HEWLETT-PACKARD

Crosstalk XVI® Communication Software

Internal 1200 and 2400 Baud Modems
User's Manual

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Internal 1200 and 2400 Baud Modems
CROSSTALK XVI Rev. 3.6
User's Manual

HEWLETT PACKARD

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1 Introduction

Introduction

Welcome to the world of personal computer communications. With your modem and CROSSTALK® XVI, you can display and store on disc information from public and private services, exchange information with mainframes, minis, or personal computers, and transfer files using a sophisticated error checking/correcting protocol to or from other CROSSTALK XVI equipped systems.

CROSSTALK XVI Features

Software Features. CROSSTALK XVI is an advanced data communications system that performs the following functions with your Hewlett-Packard modem:

1. "Smart terminal" operation, including terminal emulation.
2. Total modem control.
3. Automatic telephone dialing.
4. Data capture.
5. File transfer to any computer system.
6. Error checked file transfer (between CROSSTALK systems).
7. Electronic mail.
8. Automatic logon.

Smart Terminal. CROSSTALK XVI's "Smart Terminal" mode allows your entire computer system (computer, terminal, printer, and modem) to act like a "smart" remote terminal to almost any dial-up computer system. This ability allows easy access to and exchange of data with nearly any computer system you can reach with a modem.

Several user conveniences have been built into the terminal mode. CROSSTALK XVI makes extensive use of the PC's function keys. Each of the 10 function keys can be set up to send common character sequences such as passwords or program commands. The function keys can also be programmed to execute various commands.

Modem Control. CROSSTALK XVI provides total control of your modem, allowing you to change modem speed, data word format, and duplex instantly if necessary for your communications needs.

Automatic Telephone Dialing. The program can automatically dial the phone number and will re-dial the number if a connection is not established on the first try. Automatic answer operation is also provided so that you may receive calls from other modem-equipped computers.

Telephone numbers and other specifications for frequently called systems may be stored on your disc in "command files" and recalled automatically by CROSSTALK XVI, allowing fast, easy access to any number of pre-stored dialing routines. Command files may contain information such as the passwords required by the system and all necessary configuration settings.

Data Capture. The "data capture" feature lets you capture and store data received from another computer system onto your disc, especially useful when communicating with "on-line" information systems, where connect time is charged by the minute. Using CROSSTALK XVI you can call into such a system, capture the desired information onto your disc, and sign off the system quickly. The captured information may then be edited or printed "off-line," saving considerable time and money.

Conversely, you may prepare a message with any text editor or word processor, then use CROSSTALK XVI to call a remote computer system and send the desired file to the other system at full speed, again saving time and money.

The ability to capture and save data adds value to on-line data bases since it provides a means of incorporating captured information into reports, letters, and proposals. You no longer have to watch expensive information scroll off the top of your screen to be lost forever.

The program is fully interrupt-driven, meaning that CROSSTALK XVI may be used in terminal mode at speeds up to 2400 baud with no character loss. Slow printers may also be used at higher-than-normal speeds without loss of data.

File Transfer to Any Computer System. In addition to its data capture ability, CROSSTALK XVI can send files to other computers. Two modes — character and line — are provided to allow easy use with most systems.

Error Checked/Corrected File Transfer. CROSSTALK XVI's file transfer capabilities provide an easy-to-use method of transferring program and data files between two CROSSTALK XVI systems with complete error checking, even when the two systems' disc formats or operating systems are different and incompatible. Any type of file may be transferred, including ".COM" or ".EXE" type files and 8-bit processor files. The transferred files may be as large as an entire disc. Groups of files may be transferred at one time, using a "wild card" file name, and the file transfer operation can be accomplished fully unattended.

Electronic Mail. The error checked file transfer feature can be used as an "electronic mail" system, providing a means of exchanging word processing files, financial models, contracts, and other information between two CROSSTALK XVI equipped computer systems, no matter where they are located. Important documents may thus be moved across the country in minutes instead of days or hours.

Automatic Logon. If you frequently call the same computer system, you may find it convenient to use CROSSTALK XVI's powerful logon features. With CROSSTALK XVI, you can save all the information necessary to establish communications with another computer system. In addition, you can store the function key settings, and even the commands you want performed. You can then call the system, logon, even send or receive files at the touch of a button.

How to Use this Manual

This manual has been designed to accommodate both the experienced user and the computer neophyte. "Technojargon" has been avoided wherever possible. CROSSTALK XVI, and this manual, have been designed to allow you to deal with the various technical aspects of communications as easily as possible. We suggest that you start with Chapter 2, and progress forward, regardless of your level of computer proficiency. If the material seems familiar, skip to the next section.

2 An Introduction to CROSSTALK XVI

What CROSSTALK XVI Does

CROSSTALK XVI performs two major functions. It is a "terminal program," allowing you to dial into a host computer system and act as a terminal to that system. Second, it is a "file transfer" program. This allows you to call up other CROSSTALK XVI-compatible systems, and exchange files with that system. The file transfers are performed with an extremely accurate error check, assuring you that the file you sent is exactly identical to the file received at the other end of the transfer, even over noisy telephone lines.

Terminal Features

Earlier, we mentioned that CROSSTALK XVI was a "terminal program." This means that your computer system running CROSSTALK XVI can operate as a terminal to many other computer systems. A good example of this would be using your CROSSTALK XVI system to call into a timesharing "mainframe" computer system. As far as the mainframe can tell, you are just another "terminal."

Besides acting as a terminal, CROSSTALK XVI can actually "emulate" several popular terminals. That is, your CROSSTALK XVI system will respond to terminal commands from a host computer system as if you were using a terminal. If, for example, your mainframe computer has a word processor program designed to work with a DEC VT-100 terminal, you can tell your CROSSTALK XVI system to emulate a VT-100. Most commands the host system sends to your system will be interpreted just as they would be by a DEC terminal.

Most terminals are just that; they are terminals. They display incoming data on a video screen, and they send characters typed on the keyboard to the host computer. Terminals do not generally offer much in the way of storage or retrieval of data. CROSSTALK XVI, on the other hand, allows you to perform several functions not normally found in terminals.

First, CROSSTALK XVI can capture incoming information from the host computer, and save the stored information onto the disc. This allows you to "download" text and program files from other computer systems to your CROSSTALK XVI system. Since you can store the captured information on a disc, you are free to edit and manipulate the information in any way you wish.

Conversely, CROSSTALK XVI can send files from your disc to a host computer system. This feature allows you to prepare text files off-line, using your favorite word processor or text editor program, and then call up another computer system and transmit the file to the host system at full speed.

File Transfer Features

When you use CROSSTALK XVI as a file transfer program, you can call up any other CROSSTALK XVI or compatible system, and exchange any type of file with the other system. The other system doesn't have to be the same type of computer, and in fact, doesn't even have to be running the same operating system.

CROSSTALK XVI's file transfers are "transparent"—that is, the user does not have to concern himself with any of the hardware incompatibilities between the two systems in question. As far as the program is concerned, one CROSSTALK XVI system is the same as any other, regardless of the type of hardware involved.

Any type of file may be transferred to another CROSSTALK XVI system, including 8-bit ".COM" and ".EXE" files.

The only limit on the size of file you can transfer with CROSSTALK XVI is imposed by the capacity of your computer's disc drives.

Files may be transferred in logical groups. If you want to send all of the files on a disc, a single command tells CROSSTALK XVI to send all of the files. Names of files to be transferred may also be placed in a command file, allowing a user to transfer dozens of files with one command.

3

Preparing Your System

Getting Ready

Before you use CROSSTALK XVI and your modem on your system, a little preparatory work is necessary. You will need to copy the CROSSTALK XVI program and help files onto a disc, connect the modem to your computer, and set the option switches on your modem.

Making a Working Copy of CROSSTALK XVI

The disc with the CROSSTALK XVI label is referred to as the master disc. The first thing to do is make a copy of the master disc. Do not use the master for day to day operation.

When you make a copy of the CROSSTALK XVI master disc, make sure you put the serial number of the master copy, found on the label, on the copy to identify it.

Put your master copy aside. If the CROSSTALK XVI software is updated in the future, the master disc will be required.

Two Drive System. Follow these steps to make a CROSSTALK XVI working disc:

1. Format a new disc using the DOS FORMAT command. Use the /S option to copy DOS onto the new disc. For example, if you wish to format a disc in drive B:, enter the command:

FORMAT B:/S [ENTER]

2. Place your newly formatted disc in drive A:, and place the original CROSSTALK XVI disc in drive B:. From the DOS "A" prompt, enter the command:

    COPY B:*.*   **ENTER**

This will copy all of the files from drive B: to drive A:. After the copying is complete, remove the original and save it. Remember that if you should ever have to return your CROSSTALK XVI disc for updating, the ORIGINAL disc is required.

One Drive System. If you have one drive, DOS will treat it as both drive A and drive B. DOS will prompt you to switch discs as needed.

1. Format a new disc. Enter the command:

    FORMAT B:/S

2. When the drive A light goes off, remove the DOS disc, and insert your new disc. Press any key to begin formatting.

3. Insert your CROSSTALK XVI disc and enter:

    COPY *.* B: **ENTER**

4. When the drive A light goes off, remove your CROSSTALK XVI disc and insert your new formatted backup disc. Press any key.

5. When the light goes off, you will see a message telling you to insert your source disc. Replace your new disc with CROSSTALK XVI and continue. You may have to switch the discs several times until you have completed copying all of the CROSSTALK XVI files.

After the copying is complete, remove the original and save it. Remember that if you should ever have to return your CROSSTALK XVI disc for updating, the ORIGINAL disc is required.

4 Running CROSSTALK XVI

This chapter explains how to enter commands to CROSSTALK XVI, and how the program responds to your commands.

Running CROSSTALK XVI for the First Time

Now that you have made a working copy of CROSSTALK XVI, you are ready to run the program for the first time. With your working copy of CROSSTALK XVI in drive A, enter the command:

XTALK [ENTER]

After a few seconds, the screen will clear, and the sign-on message will appear like this:

```
        C R O S S T A L K - X V I

              Release #

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        (version information here)
```
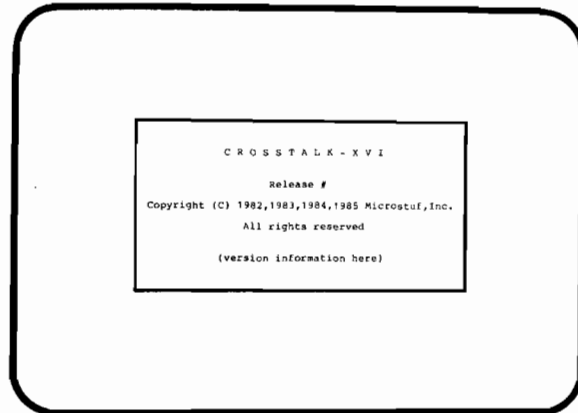
The sign-on message will remain on the screen for about five seconds. To skip the sign-on message, press any key.

After the sign-on message has been displayed, the screen will clear, and the "status screen" will appear. The status screen looks like this:

```
┌─────── CROSSTALK - XVI Status Screen ───────        Off line

  NAme    Crosstalk-XVI Default settings          LOaded   A:STD.XTK
  NUmber                                          CApture  Off

  ┌───── Communications parameters ─────┐      ┌───── Filter settings ─────┐
  SPeed 1200   PArity None   DUplex Full        DEbug   Off   LFauto   Off
  DAta  8      STop   1      EMulate None        TAbex   Off   BLankex  Off
  POrt  1                    MOde   Call         INfilter On   OUtfiltr On

  ┌───── Key settings ─────┐                   ┌───── SEnd control settings ─────┐
  ATten  Esc             COmmand ETX (^C)       CWait   None
  SWitch Home            BReak   End            LWait   None

  ┌─────────── Available command files ───────────┐

  1) NEWUSER     2) SETUP      3) STD



  ┌─────────────────────────────────────────────────────────┐
  │ Enter number for file to use ( 1 - 3 ):                  │
  └─────────────────────────────────────────────────────────┘
```

The Status Screen

The status screen serves two purposes. First, it is a display of all of CROSSTALK XVI's major options, and each option's current setting. Second, it is a menu of commands. Notice that the first two letters of each command are highlighted; that is, they are displayed in "bright" letters. There is a reason for this. When entering commands to CROSSTALK XVI, the program only requires you to enter the first two letters of the command. You may enter the entire command name if you wish, but it isn't necessary.

The Command Line

Notice that the bottom line of the status screen is in inverse video, and the word "Command?" appears at the beginning of the line. This is called the COMMAND LINE. We will refer to the command line throughout the manual, so keep it in mind. The command line may appear on either the status screen (the screen you are looking at now), or on the terminal screen, which is the screen you will see when you are connected to another computer.

Entering Commands

Any command may be entered any time the "Command?" prompt appears on the screen by entering the two letter command name and pressing the [ENTER] key. If the command requires additional information, the program will ask you for the information by printing a question in the command line.

To see how CROSSTALK XVI processes commands, let's enter a command. Enter **NU**, and press the [ENTER] key. The following message will appear in the command line:

Command? Enter number to dial:

Enter the number **1-404-998-8048**, and press the [ENTER] key. Now look up at the status screen again. Notice that the word "NUmber" in the upper left now shows the phone number you just entered next to it.

Let's try that again, but this time, we'll ask CROSSTALK XVI to help us. Enter **NU**, and press [ENTER]. When the program asks you to enter a phone number, press the **?** key, and [ENTER] again. The program will display a "help" message describing the NUMBER command.

Any time you need help with a command, you may press the "?" key for help with that command. The program will tell you about the command in question, and then repeat the question it was asking. Notice that the command line still says "Enter number to dial." For now, press [ENTER].

Once you become familiar with the program, you will probably want to use the "answer ahead" method of entering commands. To see how this works, enter the command:

Command? **NU 1-404-998-8048**

and press the [ENTER] key. Notice that the program did not ask you to enter a phone number, since you provided a phone number with the command. Also, notice that the phone number now appears next to the "NUmber" at the top left of the screen again.

Commands which set an ON/OFF state (such as the PRINTER command, which turns the printer on and off) will accept answers in several different ways. As an example, the commands:

Command? **PRINTER ON, PRINTER +**, and **PRINTER 1**

are all equivalent. Similarly, the commands:

Command? **PRINTER OFF, PRINTER -**, and **PRINTER 0**

are also equivalent. Use the form you find most convenient.

These "ON/OFF" commands have an additional option; they can be "toggled" to their opposite state by entering the command, followed by a slash (/) character. For example, if the printer was ON, then the command:

Command? **PRINTER /**

would turn it OFF. Conversely, if the printer was OFF, the same command would turn it ON.

Error Messages

In addition to asking questions and accepting commands, the command line is also used to display error messages. Enter the command:

Command? **DUPLEX NONE**

and press the [ENTER] key. The program will respond:

DUplex must be either Full or Half. Press ENTER:

Most error messages require that you press the [ENTER] key to acknowledge the error. If you make a mistake entering a command, just enter the command again. If you don't understand the command, press ? when it asks you, and let the program tell you what to do.

The Terminal Screen

The terminal screen is the screen the program uses to display data from another computer system. You may switch back and forth between the terminal screen and the status screen by pressing a special key called the SWITCH key.

The switch key is normally assigned to the HOME key, but it may be assigned to another key if you wish. We will explain how to change the various key settings later in this section.

To see how the switch key works, press the HOME key once. The status screen disappeared, and a blank screen appeared in its place. This screen is blank because we haven't called another computer, so there is nothing to show. Press the HOME key again, and the status screen will appear.

In actual use, the program automatically switches to the terminal screen once communications have been established with another computer. You may always switch between the two screens by pressing the SWITCH key.

The Display Window

Not all of the status screen is used to display status information. The bottom 10 lines are used as a display "window." This window is used to display data which is not normally displayed on the status screen.

To see how the display window works, enter the command:

Command? **HELP**

and press the ⎡ENTER⎤ key. The program will display:

When there is more information to be displayed than will fit in a single window, the program will "scroll" the data in the window. Notice that the command line now says:

More to come...press ENTER

Press the ⎡ENTER⎤ key, and the program will display the rest of the information.

The window is used by many commands, including the DIR, HELP, FKEYS, LIST, and TYPE commands. As we explain each of these commands later in the manual, we'll also explain how each of them uses the display window.

Special Key Settings

CROSSTALK XVI assigns a special meaning to several of the keys on the keyboard. These special keys are used in a number of ways. We have already mentioned the SWITCH key, which is used to switch between the terminal screen and the status screen. There are several other special keys. The table below lists each of the special keys, and tells what each key does.

Key Name	Default Setting	Purpose
ATTENTION	ESCAPE	The ATTENTION key is used to get CROSSTALK XVI's "attention" when you are connected to another computer. Normally, when you are on-line with another computer, all keys typed on your keyboard are transmitted to the other computer. When you press the ATTENTION key, CROSSTALK XVI will respond by showing the "Command?" prompt on the bottom line of the screen. You may then enter commands to CROSSTALK XVI.
SWITCH	HOME	The SWITCH key is used to switch between the status and terminal screens. Each time the SWITCH key is pressed, CROSSTALK XVI will switch between the two screens.

Key Name	Default Setting	Purpose
BREAK	END	The BREAK key causes CROSSTALK XVI to transmit a special signal called a "break" signal to the other computer system. A break signal is used by many dial-up computer systems to interrupt printing. Do not confuse this with the key marked "Break" on the keyboard.
COMMAND	^C	The COMMAND key is similar to the ATTENTION key, except that the COMMAND key is used to get the "attention" of an answering CROSSTALK XVI system. An answering CROSSTALK XVI system responds to the COMMAND key by sending the "Command?" prompt. We recommend that you keep this key set to ^C for compatibility with other CROSSTALK XVI users.

You may re-assign the SWITCH, ATTENTION, BREAK, and COMMAND keys to any "non-printing" key on the keyboard. By "non-printing" we mean those keys which do not display a character when they are pressed.

The special key settings may be changed by entering the name of the key, and pressing [ENTER]. CROSSTALK XVI will ask you to press the key you wish to use for that special key.

Setting Up Your CROSSTALK XVI Program

Before you actually begin using CROSSTALK XVI, you will probably want to change the way CROSSTALK XVI is set up. As shipped from us, CROSSTALK XVI "wakes up" with the following "default" settings:

MOde:	CALL
SPeed:	1200 baud
POrt:	2
Modem type:	Hewlett-Packard

To change any of these settings, you may wish to use a special "script" file we have provided. A script file is actually a program written in CROSSTALK XVI's own "language." Several script files are provided on your CROSSTALK XVI disc. We will explain script files fully in Chapter 13. For now, enter the command.

Command? **LO SETUP**

and CROSSTALK XVI will load and "run" the SETUP script file. The setup file will ask you a series of questions about how you want to set up your CROSSTALK XVI program. After you have answered all of the questions, your new default settings will be permanently saved on your disc.

Even if you do not wish to change your default settings, you may wish to run SETUP anyway to see how script files work.

5 | Making a Call With CROSSTALK XVI

Making Your First Call with CROSSTALK XVI

This section will show you two different ways to make a call with CROSSTALK XVI.

In chapter four, you used a "script file" to help you set up CROSSTALK XVI's default settings. In the first part of this chapter, we will use another script file to make a call. In the second part of this chapter, you will learn to enter commands to CROSSTALK XVI to make a phone call. After we make the call, we'll show how to save a command file, so that you can make a call to the same location later, without having to re-enter all of the information.

Making a Call With the NEWUSER Script File

The easiest way to make your first call with CROSSTALK XVI is to use the NEWUSER script file which was provided with your copy of CROSSTALK XVI.

To begin the NEWUSER script file, enter the command:

Command? **LO NEWUSER**

from the "command" prompt. The NEWUSER file will ask you a series of questions. After answering the questions, CROSSTALK XVI will offer to save the settings you have entered for future use. If you will be calling the same computer often, you will probably want to save the settings.

To make it easier for you to connect to the common information services, we have updated the NEWUSER program. The NEWUSER program will allow you to select from a menu of information services, and then ask for a phone number, account number, and password for the service you choose. Once you have entered the information, CROSSTALK XVI will be able to call into that service and "log in" automatically.

