a standard way of regulating data transmission between computers. A protocol allows you to transmit any type of file transparently, without having to watch the data in each file scroll by on your screen.
2. Select **R**eceive.
3. Enter the name under which you want to store the received data at the `Enter Filename` prompt.

For Enable–1, Xmodem protocols, the receiving system determines when the transmission begins. This system transmits a signal (called a "Hello Message") to the transmitting computer every ten seconds for one minute. The Hello Message tells the transmitting system that the receiving system is ready to receive a file. When the transmitting system "hears" the Hello signal, the transmission begins. If the receiving system does not get a response from the sending computer after one minute, Enable cancels the file transfer. (You can override this to continue the session.) When the transmitting system "hears" the Hello signal, the transmission begins.

Enable shows how much of the file was transmitted and the number of errors it corrected. This dialogue between the sending and receiving systems continues until all data is transmitted, or the sender or the receiver cancels the transmission. As transmission progresses, the following messages display:

`RX file: file name` or `TX file: file name`. Name of the file you are transmitting or receiving.

`RX recd:` or `TX sent:`. Amount of file transmitted or received If you are using Enable–1 or Xmodem, Enable stops to let the receiving system check for errors. The receiving system then either initiates the transmission of the next block of the file or, if it found errors, initiates the retransmission of the current block.

`RX errs:` or `TX errs:`. This number indicates how often the receiver's computer received a block of data incorrectly and requested retransmission. The smaller the number, the better the transfer quality. Errors can be caused by a bad telephone connection and line noise. If this message shows a large number of errors and you are having problems transferring files, try calling the other computer again.

Enable prevents you from overwriting data when you receive files by using any Enable supported protocol. If you try to receive a file whose name is the same as one already in your path, Enable will append a number to the end of the file name beginning with 0 and ending with 9. If you try to exceed 9, Enable will not allow you to receive the file. For example, if you want to receive the file STUFF.WPF, but currently have a file named STUFF.WPF, Enable will receive the file as STUFF0.WPF. If you have a file named STUFF0.WPF, Enable will receive it as STUFF1.WPF, etc.

Once the file transfer is completed, Enable displays the Communications Screen. You can then return to your keyboard–to–keyboard communication.

None Protocol

Follow the steps for transmitting outlined in Enable–1, Xmodem–Checksum, CRC–Xmodem, 1K–Xmodem, Ymodem Batch with the following exceptions:

With the None protocol option, the transmitting system begins the transfer. No Hello Message is issued by the receiving system. It is the transmitter's job to make sure the receiving system is ready (usually by using the keyboard to ask the receiver). When the sender types a file name, transmission begins.

Errors are not corrected when you use None.

When the transmission is over the message `TRANSMISSION IS IN PROGRESS` will disappear.

CompuServe B+ Protocol

If you are using CompuServe B+, select **P**rotocol, **B**+ CompuServe on to activate the protocol. The CompuServe system automatically takes over the transmit/receive procedure. Enable displays `B` in the Status Line. CompuServe uses a variety of commands to perform file transfers. See CompuServe for information on what commands it requires. Select **P**rotocol, B+ CompuServe **O**ff to deactivate the protocol.

Receive an ASCII File

To receive an ASCII file:

1. Connect with the other computer system.
2. From the Top Line Menu, select **O**ptions, **F**low Control.

3. Select Xon/Xoff to make sure data is not lost during transmission. See CM:Communications Options for information on setting flow controls (Xon/Xoff).
4. Turn on disk or memory capture to capture information. See CM:Capture Data for information on capturing data and saving captured data.
5. Perform the steps required to transmit a file from the other system (see the documentation from the other system).

Transmission Problems

If Enable has a problem during a file transfer, it signals `HOST DOES NOT ANSWER` on the transmitting and receiving screens. The problem may be due to telephone line or computer problems, or due to the receiver's disk becoming full during transmission. If the error message `DISK IS FULL` displays on the receiver's screen you must make more room on your disk before receiving a file.

If a problem arises, Enable either transmits the same block ten times or transmits a NAK signal (asking the sending computer to resend the block) to the receiving computer. If the sending computer does not receive a response from the receiving computer or vice versa, Enable cancels the file transfer and signals `FILE TRANSFER ABORTED`. To continue, perform the following:

1. Press any key to continue the communications session. You may want to try transferring the files again by repeating the steps.
2. If the remote system does not respond, reestablish the connection. Remember if you or the sender/receiver wish to cancel a file transfer request at any time, press **Esc**.

Transfer Files with the Kermit Protocol

You can transfer files by using Kermit in any of the following modes:

Local to Local mode. Connected to another personal computer and can transfer files using Kermit.

Local to Remote mode. Connected to a mainframe that supports Kermit.

Server mode. Connected to a mainframe.

For example, when using your personal computer and Enable to connect to a mainframe to transfer files by using Kermit, you are using Kermit in local mode. The mainframe is using Kermit in remote mode.

To transfer files in local to local, or local to remote mode:

1. If you are not connected to another computer that is also running Enable, start the Kermit program at the other computer, and if required, specify the mode you want to use (server, local, remote). See the other system's documentation on Kermit for information.
2. From the Top Line Menu, select Protocol, Kermit.
3. Select whether you will transmit or receive:

To transmit a file, select Transmit. At the `Enter Filename` prompt, if you want to send one file, enter the name of the disk file to send including its path and extension.

If the other Kermit program supports wild cards and multiple file transfer, you can use wild card characters to send several files. The wild cards asterisk (*) represents multiple characters and question mark (?) represents one character. For example, *.wpf would transmit all files in the path with the extension .WPF. *TOO?.DAT* would transmit all files with the name TOO followed by any single character and the extension .DAT, such as TOOA.DAT or TOO1.DAT.

