

CROSSTALK AND MIRROR: WHAT'S NEW UNDER THE CROSSTALK STANDARD — PART 1

by Stephen F. Palincsar

(Editor's Note: According to the preliminary results of a recent survey of ONLINE readers, about 25% of you use CROSSTALK communications software, second only to usage of DIALOGLINK and ProComm. It is time, therefore, to take another look at CROSSTALK and related software, and examine its usefulness for online searching. Part 1 discusses CROSSTALK XVI and a sidebar profiles its sophisticated cousin, CROSSTALK Mk.4. Mirror III, a powerful, less expensive clone of CROSSTALK XVI will be reviewed in the May 1990 issue of ONLINE. —NG)

Library microcomputing has changed in the four years since ONLINE's last look at CROSSTALK (Parts 4 and 5 of Stuart Kolner's classic series "The IBM PC As An Online Search Machine," in the July and November 1985 ONLINE). [1] Since then, the 4.77 MHz PC with 8088 microprocessor, two floppy disk drives and 256K of RAM has virtually become an anachronism in most organizations, replaced by machines with 640K or more of RAM, fast 20 - 60 megabyte hard disks and 80286 or even 80386 microprocessors operating at 12 to 33 MHz.

CROSSTALK XVI has been joined in the marketplace by two other products bearing the family name, CROSSTALK Mk.4 and CROSSTALK for Windows. Mirror III is the latest version of a CROSSTALK "clone" from Softklone. Both Mk.4 and CROSSTALK for Windows, while providing many additional features, depart significantly from the "CROSSTALK standard" and bear little or no resemblance to CROSSTALK XVI (See sidebar on page 54). Mirror, on the other hand, retains backward

compatibility with CROSSTALK XVI while providing greatly enhanced capabilities.

In general, the latest version of CROSSTALK XVI still works exactly as Kolner so thoroughly described it in 1985. Rather than duplicating his very detailed explanation of the program and its commands, this review will concentrate on what is new in the current state of the "CROSSTALK standard," as expressed in version 3.7b (released 2/7/89) of CROSSTALK XVI from the CROSSTALK division of DCA. Mirror III version 1.01 (released 5/23/89) from Softklone, a self-described "CROSSTALK clone," also adheres to the "CROSSTALK standard" and will be reviewed in the next ONLINE issue.

WHAT IS THE "CROSSTALK STANDARD?"

CROSSTALK is controlled by English language-like commands. Most are plain English words: **DA**ta for number of data bits, **PA**rtity for parity; the rest are mnemonic abbreviations (such as **XX**modem or **RX**:nodem, used to begin transmitting or receiving a file

with the XMODEM file transfer protocol). For example, **SP**eed 2400 sets the communication speed to 2400 bps. Commands can be abbreviated to the first two letters, e.g., **SP** 2400. Following the conventions established in both the CROSSTALK and Mirror manuals, the first two letters of commands have been capitalized to indicate that they alone are sufficient.

To enter a command, the user presses the **AT**tention key (<ESC> by default, but can be reassigned with the **AT** command if <ESC> is needed for other purposes) to move the cursor from its current location to the status line at the bottom of the screen and display the **Command?** prompt, and then enters the command (or its abbreviation) and the new value. If the new value is not supplied, CROSSTALK displays the available choices and prompts the user for a value. The overall feeling is straightforward and logical, especially for librarians accustomed to command-driven systems.

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CC MMAND FILES

Commands can also come from files. The settings (telephone number, speed, data bits, stop bits, parity, duplex, modem dialing strings, etc.) for a particular service are recorded in a "command file" with a .XTK file extension; each is a separate file. The default settings are saved in the command file STD.XTK, which is loaded when CROSSTALK is invoked without specifying a file as a command line argument (e.g., XTALK NEXIS). When STD.XTK is loaded, a directory of the available command files is displayed for selection by either number or name. The setup procedure establishes the default settings for STD.XTK by means of a dialog with the user, and, where applicable (for example, with Hayes-style 2400 bps modems) saves the required settings in non-volatile RAM on the modem.

