User's Guide

EXPERT 7

Exabyte Performance Evaluation Regression Tester

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Revision History

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001	March 1990
002	October 1990
003	February 1991
004	June 1991
005	September 1992
006	March 1994
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Contents

About EXPERT

You can use the EXABYTE® Performance Evaluation Regression Tester (EXPERT) software to test the functionality of Exabyte's range of tape drives or libraries. You can perform EXPERT functional tests on the following target devices:

8mm tape drives:	EXB-8200, EXB-8200SX, EXB-8500, EXB-8500c, EXB-8205(XL), EXB-8505(XL)
8mm libraries:	EXB-10i, EXB-10e, EXB-10h, EXB-60, EXB-120, EXB-210, EXB-440, EXB-480
4mm tape drives:	EXB-4200, EXB-4200c
4mm libraries:	EXB-018, EXB-218
Minicartridge tape drives:	EXB-2501, EXB-2501c

EXPERT runs on IBM PC-compatible computers with a SCSI host bus adapter (HBA) card installed. The HBA card allows EXPERT and the target devices to communicate across the SCSI bus. You can use EXPERT to test up to seven target devices on one computer.

About This Manual

This manual provides instructions for installing and operating the EXPERT software starting with version 7.0. Since this version differs significantly from earlier versions of EXPERT, keep the previous revision of the EXPERT manual if you want to use older versions of EXPERT.

This manual is intended for anyone who wants to verify proper operation of an Exabyte product. This manual assumes that you are familiar with tape drive and library operation and basic SCSI terminology.

1

Installation and Startup

This chapter provides the following information:

- Required equipment for installing and using EXPERT
- Instructions for installing EXPERT
- Instructions for starting and exiting EXPERT

1.1 Required Equipment

Before you install EXPERT, make sure you have the following equipment:

- An IBM AT or 386, or compatible computer, with the following:
  - DOS 3.3 or later (DOS 5.0 or later recommended)
  - Approximately 1.5 MB free hard disk space
  - 500 KB available RAM
- A CGA, EGA, or VGA color monitor. Monochrome operation is supported, but not recommended.
- One of the following HBAs already installed in your system:
  - Adaptec ASPI compliant host bus adapter with appropriate ASPI driver. Other fully ASPI compliant HBAs may work, but have not been tested.
  - ASC-88/86

  Note: Starting with EXPERT version 7.0, support for Adaptec's SDS line of adapters has been dropped.
- A single SCSI cable with sufficient connectors attached to test the desired number of target devices. A maximum of seven target devices can be attached to a single SCSI bus.

  Note: Although you can attach more than seven target devices to a SCSI wide HBA and initiate tests for those extra devices, be aware that EXPERT has not been tested for a configuration of more than seven targets**.**
- A power supply that meets the power supply specifications for each tape drive you want to attach.

1.2 Obtaining the Software Electronically

This section describes how to obtain a recent copy of EXPERT by downloading it from one of Exabyte's Bulletin Board Systems (BBSs). If you already have a recent copy of EXPERT on a floppy disk, skip this section and go to section 1.3, "Installing the Software from Floppy Disk."

EXPERT is available for download from Exabyte's BBSs from several locations world-wide. (Refer to "Getting Help" in the back of this manual for the phone number of the BBS nearest to you.) To access an Exabyte BBS, you need a modem (9600 baud or faster) and software capable of transferring files using the X-modem, Y-modem, Z-modem, or Kermit protocol. Check the documentation of your file transfer software for details.

1. After logging on to one of the BBSs, go to the File menu, then the List Files area. EXPERT is located in the DIAGNOSTIC TOOLS (#22) file area.

2. Follow the instructions on the BBS and your file transfer software to download the file EXPERT*xx*.EXE to your computer.

   Note: The *xx* characters in the filename denote the version number of the software. For example, the filename for version 7.0 is EXPERT70.EXE. New versions of the software will be posted on the BBS when available.

   Once the download has completed, you can disconnect from the BBS.

3. Insert a blank, formatted floppy disk (minimum capacity 1.2 MB) in the floppy drive of your computer.

4. Move to the floppy disk root directory. For example, if you placed the floppy disk in drive A:, enter the following:

   ```
   A:

   CD\
   ```

5. Run the file you downloaded from the BBS. For example, if you downloaded the software in directory C:\DOWNLOAD, enter the following:

   ```
   C:\DOWNLOAD\EXPERTxx.EXE
   ```

   The software will self-extract to your floppy disk. Once completed, your distribution disk is ready to be installed.

6. Go to section 1.3 to install the software on your hard disk.

1.3 Installing the Software from Floppy Disk

This section describes how to install the EXPERT files from the distribution floppy disk onto the hard disk on your computer.

Important

Before you begin, make backup copies of the distribution disk. This ensures that you will have the information you need if a disk becomes damaged or if the files are accidentally erased.

To install the EXPERT software from floppy disk, follow these steps:

1. Move to the root directory on the hard disk of your computer system.

2. Create a separate directory for EXPERT and move to the newly created directory.

3. Insert the distribution floppy disk that contains the EXPERT software in your floppy disk drive and copy its contents to your hard disk. For example, if your floppy disk drive is drive A:, enter the following:

   ```
   COPY A:\*.*
   ```

4. If you are using an ASPI compliant HBA, make sure the appropriate ASPI driver is installed in your CONFIG.SYS file. For example, if you use an Adaptec 1540 series controller, your CONFIG.SYS file should contain the following statement:

   ```
   device=aspi4dos.sys
   ```

   Check your SCSI HBA documentation for details on how to install ASPI for your adapter. Note that the EXPERT distribution disk does not include ASPI drivers. Contact your HBA vendor for ASPI drivers.

   Note: Starting with EXPERT 7.0, you do not need to load ASC_EMU.COM to use ASPI compliant host adapters.