After you run NEWUSER, you will be ready to make a call. The NEWUSER script file will tell you exactly what to do to begin your call. After you have established connection with the computer you are calling, turn to page 5-5, "Terminal Mode."

Making a Call Manually

If you do not wish to use the NEWUSER script file, you may make a call by following the example presented in the remainder of this chapter. The steps outlined here are essentially the same as those performed by the NEWUSER script file.

Setting the Phone Number

Before you can make a call with CROSSTALK XVI, the program has to know several things about the location you are calling. First, it needs to know the phone number, so that the program can dial the phone number for you.

To set the phone number, enter the command:

Command? **NU**

The program will ask you to enter the phone number to be dialed. For purposes of example, we will use the phone number of the Microstuf test center in Atlanta. In fact, you can call the test center if you wish, and check out your system. The number is (404) 998-8048. If you wish to call another number, enter the number to be dialed.

After entering the number, check the status screen display to ensure that you have entered the number correctly.

Setting the Location Name

Now that you have set the phone number, the computer knows where to call. You may wish to set the NAme of the location, so that you'll know where the computer is calling. Enter the command:

Command? **NA**

and press ENTER . The program will ask you to enter the name of the location you are calling. Type **Microstuf Test Center,** and press the ENTER key. Again, look at the status screen, and you'll see that the name is now shown on the screen.

Selecting the Baud Rate

When you first run CROSSTALK XVI, the program is set for 1200 baud operation.

To change the baud rate to 300, enter the command:

Command? **SP 300**

Note that when entering baud rates, 1200 baud is entered as "1200," 300 baud as "300," but 110 baud is entered as "0110."

Note Automatic Speed Settings: Your Internal 2400 baud modem has the ability to detect the speed of a remote modem and adjust itself automatically in both originate and answer modes. In originate mode, the Internal 2400 baud modem will adjust to the highest transmission speed the remote modem will accept. In answer mode, the modem will adjust its speed to match that of the calling modem.

CROSSTALK XVI has the ability to adjust its speed automatically as well. This feature (often called AUTO-BAUD) is selected by preceding the desired modem speed with the letter "A". When you set up your modem using the CROSSTALK XVI SETUP file, indicate that you have a 2400 baud modem and set the default speed to "A2400." This will tell CROSSTALK XVI to adjust to the speed of the remote modem. You can then, for example, originate all calls at 2400 baud. Both your modem and CROSSTALK XVI will automatically adjust to the highest speed supported by the answering modem, whether it is 2400, 1200/300 or 300.

Dialing
the Number

At this point, you have entered two essential items: a phone number and a baud rate. At this point, you are ready to dial. Even though you have entered a phone number, CROSSTALK XVI will not dial the phone until you tell it to.

The GO command is used to tell CROSSTALK XVI to begin dialing. There are several forms of the GO command. The simplest case is to enter GO and press ⎡ENTER⎤. You may also begin the dialing process by pressing ⎡ENTER⎤ at the command prompt. The program will dial the number once, and attempt to connect to the other computer system. If the number is busy or doesn't answer, CROSSTALK XVI will offer to re-dial the number until it gets through.

The second form of the GO command allows you to specify in advance that you want CROSSTALK XVI to re-dial until the call gets through. For example the command:

Command? **GO R90/30**

tells CROSSTALK XVI to dial the number repetitively at 90 second intervals, and to wait 30 seconds for a connection each time it makes a call. The "R" instructs CROSSTALK XVI to sound an alarm tone after establishing the connection. If you do not wish to hear the alarm tone, use "Q" in place of "R."

The RDIAL command sets the number of attempts to connect. The normal number value is 10.

The third form of the GO command is normally used with modems which do not have a built-in dialer. The GO LOCAL command tells CROSSTALK XVI that you have manually dialed the number, and that the connection is already established.

Terminal Mode

Once CROSSTALK XVI dials and connects to a distant computer system, the program enters "terminal mode." At this point, your system looks like a terminal to the remote computer system. Any keys you type on the keyboard are sent to the other computer, and any characters received from the other computer are displayed on your screen.

What happens at this point depends largely on the computer you called. Some systems (such as our test center) require that you press [ENTER] a few times when you first connect, other systems immediately display a greeting message.

When in terminal mode, CROSSTALK XVI displays a "status line" at the bottom of the screen, like this:

ESC for attention, HOME to switch/Capture OFF/Online: 00:00

This status line tells you four things: the keys to press for ATTENTION and SWITCH, the status of the capture command, and the amount of time you have been connected.

Entering Commands While Connected

Once you have connected to another computer, CROSSTALK XVI will remain in terminal mode until you press either the ATTENTION or SWITCH keys. Each of these keys has a special meaning to CROSSTALK XVI.

The ATTENTION Key

Pressing the ATTENTION key when CROSSTALK XVI is connected to another computer will display the "Command?" prompt on the bottom line of the screen. When the command prompt appears, you may enter any command to CROSSTALK XVI. While the command prompt is still on the screen, you will see any data coming in from the host computer system.

As an example, let's say that you have called into another computer system, and connected. Once you call into the system, you decide that you want your printer on, so that you'll have a printed copy of your session. Press the ATTENTION key (usually the ESCAPE key), and the "Command?" prompt will replace the status line on the bottom of the screen.

Enter the command **PRINTER ON,** and press ENTER . CROSSTALK XVI turns the printer on, and returns to terminal mode.

When in terminal mode, CROSSTALK XVI always returns to terminal mode after completion of any command. If the command resulted in an error, the corresponding error message will be displayed in the status line for five seconds, and then the status line display will return.

The SWITCH Key

The SWITCH key operates in a similar manner to the ATTENTION key. When you press the SWITCH key, CROSSTALK XVI switches between the terminal communications screen and the status screen. Anytime the status screen is displayed, the "Command?" prompt will appear on the bottom line of the screen.

When the command prompt appears, you may enter any commands to CROSSTALK XVI. After the command is completed, the command prompt will re-appear. To return to terminal mode, press the ⎡ENTER⎤ key. The program will switch back to the communications screen, and the status line will re-appear.

Any data which comes in the communications link while you are looking at the status screen is kept in a "buffer" area in memory. When you return to the terminal screen, the "buffered" data is added to the information which was already on the screen. The buffer holds 4,096 characters or about two "screensful" of text.

When to Use SWITCH and ATTENTION

Generally, you will only use the SWITCH and ATTENTION keys when you are connected to another computer system. When you first run CROSSTALK XVI, the status screen is displayed. As soon as connection with another computer is established, the program automatically switches to the terminal screen.

As explained earlier, the SWITCH and ATTENTION keys are used to enter commands to CROSSTALK XVI while you are connected to another computer.

Use the ATTENTION key when the command you are entering will not affect the screen. Commands which display information on the screen are best entered from the status screen.

For example, asking CROSSTALK XVI for a directory while on the terminal screen will cause CROSSTALK XVI to print the disc directory on the screen. If you have some important data on the screen, the directory information may cause the other information to "scroll" off the top of the screen. When the directory is displayed from the status screen, the directory information is shown in the display window on the status screen. The information on the terminal screen remains untouched. When you press ⟦ENTER⟧ to return to communications, the terminal screen will be just as it was when you switched screens.

If you enter a command from the terminal screen which causes CROSSTALK XVI to print information on the screen, the information will be displayed in full bright, so that you will be able to tell CROSSTALK XVI's output from that of the host computer system.

What to Do When You're Finished

After you have completed a call, you will probably want to hang up. There are several commands relating to hanging up and exiting CROSSTALK XVI. The table below shows these commands, and explains what each one does.

Command	Effect
QUIT	Disconnects the current call, and returns you to DOS. Use this command when you are finished with your call, and do not wish to make another call.
BYE	Disconnects the current call, but leaves you in CROSSTALK XVI. Use this command when you are finished with your call, but wish to make another call.
XDOS	Leaves CROSSTALK XVI without disconnecting the call in progress. Use this command when you wish to exit from CROSSTALK XVI, run another program, and return to CROSSTALK XVI without disconnecting.

To enter any of these commands while a call is in progress, press the ATTENTION or SWITCH key, enter the command, and press [ENTER]. Exercise caution when using the XDOS command— it is easy to forget that you are still connected.

6   Terminal Features

Terminal Features

In the last section, we explained the elementary aspects of using CROSSTALK XVI; how to enter a phone number, how to enter commands, and how to use the SWITCH and ATTENTION keys. In this section, we will explain some of the more advanced features of CROSSTALK XVI.

The features described in this chapter affect the way in which CROSSTALK XVI operates in the terminal mode. Most of these features are provided for the convenience of the user; they have no effect on the "hardware" aspects of communications.

Viewing the Disc Directory

CROSSTALK XVI allows you to view the directory of any disc in the system in much the same manner as DOS does. The DIR command is used to view disc directories. The default format for directories is very similar to the DOS "/W" directory display; only the file names are shown, five entries per line. CROSSTALK XVI presents the names sorted by type and name.

CROSSTALK XVI provides two options to the DIR command which are NOT found in DOS. These are the /S (size) and /T (transmission time) options. A typical disc directory is shown below, using the DIR /T command:

```
┌─────────────────────────────────────────────────────────────────────────┐
│              ┌── CROSSTALK - XVI Status Screen ──┐      Off line          │
│                                                                           │
│   NAme   Crosstalk-XVI Default settings          LOaded   A:STD.XTK       │
│   NUmber                                          CApture  Off            │
│                                                                           │
│      ┌─── Communications parameters ───┐      ┌─── Filter settings ───┐   │
│      SPeed 1200   PArity None  DUplex Full     DEbug    Off  LFauto   Off  │
│      DAta  8      STop   1     EMulate None     TAbex    Off  BLankex  Off  │
│      POrt  1                   NOde   Call      INfilter On   OUtfiltr On  │
│                                                                           │
│          ┌──── Key settings ────┐          ┌── SEnd control settings ──┐  │
│      ATten  Esc          COmmand ETX (^C)    CWait    None                │
│      SWitch Home         BReak   End         LWait    None                │
│                                                                           │
│         ┌──── Directory for A:\????????.??? ────┐                          │
│      XTHELP   DIR ( 0m)  XTALK    EXE (11m)  XTALK    HLP ( 5m)  XTALK    PIF ( 4m) │
│      NEWUSER  XTK ( 0m)  SETUP    XTK ( 0m)  STD      XTK ( 0m)  CSERV    XTS ( 9m) │
│      DELPHI   XTS ( 0m)  DOWJONES XTS ( 0m)  LEX1X-M  XTS ( 9m)  LEXIS-T  XTS ( 0m) │
│      MCIMAIL  XTS ( 0m)  NEWSNET  XTS ( 0m)  NEWUSER  XTS ( 1m)  OAG      STX ( 0m) │
│      SETUP    XTS ( 0m)  SOURCE   XTS ( 0m)  VIEWTRON XTS ( 0m)                     │
│              19 File(s), 143K total, 11K free, transmission times for 1200   baud  │
│                                                                           │
│                                                                           │
│    ┌──────────────────────────────────────────────────────────────────┐  │
│    │ Command? _                                                        │  │
│    └──────────────────────────────────────────────────────────────────┘  │
└─────────────────────────────────────────────────────────────────────────┘
```

Note that the transmission times calculated for each file are at the current baud rate. Changing the baud rate will always affect the time required to send a particular file.

Transmission times are rounded down to the nearest minute. Files which will take less than one minute to transmit are displayed as 0 minutes.

Reserving More Directory Space

CROSSTALK XVI presents the disc directory in sorted order. In order to sort the directory, the program must reserve space in memory which is devoted to sorting. CROSSTALK XVI normally reserves space for 200 directory entries. Since DOS 2.0 supports multiple directories, this is normally adequate. However, if you need more space, the DNAMES command allows you to allocate more space for sorting directory entries. Enter **DNAME** x, where x is the number of entries you wish to reserve space for. Each directory entry requires 15 bytes of space. Increasing the amount of directory sorting space reduces the amount of memory available for capturing data by 15 bytes each.

Changing the Default Disc Drive

When you first run CROSSTALK XVI, the program "looks" to see what your current default disc drive is. The program then sets its own default drive to the same drive.

You may change CROSSTALK XVI's default disc drive with the DRIVE command. For example, the command:

Command? **DR B:**

tells CROSSTALK XVI to use drive B: for any disc operations, unless you provide a specific drive name. For example, if you have set the default drive to B:, you can still view the directory for drive A: by entering the command **DIR A:**.

The command DRIVE with no drive name will display the amount of space remaining on each of the disc drives in the system.

Changing the Current Directory

You can change the current directory from CROSSTALK XVI just as you can from DOS. The CD command is used to change directories. For example, to change from the root directory to the directory "BERT," enter the command:

Command? **CD BERT**

Similarly, to return to the root directory, enter the command:

Command? **CD ..**

After changing directories, CROSSTALK XVI displays the new directory name in the status line. The command CD with no name will also cause CROSSTALK XVI to display the current directory name.

Reviewing Disc Files

CROSSTALK XVI has a feature which allows you to inspect the contents of a disc file without having to return to DOS.

The TYPE command is used to display text files on your screen. To review the file BERT, for example, enter the command:

Command? **TYPE BERT**

If you wish, CROSSTALK XVI can add line numbers to each displayed line. The table below shows the options available in the TYPE command.

Command:	Action:
TYPE BERT	The contents of the file BERT are displayed on the screen, beginning from the start of the file.
TYPE #BERT	The contents of the file BERT are displayed with line numbers. Again, the file is displayed from the start of the file.
TYPE #100 BERT	The contents of the file BERT are displayed, with line numbers, beginning with the 100th line in the file.

Erasing Disc Files

Discs seem to have a habit of filling up at the most inconvenient time. The ERASE command may also be used to erase files from your disc, allowing you to free up space on a full disc by erasing unwanted files.

You may provide any legal file name to the ERASE command. For example, the command:

Command? **ERASE *.BAK**

will erase all of the files with a name ending in ".BAK." CROSSTALK XVI will show you the name of each file to be erased, and ask you to confirm that you want to erase the file.

The Function Keys

CROSSTALK XVI utilizes function keys in two ways. Each key may be assigned either a string of text or a CROSSTALK XVI command. This allows you to program the function keys to perform any number of different functions.

When you use the SAVE command to save a command file, all of the current function key assignments are saved along with the command file. When you LOAD a command file, the function keys are re-set to the values they had when the file was saved. This allows you to have a different set of function keys for each command file. If you were calling The Source, for example, you might want to have keys F1 and F2 contain your Source ID and login.

The FKeys command is used to both set and review function key settings. The command FK by itself will display the current contents of the keys. If supported by your computer, SHIFT, CONTROL, and ALT function keys are also available.

To program function key number 1 with the text "Hello" enter the command:

Command? **FK 1 Hello**

Note that if you issue any FKEY commands from the status screen, the program will display the new function key settings in the display window.

There are several characters which have special meaning when placed in a function key string. The following table lists each of the special characters.

Character	Effect
|	The form separator is used to imbed an ⎡ENTER⎤ inside of a function key definition.
@	If the @ character is the first character in a function key string, it tells CROSSTALK XVI that the contents of this function key are to be taken as a command to CROSSTALK XVI. For example, setting F1 to @BY| will cause CROSSTALK XVI to hang up the phone (perform the BYE command) when the F1 key is pressed.
^	The caret is used to place control characters in a function key. The character following the ^ is sent as a control character.

The following examples show some typical function key settings:

Command	Effect
FK 1 @PR/|	Sets F1 to printer off or on when pressed. Note that this key assignment begins with the @ character.
FK 2 ID TCA 123^A^B^C|	Sets F2 to send "ID TCA 123," followed by control-A, control B, control-C, and a carriage return. Note the use of the caret (^) before the control characters, and the use of the vertical bar for ENTER.
FK S1 Hello	Sets function key Shift-F1 to send the text "Hello" when pressed.

Printing Data While Online — The PRINT Command

CROSSTALK XVI can send a "copy" of all terminal screen activity to a printer. When the printer is enabled, you can still see incoming data on the screen.

The PRINTER command tells CROSSTALK XVI to turn on or off the output to the printer. The command:

Command? **PRINTER ON**

will cause CROSSTALK XVI to duplicate any terminal screen information on the printer.

When you issue the PRINTER ON command for the first time, CROSSTALK XVI tests the currently assigned parallel printer to see if the printer is ready. If you are using a serial printer, the ready test will not function properly. If you are using a serial printer connected to a comm port, use the command PRINTER DOS instead of PRINTER ON to initiate printing.

CROSSTALK XVI does not send status screen information to the printer. If you wish to print the status screen, use the PICTURE command (see chapter 9), and print the picture file.

The command PR / will switch the printer back and forth from ON to OFF. CROSSTALK XVI is supplied with this command programmed on function key #6. Pressing F6 will switch the printer on and off with a single keystroke.

The FILTER and INFILTER Commands

Some computer systems transmit special characters, called control-characters. These characters are often used by host computers for various functions, and are generally NOT needed by your CROSSTALK XVI system.

These characters can cause some problems, since they show up as graphic characters. CROSSTALK XVI has two features, FILTER and INFILTER, which allow you to selectively discard these unwanted characters.

The INFILTER command is used to enable or disable the control character filtering. The FILTER command is used to decide which control characters are discarded.

There are a few control characters which you will almost always want to keep. These characters are listed in the table below:

Character	Function
^G	Bell
^H	Backspace
^I	Tab
^J	Line Feed
^L	Form Feed
^M	Carriage Return

Use the FILTER command to change the table of allowable control characters. Enter the command:

Command? **FILTER**

and CROSSTALK XVI will display the table of all of the possible control characters, like this:
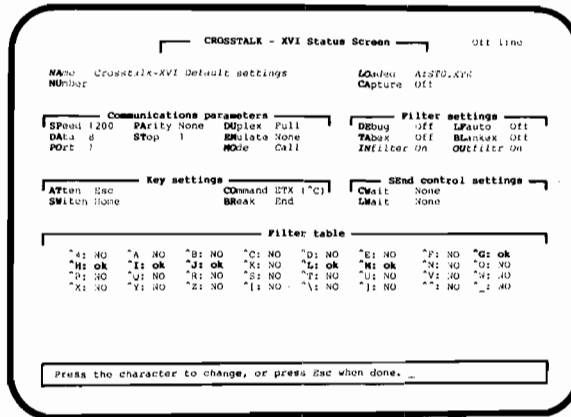
A "NO" next to a character means that the character is discarded by the INFILTER command, and an "ok" means that the character is passed by INFILTER. After you enter the FILTER command, CROSSTALK XVI will ask you to press the letter of the control character you wish to change, or press the ATTENTION key to leave the filter table as it is. For example, pressing the "K" key would switch K in the filter table from "NO" to "ok". After you have selected the characters you wish to filter, press the ATTENTION key.

Many computers and printers utilize the "high" data bit to display special "graphic" characters. Unfortunately, many host computer systems transmit data with the high bit on. This may cause your display to appear as a seemingly random combination of letters, numbers, and assorted Greek and graphic characters.

The INFILTER command performs another function besides passing control characters through the filter table; it also "strips" the high data bit from 8 bit data. This has the effect of converting 8-bit "unprintable" characters to their 7-bit "printable" form. If your printer or video display shows any of these unintelligible characters, turning INFILTER on will usually correct the problem.

Note that the INFILTER command affects the data displayed on your screen, the data printed on your printer, and the data captured to the capture buffer.

Disabling the "Online" Timer

You may wish to disable the "online" timer on the terminal screen status line. Some people find the timer distracting, and the timer may cause some minor flicker on systems with color monitors.

To disable the online timer, use the TIMER command. The command TIMER OFF will disable the timer. Note that the timer does not count unless the TIMER command is set to ON. This feature may also be used as a "stopwatch" if desired.

Changing the BREAK Key Assignment

A break is a special signal used by some computer systems to interrupt an operation. You can send a break by pressing the key designated as the BREAK key. The BREAK key can be any non-printing key on your keyboard. For example, the default setting for the BREAK key on most versions of CROSSTALK XVI is the END key. Anytime the END key is pressed, CROSSTALK XVI will send a BREAK signal to the other computer.