To receive a file, select Receive. The names of files to transfer are specified by the sending computer. If you are connected to another personal computer, the transmitter enters the file names and these files are transmitted to the receiver's computer. If you are connected to a mainframe, issue the mainframe's Kermit commands to specify the names of the files to receive from the mainframe.

If you are in local/local or local/remote mode, at the `Enter Filename` prompt, press ↵. Do not enter a file name. If the incoming files' names already exist on your disk, Enable will overwrite them with the new data.

If you do not want to overwrite existing data, type `/r`. Enable adds numbers if a name has less than eight characters, or replaces the last character with a number if the name has eight characters. For example, Enable renames FILES.WPF to FILES0.WPF, FILES00.WPF, etc, or FILESPEC.WPF to FILESPE0.WPF, FILESPE1.WPF, etc.

If you are in server mode, at `Enter Filename`, use the following rules to enter the name of the file you will receive.

The format of the file name must conform to the other computer's rules. For example, if the name of the file you want is FILESPEC.DAT, but the other computer requires you to enter a space between the file name and the extension, you would type *filespec dat*. If this file already exists, Enable will rename the incoming file.

To rename a file, type `/r` after the file name, such as *files.wpf/r*.

If the other Kermit program supports wild cards and multiple file transfer, you can use wild cards supported by the other program to receive several files. (They may not be the same as those supported by Enable. See the other computer's Kermit manual.)

4. Enable and the remote Kermit program then send each other an initialization packet. The initialization packet exchange lets Enable and the remote Kermit program determine which Kermit functions they both support. Since the capability of Kermit programs vary from basic to sophisticated features, Enable and the remote Kermit program need to communicate what features are available.

   If the remote Kermit program does not respond, Enable sends the packet again a number of times before cancelling the transfer. (The number depends on the remote program.) Enable waits eight seconds for each retry and makes up to ten tries before cancelling the file transfer. If you want to manually resend the initialization packet, press ↵.

If the remote Kermit program does not respond after the maximum wait period, Enable cancels the file transfer. If you select Transmit, Enable displays error messages. You can always try to restart the file transfer.

5. Enable displays the Kermit File Transmit Screen shown in Figure 3 if you are transmitting, or the Kermit File Reception Screen shown in Figure 4 if you are receiving.

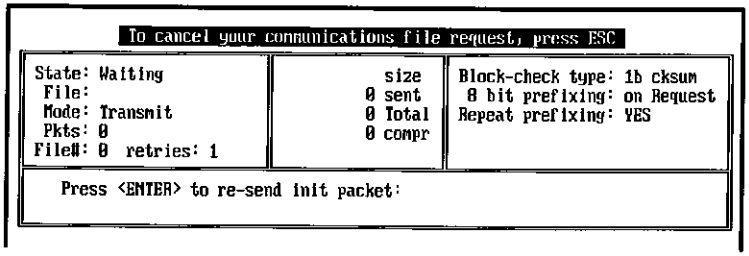

Figure 3: Kermit file transmit status screen.

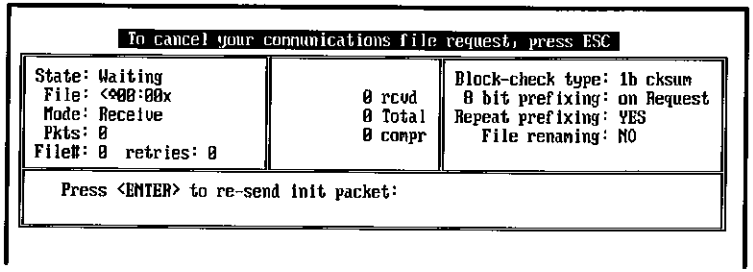

Figure 4: Kermit file reception status screen.

`State`. Five states of file transfer using the Kermit protocol are available:

`Waiting`. Enable is waiting for the other system to send a packet or acknowledgment signal.

`Sending`. Enable is transmitting a packet or acknowledgment signal.

`Receiving`. Enable is receiving a packet or acknowledgment signal from the other system.

`Open File`. Enable is opening a file.

`Close File`. Enable is closing a file.

`File`. Name of the file being transmitted or received.

`Mode`. Transmit or Receive, depending on whether you are transmitting or receiving files.

`Pkts`. Number of packets transferred. A file is broken into packets, whose sizes in bytes depends on the other Kermit program. Enable normally uses the default of

94 bytes, the maximum Kermit allows. During the initialization packet exchange, Enable checks to see if the other Kermit program supports 94 bytes in one packet. If it does not, the number is automatically reduced.

`File #`. Number of files transferred, counting the current file, during multiple file transfer. For example, if Enable is transmitting the third file, 3 appears.

`Retries`. Number of times the sending computer retransmitted packets or the receiving computer reacknowledged them. If the receiving computer did not receive the last packet, the sending computer retransmits it and the receiving computer reacknowledges it. (The maximum retries before the transfer is terminated depends on the other Kermit program. Enable will wait eight seconds for each retry and make ten retries before cancelling the file transfer.)

`Size`. Size (in bytes) of the file being transmitted (only when you are transmitting).

`Sent or Rcvd`. Amount of the file (in bytes) currently sent or received.

`Total`. Total number of bytes transferred.

`Compr`. Number of bytes compressed using repeat prefixing. If you set repeat prefixing to No, a `0` is displayed.

`Block-check type`. Type of error correction Kermit is using. Kermit error correction is called "block–check." Enable supports two types of block–check: 1–byte checksum and 3–byte CRC (Cyclic Redundancy Checking), which is more accurate than 1–byte checksum. If the other Kermit program supports 3–byte CRC, Enable uses it and displays 3B CRC. If not, Enable uses 1–byte checksum and displays 1B CKSUM. (For information on these methods, see the other computer's Kermit documentation.)