Command files are ASCII text files. They can be modified with a text editor or word processor if they are resaved in a text or ASCII mode. New command files can be created by starting up CROSSTALK, typing in new values as necessary at the command line, and saving the new settings with the SAVE command, or by copying and editing existing .XTK files. CROSSTALK itself does not have an editor, but Mirror III has a built-in editor which is suitable for this purpose. Both CROSSTALK and Mirror also provide an easy way to invoke an external editor of the user's choice from within each program. In addition, the NEWUSER script provides a question-and-answer dialog to help a new user through the process of creating a new command file.

Figure 1 is a command file for calling DIALOG via DIALNET from the Washington DC area. Annotations explain the meanings of the commands for those unfamiliar with CROSSTALK.

DIALING DIRECTORIES

The CROSSTALK approach of separate command files and settings for each service stands in contrast to the "dialing directories" found in many other communications programs. For instance in Smartcom II and in ProComm parameters for all the services are contained in a single file

FIGURE 1
ANNOTATED CROSSTALK COMMAND FILE FOR DIALNET

```
Name DIALNET
Number 9-359-2500
ANswback Off
APrefix ATSO=1
DPrefix AT;-ATL1DT
DSuffix ;
DEbug Off
SCreen N wk
SCreen H Wk
SCreen L-w
ATten Esc
BReak End
EMulate VT-100
EPath c:\pcw\d.exe
Filter -----
Port 1
PWord ""
RDials 10
SWitch Home

Timer On
TUrnamd Enter
Video EGA/Mono
ACcept Everything
CWait None
DNames 200
INfilter On
LFauto Off
LWalt Char '?'
MMode Call
BKsize 1
BLinkex Off
CApture Off
PRInter Off
Command ETX (^C)
SPeed 2400
STop 1
DAta 7
DUplex Full
PARity Even
FLOW ^S/^Q
HANdshak Off
OUtfiltr On
PMode 2
TABex Off
UConly Off

; Note that Function keys can be used to invoke commands
;
FK 1 ""
FK 2 ""
FK 3 ""
FK 4 ""
FK 5 @CApture !;
FK 6 @PRInter !;
FK 7 @TYpe;
FK 8 @CApture <24;
FK 9 @SNap;
FK 10 @SNap 24;
.
.
FK A10 "DS!";
GO q45/45
```

Washington DC DIALNET node

Hayes 2400 smartmodem command strings. Note "L1" to set modem speaker to quietest setting.

SCreen commands to set normal, highlight and status line colors (here black and white)

Use <ESC> to get to command line

Use <END> to send a BREAK

Emulate a VT-100 terminal

Use this editor when "ED" is entered

Modem is at Port 1

Home key switches from status to terminal screen

EGA/Mono video card

Line Wait character is "?"