You can change the key assigned to the BREAK key by us-
ing the BREAK command. For example, to change the
BREAK key assignment to ^B, enter the command:

Command? **BREAK**

CROSSTALK XVI will ask you to press the key you wish to
use to send a break. To set the BREAK key to control-B,
press **^B.**

The DEBUG Command

Some computer systems send special characters called
"control-characters." These characters are often undesirable,
especially when you are capturing data to a disc file.

Control Characters

CROSSTALK XVI's DEBUG command lets you "see" incom-
ing control characters graphically on the screen. There are
several different display modes available.

Option	Description
Off	Control characters are not displayed.
ASCII	Control characters are shown as ASCII mnemonics (see Appendix G for a list of mnemonics). For example, a bell is shown as [BEL].
Hex	Control characters are shown in hex numbers. For example, a bell is shown as [07].
Char	Control characters are displayed in the form ^X. For example, a bell is shown as ^G.

The DEBUG feature is useful in identifying unknown control characters. Note that the command DEBUG ON will select CHAR debug mode.

Status Lights

CROSSTALK XVI has the electronic equivalent of the status lights found on some standalone modems as an option to the DEBUG command. The command **DEBUG RS232** turns on the status display at the lower right corner of the computer screen, replacing the on-line timer. The status display is composed of eight "lights," representing pins 2, 3, 4, 5, 6, 7, 8, and 20 of the RS-232 interface.

Pins 2 and 3 (transmitted and received data) show the last character sent and received, respectively. All others display a minus sign (—) if the signal is inactive or the pin number of the signal involved (i.e. "4") if the signal is active.

The table below explains the significance of each light:

2   Transmitted data. Shows the last character transmitted from your computer to the modem. Control characters are shown in red on a color display, and in "half intensity" on a monochrome display.

3   Received data. Shows the last character received by your computer from the modem.

4   Request to Send (RTS). Shows the status of the RTS signal at the RS232 interface. The RTS signal is sent from the computer to the modem, indicating that the computer is ready to receive data. Neither your modem nor CROSSTALK XVI uses this signal.

5	Clear to Send (CTS). Opposite of RTS, above. CTS is sent from the modem to the computer, indicating that the modem is ready to accept data. Note that RTS and CTS are not used by your modem or CROSSTALK XVI.
6	Data Set Ready (DSR). This signal is sent from the modem to the computer, indicating that the modem is ready to accept data for transmission.
7	Signal Ground—The ground signal (pin 7) is shown only as a reference.
8	Carrier Detect (CD). Shows the state of the CARRIER DETECT signal from the modem. The CD signal is sent from the modem to the computer, and indicates that the modem is receiving a valid carrier signal from the distant modem.
0	Data Terminal Ready (DTR—pin 20). Shows the state of the DTR signal from the computer. The DTR signal is sent from the computer to the modem indicating that the terminal is ready to accept and send data.

The TURNAROUND Command

Some mainframe computer systems use a key other than the ENTER key to signal end-of-line. An example of this is the Univac 9000 series, which uses ^C for end-of-line. The TURNAROUND command tells CROSSTALK XVI what character to send when the ENTER key is pressed.

The default setting for TURNAROUND is the [ENTER] key. To change the TURNAROUND character to another key, enter the command:

Command? **TU**

CROSSTALK XVI will ask you to press the key to be sent when the enter key is pressed.

Listing the Current Parameters

The LIST command is used to display those CROSSTALK XVI options and parameters which are not normally shown on the status screen. The LIST command operates differently in call mode than it does in answer mode.

When the LIST command is issued from the status screen in CALL mode, CROSSTALK XVI displays a list of additional status information on the display window. This display looks like this:

```
┌────────────────────────────────────────────────────────────────┐
│         ┌── CROSSTALK - XVI Status Screen ──┐    Off line       │
│                                                                  │
│  NAme   Crosstalk-XVI Default settings      LOaded   A:STD.XTK   │
│  NUmber                                      CApture  Off        │
│                                                                  │
│ ┌──── Communications parameters ───┐'  ┌──── Filter settings ───┐│
│ │ SPeed 1200  PARity None  DUplex Full│ │ DEbug   Off   LFauto  Off││
│ │ DAta  8     STop   1     EMulate None│ │ TAbex   Off   BLankex Off││
│ │ POrt  1                  MOde    Call│ │ INfilter On   OUtfiltr On││
│                                                                  │
│ ┌──────── Key settings ─────────┐  ┌── SEnd control settings ──┐ │
│ │ ATten  Esc     COmmand ETX (^C)│  │ CWait   None              │ │
│ │ SWitch Home    BReak   End     │  │ LWait   None              │ │
│                                                                  │
│ ┌─────────────── Miscellaneous parameters ──────────────────────┐│
│  DRive   A:         ACcept  Everything    PWord                  │
│  DPrefix ATDT       DSuffix |             APrefix  ATS0=1|       │
│  PRinter Off        UConly  Off           ANswback On            │
│  PMode   2 (DOS)    BKsize  1             DNames   200           │
│  EPath              NDials  10            TUrnarnd Enter          │
│  VIdeo   EGA/Mono   FLow    ^S/^Q         HAndshak Off           │
│                                                                  │
│ ┌──────────────────────────────────────────────────────────────┐│
│ │ Command? _                                                    ││
│ └──────────────────────────────────────────────────────────────┘│
└────────────────────────────────────────────────────────────────┘
```

When the LIST command is issued to an answering CROSSTALK XVI system, the program presents the caller with a display similar to the status screen, including the additional "miscellaneous parameters" information.

Changing the Dial Procedure

CROSSTALK XVI can support auto-dialing with most auto-dial modems.

If you wish to alter the default set-up, you can do so with the DPREFIX and DSUFFIX commands.

The DPREFIX command allows you to specify the dialing prefix for your modem. The default setting for DPREFIX is "ATDT." The DPREFIX string is sent to the modem BEFORE the phone number. The default setting "ATDT" instructs the modem to dial with tones. If, for example, you wish to pulse dial, the command:

Command? **DP ATDP**

will instruct the modem to dial with pulse dialing.

There are several characters which have special meaning when placed in a dialing string. The table below lists each of the special characters.

Character	Effect
|	Imbeds a carriage return (ENTER key) inside of a dialing string.
^	Used to place control characters in a dialing string. The character following the ^ is sent as a control character.
~	Instructs CROSSTALK XVI to "wait" for a second when dialing. Use as many of these as needed for delaying between dialing characters.

The DSUFFIX command is the counterpart to the DPREFIX command. The DSUFFIX command tells CROSSTALK XVI what characters to send to the modem AFTER the phone number.

The ANSWERBACK Command

Some computer systems and networks require that all terminals calling into the system be equipped with an answerback. An answerback is an identifier code which identifies your particular terminal to the computer system.

Answerbacks are most commonly used on the TELEX network. Each terminal on the network has its own unique identifier code, and the network can send a code called ENQUIRE to each terminal, asking the terminal to send its answerback.

The ENQUIRE character is ^E. If desired, CROSSTALK XVI can respond to a received ^E by transmitting the contents of function key number 4. To enable this feature, use the ANSBACK command.

When ANSBACK is on, any received ^E character will cause the contents of function key 4 to be sent to the modem. When ANSBACK is off, received ^E characters are ignored.

Note that answering CROSSTALK XVI systems send a ^E character to request your password. If you will be calling into a CROSSTALK XVI system which will require a password, turn ANSBACK on, and enter your password in function key 4. When the system answers, your password will automatically be sent to the answering system.

Changing the Screen Colors

The SCREEN command allows you to select the colors to be used by CROSSTALK XVI. The "normal," "highlighted," and command line colors may be changed. Both the foreground and background colors may be changed. These commands are only operative on systems with color displays.

Colors are specified by entering the first letter of the desired color. A lower-case letter denotes a "dark" shade of the color. An upper-case letter denotes a "bright" shade of the color.

Screen color commands are entered in the form:

Command? **SCREEN A FB**

where A specifies the type of characters you wish to set (N for Normal, H for Highlighted, or L for status line), F sets the foreground color (the color of the characters themselves), and B sets the background color (the color of the background on which the character appears). The available colors are:

Color	Letter
Black	K
Blue	B
Green	G
Cyan	C
Magenta	M
Yellow	Y
White	W

Note that the minus (–) may be substituted for the letter K to select the color black.

The table below shows some possible variations on the SCREEN command:

Command	Effect
SC N y	Set the "normal" screen color to dark yellow.
SC N Y	Set the "normal" screen to bright yellow.
SC H Yg	Set the "highlighted" screen to bright yellow characters on a dark green background.
SC H Gy	Set the "highlighted" screen to bright green characters on a dark yellow background.
SC L -r	Set the status line color to black letters on a red background.(inverse red)

Status Line Color

On systems with color video displays, the color of the status line is used "as a visual indicator of capture status".

When you first turn capture on, the status line changes from white to green, to show that capture is on. When you have used one half of your available capture memory, the status line switches to yellow.

When there is 1K of space remaining in the capture buffer, the status line turns red, and a special alarm tone sounds, to warn you that you are about to run out of memory.

Running an Editor from CROSSTALK XVI

The EDIT command allows you to run a text editor program from within CROSSTALK XVI. When you use the EDIT command, CROSSTALK XVI stays in your computer's memory, and continues to receive any incoming data. After you exit from your text editor, you will automatically return to CROSSTALK XVI.

To run your text editor from CROSSTALK XVI, enter the command:

Command? **EDIT** filename

CROSSTALK XVI will load and run your editor program, using the file name given.

Before you can use the EDIT command, you have to tell CROSSTALK XVI what the name of your editor program is, and where to find it. The EPATH command is used to tell CROSSTALK XVI where to find your text editor program. For example, if you wish to use the EDLIN editor supplied with DOS, and EDLIN.COM is in a subdirectory called "bin" on drive C:, then you would enter the command:

Command? **EPATH C:/BIN/EDLIN.COM**

We suggest that you set EPATH once, then save a new "standard settings" file, so that you won't have to re-enter the editor name each time you run CROSSTALK XVI.

Note that when running an editor from within CROSSTALK XVI, your available memory is reduced by 72K, plus the amount of any data you have captured.

Running Other Programs from CROSSTALK XVI

The RUN command allows you to run other programs from CROSSTALK XVI in much the same way that the EDIT command allows you to run a text editor program. To run another program, enter the command:

Command? **RUN** program name

CROSSTALK XVI will turn control over to the other program, and control will return to CROSSTALK XVI when the second program is finished. You may also temporarily return to DOS by entering RUN with no program name. Once you are in DOS, you may run another program. To return to CROSSTALK XVI, enter EXIT from the DOS prompt.

When you are running another program from CROSSTALK XVI, avoid running any programs which may change the settings of the serial port you are using for CROSSTALK XVI.

7 Changing the Communications Parameters

Communications Parameters

Data communications, by its nature, is an area filled with technical details. Before two computers can even begin to communicate with one another, they must agree on HOW they will do the communicating.

A good analogy to this is two persons talking on the telephone. One person must call the other to establish the communications link. When they begin talking, they must both be speaking the same language. Finally, they will usually speak one at a time, so that the other person can hear what is being said.

Communications between two computers is a little more complicated than two people speaking on the phone. Again, one person must initiate the call (CALL mode), and the other computer answers the call (ANSWER mode). Like the two people in our analogy, they must each "speak" in a manner that the other computer understands.

It is important to remember that when you are calling into another computer system, you will generally have to adjust YOUR communications parameters to suit the requirements of the system you are calling. Most dial-up systems are designed to be accessed by a large number of people, with different types of equipment. For the most part, each terminal calling into a dial-up system must conform to the standards for that system; the system will not configure itself to conform to your parameters.

CROSSTALK XVI provides several commands which control all of the communications parameters. This chapter will explain each of these commands.

Changing the Communications Port

CROSSTALK XVI allows you to use one of several communications ports on your system for communications. The PORT command allows you to select the port to be used for communications. For example, to select port 2, enter the command:

Command? **PORT 2**

Some computers refer to the ports by letters, rather than numbers. CROSSTALK XVI will accept the letter "A" to mean port 1, "B" to mean port 2, and so on.

The DUPLEX Command

Not all host computer systems operate in the same manner. Some computer systems will echo every character the user types, while others do not echo at all.

When communicating with a computer which does echo your data, you will want to set CROSSTALK XVI to FULL duplex. This is the most commonly used of the two possible settings, and is the default value.

If you call into a computer and can not see what you type, the host system is probably not echoing your data. In this case, you would want to set duplex to HALF.

If you see two of everything you type, set duplex to FULL. Note that when you select ANSWER mode, CROSSTALK XVI automatically selects HALF duplex. When you select CALL mode, the program automatically selects FULL duplex.

Changing the Communications Speed

CROSSTALK XVI allows you to communicate with modems and other computers at several rates of speed. The rates available on most computer systems are 110, 300, 600, 1200, 2400, 4800, and 9600 baud.

The SPEED command allows you to select the communications speed at which CROSSTALK XVI will operate. You may enter the command:

Command? **SP**

and CROSSTALK XVI will prompt you to select a speed from a list of choices. Alternatively, the command **SPEED 1200** will select 1200 baud.

CROSSTALK XVI requires at least the first TWO digits of the speed in order to correctly determine the speed you want. For example, the command SPEED 12 will set 1200 bps but SPEED 11 will select 115200 bps.

Note   CROSSTALK XVI supports several faster speeds. These speeds are primarily of use when transferring files through a local "hardwired" connection. These speeds are: 19200 bps, 38400 pbs, 57600 bps, and 115200 bps. Note that the two highest speeds require a fast CPU.

Changing the Data Word Length

Some computer systems require that you communicate with them using a certain combination of data, stop, and parity bits. (For a full explanation of these terms, see the glossary.)

The DATA command allows you to select the number of data bits to be used. You may select 7 or 8 bits. The command:

Command? **DATA 8**

would set CROSSTALK XVI up for 8 bit data. There is no hard and fast rule about when to use 7 bits, and when to use 8. If you are in doubt, try 8 bits first.

Note that CROSSTALK XVI automatically selects 8 bits whenever a protocol file transfer is performed.

Changing the Parity

CROSSTALK XVI allows you to select the parity to be used by the communications interface. (For a full explanation of parity, see the glossary.) The available options are EVEN, ODD, and NONE. For example, to set the parity to even, enter the command:

Command? **PARITY EVEN**

Most computer systems ignore parity, and this setting is not usually critical. However, many mainframe computers require that your parity be set correctly. In such cases, consult the mainframe system operator to determine the correct parity setting for the system in question.

Changing the Number of Stop Bits

As with the PARITY and DATA commands, it is sometimes necessary to change the number of stop bits. The STOP command is used to select either one or two stop bits. As a general rule, most computers use one stop bit at speeds of 300 baud and above, and two stop bits at 110 baud.

For example, to set the number of stop bits to 1, enter the Command:

Command? **STOP 1**

The LFAUTO Command

Some computer systems do not send line feed characters at the end of each line. This can cause a problem, since CROSSTALK XVI expects each line to end with a carriage return and begin with a line feed.

If you call into a computer system and each line "over-types" the previous line, try turning LFAUTO on. When each carriage return is received, CROSSTALK XVI will add a "fake" line feed. The lines will no longer overprint on your screen.

User-Settable Start/Stop Characters

The FLOW command allows you to set the start and stop characters required by the host computer you are communicating with. The FLOW command is used to tell CROSSTALK XVI how to control character flow with the host computer system. Normally, FLOW is set to ^S/^Q, meaning that the host system will stop sending upon receipt of ^S, and will re-start after receiving a ^Q. If you wish, you can have separate start/stop sequences for the host system and your CROSSTALK XVI system. To enter a new set of stop/start characters, enter the command: **FLOW ab cd**, where a, b, c, and d are as follows:

a-Sent by host to make CROSSTALK XVI stop sending
b-Sent by host to let CROSSTALK XVI start sending again
c-Sent by CROSSTALK XVI to make the host stop sending
d-Sent by CROSSTALK XVI to let the host start sending again

For example, the command: **FLOW SQ** will set ^S as the stop character, and ^Q as the restart character. If you supply only "a" and "b", then CROSSTALK XVI will use the same set of characters for both the host system and the CROSSTALK XVI system.

To disable flow control entirely, enter

Command? **FLOW -**

8   Terminal Emulation

Terminal Emulation

Some computer systems expect to see a particular type of terminal. For example, the DEC VAX editor program assumes that you have a DEC terminal. CROSSTALK XVI can emulate, or "mimic" several popular terminals, including:

Televideo 910/920 series
IBM 3101 ASCII terminal
Adds Viewpoint
DEC VT-100 and VT-52
Texas Instruments 940

Selecting the Emulation Type

The terminal emulation type is selected by the EMULATE command. For example, the command:

Command? **EMULATE IBM**

will cause CROSSTALK XVI to emulate an IBM 3101 terminal. CROSSTALK XVI behaves slightly differently in emulation mode than it does in terminal mode. The remainder of this section will explain those differences.

Televideo Emulation

When set to TELEVIDEO emulation mode, CROSSTALK XVI emulates the Televideo 910/920 series of terminals. Most attributes available on the televideo terminals are available under CROSSTALK XVI.

Note that the 920 function keys are not emulated. If you need to simulate the 920 function keys, you may program your keys using the FKeys command.

Televideo's BLOCK mode is not supported by CROSSTALK XVI.

IBM 3101 Emulation

When in IBM 3101 emulation mode, CROSSTALK XVI emulates an IBM 3101 character-mode terminal. The 3101 has 8 function keys, marked PF1 through PF8. When you select 3101 emulation, CROSSTALK XVI automatically programs your F1 through F8 keys to send the same codes as the 3101 keys.

The numeric keypad keys are also programmed to simulate the 3101 numeric keypad. If your computer's keyboard has a NUM LOCK key, the NUM LOCK key is used to determine whether to send numbers or arrows when a keypad key is pressed. When NUM LOCK is active, the number keys generate numbers. When NUM LOCK is off, the number keys send the arrow codes when the arrow keys are pressed, and the HOME key sends the 3101's HOME sequence. Note that the SWITCH key is re-assigned to shift-HOME when 3101 emulation is selected.

DEC VT-100 and VT-52 Emulation

When DEC VT-100 emulation is selected, CROSSTALK XVI responds to the DEC VT-100 command set in both ANSI standard and VT-52 modes. CROSSTALK XVI "looks" like a no-options VT-100; that is, CROSSTALK XVI can NOT emulate a VT-130 graphics terminal.

To select VT-100 emulation, enter the command:

    Command? **EMULATE VT**

To select VT-52 emulation, enter the command:

    Command? **EMULATE 52**

The following VT-100 functions are NOT supported by CROSSTALK XVI:

    132 column mode
    Smooth scrolling
    Split screen
    Double-high characters
    Double-wide characters

When VT-100 emulation is active, the timer normally displayed on the right side of the status line is replaced by a keypad mode indicator. The status line will show whether the keypad is set to application or numeric mode.

The VT-100 keypad is simulated on most keypads as follows: DEC function keys PF1 through PF4 are assigned to the f1 through f4 function keys. All of the other keys on your computer's keyboard respond to the same keys on the DEC keyboard. Note that there is no COMMA key on the keypad. In this case, the keypad asterisk (*) is used to simulate the DEC comma key.
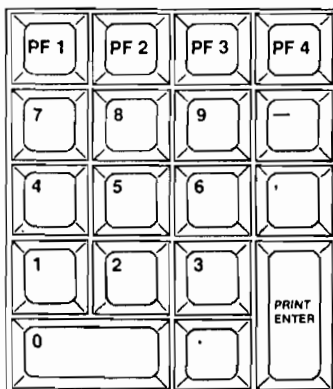
VT-100 Numeric Keypad   Typical PC Keypad

The DEC arrow keys are simulated in two ways. First, your computer has separate arrow keys; those keys will send the equivalent VT-100 codes when pressed.

Second, your computer uses the numeric keypad for both numbers and "arrows", depending on the state of the NUM LOCK key. If NUM LOCK is ON, then the keypad will produce either numeric codes, or DEC application codes, depending on the application program being run on the host computer. If NUM LOCK is OFF, then the keypad arrows (keys 2, 4, 6, and 8) will produce the appropriate "arrow" codes.