`8-bit prefixing`. Transfer data with 8–bit words when both systems specified a 7–bit word size. In order to use 8–bit prefixing, both Kermit programs must support this feature. If you specified a 7–bit word size in your Setup or at the Quick Connection Form Screen, and if the other Kermit program supports 8–bit prefixing, `Yes` displays. If the other Kermit program does not support it, `No` displays.

If you specified a 7–bit word size and 8–bit prefixing is off, you cannot transfer data with 8–bit words. If data contains 8–bit words, a warning message will display.

If you specified an 8–bit word size, you do not need this feature to transfer 8–bit words. Enable will signal `ON REQUEST`, meaning that it will use 8–bit prefixing if the other computer requests it.

`Repeat prefixing`. Compresses the file during transmission to reduce the transmission time. For example, if a file has ten consecutive spaces, repeat prefixing lets the system send a special command to repeat the space ten times, rather than transmitting ten spaces. The receiving computer then uncompresses the data and stores it in its original format.

`File Renaming`. Indicates if received files are being renamed. If you are receiving files and typed `/r` at the `File Name` prompt to use the Rename feature, `Yes` displays. Otherwise, `No` displays.

Problems During Kermit File Transfer

You may encounter telephone–line or computer problems during file transfer or, if you are receiving files, you could run out of disk space.

If a problem occurs during a file transfer, Enable either retransmits the same block of data from the sending computer or transmits a NAK signal (a signal asking the sending computer to send the same block again) from the receiving computer until the maximum wait period ends. If the sending computer does not receive a response from the receiving computer, or vice versa, after these processes occur, Enable cancels the file transfer and displays an appropriate error message. If necessary, transfer the files again. If you do not receive a response from the remote system, disconnect and reestablish the connection from the Main Menu.

Press **Esc** anytime to cancel the file transfer.

When the Kermit File Transfer is Complete

Local/Local and Local/Remote. When the file transfer is over in either of these two modes, you do not have to issue additional Enable commands. The Kermit File Transfer Screen will be replaced by a message indicating that the transfer is finished.

Server Mode. When the file transfer is over in server mode:

1. From the Top Line Menu, select Protocol, Kermit. The function of the following commands depends on the remote Kermit program. Use them to check the remote program's response. Select Kermit Logout. Exit server mode and terminate the Kermit program.

   or

   Kermit Finish. Exit server mode, but remain in the Kermit program.

Transmit Data with Word Processing and/or Memory Capture

You can use Enable's Capture to Memory feature together with Word Processing to edit a block of captured data and then transmit it to another computer. For example, you might want to transmit sections of a word processing document or modify a bibliographic search using data you have previously received.

To send captured data or marked blocks:

1. Turn Capture to Memory on. See CM:Capture Data:Capture Data to Memory for more information on capture to memory.
2. When you are ready to transmit any captured data switch to word processing mode, from the Top Line Menu, select WP, F10 Menu.

   or

   Press **PgUp**.
3. Edit any of the received data by using any of the word processing features. Mark a block of text to transmit by using the word processing mark feature. See REF1:WP:Block and Mark Text:Mark Text for more information.

4. Press **Shift/F9** to return communications mode.
5. To transmit the marked text:

   Press **F8** to copy the marked text to the Communications Screen and then send it to the other computer.

   or

   Press **Alt/F8** to transmit the text without copying it to the Communications Screen.

Transmit/Receive Map

Use a transmit/receive map to ignore or replace specific characters or to convert their case during your communications session. You might use a transmit/receive map if you communicate with a remote system that requires special characters not easily transmitted from a keyboard, or transmits characters that might be misinterpreted in the standard PC Enable environment or transmits all characters in upper– or lowercase. For example, you may have to begin lines with a ¿. While Enable's Special Character Set has this character, it is inconvenient to access the set each time you have to use it.

You can also use a transmit/receive map to customize your keyboard and screen. Use a single transmit/receive map to indicate how to treat both received and transmitted characters, or different transmit/receive map tables for each.

If you decide you do not want to use a file map but do need to ignore/replace transmitted or received characters, you can also use a variety of Setup options.

To use a transmit/receive map, you'll need to:

1. Create a transmit/receive map.
2. Create a Setup in which you specify the name of the map(s).
3. Use that Setup to connect to the other computer.

Create a Transmit/Receive Map

To create/revise a transmit/receive map:

1. From the Main Menu, select Use System, Communications, Forms, Recv/trans maps.
2. Enter the name of the map you want to create/revise.

   Enable displays the transmit/receive map.

Remember, you can create one table to map received characters and another to map transmitted characters. If the requirements for received and transmitted characters are the same, you can use one table for both purposes.

Format Rules

The transmit/receive map command format is similar to that for user–defined menus and unattended file transfer forms. Use the following general formatting rules:

1. Use any of the word processing options to enter text by selecting Tools, WP F10 Menu from the Top Line Menu.
2. Type `.telecommunications division` on the first line of the map. This statement is called the heading.
3. List all map commands following the heading.
4. Begin each command with a period (.) in column one. Enclose characters within double or single quotes. Use the numeric values from an ASCII table for non–printable characters. See REF2:APP:ASCII Table. Also, you can use macro notation such as {esc}. See REF2:IN:Macros for more information.
5. Break the table up into three sections in the following order:

   Ignore Characters Section. If you use the table to transmit data, the Ignore Characters section lets you designate characters to intercept and not transmit. If you use the table to receive files, those designated characters are ignored when received and are not displayed or interpreted.

   Replace Characters Section. If you use the table to transmit data, the Replace Characters section lets you replace certain characters with more appropriate ones before they are transmitted. If you are in full duplex, you only see the replacement characters on the screen. In half duplex, you see the original characters but the replacement characters are transmitted. If you use the table to receive, those characters will be replaced before those that are displayed.

   Option Section. Convert the letters from lowercase to uppercase before the characters are transmitted since some older computers do not recognize lowercase letters. This section will only convert characters that were not already ignored or replaced.