Alternative choice is ANSWER mode

Capture to memory off by default

Printer is off by default

Communication parameters

Toggles memory capture ON or OFF

Toggles printer ON or OFF

Displays contents of capture buffer

24 line retro-capture

Displays "snapshot" of screen

Takes "snapshot" of a screen

Text sent to host when key is hit

Command to start dialing

FIGURE 2
SCRIPT TO PRODUCE A CONTINUOUS DISPLAY ON SCORPIO

This script was designed for use on SCORPIO, an online system for use within the federal government. It can be adapted easily for use on other systems, such as NEXIS/LEXIS.

```
.....
***      SHOW_ALL.XTS Script to produce continuous      ***
***      display of citations in ITEM format on LOC      ***
***      SCORPIO system with short ("READY:") prompt   ***
***      for either XTALK or Mirror III                 ***
.....
```

```
When "" JUmP END_LOOP
; Whenever "" (the first characters of the end of set error
; message) are received, jump to END_LOOP place marker
```

```
LAbel BEGIN_LOOP
; A place-marker
```

```
WAIt String 'READY:'
; Wait for the prompt
```

```
WAIt DElay 8
; Wait another 8/10 second for system to get ready
; to accept input
```

```
REply N:
; N <return> is the command to display next item in set
```

```
JUmP BEGIN_LOOP
; Now go back and repeat the loop.
```

```
LAbel END_LOOP
; Execution comes here after "" are received
```

```
WHen -
; Undo the WHEN condition that brought us here
```

```
ALarm 3 Now
; Sound an alarm on speaker to notify searcher that
; set is finished.
```

```
END
```

which can be viewed or modified only from within the communications program itself.

The chief advantage conferred by a dialing directory seems to be the ease with which "chain dialing" of a list of numbers can be set up, the modem calling each number on the list in rotation, removing a number from the list once contact has been established. Chain dialing can be of considerable importance for would-be users of busy bulletin boards, which are often free for less than thirty seconds between calls, but is of little or no importance to online searchers. ProComm and Mirror III both allow chain dialing.

While CROSSTALK does not support a dialing directory, Mirror III offers users the ability to convert XTK files to a dialing directory and use an <Alt><letter> key alternative to the command line interface.

FUNCTION KEYS

Function keys can be used to represent either a CROSSTALK command or a character string to be sent to the host. The FK command can be used to define 40 plain, <Shift>, <Control>, and <Alt> function key combinations. The settings for <F5> through <F10> shown in Figure 1 are established by default, providing a convenient way to turn the printer on and off, start and pause memory capture, or take and display a "snapshot" of a single screen, at the touch of a function key. The "@" sign preceding a line of text causes it to be interpreted as a CROSSTALK command rather than as a character string to be sent to the host.

In Figure 1, <Alt><F10> will send the letters **DS** followed by a carriage return (represented by the **^** character) when it is pressed. This feature can be

of particular value to Mead Data subscribers, allowing them to assign LEXIS/NEXIS dot commands to function keys. Function keys can also invoke script files or even run external programs from within CROSSTALK.

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SCRIPT FILES

Script files, which have a .XTS file extension, also contain commands. If a script file with the same name as a command file exists, when a connection is established CROSSTALK will immediately begin executing the commands contained in the XTS file, permitting automated logons.

CROSSTALK's script language allows users to develop programs which can provide solutions to a wide variety of problems. For example, some online systems have no command to continuously display all the records in a set. They instead display a screen of information, then prompt the user for a command to continue with the next record. If the searcher attempts to continue past the last record in the set, the system issues an error message. Both WILSONLINE and the Library of Congress SCORPIO system function this way.

The SHOW_ALL script in Figure 2 can be used to produce a continuous display from such a system. If the command file for that system includes the command, FK 1 "@DC SHOW_ALL", then pressing <F1> after the display of the first item in the set has started will invoke the SHOW_ALL script, which will produce continuous output until the last item has been displayed. The script could also be invoked by striking <ESC> to get to the command line, and entering DO SHOW_ALL <return>.

SHOW_ALL.XTS can be modified to produce continuous output from WILSONLINE by changing the **When** string to **ENTER ANY COMMAND** and the **WAIT** string to **USER:**.

A BRIEF LOOK AT CROSSTALK MK.4

The flagship of the CROSSTALK line, Mk.4 is an extremely powerful, complex, expensive, and feature-rich program, and has very little in common with CROSSTALK XVI besides its name.

Mk.4 is capable of managing up to 15 concurrent communications sessions, either communicating independently with multiple communications devices (including modems, an IRMA board, and a SmartAlec board) or managing multiple concurrent sessions over a single modem link with TYMNET's X.PC protocol. Multiple sessions can also serve as windows, so a user can have a communications session going in one, use Mk.4's built-in editor in another, have a directory open in another, or carry out some DOS functions, and have a game going in another, switching between sessions with menus or Alt-key combinations. On the other hand, Mk.4 does not support background operations.