The VT-100 arrow keys are also duplicated on the main keyboard as follows:

For:
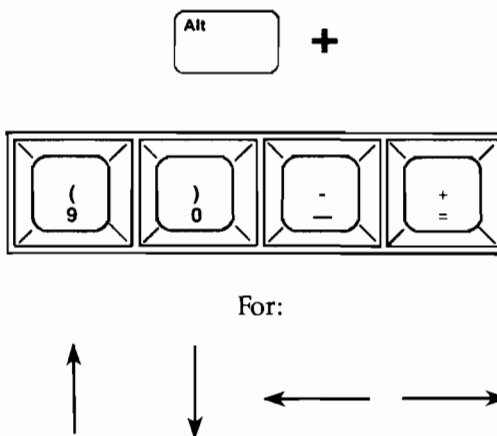
Since the HOME key is used to simulate one of the VT-100 keypad keys, the SWITCH key is re-assigned to SHIFT-HOME when VT-100 mode is selected.

CROSSTALK XVI supports all of the VT-100 printer modes. This allows your PC to act as a VT-100 terminal with a printer attached. We also support the GO and G1 (United Kingdom) character sets. CROSSTALK XVI supports all of the VT-102 extensions to the original VT-100 terminal. To reflect these changes, CROSSTALK XVI sends the VT-102 identifier sequence when responding to a "what are you" request from a host computer.

Note   Most DEC application software requires a DELETE for a backspace. Control ←(backspace) will send a DELETE.

CROSSTALK XVI normally uses the PC's backspace key as "backspace," and uses "control-backspace" to send a DELETE to the host computer. If you prefer to use the PC's backspace key to send a DELETE, you can program function key 1 to contain a backspace (^H). Enter the command **FK 1^H**. Note that this does not change the operation of function key 1; it just tells CROSSTALK XVI to swap backspace and DELETE.

9   Capturing Data

Capturing Data

Before we explain HOW to capture data, we will first explain WHAT it means.

Let's say that you subscribe to a dial-up information system, such as Dun & Bradstreet. You have called in to the system, and requested a credit check on a new customer. Let's also say that you need to include that credit information in a report to your boss.

By using CROSSTALK XVI's capture features, you can save that customer's credit information on your disc, and then use your word processer program to edit the information, and include it in your report.

CROSSTALK XVI offers two ways to capture data, and each has it's own advantages and disadvantages. The two methods are called "Capture to disc" and "Capture to memory." We'll describe capture to memory first.

Capturing
Data to Memory

Capture to memory does just that— it saves incoming data in your system's memory. After you have captured the data you want, you can write the data to the disc file of your choice.

Capture can be turned off and on at any time, allowing you to selectively capture only the data you want. There are several commands related to enabling and disabling capture to memory. They are:

Command	Effect
CA +	Turns capture ON.
CA −	Turns capture OFF.
CA /	Switches capture between ON and PAUSED. If capture is OFF, then this will turn it ON. If it is ON, it will change it to PAUSED. If it is PAUSED, it will change it to ON. This is useful turning capture on or off quickly, especially when assigned to a function key.

Note that by default, function key F5 is programmed as: "@CA /". This allows you to turn capture on and off by pressing the F5 key.

Saving
Captured Data

After using capture-to-memory to capture some data, you'll probably want to save that data in a disc file. The WRITE command is used to write the captured data into a disc file of your choice.

As an example, if you had captured a financial report on a prospective new customer, you could issue the command:

Command? **WR B:NEWCUST.RPT**

to write the captured data into the file NEWCUST.RPT on drive B:. If there is not enough space remaining on the disc to save the entire file, the program will print a warning message, and allow you to either change discs, or write the data to a file on a different drive.

As a precaution, if you have captured some data and attempt to either leave the program or erase the contents of the capture buffer without first saving the data, the program will warn you and ask if you wish to save the data to a disc file before proceeding.

Precautions on Using Capture-To-Memory

If you attempt to capture more data than your system can hold in its memory, the program will warn you, and turn capture OFF. If you have a system with a small amount of memory, you may wish to use capture-to-disc as an alternative.

On the other extreme, if your system has a large memory and small capacity disc drives, it may be possible to capture more data than will fit onto one entire disc. You should be careful of this when capturing large amounts of data at one time. In such cases, it is much safer to use capture-to-disc, since the data will be written to the disc continuously, thus avoiding any unpleasant surprises.

One last word on using capture-to-memory: Remember that the captured data is not written to the disc until you explicitly tell the program to save the data. In the event of a power outage, any data which has been captured will be lost. Using capture-to-disc avoids this problem, since captured data is saved almost continuously.

Capturing Data Direct to Disc

As an alternative to capturing to memory, you may wish to have the program write the captured data directly into a disc file.

To begin capturing data to a disc file, enter the command:

Command? **CA** filename

If the file name given does not exist, it will be created. If the file does exist, the program will give you the option of erasing the old file, or of adding the new data to the end of the old file. In either case, the program will then begin capturing incoming data in to the file.
If you know ahead of time that the file you are capturing to already exists, you may instruct CROSSTALK XVI to erase the file, or append the new data to the file. The command:

Command? **CA** filename **/E**

will tell CROSSTALK XVI to erase the old file first, and the command:

Command? **CA** filename **/A**

will tell CROSSTALK XVI to append the new data to the end of the existing file.

As we outlined in the previous section, capturing to memory poses some potential problems which can be overcome by capturing directly to disc.

When capturing data directly to disc, the program writes the captured data to the disc every 1K (1,024 characters). This provides several advantages over saving large amounts of captured data in memory.

As a general rule, use capture to disc when:
Your system has a small memory capacity (less than 128K)
Your system has a large disc capacity (more than 320K)
You are in an area which is susceptible to power outages
You will be capturing large amounts of data at one time

If the disc should become full while capturing, the program will print a warning message, and then begin capturing the remainder of the data to memory.

You may be wondering WHY there are two different methods of capturing data, when it seems that capture-to-disc has several advantages. The answer is that while capture-to-disc is inherently more reliable, there are several features available in CROSSTALK XVI which can only be used in conjunction with memory capture. These features include the ability to review and search through the capture buffer. We'll explain these features later in this section.

Retro-Capture

CROSSTALK XVI has a unique feature called RETRO-CAPTURE, which allows you to capture data which has already scrolled off of the screen. The program maintains a "circular" buffer, and all incoming data is routed through this buffer. The buffer holds 4096 characters. As new data comes in, the oldest data is "bumped" out of the buffer to make room for the new data. RETRO-CAPTURE allows you to retrieve data out of this buffer and store it in the main capture buffer. Since the screen holds 1920 characters (24 lines of 80 characters), the retro-capture circular buffer can hold about two "screenfuls" of text.

To activate retro-capture, enter the command:

Command? **CA** <

The program will respond with a message telling you that RETRO-CAPTURE is complete, and will turn capture ON. Note that RETRO-CAPTURE may only be used when capture is OFF.

If you wish to capture a specific number of lines, you may enter the command:

Command? **CA** < x

where x is the number of lines you wish to capture.

Capture Search and Status

When capturing data to memory, you can search through the capture buffer for a specific word or phrase. You can also ask CROSSTALK XVI to tell you how much data has been captured.

Both of these functions are accomplished through the CSTAT command. The command **CS** alone will show you the status of the capture buffer— how many lines of text and how many characters have been captured, how much space is left for capturing additional data, and how much space is left on the current disc.

To search through the buffer for a specific word or phrase, enter the command:

Command? **CS** text

where "text" is the word or phrase you wish to search for. For example, if you had captured some data regarding wheat commodities, the command:

Command? **CS WHEAT**

would search the capture buffer for all occurences of the word "wheat." If the word "wheat" exists in the capture buffer, the program will display the contents of the capture buffer surrounding the located word. After displaying the word, the program will offer to continue searching through the buffer.

The CS command may only be used when capture-to-memory is active.

Making a Record of the Screen

Often, it is helpful to be able to save an exact copy of the screen. CROSSTALK XVI provides you with two methods for saving the screen contents.

The PICTURE command tells CROSSTALK XVI to take a "picture" of the screen, and save the picture in a disc file of your choice. The PICTURE command may be used from either the status or communications screens. For example, the command:

Command? **PICTURE BERT**

would save a picture of the current screen in the file "BERT." Note that the PICTURE command may not be used while capture is active.

The SNAPSHOT command works in a manner similar to
the PICTURE command, except that the screen image is
saved in a special "snapshot" buffer. The snapshot buffer
may not be written to the disc, nor may it be added to the
main capture buffer; it may only be reviewed. The SNAP-
SHOT command operates ONLY on the terminal screen.

To take a snapshot of all 24 lines on the screen, enter the
command:

   Command? **SNAPSHOT 24**

To review the snapshot buffer, enter the command:

   Command? **SNAPSHOT**

Remember that the SNAPSHOT buffer can not be saved on
the disc. To save screen data into a disc file, use the PIC-
TURE or RETRO-CAPTURE features.

Erasing the Capture Buffer

It is often necessary to erase the contents of the capture
buffer. The ERASE command allows you to erase all of the
data in the capture buffer. The command:

   Command? **ERASE**

instructs CROSSTALK XVI to discard all data in the capture
buffer. As a precaution, the program asks you to confirm
that you really want to erase the buffer before the data is
actually discarded.

Reviewing the Capture Buffer

CROSSTALK XVI allows you to review the contents of the capture buffer. The TYPE command is used to display the capture buffer data on the screen. If you wish, CROSS-TALK XVI can add line numbers to each displayed line. The table below shows the options available in the TYPE command:

Command	Action
TYPE	Capture buffer contents are displayed on the screen, beginning from the start of the capture buffer.
TYPE #	Display the contents of the capture buffer, with line numbers. Again, the buffer is displayed from the start of the capture buffer.
TYPE #100	Display the contents of the capture buffer, with line numbers, beginning with the 100th line in the buffer.

10   Sending Text Files

Sending a File to Another Computer

In the last chapter, we looked at the capture feature, which provides a means of capturing data from a remote computer system, and saving it on your disc. In this chapter, we'll show you how to use the SEND command to send data from your disc to another computer system.

Before we proceed any further, please keep in mind that you will use the SEND command **only** when you are communicating with another computer which is **not** running CROSSTALK XVI or a compatible file transfer program. The process of exchanging files with another CROSSTALK XVI compatible system will be covered in the next section.

To send a text file to another computer, enter the command:

   Command? **SEND** filename

This will cause CROSSTALK XVI to send the file named by "filename" to the host computer.

Commands Which Affect the SEND Command

Sending a text file to another computer system is not always as simple as merely issuing the SEND command. Since no two computer systems operate in exactly the same way, it is often necessary to modify the manner in which CROSSTALK XVI sends text through the SEND command. There are several other commands which affect the SEND command. In many cases, it will be necessary to set one or more of these other commands before issuing the SEND command.

These commands are: CWAIT, LWAIT, OUTFILTER, TABEX, BLANKEX, and UCONLY. Each of these commands has it's own distinct purpose, and each may be used in conjunction with any of the others to afford you maximum flexibility.

The remainder of this chapter will explain each of these commands, and show how to use them.

Waiting For Slow Systems

Many computer systems require some sort of an inter-line delay when accepting text files. For example, many systems will send a prompt when they are ready to accept a line of text, others may simply require that you wait for a specific period of time between lines. The reason for this is that most host computer systems are designed to service terminals with people typing at those terminals. Since very few of us can type at 120 characters per second, the systems don't have the ability to respond to input at full speed.

When you use CROSSTALK XVI's SEND command to send a text file into another computer system, your system looks to the host system like a very fast typist. Unfortunately, many computer systems can not keep up. If you send text faster than the host system can take it in, some characters may be lost. To avoid losing any information, CROSSTALK XVI has several methods for "waiting" for slower computer systems.

CROSSTALK XVI has two commands which control this waiting. The CWAIT command provides a wait between each transmitted character, and the LWAIT command can provide a delay between each line. In most cases, you will need to use only the LWAIT command.

LWAIT

Waiting Between Lines

The LWAIT command is used to select a method of waiting between transmitted lines. There are several options available, and each has its own distinct function. The options are each explained below.

LWAIT PROMPT x

With this option selected, CROSSTALK XVI will send a line of text, wait for a prompt of x characters, and then send the next line. This method is most useful when sending text files to systems which send a fixed number of characters as a prompt. A good example of this is a system which sends a single character prompt when the system is ready to accept the next line.

LWAIT LEARN

This option is very similar to the PROMPT option, except that it counts the number of characters in the prompt for you. When LEARN is selected, CROSSTALK XVI sends the first line of the file, and then asks you to press the space bar when the host system is finished sending its prompt. While the program is waiting for you to press the space bar, it is also counting the number of characters received from the modem. After you press the space bar, the program sets up LWAIT PROMPT mode, using the count of characters as the prompt length.

This method is the simplest to use, but again, will only operate properly with systems which send a fixed-length prompt.

LWAIT MANUAL

In this mode, CROSSTALK XVI sends a line of text, asks you to press the space bar, and then sends the next line of text. This process is repeated until there are no more lines to send. Since you can see any data being returned from the host, you will be able to control the flow of data to the host system.

This option is useful when sending small files to systems which do not always respond to input in a consistent manner. Since you see the host's response between each line, you can control the flow of data accordingly.

LWAIT QUIET x   In this mode, CROSSTALK XVI sends a line of text, and
                       then waits until the line is "quiet" (i.e. no characters
                       received) for a period of x tenths of seconds. The next line
                       is then sent, and the process is repeated until there are no
                       more lines to send.

                       This option is most useful when sending text to a system
                       which sends a random-length prompt between lines.

LWAIT DELAY x   This option is similar to the QUIET option described
                       above, except that the program waits for x tenths of a sec-
                       ond, regardless of what was received by the host. It is
                       most useful for introducing a short inter-line delay on sys-
                       tems which can not quite take full-speed transmissions.

LWAIT CHARACTER x When this option is selected, CROSSTALK XVI sends each
                       line of text, and then waits for the specified character be-
                       fore sending the next line. This option is most useful when
                       sending text to systems which send a random-length
                       prompt, but only when the prompt ends in a consistent
                       character. It is also especially useful for sending to many
                       half-duplex mainframes, such as IBM systems running
                       TSO. These systems typically do not echo received data,
                       but send a single character prompt when the system is
                       ready for the next line.

                       By waiting for the specific character, you are assured that
                       you haven't begun sending the next line of text before the
                       host system is ready for it.

LWAIT ECHO   When LWAIT is set to ECHO, CROSSTALK XVI sends each
                       line of text, and then waits for the carriage return character
                       to be echoed back from the host computer. The next line is
                       then sent.

                       This option is useful for sending text files to systems which
                       send a carriage return to indicate that the system is ready
                       to accept another line of text.

CWAIT
Waiting Between Characters

The CWAIT command is similar to the LWAIT command. While LWAIT tells CROSSTALK XVI how to wait between each line of text, CWAIT tells CROSSTALK XVI how to wait between each transmitted character.

In most cases, you will not need to use CWAIT. LWAIT and CWAIT operate independently of one another. CWAIT is typically used when sending text files to older mainframes which are slow to respond to incoming data. It is also useful when transmitting text to many bulletin board systems.

The CWAIT command has two options: Delay and Echo.

CWAIT DELAY x

The DELAY x option instructs CROSSTALK XVI to wait x thousandths of a second between characters. This option is most useful for introducing a slight inter-character delay to accommodate systems which can not take full-speed input.

CWAIT ECHO

The ECHO option tells CROSSTALK XVI to wait for the last transmitted character to be echoed back from the host before transmitting the next character. Since the character must make a full "round trip" before the next character is sent, the effective transmission speed is cut in half. Use this option sparingly, only on systems which are very slow to respond to input. Note that this option can not be used when CROSSTALK XVI is set to half duplex operation.

TABEX
Expanding Tab Characters

MS-DOS systems interpret the tab key to mean "move the cursor to the next column position which is a multiple of eight." Some systems do not allow the use of tab characters in text files. If you are transmitting a text file containing tabs to a host system which does not support tabs, you will need to use the TABEX command.

The TABEX command tells CROSSTALK XVI that if a tab character is encountered in a text file, send the appropriate number of spaces instead. Setting TABEX to ON enables this feature, setting it OFF disables it.

If the system you are sending to does support tabs, you can save considerable transmission time by leaving TABEX OFF. When TABEX is on, each tab will be transmitted as eight spaces.

UCONLY
Converting Lower Case to Upper

Some older computer systems do not support lower case letters. If you have a text file containing lower case letters, and you need to send the file to a system which does not support lower case, the UCONLY command can help.

When UCONLY is ON, all lower case letters are converted to upper case before they are transmitted. Upper case letters and punctuation marks are not affected.

BLANKEX
Expanding Blank Lines

Some computer systems take a blank line to mean "I'm finished sending text now." If you are trying to send a file containing blank lines to a system which doesn't want to see any blank lines, use the BLANKEX command.

When BLANKEX is ON, any blank lines are converted to a one character line, consisting of a single space character. This is usually enough to get around the problem.

OUTFILTER
Removing Line Feeds

Text files with EDLIN and similar editors contain a carriage return and a line feed at the end of each line. Many computer systems do not need the line feed character, and some systems may create an additional blank line from the line feed character.

When OUTFILTER is ON, no line feed characters will be transmitted. If a text file contains carriage returns and line feeds at the end of each line, only the carriage return will be sent.

11   Answer Mode Operation

Answer Mode

CROSSTALK XVI can operate in one of two major modes. These two modes are CALL and ANSWER. CALL mode is used for making calls, and ANSWER mode is used for answering calls.

Besides the obvious difference, there are numerous other differences between the two modes. First, and most importantly when you are in call mode, you know that **you** are going to be entering all of the commands. In answer mode, either end (the caller or answerer) may enter commands to CROSSTALK XVI, although the caller will usually be entering the commands.

Note that some commands respond differently depending on who entered the command. Some commands which have potentially harmful effects may not be entered at all by a remote caller.

Further, an unattended answer-mode system is "wide open" to abuse and malicious mischief. CROSSTALK XVI has several built-in safeguards to protect you and your system from abuse.

This chapter will explain the operation of answer mode, the protection features, and will describe the commands which operate differently in answer mode.

How Answer Mode Works

To set CROSSTALK XVI to answer mode, enter the command:

Command? **MODE ANSWER**

When you select answer mode, three things happen: First, the program switches to answer mode. When the program is in answer mode, and a GO command is issued, the program watches the modem, waiting for a call, rather than dialing a number as it does in CALL mode.

Second, selecting answer mode causes the program to select HALF duplex (local echo ON). This is done so that persons calling into your system can see themselves typing.

Third, selecting the answer mode also causes APREFIX to send a command string to the modem which sets the number of rings the modem will count before answering the line. The command is used as follows:

Command? **ATS0=5|**

When someone calls into an answer mode system, he may enter commands to CROSSTALK XVI, just as you can enter commands from your end.

Password Protection

After CROSSTALK XVI is set to answer mode, and the GO command is issued, the program waits for an incoming call. When an incoming call comes in, the program checks to see if a password is required. If an answer password has been set (with the PWORD command), the caller is required to enter the proper password before being allowed access to the system.

If the caller does not provide the correct password after three tries, the program hangs up, and waits for another call. If PWORD is blank, then the caller is not required to enter a password.

The first time a program asks for a password, it sends the message "Enter Password:," followed by a control-E. The control-E character will automatically request an "answer-back" from another calling CROSSTALK XVI system. If the caller has his answerback set to the correct password for the system, he will automaticlly be logged in.

Access Protection

CROSSTALK XVI has a feature which allows you to restrict the amount of access a caller has to your answer-mode system. The ACCEPT command is used to set this level of access.

The options to the ACCEPT command are:

Option	Action
Everything	Allows caller full access to system.
Nothing	Prohibit caller from writing to any files.
Appends	Allows caller to append captured data to an existing file, but not to create any new files.
Creates	Allows caller to append data to or create new files, but not to overwrite existing files.

Greeting Message

Once a caller has entered the correct password, or if no password is required, the program prints the contents of the NAME command as a "greeting" message.

Use of this feature is entirely optional. If no name has been entered, no message will be sent.

Remote Commands

Once a caller has called into a CROSSTALK XVI system, he may enter commands to the answering system. When the caller types the COMMAND character (usually ^C), the answering CROSSTALK XVI system sends the prompt:

Command?