   These sections are not mandatory. If you use both the Ignore Characters and Replace Characters sections, perform the Ignore Characters section first.
6. List the commands. See CM:Transmit/Receive Map:Transmit/Receive Map Sections for an explanation of each section.
7. Include comments for your own use to document the functions of sections in your table. Each comment must be preceded by a semicolon (;). Begin comments in any column, on separate lines or in combination with commands as long as they are preceded by the semicolon.
8. Enter `.end` on the last line of the map.

Transmit/Receive Map Sections

Transmit/Receive maps are divided into three sections: Ignore, Replace and Option.

Ignore Characters Section

Use the following rules for the Ignore Characters section of the table:

1. Enter `.ignore characters section.` on line a line by itself.

2. List the characters you want to ignore on the lines below the heading. List them on one line separated by commas in one of the following forms:

   Keyboard symbol or symbol from Enable's special character set in single or double quotes. For example, you would type "$" or '$' to ignore Dollar signs. These symbols are case sensitive; you would type "A" to ignore uppercase A not lowercase a. To ignore both upper–and lowercase A, you would type *"A", "a"*. If you decide to use single quotes, use the right single quote (') on both sides of the character.

   Macro equivalent. For example you would enter the keys as *{Esc}, {Tab}, {&F3}* or *{^C}*. Use macro equivalents for all keys and key combinations that do not display characters on–screen. See REF2:IN:Macros for information on macros.

   ASCII decimal equivalent. Each character has an ASCII decimal code. For example, you would type *127* to ignore the character whose value is 127. Use a standard ASCII table to find the character values. Do not use quotes to specify decimal values. For example, "9" means ignore the numeric character 9, while 9 means ignore the character whose ASCII decimal value is 9.

To specify a range of characters to ignore, separate the first and last characters with two periods. For example, you would type *"A". . "F"* to ignore all uppercase characters from A to F; *234 237* to ignore ASCII characters with decimal values 234, 235, 236 or 237. Begin the list of characters to ignore at column 1 of the line after the heading. If you list more characters than one line can hold,use additional lines but do not split macro or decimal representations of characters over two lines.

Suppose the other computer system transmits a Dollar sign ($) as a control character at the start of each line and you want to ignore it because it is hard to read the line. The other system also transmits the character whose decimal value is 7 at the end of each line which causes your computer to "beep." You might create the following Ignore Characters Section to remove the $ and beep:

```
.IGNORE CHARACTERS SECTION
"$", 7
```

Replace Characters Section

Use the following rules for the Replace Characters Section of the table:

1. Enter *.replace characters section* after the Ignore Characters section or on the first blank line if there is no Ignore Characters section.
2. On the lines following the section, beginning in column one, enter the character you want to replace and its replacement. Indicate characters as described in the Ignore Characters section.

   Suppose you are connected to a computer in Canada that requires that you transmit in French. You want access to the Enable special characters ê, é, ç and è by creating replacement characters that use the Ctrl key and can be entered from the keyboard. You might create the following Replace Characters section:

```
.REPLACE CHARACTERS SECTION.
{^}="ê", {^E}="è", {&C}="ç", {&E}="é"
```

Option Section

Use the following rules for the Option section of the table:

1. Enter `.option section` after the Replace and/or Ignore Characters section or on the first blank line.
2. On the lines following the section beginning in column one, type:

   `Uppercase` if you want lowercase letters converted to uppercase.

   or

   `Lowercase` if you want uppercase letters converted to lowercase.

   Suppose you have a database of stock quotes into which you copy new quotes downloaded from an information service. When you use the database in reports, you want all data to be presented in uppercase letters. Since the service transmits data in mixed case, you may also want to convert all lowercase letters (as they are received) to uppercase. You might create the following Option section:

```
.OPTION SECTION.
Uppercase
```

A sample transmit/receive map is shown in Figure 5.

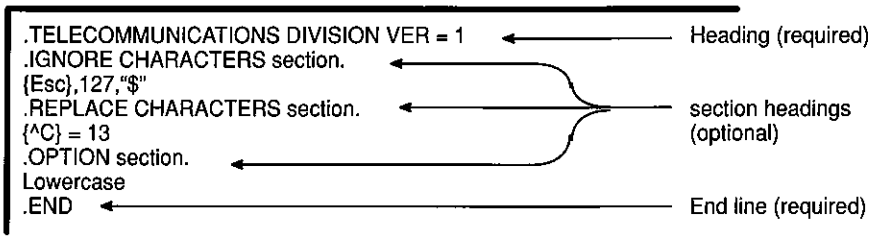

Figure 5: Sample transmit/receive map.

Save and Compile a Transmit/Receive Map

After you have entered all headings and associated commands, you must compile the map to save it and use it again. When Enable compiles a map it saves the map under the same name in two formats; source and compiled. Enable uses the compiled format (.TPT file) during the communications session. The source format (.WPF file) stores the map commands so you can edit them later.

To compile a map:

1. To compile and save the map with the same name from the Top Line Menu, select **F**ile, **C**ompile.

   or

To compile and save the map with a different name, from the Top Line Menu, select **F**ile, Compile **A**s. Enter the name you want to give the compiled map at the `Filename` prompt.

Enable assigns a .TPT extension to the compiled map, a .WPF extension to the source file and creates a form from the map.

If Enable detects an error in your map, Enable signals and displays a Down Arrow in the line preceding the error. To correct an error in the map:

1. Correct the error.
2. Delete the line containing the Arrow by using **`Alt/F3`**.
3. From the Top Line Menu select **F**ile, **C**ompile.
4. At the `Filename` prompt, again enter the appropriate form name.