Mk.4 can emulate more than a dozen of the most common terminal types, including both character and block mode, and supports DART, CROSSTALK, XMODEM, YMODEM, ZMODEM, KERMIT, COMPUSERV 4-B, and FAST file transfer protocols.

CASL, Mk.4's script language, is perhaps the most powerful and complete script language available anywhere, supporting virtually all the functions of a general programming language. According to Mk.4's excellent 350-page CASL reference manual, CASL has been used to write "everything from hardware diagnostics to database managers and arcade games." In addition, since CASL is a compiler, not an interpreter, script execution is very fast. The CASL reference manual says, "if you are familiar with BASIC, PASCAL, C or ASSEMBLER you will feel comfortable with CASL." It's perhaps more accurate to say that if you are *not* extremely familiar with PASCAL, C or ASSEMBLER, you will *not* feel comfortable with CASL without considerable study.

Mk.4 is generally regarded more as a program for a corporate environment, especially as a platform for development of customized applications by professional programmers. I do not consider it a tool for online searchers and end-user programmers. It is rich in features that have little value for online searchers, and requires considerable effort to master its complexities, effort which is not aided by previous experience with CROSSTALK XVI.

— Steve Palincsar

CROSSTALK's SETUP and NEWUSER programs are examples of the powerful capabilities of scripts. It is even possible to change the basic nature of the user interface, concealing the underlying command-driven structure beneath a user-defined menu system.

WHAT IS NEW IN CROSSTALK XVI?

Perhaps the most noticeable improvement to CROSSTALK XVI in version 3.7 is the greatly improved documentation. CROSSTALK's documentation in the past was poorly organized, poorly written, and poorly indexed. All that has changed. Tom Bigley and Glen Tapscott, writing in the May 8, 1989 *InfoWorld*, said "CROSSTALK XVI's documentation is among the best of the group. Soft-covered and spiral bound, it is handy to use and extremely well-organized and well-written. It is divided into 13 sections that logically take you through every feature of the program . . . The manual has a detailed table of

contents and a complete index." [2]

One of the best features of the manual is its inclusion of "Tech Tips" giving detailed insights or technical details as footnotes to appropriate sections of the manual. For example, the "Command Reference" section on the **Number** command explains that the telephone number may contain any valid dialing characters your modem understands, which for Hayes-compatible modems includes digits, spaces, dashes, and commas. A Tech Tip footnote explains that most modems interpret a comma to mean a two-second delay, and on most modems this delay is adjustable by changing the S8 register.

Other useful enhancements are a command stack/command line editor, which allows the user to scroll through and edit the 20 most recently entered commands, the **SStep** command, which allows programmers to execute a script file a step at a time for debugging, and several enhancements to the Kermit file transfer protocol.

The communications program, in effect, becomes a Terminate-and-Stay-Resident (TSR) utility, similar to SideKick.

BACKGROUND PROCESSING

Probably the most significant enhancement in this latest version, however, is background communications. This feature, which has been present in Mirror since 1986, lets the user return to DOS by striking a hot key combination and run another program "in the foreground" while CROSSTALK continues to operate in the background, transferring files, running scripts, or waiting for calls. Striking the hot key switches between the communications program and the foreground application. The communications program, in effect, becomes a

Terminate-and-Stay-Resident (TSR) utility, similar to SideKick.

This is not the same as "shelling out to DOS" to run another application with the **RUn** command. When **RUn** is executed, CROSSTALK suspends operations. Although the phone line remains open and CROSSTALK remains in memory, it ceases to operate. File transfers and scripts stop.

Some have questioned the usefulness of background communications for online searchers. James Koga, writing in the April 1988 *DATABASE*, distinguished between "software for telecommunications and software for online searching," and implied that running a communications session in the background while "grinding out the latest company data on a spreadsheet" may be useful for users with "routine (and online cost-insensitive) needs," but not for online searchers. [3]

While there can be little argument with the idea that some communications programs are better suited for online searchers than others, Koga fails to distinguish between interactive searching and the displaying of search results.