When the caller sees the prompt, he may enter a command to CROSSTALK XVI. Note that there are many commands (QUIT and ERASE to name two), which the caller is not allowed to enter. If the caller enters one of the "forbidden" commands, the program sends him a reminder message, saying that he can not enter that particular command from his end.

The COMMAND character is normally ^C. We recommend that you leave COMMAND set to ^C to maintain compatibility with other CROSSTALK XVI users.

If you wish, you can print your own message instead of the "Command?" prompt. Put your message in the function key Shift-F4, and CROSSTALK XVI will send your message instead of the "Command?" prompt. For example, if function key Shift-F4 is assigned the text "Hello.", the caller will see the prompt:

Hello.

instead of the "Command?" prompt.

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File Transfers

This chapter describes CROSSTALK XVI's "protocol" file transfer features, and explains how to transfer files to and from other CROSSTALK XVI systems, as well as transfers with other communications programs using the XMODEM and KERMIT protocols.

Protocol Transfers

CROSSTALK XVI provides three methods of performing error checked ("protocol") file transfers. The first method is used when communicating between two CROSSTALK XVI compatible systems, the second method is used when exchanging files with another communications program which uses the XMODEM protocol. The third method is used when exchanging files with another communications program which uses the KERMIT protocol. It is important to remember that an error checked transfer can be done **only** between two compatible systems. We'll discuss the CROSSTALK XVI file transfer method first.

Transfers with Another CROSSTALK XVI System

There are three commands directly related to file transfers. These commands are XMIT (transmit), RQUEST (request), and PMODE (set protocol mode). XMit is used to send files from another CROSSTALK XVI system. PMODE is used to tell your CROSSTALK XVI system what type of system you are talking to.

Protocol transfers are done "transparently." That is, when a transfer is being performed, you do not actually see the file on your screen. Instead, a transfer summary is displayed, which shows you what the program is doing.

When performing protocol transfers between two CROSSTALK XVI systems, one of the systems must be in ANSWER mode, the other in CALL mode. It is important to remember that CROSSTALK XVI assumes that an answer mode system is entirely unattended; that is, that no commands will be issued from the answer mode system. All transfer commands **must** be issued by the call mode system.

Before you begin a file transfer, your CROSSTALK XVI system must know what type of system it is communicating with. CP/M files are always multiples of 128 bytes in length, while MS-DOS files may be any length. Many newer MS-DOS programs make use of the file length information, and consider a file to be "corrupted" if the length of the file is longer than the program "thinks" the file should be.

If you are sending files to a CP/M system, set PMODE to 1. If you are transferring files between two MS-DOS or PC-DOS systems, set PMODE to 2. If you inadvertently leave PMODE set to 2 when transferring files with a CP/M version of CROSSTALK XVI, the program will automatically select PMODE 1.

Transmitting Files to Another CROSSTALK XVI System

The XMIT command is used to transmit files to another CROSSTALK XVI system. Transfers may be done on a single file, or on a logical group of files. For example, the command:

Command? **XMIT *.BAT**

will send all of the files with the type "BAT" from the calling system to the answering system.

As an example, let's say that you have called into an answermode CROSSTALK XVI system, and that you have a file named FRED.TXT that you want to send to the other system. After placing your call, and establishing communications, press your ATTENTION key, and enter the command:

Command? **XMIT FRED.TXT**

The program will initiate the transfer, and then print a summary message showing the progress of the transfer. Like this:

```
                ┌─── CROSSTALK - XVI Status Screen ───┐        Local

NAme   Crosstalk-XVI Default settings          LOaded   A:STD.XTK
NUmber                                         CApture  Off

   ──── Communications parameters ────        ──── Filter settings ────
 SPeed 1200   PArity None   DUplex Full         DEbug   Off   LFauto   Off
 DAta  8       STop  1       EMulate None        TAbex   Off   BLankex Off
 POrt  1                    MOde   Call          INfilter On   OUtfiltr On

   ──── Key settings ────                       ── SEnd control settings ──
 ATten  Esc             COmmand ETX (^C)         CWait   None
 SWitch Home            BReak   End              LWait   None

 ──────────────── Transmitting A:FRED.TXT ────────────────

   ┌──────────┬────────────┬──────────────┬──────────────┐
   │ Block #  │ % complete │ Consec. errors │ Total errors │
   ├──────────┼────────────┼──────────────┼──────────────┤
   │    1     │     --     │    none       │    none      │
   └──────────┴────────────┴──────────────┴──────────────┘

        ─── PROTOCOL TRANSFER UNDERWAY -- Press Esc to cancel ───
```

After the transfer is complete, the program will tell you it is finished, and return to "terminal" mode. If the program can not complete the transfer, it will print an error message in the command line, and cancel the transfer.

If you wish to cancel a transfer at any time, you may do so by pressing the ATTENTION key. The transfer will be cancelled, and the incomplete file will be deleted from the answering system.

Requesting Files from Another CROSSTALK XVI System

The RQUEST command is opposite of the XMIT command. Use the RQUEST command to "ask for" files from an answering system. If, for example, you have called into another CROSSTALK XVI system, and wish to get all of the BASIC programs from the other system, enter the command:

Command? **RQ *.BAS**

CROSSTALK XVI will ask the other system to send all of the files with the type ".BAS". If no such files exist on the answering CROSSTALK XVI system, an error message will be printed. If any files exist, the program will begin the transfer. The transfer summary is displayed, just as in the XMIT command.

You may cancel a transfer at any time by pressing the ATTENTION key.

Alternative Drive Usage

In the examples above, we did not specify a drive name. If no drive name is given, the program assumes that you want to send or receive to the default drive.

You may send and receive files to and from any drive on the system. CROSSTALK XVI allows you to specify both a source and destination drive name, much in the same way as the DOS COPY command. For example, the command:

Command? **XM B:FRED.TXT A:**

will cause the file FRED.TXT to be sent from drive A: on the receiving system.

Similarly, the command:

Command? **RQ B:FRED.BAS C:**

will cause the file FRED.BAS to be sent from drive B: on the sending system to drive C: on the requesting system.

Error Handling During Transfers

CROSSTALK XVI automatically detects and corrects errors during protocol transfers. If a block of data is received incorrectly, the data receiving system sends a message to the sending system, asking that the block of data be retransmitted.

This process is done automatically. When a block is received incorrectly, the program shows an error in the transfer summary.

If you notice an unusually large number of consecutive errors during a transfer, you may wish to cancel the transfer. A transfer can be cancelled at any time, from either end of the transfer, by pressing the ATTENTION key.

A large number of errors is usually indicative of some type of hardware problem. The most likely cause of data errors is a bad telephone connection. The best remedy is to place the call over and try again.

The BKSIZE Command

When transferring files, CROSSTALK XVI sends data in groups called "blocks." Each time a block is sent, the program performs a mathematical check on the block, called a CRC check. If the CRC check does not match at both ends of the transfer, the program re-transmits the block again.

The larger the block of data is, the more time it takes to retransmit the block. If telephone lines were perfect, we wouldn't have to worry about CRC checks, block sizes, or protocol transfers. Unfortunately, the telephone network is far from perfect. Noise and "static" can create big problems when transferring files via telephone.

CROSSTALK XVI defines a "block" as being 256 bytes or, ¼ Kilobytes of data. Every 256 bytes, the program asks the other end if it received the block correctly. The dialogue between the two systems looks like this:

	Sending System	**Receiving System**
Sends block	———————→	Receives block o.k.
	←———————	Acknowledges block
Sends block	(noise) ———————→	Block corrupted
	←———————	Requests block again
Sends block	———————→	Received block o.k.
	←———————	Acknowledges block
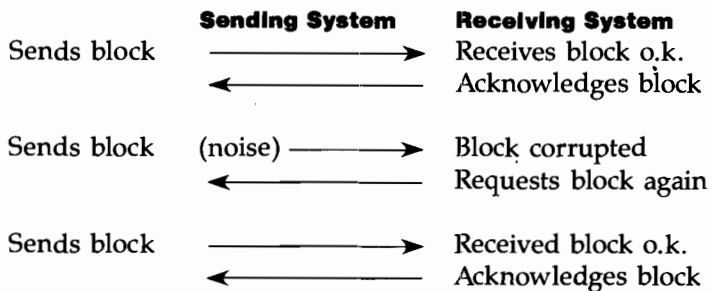
This process is repeated until the entire file has been sent. The larger the block size, the more data will have to be re-transmitted each time an error is encountered.

CROSSTALK XVI allows you to select the block size with the BKSIZE command. The block size may be set from 1 to 10, which corresponds to 256 to 2560 bytes per block.

On an extremely quiet line, such as two computers wired together with no modems, increasing the block size will slightly increase the transmission speed. On a noisy phone line, decreasing the block size will increase the transmission speed.

The reason for this is that on a quiet line, you will never have to re-transmit any blocks. With a large block size, the program spends less time checking, since the checks are performed at longer intervals. With a small block size, the program spends a little more time checking, but has to re-transmit fewer characters in the event of an error.

The default value for block size is 1. If most of your transfers will be performed over a modem, we suggest you leave the block size set at 1. If you are transmitting files over a cable to another computer, you may wish to use the large block size.

Errors During Transfers

There are several types of errors which may be encountered during a transfer that CROSSTALK XVI can do nothing about. We call these "hard" errors.

The hard errors are:

No disc in drive or physical disc error.
Carrier lost during transfer.
No space on disc for requested file.
Other computer's disc is full.
Requested file not found at other computer.
Other computer's operator cancelled transfer.

When CROSSTALK XVI encounters any of these errors during a transfer, the program will report the error on the status line, and cancel the transfer. Correct the problem, and try the transfer again.

XMODEM File Transfers

Many communications programs use a file transfer method called "XMODEM" (also known as MODEM, MODEM7 or Christensen protocol), which allows dissimilar computer systems to exchange files, regardless of the type of hardware or communication software being used.

We have provided XMODEM capabilities so that CROSSTALK XVI users may exchange files with systems which use the XMODEM protocol. XMODEM is not nearly as easy to use as CROSSTALK XVI's own file transfer protocol, and the error checking method used by XMODEM is not as accurate as CROSSTALK XVI's own, so we recommend that you use CROSSTALK XVI's own file transfer mode whenever possible.

Since there is no "standard" implementation of XMODEM, it's a little difficult for us to describe exactly how to use XMODEM for file transfers. The wide variety of other communications programs which use XMODEM vary widely in their command structure. Most XMODEM bulletin board systems are "menu-driven", so it's usually a fairly simple matter to determine the correct procedure for beginning a transfer.

As far as CROSSTALK XVI's XMODEM related commands are concerned, there are two commands to know. The RXMODEM command is used to tell CROSSTALK XVI to receive an XMODEM file transfer, and the XXMODEM command is used to send a file with XMODEM. It is important to note that XMODEM allows transfer of only one file at a time.

The normal procedure for using XMODEM is to place your call to the system you are transferring files with, and then instruct the other system to either receive or send you a file. You then instruct CROSSTALK XVI to receive or send a file. The file name need not be the same on both ends.

Kermit File Transfers

CROSSTALK XVI also supports the KERMIT file transfer protocol. KERMIT was developed at Columbia University in order to allow many types of computers to exchange files with one another.

Five commands support file transfer with KERMIT. These commands are:

XKERMIT—Transmits a file or group of files to a KERMIT server running on another computer. For example, the command XK *.BAS will transfer all files of the type .BAS to the remote KERMIT system.

GKERMIT—Gets a file or a group of files from a remote KERMIT server. For example, the command GK *.EXE will request all of the files of the type .EXE from the remote KERMIT system.

RKERMIT—Receives a file from a KERMIT system. Use this command only when you are communicating with a remote KERMIT system which is NOT a KERMIT program. First tell the remote KERMIT to send you the file, then tell your CROSSTALK XVI program to receive the file using the RKERMIT command.

KERMIT—Allows you to enter KERMIT commands. Most KERMIT commands require two arguments, for example: KERMIT PSIZE 50. The KERMIT commands are:

```
PSize:........................Set KERMIT packet size.
CQuote:................Set the control quoting character.
BQuote:................Set the Binary quoting character.
EOL:.....................Set the "end of line" character.
TIMEOUT:..............Set the KERMIT timeout period.
LIST:......................List current KERMIT settings.
GET:......................Get files, same as GKERMIT.
SEND:....................Send files, same as XKERMIT.
RECV:...................Receive file, same as PKERMIT.
FINISH:...................Finish KERMIT server session
```

Note   BQUOTE, CQUOTE, and EOL must be unique characters.

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13 Command & Script Files

Command Files

If you frequently call the same computer system, you may find it convenient to create a command file for that system. Basically, a command file is a list of commands, stored in a disc file. CROSSTALK XVI can load in and perform the commands contained in a command file just as if the commands were entered from the keyboard.

Using command files saves you from having to enter the phone number, name, modem speed, function key settings, and other information for a particular computer system. Instead of entering all of the information each time you call a particular system, you enter it once, and then save the information in a command file.

When you first run CROSSTALK XVI, the program will search the disc for available command files, and then ask you to choose one. The program then loads in all of the settings for that particular command file, and begins dialing the number.

If you know ahead of time which command file you want to use, from your system prompt, type:

XTALK filename

This tells CROSSTALK XVI that you want to load the file named in "filename" as the command file. The program will load in the file, and begin dialing immediately.

Command files may contain any CROSSTALK XVI commands. They generally contain all of the information that CROSSTALK XVI needs to establish communications with another computer system. In addition to the "essentials," command files also contain information on all of the function key settings.

Command files may also pass control to another type of special file called a script file. We'll explain script files and their function a little later.

A typical command file looks like this:

```
NAme            Big Mainframe
NUmber          9876543
ACcept          Everything
ANswerback      Off
APrefix         ATS0=5|
ATten           Esc
BReak           End
SWitch          Home
CWait           None
LWait           None
DEbug           Off
DPrefix         ATDT
DSuffix         |
EMulate         TVI 920
EPath           C:\BIN\EDLIN.COM
FIlter          -------++++-++---------
INfilter        On
LFauto          Off
MOde            Call
POrt            COM 1:
PWord
RDials          10
TImer           On
TUrnarnd        Enter
BKsize          1
```

```
CApture          On
COmmand          ETX (^C)
FLow             ^S/^Q
DAta             8
DUplex           Full
OUtfiltr         On
PArity           None
PRinter          Off
SPeed            1200
STop             1
TAbex            Off
BLankex          Off
UConly           Off
FK 1 user id abc 123 |
FK 2 password ^A^B^C^D
FK 3 mail check |
FK 4 directory |
FK 5@CA /|
FK 6@PR /|
FK 7@TY|
FK 8
FK 9
FK 10
GO Q45/45
```

Note that the last item on this command file is a GO command. This will cause CROSSTALK XVI to begin dialing the phone when this file is loaded.

Creating Command Files

There are two different ways to create command files. The easiest way is to use CROSSTALK XVI's SAVE command. To create a command file with SAVE, follow these steps:

1. Bring up CROSSTALK XVI.
2. Set the phone number with the NU command.
3. Set the location name with the NA command.
4. Set any desired function keys with the FK command.
5. Set the desired modem speed with the SP command.
6. Change any other settings you wish (terminal emulation type, parity, stop bits, etc.) with the appropriate commands.
7. Enter the command **SAVE** filename, where filename is the name you wish to assign this command file.
8. Your command file is now saved.

This procedure will create a command file much like the one in our example above. All of the commands and settings necessary to set CROSSTALK XVI for this one particular system have been saved.

Command files are stored as ASCII text, and may be created or altered with any text editor program, such as the EDLIN program which is included in DOS.

To create your own command file, start out by having CROSSTALK XVI save a command file with the SAVE command, as above. After the command is saved, exit CROSSTALK XVI, and bring up your text editor. Then use the text editor to change or add the necessary lines to the file.

Remember that any command may be part of a command file. By combining commands in a file, it is possible to set up an "automated" CROSSTALK XVI session.

The following example shows a command file which will dial the Microstuf test center until it gets a connection, then request a file from the center, and send a file to the test center. After the file transfers have been completed, the program will hang up and dial another number.

Command	File Contents	Comments
NAme	Microstuf Test Center	
NUmber	1-404-998-8048	Set the phone number
SPeed	1200	Set 1200 baud
PArity	None	
DAta	8	Set 8 bits, no parity
GO 45/45		Dial every 45 seconds
WAit Delay	50	Kill 5 seconds
RQuest	MESSAGE.TXT	Get this file
XMit	MORE.TXT	Send this file
BYe		Hang up
LOad	ANOTHER.TXT	And go do another file

Any combination of commands may be used in a command file. If any command is incomplete (such as a SPEED command with no baud rate), the program will ask you to enter the missing data before proceeding. Similarly, any error message which requires that you press [ENTER] will wait until the [ENTER] key is pressed on the keyboard before proceeding.

Changing CROSSTALK XVI's Default Settings

All of CROSSTALK XVI's default settings are stored in a file named STD.XTK. When you first run CROSSTALK XVI, the program searches the disc for STD.XTK, and sets itself up accordingly.

The STD file is just like any other .XTK file with one exception: the last command in the STD file is a LOAD command. When CROSSTALK XVI encounters this LOAD command with no file name, it presents you with a "menu" of available command files.

You may change any of CROSSTALK XVI's default settings simply by entering or changing the appropriate command in STD.XTK. For example, if you want CROSSTALK XVI to come up with the function keys set a certain way, you can change the FKEYS commands in the STD.XTK file. The next time you bring up CROSSTALK XVI, the function keys will be set as you want them. A special script file, SETUP, is provided with your copy of CROSSTALK XVI. You can run this script file by entering the command DO SETUP. CROSSTALK XVI will ask you a series of questions, and then save the new default settings in STD.XTK for you.

The STD.XTK file may also be edited with any text editor, such as the EDLIN editor supplied with DOS.

Script Files

CROSSTALK XVI provides a means for users to write and run "programs" in CROSSTALK XVI's own "language." These programs are called **script files,** and they add a great deal of flexibility to CROSSTALK XVI.

A properly written script file, like any good program, allows the user to accomplish an objective without having to consider either the program or the language used. Like programs written in conventional programming languages, a CROSSTALK XVI script file may be as simple or as complex as you wish it to be.

Script files are very similar to command files. In fact, a script file may be included inside of a command file, or it may be called from a command file.

The major difference between the two types of files is that command files are normally used to provide parameters to tell CROSSTALK XVI how to dial a particular computer system, while script files tell CROSSTALK XVI what to do once it has made the connection.

Script files are performed by entering the DO command. As script files are similar to command files, the DO command is similar to the LOAD command. Use DO to perform a script file, and use LOAD to perform a command file.

Any CROSSTALK XVI command may be included as part of a script file. In addition, there are several commands which are useful **only** in script files. The remainder of this chapter will describe those commands, and show examples of typical script files.

If you are proficient in BASIC, PASCAL, FORTRAN, or most any other high-level programming language, you should have no trouble learning the CROSSTALK XVI command language. Please keep in mind that Hewlett-Packard's customer service department can **not** help you write script files for any particular purpose, any more than we can tell you how to write a BASIC program. Programming in any language is an acquired skill, and we can not give programming courses over the phone.

1. Expandable function keys:

Function key names may be expanded at any point where a file name may be entered. To expand a function key's contents into a filename, precede the function key name with an at-sign (@). For example, you may wish to have a script prompt a user for a file name, and then proceed to transmit the file. The example scripts below show how to use function keys to accept and pass on the file name information:

```
ASK @F1 "Enter file name to transmit:"
XMIT @F1
or

ASK @F1 "Which directory do you wish to see?"
DIR @F1
```

2. Continuing a script after a failed call:

A script file will continue to run if the number of re-deials (RDIALS command) is set to zero. The script below shows how this feature can be used to select an alternate script file if the first call fails:

```
NUmber 241-6393
RDials 0
GO
IF $ JUMP OKAY        (Note: This tests to see if
                       we're online).
LOad ANOTHER          (If we're NOT online, load
                       another script).
LAbel OKAY
DO logon              (If we're online, run our LOGON
                       script).
```

3. Saving a script for a local connection:

CROSSTALK XVI normally expects to be making a call through a modem. In earlier versions of CROSSTALK XVI, the command **GO** was saved as the last item in a command file. CROSSTALK XVI will save a "go local" as the last item in a command file IF no phone number is entered. If you use CROSSTALK XVI to communicate with mainframe and minicomputer systems through a "direct" (no modem) connection, this feature allows you to easily create a command file for a local connection, without having to edit the command file saved by CROSSTALK XVI's SAVE command.