Use the Transmit/Receive Map

You can only use a transmit/receive map if you use a Setup to establish the connection and answer the following Setup prompts:

1. `Do you wish to select any of the options listed below?` Select **Yes**.
2. `Enter Receive Filter Option`. If you want to ignore or replace certain characters you will receive without using the filter table you have created select the following option:

   Use filter/mapping table to use the map you created for the characters received. Enter the name of the compiled map (.TPT) at `Name the receive filter/mapping table`. If you created one map for transmit and receive, enter that file name.
3. `Will you use a transmit filter/mapping table?` Select **Yes** to alter transmitted characters. At `Name of Transmit Filter/Mapping Table`, enter the name of the compiled transmit/receive map (.TPT). If you created one map for both received and transmitted characters, enter the name of the file containing that map.

Connect with the other system by using the Setup. Make sure the map (.TPT) file is in your data directory. Once the connection is established, Enable transmits or receives characters based on the specifications in your transmit/receive map. Remember the following when you access a transmit/receive map:

Enable will not map characters during file transfers using any protocol except None or while capturing data to disk. All characters transmitted are saved to disk as transmitted. Enable maps characters during file transfers that use the None protocol and while capturing data in memory.

If you selected **Xon/Xoff** flow control either at a Setup prompt or from the Top Line Menu, Enable will first map/filter the received data, then see if it is an Xon/Xoff character.

If you specify special handling of received line feeds or tabs in your Setup, the special handling is done after the received data is mapped and filtered.

If you specify special handling of transmitted line feeds in your Setup, the special handling is done before the data is mapped and transmitted.

Replaced or ignored characters are not converted to the case specified in the Option section.

Since Enable uses ASCII characters with values from 240 to 255, it ignores commands to ignore or replace these characters.

Each transmit/receive map uses 1024 bytes of disk space when stored and 512 bytes of memory when used.

You can also turn transmit/receive map off and on during a session. To stop using mapping for received characters:

1. From the Top Line Menu, select Tools, Activate, RX Mapping or use the expert command **F9 T 1**. These commands are toggles, repeat them to turn receive mapping on/off again. Also, use these commands to toggle the Setup prompt `Receive Filter Option`.

To stop using mapping for transmit characters:

1. From the Top Line Menu, select Tools, Activate, TX Mapping or use the expert command **F9 T 2**.
2. These commands are toggles, repeat them to turn transmit mapping on/off again.

Terminal Emulation

You can make your PC act like a terminal for a mainframe computer in order to communicate with the mainframe. By imitating a terminal, you can take advantage of features such as text editors offered by the mainframe or run a large computer program, since a mainframe executes large programs much faster than a personal computer.

You can emulate a DEC VT100/102, VT52, DEC VT220/320, or ANSI (X364–79) terminal. Enable automatically converts or filters the control sequences used by these popular terminals.

You can emulate the DEC VT100/102, DEC VT220/320, VT52, or ANSI (X3.64–79) by using a Setup, or during the session from the Top Line Menu option.

Setup

To begin terminal emulation from a Setup:

1. Answer the following prompt when you create or edit the Setup you will use:

   `Terminal Emulation?`

   Select **VT100/102** to emulate a DEC VT100/102 terminal, **VT52** to emulate a DEC VT52 terminal, **VT220** to emulate a DEC VT220 terminal, **VT320** to emulate a DEC VT320 terminal or **ANSI** to emulate an ANSI terminal.

2. Use the Setup to establish a connection with the other computer.

   After you are connected, your PC will process the commands exactly as the terminal would.

Session

To start terminal emulation during a session:

1. From the Top Line Menu, select Emulation.
2. Select the terminal you want to emulate.
3. Enable begins processing commands exactly as the terminal would. Select None to stop terminal emulation.

There are two features that operate differently during emulation:

Data not scrolled off the top of the screen will not be captured in memory.

Do not capture data to memory. Capturing data to disk is the only reliable way to capture data during terminal emulation. See CM:Capture Data for more information.

VT100/102, VT220/320 and VT52 Emulation

If you emulate a DEC VT100/102, VT220/320 or VT52 terminal, Enable does not support the following VT100/102 and VT52 functions:

Alternate character sets (except special graphics characters which Enable supports).

Double–width or double–height characters. (Double–height characters appear as single–height characters on two lines.)

Numeric Keypad

If you emulate a DEC VT100/102, VT52 or VT220/320 terminal, the numeric keypad on your PC keyboard will operate in two ways: cursor mode and host mode. Press **Num Lock** to switch between modes.

Cursor mode. In cursor mode, the Arrow keys move the cursor on the screen and send the proper codes for VT100/102, VT52, VT220/320 cursor movement to the host computer. Use the following commands and keys on the keypad:

Arrow keys to emulate the Arrow keys on the VT100/102, VT52 and VT220/320 keyboard

Del to emulate the VT100/102, VT52 and VT220/320 Delete key

PgUp to switch to word processing mode

Num Lock to toggle between cursor and host mode.

Host mode. In host mode, the keypad operates in either numeric mode or alternate keypad mode depending on the application the host computer is running. In numeric mode, it operates as numeric keys. In alternate keypad mode, it operates as function keys of the VT100/102, VT52, VT220/320 keypads.

For example, if the host was running a spreadsheet program, the keypad operates as numeric keys. If the host was running a text editor, it operates as VT100/102, VT52,

VT220/320 function keys. To use Arrow keys in host mode, you must press **Shift** and the appropriate keypad keys instead of returning to cursor mode.

During host mode, NUM is displayed in the Status Line. Enable begins operating in numeric mode and uses the numeric keypad for numbers. If Enable receives the code ESC= from the remote system, it switches internally to alternate keypad mode. If the remote system sends an ESC code, Enable switches to numeric mode. Remember, Num Lock also toggles you between host mode and cursor mode.

Simulate VT100/102, VT52 and VT220/320 Numeric Keypads

As shown in Figure 6, the IBM PC keypad differs from the VT numeric keypad.