The use of DIALMAIL for next day delivery of citations in machine-readable form is an attractive alternative for DIALOG searchers, faster than mail delivery of offline prints, and cheaper than displaying search results with the **TYPE** command. Using background communications, online searchers can continue to use their computers to prepare searches while printing or capturing DIALMAIL output to disk, when the computer would otherwise be unavailable. Background mode also provides a simple way of dealing with minor crises such as a need to format floppy disks while still remaining connected online, although some care must be taken to avoid system crashes.

Since MS-DOS computers are restricted to 640K of conventional memory, the usefulness of background operations is limited by the amount of memory remaining for foreground tasks. The problem is made acute by the ever-increasing memory requirements of applications programs.

CROSSTALK XVI 3.7 has a relatively modest appetite for memory. When a **RUn** command is executed, it occupies 101856 bytes; in background mode it

occupies 189888 bytes. On an AT clone with 640K conventional memory, MS-DOS 3.30, and approximately 3K occupied by TSR's, over 380K remain free when in background mode, and over 462K of RAM remain free when shelled to DOS with the **RUn** command. This is sufficient for most applications.

RESOLVED PROBLEMS

One irritation of long standing has been solved. CROSSTALK can finally recognize full path names when uploading or downloading files. In addition, adding the line **SET XVIPATH=** to the AUTOEXEC.BAT file, specifying the drive and directory in which CROSSTALK and its supporting files are located, allows the program to find its command files, scripts, and help files when invoked from another directory. It is now possible to create a separate subdirectory for downloaded files, or establish individual directories for each user's files, controlling the clutter created by downloaded searches, strategies that have been uploaded, and other temporary files.

UNRESOLVED PROBLEMS, OLD AND NEW

At least one long-standing problem with CROSSTALK remains unresolved. When **SEnding** (uploading) an ASCII file with **LWait** set to manual, so that a line of text is sent each time the space bar is pressed, CROSSTALK sometimes fails to respond, requiring one or more repeated presses before sending the next line. The user quickly begins to feel like a laboratory rat in a behavioral psychology experiment, frantically depressing a lever in the hope of receiving a food pellet as a reinforcement. Since **LWait-manual** is the most useful way of pacing the uploading of prepared search strategies to online systems, the problem can be a frequent irritant for online searchers.

With new features comes a new problem. In previous versions of CROSSTALK, when <F5> was pressed to enable or pause capture to memory, or <F6> was pressed to turn the printer on or off, the status line would briefly display a message indicating **CAPTURE ON**, **CAPTURE PAUSED**, **PRINTER ON**, or **PRINTER OFF**.

As seen in Figure 1, the actual command to toggle the printer on or off is **PRinter /**. Unfortunately,

CROSSTALK now displays the actual command on the status line, informing the user that the state of the printer was toggled, but no longer indicating whether the printer is on or off. In addition, **PRinter /** or **CApture /** now remains on the status line indefinitely. Now it is far too easy to discover the printer is off only *after* part of a record has been displayed on the screen without being printed.

QUOTE OF THE DAY

Finally, CROSSTALK's characteristic "quotes of the day" (clever sayings such as "186,000 miles per second — It's not just a good idea, it's the law!") which appeared on the title screen beneath the CROSSTALK logo are no more. According to the READ.ME file on CROSSTALK's distribution disk, "Due to the rash of computer software viruses and the fact that there have been some misunderstandings regarding our quotes of the day, we have decided to remove them from the product."

CROSSTALK XVI is produced by Crosstalk Communications (a Division of Digital Communications Associates, Inc.), 1000 Holcomb Woods Parkway, Roswell, GA 30076 2575, 404/998-3998. It has a list price of \$195, but is widely discounted, with at least one mail order software house advertising version 3.7 nationally for under \$99.

REFERENCES

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