4. Additional REMOTE commands:

The ACCEPT command allows you to decide if a caller can have "full access" to your answering CROSSTALK XVI system.

If ACCEPT is set to EVERYTHING, the following commands become available to the remote caller:

CWAIT, LWAIT, ACCEPT, FKEYS, GO, INFILTER, LFAUTO, LOAD, QUIT, SAVE, SCREEN, SEND, and XDOS.

Note that issuing a QUIT command to an answering CROSSTALK XVI system will cause the system not to answer anymore. This feature may be useful when you want to call into a system one time and then disable the system from answering again.

Allowing XDOS as a remote command has some interesting applications since it allows you to create a batch file which can answer the phone with CROSSTALK XVI, then run another program, and then return to CROSSTALK XVI. The following batch file gives an example of this:

XTALK ANSWER	(set up CROSSTALK XVI to answer)
BASICA REPORT	(run BASIC program REPORT.BAS)
XTALK ANSWER	(go back to CROSSTALK XVI)

Organization of A Script File

A script file is a disc file of one or more CROSSTALK XVI commands. Script file names must have the file type ".XTS". You can create a script file with any text editor program, such as the EDLIN program included with DOS. Multiple commands may be placed on the same line, as long as they are separated by a space, a colon, and another space. Commands in a script file are performed in the order they appear in the file.

How Script Files are Performed

When CROSSTALK XVI first connects to another computer system, the program checks the current disc to see if a script file exists with the same name as the currently loaded command file.

For example, if you use a command file named "BERT.XTK" to make a call to another computer, CROSSTALK XVI will look for "BERT.XTS" as soon as the call is connected. If the .XTS file exists, CROSSTALK XVI will automatically perform the commands in the script file.

You may also perform a script file by entering the command DO BERT, where "BERT" is the name of the file you wish to perform. If you enter DO with no file name, CROSSTALK XVI will display a menu of the available script files, and ask you to choose one.

The number of script files you may have is limited only by the amount of available disc space. Script files may pass control to other script files, so that the commonly used commands need not be repeated in several different files.

Writing a Script File

Before you sit down to actually write a script file, it is a good idea to have in front of you a printed copy of what it is you want to do. For example, if you want to write a script file to call The Source, log in, and send some commands to The Source, you'll need to know exactly what questions The Source asks, how it expects you to answer them, and so on.

The easiest way to obtain a printed copy of such an exchange is to call the system first, and either capture the session to a disc file, or print it on your printer while you are on line.

After you know exactly what to do and when to do it, the task of writing a script file becomes much simpler.

Special Commands for Script Files

There are a number of CROSSTALK XVI commands which are useful only in script files. Many of these commands have counterparts in the BASIC language. These commands are:

Command	Purpose
ABORT	Cancels operation of a script file.
ALARM	Sounds an alarm tone on the computer.
ASK	Asks the user a question, and obtains an answer, much like BASIC's INPUT command.
CLEAR	Clears the current screen.
DO	Resumes a suspended script file.
IF	Logical operator, similar to the IF statement in BASIC and PASCAL.
JUMP	Causes CROSSTALK XVI to begin performing commands in a script file at a level position. See LABEL.
LABEL	Marks the line containing the LABEL statement so that a JUMP command can locate it, akin to line numbers in BASIC, or to a label name in assembly language.
MESSAGE	Prints a message on the current screen, similar to BASIC's PRINT statement.

Command	Purpose
—(NOT)	Logical operator, similar to BASIC's NOT operator.
RWIND	Re-starts the script file from the beginning, usually used when an error is encountered.
SBREAK	Sends a BREAK to the remote computer. This command has exactly the same effect as pressing the BREAK key.
SCREEN	Allows you to switch to a particular screen (either the status or terminal screen) under script file control.
SKIP	Skips past a number of lines in a script file.
REPLY	Sends a single line of text to the modem.
WAIT	Waits until a certain condition has been met.
WHEN	Tells CROSSTALK XVI to perform an action upon receipt of a certain string of text.

Each of these commands will be explained fully in this section of the manual.

The ABORT Command

The ABORT command causes CROSSTALK XVI to cancel the currently active script file. The command is normally used when an error condition has been detected, and you wish to cancel the remainder of the script file.

The ALARM Command

The ALARM command is used to send an audible alert tone to let you know that CROSSTALK XVI has done something. The command:

Command? **AL**

sounds the alarm tone. There are four different alarm tones available. You can select the tone you prefer by entering AL, followed by the number of alarm tones you wish to use. For example, the command:

Command? **AL 3**

will select alarm tone number 3. The next time an AL command is issued, alarm tone number 3 will sound. You may also enter **AL 3 NOW** which will set the alarm tone to number 3, and sound the alarm.

The ASK Command

The ASK command is used to print a message on the status line, and ask the user to enter a reply. The reply may either be a single character, or a string of data.

The difference between the two forms of the ask command is that the "single character" reply may be tested by the IF command, allowing your script file to make decisions based on user input. The "string" reply may be assigned to a function key, allowing the string to be sent to the host computer, either by pressing the function key, or by using the REPLY command.

To ask the user a question, and obtain a single key response, use the command:

ASK Press Enter to continue:

In this example, CROSSTALK XVI will display the "Press Enter to continue" message in the status line, and wait for the user to enter a key. The user's response to the prompt message may then be tested by the IF command (described later).

To ask the user a question, and obtain a string of data, use the command:

ASK @F1 prompt message

In this case, CROSSTALK XVI will print the message contained in "prompt message" on the command line. CROSSTALK XVI will then accept a string of text from the user, and assign that string to function key F1. If the "prompt message" is omitted, CROSSTALK XVI will print a question mark as a prompt. Similarly, you may use the form "ASK @A1" to ask for a string to be assigned to function key ALT-F1.

The CLEAR Command

The CLEAR command is used to clear the current screen. When issued from the status screen, the CLEAR command clears the "display window" on the lower half of the screen. When issued from the terminal screen, the CLEAR command clears the entire screen.

The DO Command

The DO command tells CROSSTALK XVI to perform the commands contained in a "script" file. Script files are files containing commands for CROSSTALK XVI to perform.

There are four forms of the DO command. The table below shows how each works.

Command	Action
DO —	Disables the "auto-linking" to a script file after a connection is established.
DO	When no other script file is active, this command will display a menu of the available script files, and then ask you to choose one. The chosen file will then be performed.
DO	If a script file has been suspended by a WAIT MANUAL command, entering DO will resume the script file processing.
DO BERT	Performs the commands contained in the script file "BERT.XTS".

You may create a script file with any text editor, such as the EDLIN program which is included with DOS. Script files must have the file name extension "XTS". The script files may contain any list of commands you wish for CROSSTALK XVI to do. There are two commands which are especially useful in script files. These are the REPLY and WAIT commands.

The LABEL Command

The LABEL command is used to "name" a line in a script file. It performs no operation in and of itself, but it allows another command to refer to a certain point in a script file by name.

The command:

LABEL BERT

assigns the name "BERT" to that particular line in the script file. Note that a label name **must** start with a letter.

The IF Command

The IF command is very important, since it is the only "decision making" command. Earlier, we showed how the ASK command can be used to print a message and get a response from the user. The IF command is used to make decisions, based on the result of an ASK command. As an example, these two lines ask the user if he wishes to clear the screen, and then clears the screen if he answers "Y".

ASK Do you wish to clear the screen?
IF Y CLEAR

IF   You may provide a series of letters to the IF command, as long as the letters are consecutive. No spaces or commas are allowed between the letters. For example, the commands:

    ASK Do you wish to leave CROSSTALK XVI?
    IF XEY QUIT

will cause CROSSTALK XVI to perform a QUIT command if the user replies by pressing the X, E, or Y keys.

There are two characters which have special meaning when used in conjunction with the IF command.

IF —   The minus sign (−) is used to logically negate the arguments supplied to the IF command; it reverses the conditions specified in the IF command.

For example, the commands:

    ASK Enter A, B, or C:
    IF −ABC JUMP HERE
    (some commands)
    LABEL HERE

will ask the user to enter A, B, or C, and skip to the label called HERE if any other key is pressed. Notice that we used the LABEL command in this example, to tell the JUMP command where to go. The JUMP and LABEL commands will be explained fully later.

**IF $**   The dollar sign ($) is used to mean ONLINE. If you are connected to another system, the "IF $" condition will be TRUE. For example, the command:

    IF $ ALARM

will sound the alarm ONLY if you are connected to another computer.

The JUMP Command

The JUMP command causes CROSSTALK XVI to go to a particular point in a script file, and begin from that point. In the example above, we used a JUMP command to return to the label HERE. A JUMP command must be followed by a label name. The at-sign (@) has a special meaning when used with the JUMP command. The @ symbol may be used as an "ON-GOTO" condition. The @ tells CROSSTALK XVI "replace the @ with the answer you got from the ASK command". For example, the commands:

LABEL askuser
ASK Enter A, B, or C:
IF −ABC RWIND
JUMP DO @

LABEL DO A
 (some commands)

LABEL DO B
 (some more commands)

LABEL DO C
 (still more commands)

will cause CROSSTALK XVI to jump to a certain point in a script file, based on a user's response to a question.

The SKIP Command

The SKIP command is used to skip certain lines in a script file. You can NOT skip past the end of the file, nor can you skip a negative number of lines. The statement:

SKIP 10

will cause CROSSTALK XVI to skip over the next ten lines in the script file.

The MESSAGE Command

This command is used to print a message for the user to read. The message may appear on the terminal screen, or in the status screen display window. You may prefer the MESSAGE command with a SCREEN command to make sure that the message is printed on the screen you want.

A MESSAGE command must be followed by a line containing a single period to mark the end of the message.

For example, the following commands will switch to the status screen, clear the window, and print a message in the window:

SCREEN S
CLEAR
MESSAGE
How now brown cow.
.

The message "How now brown cow" will appear in the window on the status screen. The period following the message marks the end of the message.

The RWIND Command

The RWIND command "rewinds" the current script file to the beginning, and starts over from the top. It is faster to use RWIND than it is to use a JUMP to a label at the start of the file.

The SBREAK Command

The SBREAK command is used to send a BREAK signal under control of a script file. It has the same effect as pressing the BREAK key.

The REPLY Command

The REPLY command is used to send a string of text, or the contents of a function key to the host computer system. It is usually used in conjunction with the WAIT command to set up a series of events (or a "script") which tells CROSSTALK XVI how to carry on a "conversation" with another computer system.

Since the REPLY command is intended to be part of a script file, it would not normally be entered as a command from the command line.

To send a string of text from a script file, use the command:

REPLY "STRING OF TEXT"

To send the contents of a function key from a script file, use the command:

REPLY @F7

In this case, the at-sign (@) tells CROSSTALK XVI to send the contents of function key F7 to the host system. You may send any of the function keys.

The next section shows how WAIT and REPLY can be used in a script file to automatically enter a log-in and password to a computer system.

The WAIT Command

The WAIT command tells CROSSTALK XVI to wait until a certain condition has been met. These conditions are given as arguments to the WAIT command. The conditions are:

Condition	Effect
Echo	Wait for a carriage return, then do the next line in the script file.
Quiet x	Wait until the line is "quiet" (i.e., no characters received) for x tenths of a second, then do the next line in the script file.
Delay x	Wait for a period of x tenths of a second, then do the next line.
Char 'x'	Wait until the character 'x' is received from the communications line, then send the next line.
For 'x'	Same as "WAIT Char", above.
Prompt x	Wait for x characters from the communications line, then do the next line in the file.
String 'text'	Wait until the string 'text' is received from the communications line. Note that case is ignored.
Until hh:mm	Wait until the time described by hh:mm, then do the next line in the file. Note that time must be expressed in 24 hour (military-style) format.
Manual	Suspend script processing until a DO command is issued.

The WHEN Command

WHEN is a special command that allows CROSSTALK XVI to do a command or series of commands whenever a particular word or phrase is sent to you by a remote computer, thus helping to automate your terminal session even more. WHEN is especially useful in script files, but can also be entered from the keyboard as a regular command.

The format of the WHEN command is as follows:

WHEN "text" command-line

The quotes around the text are required. Once this command is given, CROSSTALK XVI will perform the command or commands specified whenever "text" is received.

For example, The Source often sends "---More---" when more output is forthcoming. You could tell CROSSTALK XVI to always send a carriage return when that happened by giving the command:

WHEN '---More---' reply|

Remember that the REPLY command sends characters to the modem as if you had typed them, and that the vertical bar represents a carriage return (corresponding to the [ENTER] key on your keyboard).

As another example, let's say that you are working with a mainframe that would send "Done" when your job was done. You could give the command:

WHEN "Done" ALARM

and whenever CROSSTALK XVI received the word "Done", the alarm would sound, alerting you to the fact that your job had been completed.

You can only have one WHEN condition active at a time. If you give a new WHEN command while another is active, the new condition supercedes the old one, and the old one is lost. You may deactivate a WHEN condition without specifying a new one by using **WHEN —**.

Combining the WHEN command with the other CROSSTALK XVI script file control facilities can give you great versatility in automating your communications. For example, the sequence:

WHEN "Password:" REPLY BERT | : DO
WAIT MANUAL

will cause CROSSTALK XVI to wait for the word "Password:" to appear from the remote system, reply with the word "BERT", and then proceed with the script file processing. This happens as follows:

1. The WHEN command sets the condition to watch for, and script file processing continues.

2. CROSSTALK XVI finds the WAIT Manual command, and pauses in its execution of commands from the file.

3. Eventually, the remote system asks for "Password:" and CROSSTALK XVI activates the WHEN condition.

4. The commands specified on the WHEN condition first sends "BERT" to the remote system (the REPLY command), and reactivates the script file (the DO command).

Keep the following conditions in mind when using WHEN:

* The WHEN condition **stays active** until explicitly deactivated. If you want something to happen only the **first time** a string is received, remember to put a WHEN — at the end of the WHEN command line. For example:

    WHEN "System:" REPLY SYS10| : WHEN —: DO

* CROSSTALK XVI ignores case and all blanks when checking for a WHEN condition. Therefore,

    WHEN "—More—" REPLY|

works just the same as

    WHEN "—MORE—" REPLY|

or

    WHEN "—more—" REPLY|

* As we just mentioned, CROSSTALK XVI is intelligent enough to account for miscellaneous blanks and changes in letter case while checking for WHEN conditions. However, it **cannot** be expected to act properly if a noisy communications line causes spurious characters to appear at random. Therefore, we do not recommend that you depend on WHEN (or other modem-dependent script file facilities like WAIT) in unattended operations where there is a likelihood of noise on the line.

* If a WHEN condition occurs, and a script file containing a WAIT statement is waiting for a particular word or character, the WHEN condition prevails. After the WHEN condition has been met, and the WHEN commands executed, the program will resume the script file at the NEXT line after the WAIT command.

A Typical Script File

A properly written script file can add a great deal of flexibility to your CROSSTALK XVI system. You can create script files to do any number of things. For example, if you frequently call another CROSSTALK XVI system to exchange a group of files with the other system, you can place the XMIT and RQUEST in a script file.

A more common use of script files is to call into a timesharing system, and automatically enter an account number and password to the host system.

Script files must have the file type ".XTS". The following example shows a combination of a command file and a script file which will call another computer system, log in, enter a password, and send some commands to the other computer system. Note that any line in a command file which begins with a semicolon is assumed to be a comment, and is not processed as a command.

File EXAMPLE.XTK (command file)

NAme	Example command file
NUmber	1-404-998-8048
SPeed	1200
DAta	8
PArity	None
MOde	Call
EMulate	IBM 3101

.

.

.

(Additional commands)

.

.

.

GO   (dials number)

(after connecting, CROSSTALK XVI searches the disc for EXAMPLE.XTS. If the file exists, CROSSTALK XVI executes the commands in the script file.)

**File
EXAMPLE.XTS
(script file)**

```
;Wait until the line has been "quiet" for one second
WAIT QUIET 10
;Send LOGIN command to host computer
REPLY LOGIN|
;Wait for "Enter account number:" prompt from host
WAIT CHAR ":"
;Reply with our account number
REPLY ABC 123|
;Wait for "password?" prompt
WAIT CHAR "?"
;Reply with our password
REPLY ^A^B^C^D|
;Wait for system's ">" prompt
WAIT CHAR ">"
;Ask for our mail, and capture it to memory
REPLY MAIL READ|
; When we get "—more—", send a carriage return
WHEN "—more—" REPLY|
CAPTURE ON
;End of this script.
```

Each line of this particular script file has a comment before it. The comments are entirely optional, and are there only to aid your understanding of what the script file is doing. Note that the final line in the script file is "CAPTURE ON". You may include commands in a script file if you wish.

In this example, we showed the command and script files as two separate files, but you can just as well add the script commands to the end of the command file.

In most cases, you'll probably want to have the chores of entering your log-in and password done as part of a script file, rather than as part of a command file. In some cases, you may want to have several different script files for the same system. For example, if you use The Source frequently, you might want to create one script file to read your mail, another to read the POST messages, another to check you favorite stock reports, and another to sign you off.

You can create as many script files as you wish. The only limit is the amount of storage available on your discs. If you have several script files, you may enter the command DO to have CROSSTALK XVI show you a menu of all the available script files.

Example Script Files Included With CROSSTALK XVI

Your CROSSTALK XVI master disc contains several script files. These files are provided as examples, and may be changed to suit your own needs.

Two files, SETUP and NEWUSER, are provided. SETUP allows you to change CROSSTALK XVI's default parameter settings through a series of questions and answers. NEWUSER guides a new user through the process of making a call, again through a series of questions and answers.

While these script files are provided as examples, they are entirely functional script files. Both of these files illustrate how a script file may be used to provide a customized "front end" to CROSSTALK XVI.

14 Command Summary (In Alphabetical Order)

Command Summary

This section of the manual contains an alphabetical listing of all of CROSSTALK XVI's commands. Each command is listed with a full explanation of what each command does, and what the possible options for each command are. The first line of each description indicates how the command may be used; either as a LOCAL command (from a call mode system), as a REMOTE command (on an answer mode system), as either REMOTE or LOCAL, or in a SCRIPT file only.

ABORT

SCRIPT. The ABort command is used to cancel execution of a script file. It is normally used when an error has been detected.

See page 13-14.

ACCEPT

The ACcept command allows you to set the type of access a caller has when calling into an answering CROSSTALK XVI system. By setting the access level, you can protect your system from unauthorized tampering.

The options to the ACCEPT command are:

Option	Action
Nothing	Prohibits caller from writing to any files.
Appends	Allows caller to append captured data to an existing file, but not to create any new files.
Creates	Allows caller to append data to or create new files, but not to overwrite existing files.
Everything	Allows caller full access to system.

See page 11-3.

ALARM

SCRIPT. The ALarm command is used to sound one of several alarm tones on the computer's speaker. This command may be used to alert the operator to the fact that a script file has been performed.

See page 13-14.

ANSWERBACK

LOCAL. The ANswerback command tells CROSSTALK XVI whether or not to respond to a received ^E character. Many computer networks utilize this feature as a means of identifying a caller. Answering CROSSTALK XVI systems utilize the feature to request your password. If ANSWER-BACK is ON, a received ^E will cause the contents of your F4 key (see FK command) to be sent. If ANSWERBACK is OFF, the ^E will be ignored.

See page 6-17.

APREFIX

LOCAL. The APrefix command is used to set the number of rings the modem will count before answering the line. The command is:

ATS0=5|

See page 11-2.

ASK

SCRIPT. ASk is used to prompt the operator for information. It is normally used in script files, in conjunction with the MESSAGE command.

See page 13-15.

ATTENTION

LOCAL. The ATtention command selects the key to be used for the ATTENTION key. The ATTENTION key is the key used to display the "Command?" prompt when you are in terminal mode. Note that this key can not be sent to the remote computer, since typing it causes the program to immediately enter the command mode. The default key used for attention is the ESCAPE key. If the system you are calling requires you to send an ESCAPE, you will have to select another key for the attention key.