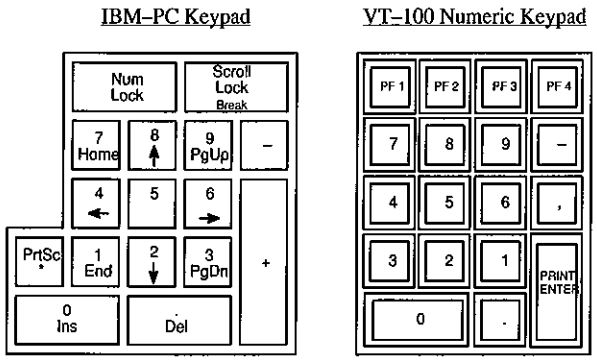

Figure 6: The PC keypad and the VT100/102 and VT220/320 keypad.

When you are in alternate keypad mode, Enable maps the PC keys to simulate a VT100/102, VT52, VT220/320 keypad – e.g. your computer's keypad may not send numbers in host mode, even though you see NUM in the Status Line. The keypad keys will send the appropriate VT100/102, VT52 or VT220/320 command sequences. To simulate the keys on the VT100/102, VT52 or VT/220/320 keypad, press the keys on the PC numeric keypad as shown in this list.

To simulate the VT100/102, VT52 and VT220/320 keypads:

PC	Terminal Keypad Keys
F1	PF1 (GOLD)
F2	PF2
F3	PF3
F4	PF4
0	0
1	1
2	2

3	3
4	4
5	5
6	6
7	7
8	8
9	9
-	-
Prt Scr*	*
Del	.
+	Enter

To map the VT100/102, VT52 or VT220/320 Delete key use one of the following:

Del on the PC keyboard while in cursor mode.

or

Ctrl/Backspace while in either host mode or cursor mode.

Display Attributes

When you emulate a DEC VT100/102, VT52 or VT220/320 terminal, you can decide how to display attributes. To display them accurately, modify the Special Text section of your profile. The table shown in Figure 7 lists the attributes Enable uses to display VT100/102, VT52 and VT220/320 attributes.

To display VT-100 and VT52 attributes:	Select Enable attribute	Mono-chrome monitors:	Non-Color Graphics and Color Graph-ics monitors:
Normal	Normal text	1	8:1
Bold or increased intensity	Bold text	4	H8:1
Bold & underlined	Bold & Underlined text	5	H8:3
Underscore	Underlined text	2	H3:1
Blink	Superscripted text	B1	B8:1
Negative (reverse) image	Mark attribut (Alt/M)	3	1:8
Combination of attributes	Mixed attributes	B3	B1:8

Figure 7: Attributes Enable uses to display VT100/102, VT52 and VT220/320 attributes.

If you have a color graphics or non-color graphics monitor, the table is provided only as a suggestion. You can use any color to designate the attribute.

After you revise the profile, use that profile for the communications session in which you use terminal emulation.

Remember, you can only use the underline, boldface, superscript, mark and mixed attributes for terminal emulation. Specify the others as you want.

Features Supported in VT100/102 and VT220/320 Emulation

Enable supports the following features during VT100/102 and VT220/320 terminal emulation:

High Speed. Enable displays data as fast as it is received up to 19200 baud.

Snap–shot. Sends displayed data to the word processing window. (Data that scrolls off the screen is not captured.) This feature was developed for compatibility with the page–oriented VT100/102 and VT220/320 terminal.

Press **PgUp** to start this feature. Enable will capture a "snap–shot" of the screen to the Word Processing window and automatically switch to word processing mode. You can edit data, then return to communications mode by pressing **Shift/F9** and continue to receive or send data. If you press **PgUp** again, Enable transmits another snap–shot of the screen to the Word Processing window. You now have two snapshots in the word processing file.

PgUp will perform these two functions:

Transmit the snap–shot to the Word Processing window.

Switch to word processing mode from communications mode during terminal emulation.

You need to turn on capture mode to use snap–shot. When you switch to word processing mode, an Xoff command is sent to the host to tell it not to send any more data until you return to communications. If the host does not recognize this signal, turn on capture mode before entering word processing mode to avoid losing data.

Scrolling Regions. Enable now supports VT100/102 and VT220/320 scrolling regions. When instructed by the host computer, Enable will define a scrolling region. Text will only scroll in this region; sections outside this area are frozen.

Terminal Setup Form. Displays a terminal Setup form to pick screen display options during VT100/102 and VT220/320 terminal emulation.

Tab Sets from the Host Computer. Enable can recognize tab sets designated by the host computer during VT100/102 and VT220/320 emulation.

Terminal Setup Form Options

You can also display the terminal emulation form during a session by pressing **Alt/S**. When you respond to the last prompt, Enable returns to the Communications window. The terminal Setup form is shown in Figure 8.

The initial values in the terminal setup form are received from the host computer (mainframe).

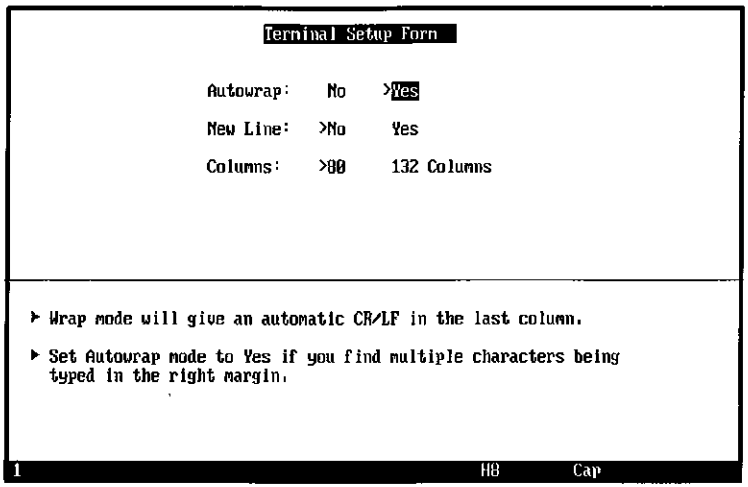

Figure 8: The terminal setup form.

Autowrap.

When Autowrap is on, Enable automatically adds a carriage return and line feed when data reaches the last column to wrap to the next line. When Autowrap is off, data keeps writing over on the last column when it reaches the right margin. When you display the terminal Setup form, Autowrap is set to On, the default. To ignore it, select **No.**

New Line.

When you are receiving data from a host computer, Enable expects to receive a carriage return and line feed at the end of each line to move the cursor to the head of the next line. Some computers send only a carriage return, which moves the cursor to the head of the current line. If so, data is written over on the same line. If this happens, select **Yes** to turn new line mode on. Enable automatically adds a line feed at the end of each line. If data is double-spaced, both the host computer and Enable are inserting a line feed. Select **No** to turn the new line mode off.

Columns.

You can select 80 or 132 column mode. When you select 132 column mode, Enable prompts Scroll 132. When you select **Yes**, the default, Enable automatically shifts the screen when the data reaches column 80. If you select **No**, Enable will not shift the screen. Now, to see data entered to the right of column 80, you must manually shift the screen. Use these commands:

Ctrl/→ – Displays the right section of the screen

Ctrl/← – Displays the left section of the screen

Ctrl/] – Scrolls the screen one column to the right

Ctrl/[– Scrolls the screen one column to the left.

When you select 132 column mode, Enable automatically inserts a ruler with the right margin at column 132 so data will not reformat when you use the "snap–shot" feature.

Unattended File Transfer Script

To transfer files in your absence, you will need to:

1. Create an Unattended File Transfer Script.
2. Compile the script.
3. Activate the compiled script by using Setup or during a session.

Create an Unattended File Transfer Script

To create a script:

1. From the Main Menu select Use system, Communications, Forms, Scripts.
2. Enter the name you want to assign to the script.
   Enable displays a blank Unattended File Transfer Script.

Format Rules

A sample Unattended File Transfer Script is shown in Figure 9. See CM:Commands for a list of the commands you can use in your script.

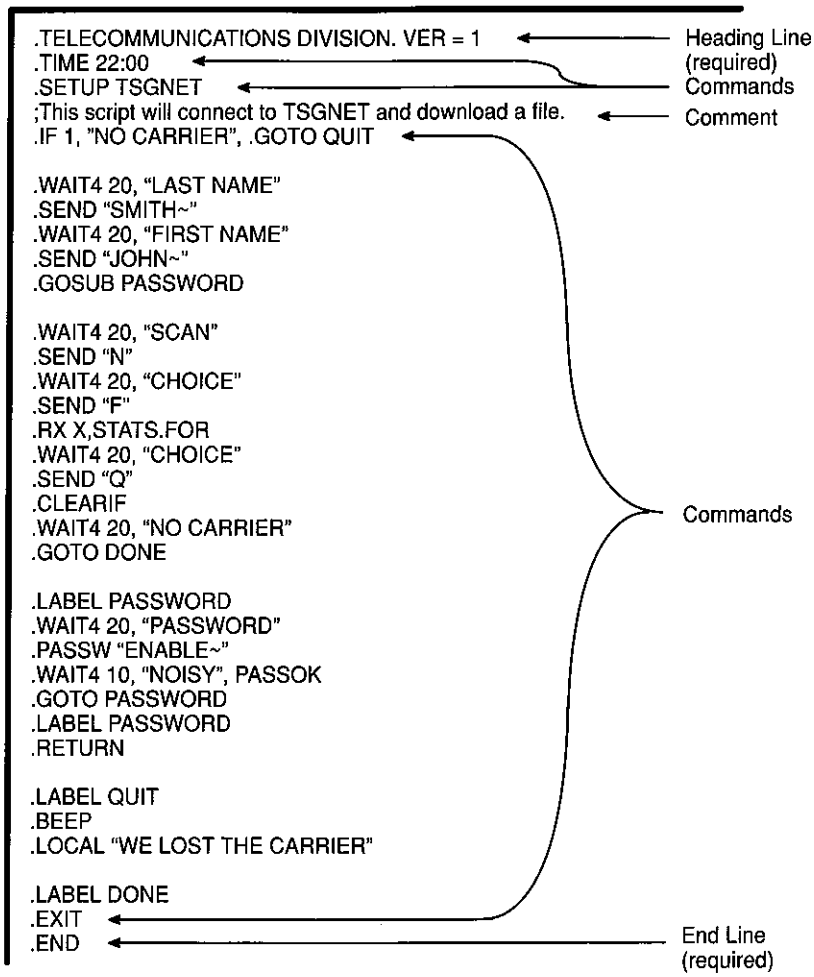

Figure 9: Sample unattended file script.

Use the following rules to format your script:

1. Use any of the Word Processing options to enter text by selecting Tools, WP F10 Menu from the Top Line Menu.
2. Type `.telecommunications division` on the first line of the script. This statement is called the heading.

3. List the commands you want Enable to perform after the heading. See CM:Commands for a list of commands, their syntax and definition. Group together commands that perform similar tasks. Enter one command per line in the order Enable should perform them.
4. Begin each command with a period (.) in column one. See the documentation for the other computer system to find out what strings or codes you will need to enter for each command. Enclose strings within double or single quotes. Enable will recognize spaces within quotation marks (" "). Since some networks require you to press ↵ after a string, type ~ (tilde) at the end of the string before the right quotation mark, to represent ↵.
5. None of the commands are mandatory. Be sure to use the proper syntax.
6. Make sure the script is written in top to bottom format since Enable can only process the commands in this format.
7. Include the following information:

   time at which the transfer will begin (optional)

   name(s) of the Setup(s) Enable should use (if any)

   name(s) of the file(s) you want to transmit (if you are transmitting)

   name(s) under which the received file(s) should be stored on your disk (if you are receiving)

   protocol Enable should use for each file

   sign–on and sign–off information

   prompts, commands and characters from the host computer

   commands you would normally type to the host computer.
8. Include comments for your own use to document the functions of commands or sections in your script. Each comment must be preceded by a semicolon (;). Begin comments in any column, on separate lines or in combination with commands, as long as they are preceded by the semicolon.
9. Enter *.end* on the last line of the script.