There are several different ways to set the ATTENTION key. The chart below shows each of the possible methods.

Command	Effect
AT	CROSSTALK XVI will ask you to press the key to be used for the ATTENTION key. You may NOT select the numbers 0-9 or the letters A-Z as the ATTENTION key.
AT 1b	Sets the ATTENTION key to the key with a hex value of 1b (in this case, the ESCAPE key).
AT EOT	Sets the ATTENTION key to the key with the ASCII mnemonic "EOT". which is the ^D key.
AT PgDn	Sets the ATTENTION key to the PgDn key on the PC keyboard.

Note that CROSSTALK XVI will not allow you to set the ATTENTION and SWITCH keys to the same key setting.

See page 5-6.

BKSIZE

LOCAL/REMOTE. The BKsize command sets the size of the data block (in 256 byte increments) sent during protocol transfers. It is normally set to 1. If you are "direct connecting" two computers together without modems, you may wish to select a larger block size (up to 10). Using a larger block size marginally speeds up protocol transfers. We recommend the default setting of 1 when transferring files via modems.

See page 12-6.

BLANKEX

LOCAL/REMOTE. The BLankex command tells CROSSTALK XVI how to handle "blank" lines when sending files to another computer with the SEND command. If BLANKEX is ON, CROSSTALK XVI will convert blank lines into lines consisting of one space. This may be useful when sending prepared text containing empty lines into a host computer system which assumes a blank line to mean "end of text".

See page 10-7.

BREAK

LOCAL. The BReak command is used to select the key to be used for sending a BREAK. The BREAK key is normally assigned to the END key, but may be changed if desired.

There are several different ways to set the BREAK key. The chart below shows each of the possible methods.

Command	Notes
BR	CROSSTALK XVI will ask you to press the key to be used for the BREAK key. You may NOT select the numbers 0-9 or the letters A-Z as the BREAK key.
BR 02	Sets the BREAK key to the key with a hex value of 02 (in this case, the ^B key).
BR EOT	Sets the BREAK key to the key with the ASCII mnenomic "EOT", which is the ^D key.
BR PgDn	Sets the BREAK key to the PgDn key on the PC keyboard.

See page 6-11.

BYE

LOCAL/REMOTE. The BYe command hangs up the phone line, and disconnects the current call. Use this command when you wish to hang up and make another call without exiting CROSSTALK XVI.

See page 5-9.

CAPTURE

LOCAL/REMOTE. The CApture command has two main modes: Capture-to-disc, and capture-to-memory. To capture directly to disc, enter **CA** filename. If the file already exists, CROSSTALK XVI will ask if you wish to over-write the file, or append the new data to the end of the old file. The command CA — is used to end captureto-disc, and closes the capture file.

To capture data to memory, enter CA +. Capture-to-disc automatically stores the captured data to the specified disc file, but capture-to-memory requires that you use the WRITE command to save the data to a disc file before exiting CROSSTALK XVI. While capturing data, the command CA / will toggle capture on and off, allowing you to selectively save incoming data. The command CA — turns capture OFF.

If you wish to capture some data which is already on your screen, and capture is OFF, you may use the "RETRO-CAPTURE" feature. Enter CA < xx, where xx is the number of lines you wish to "grab" off the screen. CROSSTALK XVI will retroactively capture the data, add it to the capture buffer, and leave CAPTURE ON. RETRO-CAPTURE may only be used when CAPTURE is OFF.

See pages 9-1 to 9-6.

CDIR

LOCAL/REMOTE. The CDir command allows you to switch disc directories. To change directories, enter the command:

Command? **CD** name

and CROSSTALK XVI will change the directory to the name given. The command CD will show the name of the current directory.

See page 6-4.

CLEAR

SCRIPT. The CLear command is used to clear either the terminal screen, or the display window on the status screen. Although it is normally used in script files, the CLEAR command may also be entered anytime you wish to clear the screen.

See page 13-16.

COMMAND

LOCAL. The COmmand command sets the COMMAND key. The COMMAND character is the key a caller would type if he had called into your system and wanted to enter commands to CROSSTALK XVI. We recommend that you leave this key set to the default setting of ^C.

There are several different ways to set the COMMAND key. The following chart shows each of the possible methods.

Command	Notes
CO	CROSSTALK XVI will ask you to press the key to be used for the COMMAND key. You may NOT select the numbers 0-9 or the letters A-Z as the COMMAND key.
CO 03	Sets the COMMAND key to the key with a hex value of 03 (in this case, the ^C key).
CO EOT	Sets the COMMAND key to the key with the ASCII mnemonic "EOT", which is the ^D key.

CSTAT

LOCAL/REMOTE. The CStat command has two functions. The command CSTAT alone displays the status of the capture buffer—how many lines of text and how many characters have been captured, how much space is left for capturing additional data, and how much space is left on the current disc.

The command CS fred will search the capture buffer for all occurrences of the text "fred". If the word "fred" is located in the capture buffer, the program will display the contents of the capture buffer surrounding the located word. After displaying the word, the program will offer to continue searching through the buffer.

Note that the CS command may only be used when capture-to-memory is active.

CWAIT

LOCAL. The CWait command tells CROSSTALK XVI how to wait between characters when transmitting files with the SEND command. Use this command when you are sending text to a computer system which can not accept text at full speed.

The CWAIT command has several options. The chart below illustrates the effect of each:

Option	Effect
NONE	Do not wait at all between characters.
ECHO	Wait for each character to be echoed by the host before sending the next character.
DELAY x	Delay x tenths of seconds, then send the next character.

Note that CWAIT can be used in combination with LWAIT to allow you to transmit text to virtually any dial-up computer system.

See page 10-5.

DATA

LOCAL/REMOTE. The DAta command sets the number of data bits used by CROSSTALK XVI. The default value is 8. CROSSTALK XVI automatically switches to 8 bits whenever a protocol transfer is performed, even if 7 bits had previously been selected. Most dial-up computer systems require 7 data bits.

See page 7-4.

DEBUG

LOCAL. The DEbug command allows you to select one of three "debug" modes. The debug modes allow you to display incoming control-characters graphically on your screen. This is often useful when attempting to identify non-printing control characters transmitted by some dial-up computer systems.

The chart below shows how each of the debug modes operate:

Option	Effect
NONE	Incoming control characters are not altered.
HEX	All incoming characters are shown as hex numbers. For example, an incoming ^Z will be shown as [1A].
ASCII	Incoming control-characters are shown by their ASCII mnemonics. For example, an incoming ^Z will be shown as [SUB].
CHAR	Incoming control-characters are shown in the form ^X.
RS232	Turns on the status display at the lower right corner of the computer screen, replacing the on-line timer. The status display is composed of eight "lights," representing pins 2, 3, 4, 5, 6, 7, 8, and 20 of the RS232-interface.

See page 6-12.

DIR

LOCAL/REMOTE. The DIr command is used to view the disc directory, much like the DOS DIR command. Like the DOS DIR command, you may provide an optional file name, and the program will display only those files given in the file name. For example, the command DIR .ASM will show only the .ASM files.

There are two options to the DIR command which are not found in the DOS DIR command. These are the /S and /T options. The command DIR /S will show the size of each file, and DIR /T will show the amount of time required to send each file, at the current speed.

See page 6-1.

DNAMES

LOCAL/REMOTE. The DNames command is used to reserve memory space for sorting directory entries. If you have more than 200 files on your disc, CROSSTALK XVI will not be able to sort the directory entries unless you have reserved sufficient space for sorting.

To reserve space for 300 names, enter the command:

Command? **DN 300**

Note that the DNAMES command may not be issued when capture is ON.

See page 6-3.

DO

LOCAL. The DO command is used to begin or continue execution of a script file. The command DO by itself will display a menu of available script files. The command DO filename will cause the script file named "filename.xts" to be performed.

See page 13-16.

DPREFIX

LOCAL. The DPrefix command tells CROSSTALK XVI how to dial your modem. When you instruct CROSSTALK XVI to dial, the program sends the following data to the modem:

DPREFIX string | NUMBER string | DSUFFIX string

By changing the DPREFIX string, CROSSTALK XVI can dial a number of different types of auto-dial modems. There are several characters which have special meaning when placed in a DPREFIX string. These are:

Character	Effect
|	Places a carriage return (<kbd>ENTER</kbd> key) in the string.
~	Causes CROSSTALK XVI to delay one second when dialing.
^	The character following the ^ character is sent as a control character. For example, ^T would place the ^T character in the dial prefix.

See page 6-16.

DRIVE

LOCAL. The DRive command has two functions. Entering DR alone will show you the amount of space remaining on all of the drives in your system. Entering DR followed by a drive name DR B: will change the "default" drive to the specified drive.

See page 6-3.

DSUFFIX

LOCAL. The DSuffix command sets the dialing suffix string. (See explanation of the DPREFIX command). The same special characters apply to DSUFFIX as apply to DPREFIX.

See page 6-16.

DUPLEX

LOCAL/REMOTE. The DUplex command sets duplex to full (local echo OFF) or half (local echo ON). Most dial-up computer systems require that your system be set for FULL duplex.

Note that when you select ANSWER mode, CROSSTALK XVI automatically selects HALF duplex. When you select CALL mode, the program automatically selects FULL duplex. See the glossary for an explanation of "duplex".

See page 7-2.

EDIT

LOCAL. The EDit command allows you to run a text editor program from within CROSSTALK XVI. When you use the EDIT command, CROSSTALK XVI stays in your computer's memory, and continues to receive any incoming data. After you exit from your text editor, you will automatically return to CROSSTALK XVI.

To run your text editor from CROSSTALK XVI, enter the command:

    EDIT file name

CROSSTALK XVI will load and run your editor program, using the file name given.

Before you can use the EDIT command, you have to tell CROSSTALK XVI what the name of your editor program is, and where to find it.

See page 6-20.

EMULATE

LOCAL. The EMulate command sets the type of terminal CROSSTALK XVI will emulate. This is important to you only if the system you are calling utilizes cursor positioning and clear screen codes for a particular type of terminal. The terminals CROSSTALK XVI can emulate are: Televideo 910/920, IBM 3101, ADDS Viewpoint, and the DEC VT-100. To select an emulation mode, enter the command EM 'x' where 'x' is the first letter of the terminal you wish to emulate.

Some emulation modes alter the use of several of the keys on the keyboard. The chart below shows which keys are changed in emulation mode:

Mode	**Notes**
DEC VT-100	Keypad keys are assigned the same values as the keys in the same location on the VT-100 terminal. Function keys f1 through f4 are not programmable, and send the same codes as the function keys on a VT-100 terminal. ALT-9, 0, −, and = send the VT-100 codes for UP, DOWN, LEFT, and RIGHT arrows. The SWITCH key is always shift-home when in VT-100 mode.
IBM 3101	Function keys F1 through F8 are not programmable; they generate the same codes as F1 through F8 on the IBM 3101 terminal. The HOME key sends the 3101's HOME codes, and SWITCH is automatically assigned to shift-home. The remainder of the keypad keys (up, down, left, right) send the equivalent 3101 codes.

See pages 8-1 to 8-6.

EPATH

LOCAL. Before you can use the EDIT command, you have to tell CROSSTALK XVI what the name of your editor program is, and where to find it.

The EPath command is used to tell CROSSTALK XVI where to find your text editor program. For example, if you wish to use the EDLIN editor supplied with DOS, and ED-LIN.COM is in a subdirectory called "bin" on drive c:, then you would enter the command:

   Command? **EPATH C:\BIN\EDLIN.COM**

We suggest that you set EPATH once, then save a new "standard settings" file so that you won't have to re-enter the editor name each time you run CROSSTALK XVI.

See page 6-20.

ERASE

LOCAL/REMOTE (limited). The ERase command has two functions: The command ER alone will erase the contents of the capture buffer. The command ER FILE.NAM will erase the file "FILE.NAM". You are always asked to confirm an erase before the operation actually takes place. The command ER *.* will allow you to selectively erase any or all files on a disc.

Note that an answer-mode caller may only use the ERASE command to erase the contents of the capture buffer. He may NOT erase files from the disc.

See page 6-5 and 9-8.

FILTER

LOCAL. The FIlter command is used to display and change the table of allowable control characters. Enter the command FILTER, and CROSSTALK XVI will display the table of all the possible control characters.

A "NO" next to a character means that the character is discarded by the INFILTER command, and an "ok" means that the character is passed by INFILTER. After you enter the FILTER command, CROSSTALK XVI will ask you to press the letter of the control character you wish to change, or press the ATTENTION key to leave the filter table as it is.

See page 6-9.

FKEYS

LOCAL. The FKeys command is used to set and display the contents of the programmable function keys. The command FK will show the settings of the "normal" function keys, FK A will show the contents of the "Alt" function keys. The other two sets of keys are "Shift" and "Control".

To set a function key, enter FK n string (or "FK An string" for alt-keys), where n is the number of the key to be set, and "string" is the string of text assigned to that key. Several characters have special meaning when used in function keys. The vertical bar | places a carriage return in the string. The tilde (~) causes a two second delay. Any key which begins with an at-sign (@) will be taken as a command to CROSSTALK XVI.

For example, the command FK C1 @PR / will set control-F1 to "@PR /". When the Control-F1 key is pressed, CROSSTALK XVI will toggle the printer on or off.

See page 6-6.

FLOW

LOCAL. The FLow command allows you to set the start stop characters required by the host computer you are communicating with. It is used to tell CROSSTALK XVI how to control character flow with the host computer.

See page 7-6.

GO

LOCAL. The function of the GO command depends on which mode the program is in. In CALL mode, the GO command tells CROSSTALK XVI to dial a number and establish a connection. You may instruct the program to re-dial automatically if a connection is not established on the first try. The command GO R 30 would tell CROSSTALK XVI to re-dial every 30 seconds until a connection is established.

The Command GO LOCAL tells CROSSTALK XVI that there is no modem connected to the system. Use this option when using CROSSTALK XVI to transfer files between two computers "hard-wired" together. When the local option is used, the carrier detect signal on the RS-232 interface is ignored, and the "online" timer in the status line is replaced by the word "local".

In ANSWER mode, the GO command tells CROSSTALK XVI to begin waiting for incoming calls.

See page 5-4.

HANDSHAKE

The HAndshake command allows CROSSTALK XVI to either use or ignore the RTS and CTS signals. The HP24550 and HP24551 internal modems do not use these signals, and the default setting for HANDSHAKE is Off. The information is given purely for reasons of completeness.

HELP

LOCAL/REMOTE. The HElp command provides help on all of CROSSTALK XVI's commands. Entering HELP with no option displays a list of all of CROSSTALK XVI's commands. If you need help with a command, type HELP XX, where "XX" is the command you need help with. If CROSSTALK XVI asks you a question you don't understand, enter a ? and the help for that command will be displayed.

See page 4-6.

IF

SCRIPT. The IF command is used in script files to make a decision based on the results of an ASK command. It allows "branching" to different locations in a script file, based on the user's response to a question.

See page 13-17.

INFILTER

LOCAL. The INfilter command tells CROSSTALK XVI to discard incoming control characters when in terminal mode. Some host computer systems may send control-characters which are meaningless to your computer. Turning INFILTER ON will discard these characters. If you see extraneous spurious characters on the terminal screen, try turning INFILTER ON. INFILTER also "strips" the top bit off of 8 bit characters. With INFILTER OFF, these characters may appear as "graphics" characters. Turning INFILTER ON will display these characters correctly.

See page 6-9.

JUMP

SCRIPT. The JUmp command is used to branch control to a particular location in a script file.

See page 13-19.

KERMIT

CROSSTALK XVI now supports the KERMIT file transfer protocol. Five new commands have been added in order to support KERMIT.

See page 12-9.

LABEL

SCRIPT. The LAbel command is used to assign a label name to a particular spot in a script file, so that it may be referred to by the JUMP command.

See page 13-17.

LFAUTO

LOCAL. When LFauto is on, CROSSTALK XVI will print a line feed on the screen after each received carriage return. This is useful when communicating with systems which do not send line feeds. Conversely, when LFAUTO is ON, CROSSTALK XVI will print a carriage return each time a line feed is received. This is useful when communicating with systems which send line feeds without carriage returns.

See page 7-5.

LIST

LOCAL/REMOTE. The LIst command is used to display CROSSTALK XVI's parameter settings.

The operation of the LIST command depends on who issued the command. If LI is entered as a command from the status screen, several infrequently-used parameters are shown in the status screen "window". If a person calling into an answer-mode CROSSTALK XVI system issues the LIST command, the program displays the full listing of all the parameters, in much the same format as it is displayed on the status screen.

See page 6-15.

LOAD

LOCAL. The LOad command is used to load CROSSTALK XVI command files. Command files are files containing commands for CROSSTALK XVI to perform. The command LO will display all of the available command files, and allow you to choose one to load. The command LO FRED will load in "FRED.XTK", and perform all of the commands contained in that file.

See page 13-6.

LWAIT

LOCAL. The LWait command tells CROSSTALK XVI how to wait between lines when transmitting text files with the SEND command. There are several options to the LWAIT command. The table below shows how each option works:

Option	Effect
NONE	Each line is sent with no waiting.
Prompt x	Send a line of text, wait for a prompt of x characters, then send the next line.
Char 'x'	Send a line of text, wait until the character 'x' is received, then send the next line.
Delay x	Wait x tenths of seconds between lines.
Manual	Prompts the user to press the space bar between each line.
Echo	Wait until a carriage return is echoed from the host system.
Learn	Send the first line of text, count incoming characters, wait until the user presses the space bar, then send each successive line with a wait for a prompt of "count" characters.
Quiet x	Send a line of text and then wait until no character is received (i.e. quiet) for x tenths of seconds.

See page 10-3.

MESSAGE

SCRIPT. The MEssage command is used in script files to display a message on either the status or terminal screen.

See page 13-20.

MODE

LOCAL. The MOde command tells your CROSSTALK XVI program whether to make or answer calls. If you wish to make a call, select "CALL" mode. To answer calls, use "ANSWER" mode. CROSSTALK XVI automatically selects HALF duplex (see DUPLEX command) when the answer mode is selected, and selects FULL duplex when call mode is selected.

See page 11-2.

NAME

LOCAL. The NAme command is used to set the name of a called location. Use of this command is optional. If a NAME has been given to CROSSTALK XVI, the name will be sent as a "greeting" message whenever a remote terminal calls into CROSSTALK XVI in the answer mode.

See page 11-4.

NO

LOCAL. This command is used internally between two CROSSTALK XVI systems. It is sent from an answer system to a call system at the end of a file transfer, to tell the calling system that there are no more files to be transmitted.

This command is not normally entered as a command by the user.

NUMBER

LOCAL. The NUmber command sets the phone number to be dialed. The number may be up to 40 characters long.

See page 5-2.

OUTFILTER

LOCAL. The OUtfilter command instructs CROSSTALK XVI to screen out line feeds when sending text files with the SEND command. If OUTFILTER is ON, line feed characters are discarded.

See page 10-7.

PARITY

LOCAL/REMOTE. The PArity command is used to set the parity bit to the appropriate value. Some systems require that parity be set correctly, other systems ignore parity entirely. The possible settings for the PARITY command are NONE, EVEN and ODD.

See page 7-4.

PICTURE

LOCAL. The PIcture command allows you to take a "picture" of the screen, and save the picture into a disc file of your choice. For example, the command:

Command? **PICTURE BERT**

will save an image of the screen in the file "BERT." If "BERT" already exists, the program will ask if you wish to erase the old file, or add the new picture to the end of the file.

This feature is most useful when you need to make an absolute copy of the screen. All of the data on the screen is saved in the file exactly as it appears on the screen.

Note that you may use the PICTURE command from either the terminal or status screen, but you may not use PICTURE when CAPTURE is ON.

See page 9-7.

PMODE

LOCAL/REMOTE. The PMode command tells your CROSSTALK XVI system what type of system it is communicating with. It is only necessary to set PMODE when you are doing error-checked file transfers with another CROSSTALK XVI system. If you are exchanging files with a CP/M system, set PMODE to 1, otherwise set PMODE to 2.

See page 12-2.

PORT

LOCAL. The POrt command tells CROSSTALK XVI which of the computer's communications ports to use. Note that on some computers, it may be necessary to reset the baud rate after switching ports.

See page 7-2.

PRINTER

LOCAL/REMOTE. The PRinter command tells CROSSTALK XVI to echo all data displayed on the terminal screen to the printer. Turning PRINTER ON does not turn the terminal video display off. The command PR / will toggle the printer to the opposite state of what it currently is.

Note   If you are using a serial printer connected to a COM port, use the command PR DOS instead of PR ON.

See pages 4-4 and 6-8.

PWORD

LOCAL. The PWord command is used to set CROSSTALK XVI's answer password. The password may be up to 12 characters long. If you have set a password, then any persons calling into your system will be required to enter the password before they can access your system. Setting PWORD to blank disables the password feature.

See page 11-2.

QUIT

LOCAL. The QUit command tells CROSSTALK XVI to immediately disconnect and return to DOS. If any information is in the capture buffer, CROSSTALK XVI will ask if you wish to save the information before exiting.

See page 5-9.

RCVE

LOCAL/REMOTE. This command is used internally by CROSSTALK XVI, during file transfers. It is not entered as a command by the user.

RDIAL

The RDial command sets the number of attempts to connect. The normal value is 10.

See page 5-5.

REPLY

SCRIPT. The REply command is used in a script file to send a message to the other computer system.

See page 13-21.

RQUEST

LOCAL. The RQuest command is used to request a transfer of files from another CROSSTALK XVI system. This command should only be issued from a CALL mode system when calling into an ANSWER mode system.

You may specify an optional target or destination drive name when issuing the RQUEST command. Some examples of this are shown below:

Command	Result
RQ*.ASM	Request all files with the type .ASM
RQ B:FRED	Request the file FRED from drive B:, place the file on the default drive.
RQ B:BERT C:	Request the file BERT from drive B:, place the file on drive C:.

See page 12-1.

RUN

LOCAL. The RUn command allows you to run other programs from CROSSTALK XVI in much the same way that the EDIT command allows you to run a text editor program. To run another program, enter the command:

Command? **RUN** program name

CROSSTALK XVI will turn control over to the other program, and control will return to CROSSTALK XVI when the second program is finished. You may also temporarily return to DOS by entering RUN with no program name.

Once you are in DOS, you may run another program. To return to CROSSTALK XVI, enter EXIT from the DOS prompt.

When you are running another program from CROSSTALK XVI, avoid running any programs which may change the settings of the serial port you are using for CROSSTALK XVI.

See page 6-21.

RWIND

SCRIPT. The RWind command is used to cancel and restart a script file. The current script file is terminated and re-started from the beginning, just as if a new DO command has been issued.

See page 13-20.

RXMODEM

LOCAL/REMOTE. The RXmodem command is used to tell CROSSTALK XVI to receive a file from another computer, using the XMODEM file transfer protocol.

See page 12-8.

SAVE

LOCAL. The SAve command saves a CROSSTALK XVI command file for future use. All of CROSSTALK XVI's operating parameters, including all function key definitions, are saved in the command file.

See page 13-4.

SBREAK

SCRIPT. The SBreak command is used to send a BREAK signal to the modem from within a script file.

See page 13-20.

SEND

LOCAL. Use the SEnd command to send a text file from your disc to another computer system. This command is most often used when communicating with another computer which is not running CROSSTALK XVI. If the system you are communicating with is running CROSSTALK XVI, use the XMIT command instead.

Several other commands are used to modify the method the SEND command uses to send files. For information on all of the commands affecting the operation of the SEND command, see the LWAIT, CWAIT, BLANKEX, and OUT-FILTER commands.

See page 10-1.

SKIP

SCRIPT. The SKip command is used to skip over a number of lines in a script file.

See page 13-19.

SNAPSHOT

LOCAL. The SNapshot command is used to take or review a "snapshot" of the terminal screen. Enter SN 24 to take a snapshot of all 24 lines on the screen. you may then view this screen by typing SN. This is especially useful when trying to remember a long list of menu items on a screen. The snapshot buffer remains intact until you take another snapshot. The snapshot buffer may NOT be written to a disc file. To save data on the screen into a disc file, use RETRO-CAPTURE.

See page 9-8.

SPEED

LOCAL/REMOTE. The SPeed command selects the speed at which your computer will communicate over the phone line. The first two digits of the desired speed must be entered.

See page 5-3 and 7-3.

STOP

LOCAL/REMOTE. The STop command sets the number of stop bits used to make up the data word. Most systems use 1 stop bit at speeds of 300 baud, and above, and 2 stop bits at 110 baud.

See page 7-5.

SWITCH

LOCAL. The SWitch command selects the key to be used for switching between the terminal and status screens. This key is normally the HOME key (shift-home when in DEC and IBM 3101 Emulation), but can be changed to another key if desired.

There are several ways to set the SWITCH key. The table below shows each of the possible methods:

Command	Notes
SW	CROSSTALK XVI will ask you to press the key to be used for the SWITCH key. You may NOT select the numbers 0-9 or the letters A-Z as the SWITCH key.
SW 02	Sets the SWITCH key to the key with a hex value of 02 (in this case, the ^B key).
SW EOT	Sets the SWITCH key to the key with the ASCII mnemonic "EOT", which is the ^D key.
SW HOME	Sets the SWITCH key to the HOME key on your PC keyboard.

See page 4-7 and 5-7.

TABEX

LOCAL. The TAbex command is used to turn tab expansion on and off. When TAbex is on, transmitted tab characters are sent as spaces to the next tab position. This is useful when sending files to systems which do not interpret tabs.

Note that the TABEX command only affects the SEND command. It has no effect on normal "Terminal mode" operation.

See page 10-6.

TIMER

LOCAL. The TImer command allows you to disable the "online" timer on the terminal screen. When TIMER is ON, the online connection time is constantly displayed at the lower right corner of the screen. Setting TIMER to OFF removes the timer count from the screen.

Note that the timer does not count unless the TIMER command is set to ON.

See page 6-11.

TURNAROUND

LOCAL. Some computer systems use a key other than `ENTER` to mean "end of line". The TUrnaround command tells CROSSTALK XVI which character to send when the `ENTER` key is pressed.

There are several ways to set the TURNAROUND key. The table below shows each of the possible methods:

Command	Notes
TU	CROSSTALK XVI will ask you to press the key to be used for the TURN-AROUND key.
TU 03	Sets the TURNAROUND key to the key with a hex value of 3 (in this case, the ^C key).
TU EOT	Set the TURNAROUND key to the key with the ASCII mnemonic "EOT", which is the ^D key.

See page 6-14.

TYPE

LOCAL/REMOTE. The TYpe command has two functions: it may be used to review the contents of the capture buffer, or it may be used to view the contents of a disc file.

When given with no name, the TYPE command types the contents of the capture buffer to the screen. The command TYPE filename will type the contents of the file on the screen. CROSSTALK XVI will add line numbers to each line if desired. Enter TY # to type the capture buffer with line numbers, or TY # FRED.TXT to type the file FRED.TXT with line numbers. To begin TYPING at a particular line, you may enter TY #100 FRED.TXT, to begin typing "FRED.TXT" starting with the 100th line in the file.

See page 6-4 and 9-9.

UCONLY

LOCAL. The UConly command is used to set upper case on and off. When UCONLY is on, all lower case letters encountered during a SEND will be converted to upper case. Received characters are unaffected.

Note that this command does not have any effect on normal terminal mode operation.

See page 10-6.

VIDEO

The VIdeo command allows you to tell CROSSTALK XVI which type of adapter board you have. The following chart shows the proper setting of the VIDEO command for your hardware.

Display Type:	VIDEO setting:
Color Graphics Adapter	CGA
Enhanced Graphics Adapter	EGA/Mono
Professional Graphics Adapter	PGA
Monochrome Adapter	EGA/Mono

If you are in doubt as to which setting to use, try setting VIDEO to "EGA/Mono." If your screen shows "snow" on the EGA setting, switch back to the CGA setting.

WAIT

SCRIPT. The WAit command causes a script file to be paused until the condition specified by the WAIT command has been met.

See page 13-22.

WHEN

SCRIPT. WHen is a special command that allows CROSS-TALK XVI to do a command or series of commands whenever a particular word or phrase is sent to you by a remote computer, thus helping to automate your terminal session even more.

See page 13-23.

WRITE

LOCAL/REMOTE. The WRite command stores captured data into a file of your choice. If a disc error occurs, or if the capture buffer is empty, an error message will be printed.

Use the WRITE command when you have captured data using the capture-to-memory command, and you wish to save the captured data on your disc. It is necessary to use the WRITE command if you are using capture-to-disc.

See page 9-2.

XDOS

LOCAL. The XDos command tells CROSSTALK XVI to exit DOS without hanging up the phone line. You may run any other program and return to CROSSTALK XVI, and your connection will still be intact. If any information is in the capture buffer, CROSSTALK XVI will ask you if you wish to save the information before exiting.

See page 5-9.

XMIT

LOCAL. The XMit command transmits files to another CROSSTALK XVI system. "Wildcard" file names are allowed. An optional target drive name may be given after the file name.

Note that the XMIT command should only be used when calling into an answer-mode CROSSTALK XVI system.

The chart below shows some example XMIT commands:

Command	Result
XMIT*.ASM	Sends all the files with the type .ASM to the other system.
XMIT BERT	Sends the file BERT from the default drive to the other system.
XMIT B:FRED C:	Sends the file B:FRED to drive C: on the other system.

See page 12-1.

XXMODEM

LOCAL/REMOTE. The XXmodem command is used to tell CROSSTALK XVI to send a file to another computer, using the XMODEM file transfer protocol.

See page 12-8.

15   Examples

Examples

This section of the manual gives some how-to-do-it examples of typical uses of CROSSTALK XVI. Please remember that these are only examples. Every situation is different, and what is shown here may not work for every system in the world. Any names, phone numbers, account numbers or passwords shown in this section are fictitious. Any similarity to any real names, phone numbers, account numbers or passwords is purely coincidental. Do not try this at home.

Calling The Source

Judging from the feedback we get from users of CROSSTALK XVI, a lot of you are using CROSSTALK XVI to call The Source. CROSSTALK XVI can help you cut down on connect time by making your call to The Source more efficient. In this example, we will show a command and script file which will call The Source through TYM-NET, log you in, and send the MAIL READ command to The Source. In addition, we'll set some function keys to some common Source commands.

Once these command and script files have been created, all you have to do to call The Source is enter the command:

XTALK SOURCE

from DOS. CROSSTALK XVI will make the call, wait and re-dial if necessary, and log you in.

File SOURCE .XTK

	Contents of File	Comments
NAme	The Source	This is who we're calling and this is the phone number
NUmber	555-1212	
ANswback	Off	
ATten	Esc	Set our normal AT key
APrefix	ATS0=5|	Tells modem what ring to answer on
BReak	End	and our normal BREAK key
SWitch	Home	and our normal SWITCH key
CWait	None	Don't need CWAIT
LWait	Delay 1	LWAIT 1 works well
DEbug	Off	No DEBUG
DPrefix	ATDT	Dial with tones
DSuffix			
EPath	C:\BIN\EDLIN.COM	Tells CROSSTALK XVI where to find text editor
EMulate	None	Don't emulate
FLow	^S/^Q	Normal XON XOFF characters
INfilter	On	Filter special chars. out
LFauto	Off	Don't need extra LF's
MOde	Call	We are making a call
POrt	COM 1:	Use this port
TUrnarnd	Enter	Send CR when we press CR
CApture	Off	
DAta	8	8 bit data
DUplex	Full	Full duplex
OUtfilter	On	Filter ongoing LF's
PArity	None	
PRinter	Off	Start with printer OFF
RDials	10	Sets the number of attempts to connect.
SPeed	1200	1200 baud
STop	1	1 stop bit
TAbex	On	Expand tabs
BLankex	On	Expand blank lines
UConly	Off	Lower case is ok

Contents of File	Comments
FK 1 Post read IBM/|	Set these function keys
FK 2 Post read BULLETIN-BOARD|	
FK 3 UPI|	
FK 4 n|	
FK 5 @CA /|	
FK 6 @PR /|	
FK 7 @TY|	
FK 8	
FK 9	
FK 10	
GO R45/45	Re-dial until we connect

File SOURCE.XTS

Contents of File	Comments
WAit delay 10	wait for a second
REply a	send terminal ID
WAit char ":"	wait for "user name:" prompt
REply ABC10|	reply with system #
WAit char ">"	wait for "log in >" prompt
REply id abc 123 ^A^B^C|	send our log in & password
WAit char ">"	wait for Source's ">" prompt
REply mail read|	and ask for our mail

How To Capture Data

This example will show you how to capture data from a host computer system, and save the data on your disc. This example will assume that you have already made a call and established communications with the host system.

Once you have made your call and established communications with another computer, any data sent to your computer from the host system may be captured and saved on your disc. In this example, we will show you how to capture your mail from The Source.

You Type	What Happens
MAIL READ	Source MAIL system signs on
[ESC] CA +	CROSSTALK XVI begins capturing
(answer MAIL system prompts)	Source MAIL is displayed ...(end of mail)
[ESC] WR B:MAIL	CROSSTALK XVI saves captured data in file B:MAIL

How To Send A File With the SEND Command

This example will show you how to send a text file to a host computer system with the SEND command. This example will again assume that you are already connected to the host computer. The example will show you how to send a pre-edited text file into The Source MAIL system.

You Type	What Happens
MAIL SEND TCA 123	Source MAIL system signs on
(answers MAIL system prompts)	Source replies "Enter Text:"
[ESC] LWAIT LEARN	CROSSTALK XVI sets up "learn" mode
[ESC] SEND filename	CROSSTALK XVI sends first line of text, asks you to press the space bar
[SPACE BAR]	CROSSTALK XVI sends remainder of text file to The Source
.S	MAIL program sends mail

Transferring Files to Another CROSSTALK XVI System

This example shows how to transfer files with another CROSSTALK XVI system. We will assume that you are the caller, and the other system answered. We will also assume that you have already made the call and established communications with the other system.

In the example, we will send the file "FRED.TXT" to the other system, and request the file "ERNIE.BAS" from the other system.

You Type	What Happens
[ESC]XM FRED.TXT	CROSSTALK XVI begins transfer of file FRED.TXT to other CROSSTALK XVI system. A transfer summary is shown:

```
┌──────────── CROSSTALK - XVI Status Screen ────────┐   Local

  NAme    Crosstalk-XVI Default settings        LOaded   A:STD.XTK
  NUmber                                         CApture  Off

 ┌──── Communications parameters ────┐    ┌──── Filter settings ────┐
  SPeed 1200   PArity None  DUplex  Full     DEbug    Off  LFauto   Off
  DAta  8      STop  1      EMulate None      TAbex    Off  BLankex  Off
  POrt  1                   MOde    Call      INfilter On   OUtfiltr On

 ┌──────── Key settings ────────┐    ┌──── SEnd control settings ────┐
  ATten  Esc        COmmand ETX (^C)     CWait   None
  SWitch Home       BReak   End          LWait   None

 ┌────────────── Transmitting A:FRED.TXT ──────────────┐

  ┌─────────┬────────────┬──────────────┬──────────────┐
  │ Block # │ % complete │ Consec. errors│ Total errors │
  ├─────────┼────────────┼──────────────┼──────────────┤
  │    1    │     --     │     none     │     none     │
  └─────────┴────────────┴──────────────┴──────────────┘

  ┌──────── PROTOCOL TRANSFER UNDERWAY -- Press Esc to cancel ────────┐
```

[ESC] RQ ERNIE.BAS	CROSSTALK XVI begins transfer of file ERNIE.BAS from the other CROSSTALK XVI system. Transfer summary is shown, as above.

A   Commonly Asked Questions

1. When I attempted to dial a number using CROSSTALK XVI, I received a message that said I was already connected. What is the problem?

   ANSWER: CROSSTALK XVI is receiving a high carrier signal from the modem (or no carrier signal). There are two things that could cause this:

   a. Modem switches are set improperly.

   b. Serial port configuration set improperly.

2. I need to go through a switchboard for an outside line. This requires using a 9 (or any other number or combination of numbers) before receiving a dial tone. How do I do this?

   ANSWER: Insert the 9 in front of the phone number with the CROSSTALK XVI Number command. If a pause is needed to allow time for dial tone, use a comma. Each comma is worth 2 seconds.

3. My modem dials out and I hear it connect. Why does CROSSTALK XVI keep counting down and then say that no connection was established?

ANSWER: CROSSTALK XVI is not detecting a high carrier signal so it never realizes that it is connected. This would result from a hardware problem. These problems are:

a. The modem is not sending a high carrier signal to the computer when connection has been established.

b. Serial port configuration problem.

4. Connection is established and all I see is unintelligible characters on the screen. Why?

ANSWER: This would result from a mismatch in parameters. Check the following settings:

a. Baud rate b. Data bits c. Parity

5. Does CROSSTALK XVI support the IBM 3101 block mode terminal?

ANSWER: No, emulation is of character mode terminals only.

6. Can I call into a mainframe using CROSSTALK XVI?

ANSWER: Yes, providing the mainframe will accept our terminal emulation or requires no emulation.

7. Can I run another program from CROSSTALK XVI?

ANSWER: Yes, you would use the RUN command. The RUN command can be used on the local end only.

8. Under VT-102 emulation, how do I switch from numeric mode to applications mode?

ANSWER: Press the escape key then the equal key. To reverse this process use escape then greater than key.

9. My modem will not dial out. Why not?

ANSWER: This is usually because of improper parameter settings. You must check all of the following:

a. Dialing prefix
b. Dialing suffix
c. Baud rate
d. Data bits
e. Parity
f. Modem settings
g. Serial port configurations
h. Telephone line - pulse or tone line - is actually working.

10. How can I save my screen color changes?

ANSWER: You must use an editor or word processor and insert these commands into the STD.XTK command file.

11. I want to be able to access the answering CROSSTALK XVI machine and control the computer from my location. How can I do this?

ANSWER: There is no way of doing this with CROSSTALK XVI. A few commands are available to remote users (you will find a list of these in your manual), but most commands are restricted.

12. How can I connect two computers using CROSSTALK XVI and not use a modem?

ANSWER: A direct cabling method may be used. These cables must be specifically wired according to the two machines in use.

13. How do I increase my allowed dialing time with CROSSTALK XVI?

ANSWER: Instead of typing GO on the command line use the GO command (GO 10/60, the 10 being the number of seconds between redial attempts and the 60 being the number of seconds allowed for dialing). The CROSSTALK XVI default setting for dialing time is 45 seconds. To save this command, you must edit the command file and replace the current GO statement with your change.

14. I need to see all 25 lines on my screen. Crosstalk uses the 25th line for the command line. Is there any way to get rid of this?

ANSWER: No.

15. My modem dials out fine but it will not answer the phone. What could be wrong?

ANSWER: Be sure the CROSSTALK XVI screen says waiting for call.

16. I am trying to do a protocol transfer, but all I get is errors. What is wrong?

ANSWER: CROSSTALK XVI must be on both machines for a protocol transfer. If errors are occurring, check all parameter settings including PMODE for any mismatches. Be sure capture is turned off on both machines.

17. Whenever I use VT-100 emulation I cannot program my first 4 function keys. It will list them out with what I programmed but it will never act on them. Why not?

ANSWER: CROSSTALK XVI has preprogrammed these function keys with VT-100 settings. These settings do not appear on the list, but they cannot be changed.

18. CROSSTALK XVI does not seem to be sending or receiving any of my line feeds. What could be causing this?

ANSWER: Be sure your OUTFILTER is off. The OUT-FILTER command will strip line feeds from all outgoing data. Check the filter table to see if incoming line feeds are being taken out. If so, change the setting. If not, turn LFAUTO on. This will add a line feed after every carriage return.

Hints on Writing Script Files

1. Always start a script file with a wait delay command.

2. If possible, use both command and script files and let CROSSTALK XVI autolink on connection.

3. Remember to deactivate the "when" statements if you only want the "when" active one time.

4. Place a blank line before a line containing a label.

5. When you use a command with several options, such as the WAIT command, be sure to specify which option is needed (delay, char, string, etc.).

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