Save and Compile a Script

After you have entered all headings and associated commands, you must compile the script to save it and use it again. When Enable compiles a script, it saves the script under the same name in two formats; source and compiled. Enable uses the compiled format (.TPU file) to perform the file transfer. The source format (.WPF file) stores the script commands so you edit them later.

To compile and save a script:

1. To compile and save the script with the same name from the Top Line Menu, select File, Compile.

   or

To compile and save the script with a different name from the Top Line Menu, select File, Compile As . Enter the name you want to give the compiled form at the `Filename` prompt.

Enable assigns a .TPU extension to the compiled script. Enable will also use this name with the .WPF extension for the source file.

Enable creates a compiled form and word processing source from the script.

If Enable detects an error in any of your script commands, Enable signals and displays a Down Arrow (↓) in the line preceding the error. To correct an error in the script:

1. Correct the error.
2. Delete the line containing the Arrow by using **Alt/F3**.
3. Compile the script again.
4. Select File, Exit, Yes to return to the Main Menu.

Perform an Unattended File Transfer

Enable uses the compiled form to perform the unattended file transfer. You can begin the unattended transfer from either the Setup or during a Communications session.

To start the unattended file transfer from connection:

1. From the Main Menu, select Use System, Communications, Perform Script.
2. Select the script you want to use.
3. Enable establishes a connection by using the script and performs the other operations in the script. Press **Esc** or **Alt/e** (depending how your profile is set) at any time while the script is running to cancel the unattended file transfer.

To start the unattended file transfer during a connection:

1. Establish the connection by using a Setup or Quick–Connect. See CM:Connect for information on connecting.
2. From the Top Line Menu, select Tools, Perform Script.
3. Enter the name of the compiled form (.TPU file) at the Open Script dialog box.
4. Enable begins performing the commands in the script. Press **Esc** or **Alt/e** (depending how your profile is set) at any time while the script is running to cancel the unattended file transfer.

Communications Log File

During the unattended file transfer, Enable creates a log file in your data directory (TPLOG.WPF) in which it records all the steps performed during the unattended file transfer. Refer to the log to determine if all the connections were made and if files were transmitted/received properly. You will find the log file useful for determining where problems occurred.

To view the log file (TPLOG.WPF), edit it as you would any word processing file. See REF1:WP:Open a File a File for information on viewing a word processing file. The

TPLOG.WPF log file is reused each time you perform an unattended file transfer. New information will be appended to existing information in the log file each time. If you want the logs saved separately, rename TPLOG.WPF at the end of each session.

Communications Quick Commands

In addition to using the Top Line Menu to accomplish your word processing tasks, Enable also provides an extensive range of quick commands. Reviewing these commands, and noting which of them are most applicable to the type of tasks you perform regularly, will facilitate your work. As you highlight selections from the Top Line Menu, the corresponding quick commands will appear on the left side of the Status Line. While using the Top Line Menu commands, you can note these for future use.

To use the quick commands, press the appropriate sequence of keystrokes:

ACTION	KEYSTROKES
BYPASS	
prompt on the Quick–Connection Form Screen	End
CANCEL	
current Setup choice and return to previous Setup option	Esc
file transfer request	Esc
pending menu selection	Esc
script	Esc, Alt/E
CAPTURE	
on/off	F7, F9 T C
off	Alt/F7, F7, F9 T C
capture data to disk (on/off)	F9 T F7
open file to capture data directly to disk	F9 T Home
close current capture file	F9 T End
CHANGE	
terminal parameters	F9 T S
CONVERT	
8th bit of incoming data words to 0	F9 T 8
COPY	
marked data to cursor position and send to another computer	F8
FILE MANAGER	F9 D
DISCONNECT	
disconnect	F9 T D
and close window	Alt/End
DISPLAY	
turns on VT100 emulation	F9 T E
FILTER MAPPING OPTIONS	
receive (on/off)	F9 T 1
transmit (on/off)	F9 T 2
PRINT	
incoming data (on/off)	Shift/F2, F9 T P

REPEAT (in WP mode only)	
last F2 command	F2 F2
last F9 command	F9 F9
SAVE	
file	
and return to same file	F9 S E
and return to DOS	F9 S End
and close window	F9 S Home
SEND	
marked data to another computer (without copying that data)	Alt/F8
"break" signal to remote computer	Alt/B
SETUP PARAMETERS	
filter options	
ignore special characters	F9 T O 7
process all characters but 240–255	F9 T O 9
substitute special characters with tilde	F9 T O 8
line feed options	
convert line feeds to carriage returns	F9 T O 1
ignore all line feeds	F9 T O 2
ignore line feeds with carriage returns	F9 T O 0
tab handling	
convert tabs to single space	F9 T O 4
do not modify tabs	F9 T O 6
ignore tabs	F9 T O 3
move to text column	F9 T O 5
SWITCH	
to TP mode from WP mode	Shift/F9
to WP mode from TP mode	PgUp
VT100, VT102, VT52	
backspace/del key toggle	Alt/D
display options	Alt/S
new line (on/off)	Alt/L
wrap mode (on/off)	Alt/W
XOFF (send Xoff to remote computer)	Ctrl/S
clear if no Xon	F9 T X
XON (send Xon to remote computer)	Ctrl/Q