5. Remove the distribution floppy disk from the floppy drive and place it in a safe location in case you need to install the program again later.

6. Go to section 1.4 to connect SCSI cables and connectors.

1.4 Connecting the Cables

You need to connect a SCSI cable between the HBA and all targets. You also need to attach an appropriate power supply for each target that does not have an integrated power supply. Refer to the installation guide for each target for details on SCSI cabling and power supply requirements.

Notes:

- Make sure that pin 1 of the SCSI cable is connected to pin 1 of the SCSI connectors on both the HBA and all target devices.
- Make sure that both ends of the SCSI bus have SCSI bus terminators installed. All other devices on the SCSI bus should have their SCSI bus terminators removed or disabled.
- Make sure you are using SCSI cables and connectors that meet the requirements listed in the documentation for each target attached.
- Do not mix single-ended and differential SCSI devices on the same SCSI bus, or you may damage the attached devices.
- Make sure all attached targets have a unique SCSI ID. Make sure none of the targets use the same SCSI ID as the host bus adapter.

1.5 Starting EXPERT

This section describes how to start EXPERT and how to specify command line options to run EXPERT in the mode you desire.

Note: If you have not installed the software yet, do so now by following the steps in section 1.3.

To start EXPERT:

1. Change your current directory to the directory where EXPERT is installed.

2. Enter the following on the command line, where *OPTION* is one of the command line options described below:

   EXPERT

   - or -

   EXPERT */OPTION*1 */OPTION*2 ... */OPTIONx*

   - or -

   EXPERT *-OPTION1* -OPTION2 ... *-OPTIONx*

3. When the EXPERT logo screen is displayed, read the warning notes carefully. Then press ENTER.

Command Line Options

EXPERT supports several command line options, as follows:

Host Bus Adapter options:

/ASPI Detect ASPI compliant adapters only.

/ASC Detect ASC-88/86 adapters only.

Note: If you do not specify either of the Host Bus Adapter options, EXPERT will first try to detect ASPI-compliant adapters, and then ASC-88/86 adapters. If it detects multiple adapters, you will need to select the adapter you want to use from a selection menu.

Screen options:

/25 Use 25-line screen mode, even if the screen was in 43- or 50-line mode on startup.

/43 Use 43-line screen mode when available. Recommended for EGA screens.

/50 Use 50-line screen mode when available. Recommended for VGA screens.

Log File options:

/NOLOG Disable generation of a log file.

/NRLOG Generate log files for each device separately, using the serial number for file names.

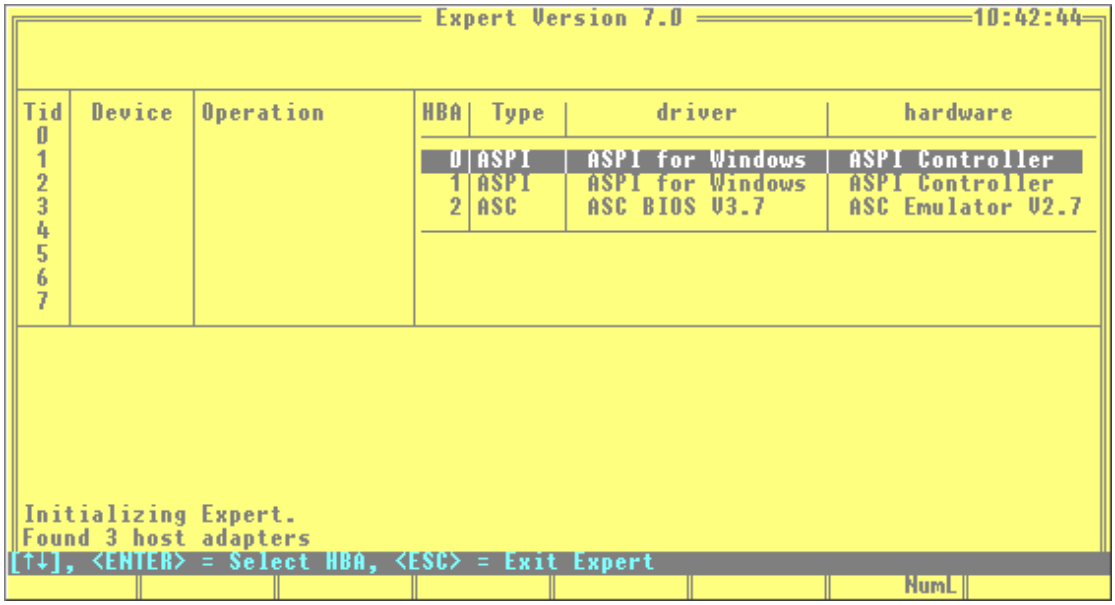
/LPTLOG Enable real-time logging to a printer attached to printer port LPT1:.

Miscellaneous options:

/SOUND Enable distinct sound generation on test pass/fail results.

When you press ENTER, EXPERT's main screen is displayed. If you have more than one SCSI Host Bus Adapter installed, you are prompted to select the adapter you want EXPERT to use. Use the up and down arrows keys to highlight the HBA you want to use and press ENTER.

Below is an example of EXPERT's main screen when three HBAs are detected:



EXPERT will go through its initialization, detecting the SCSI targets attached to the selected HBA and initializing any attached tape drives and libraries. On some systems this may take a few moments.

EXPERT is now ready to start testing the devices detected. For general information about using EXPERT screens and menus, refer to Chapter 2. For information about testing, refer to Chapter 3.

1.6 Exiting EXPERT

To exit EXPERT from anywhere in the program, press ESC repeatedly until the Exit Menu is visible in the top section of the screen. Highlight Exit with the arrow keys. Press ENTER to return to DOS.

EXPERT will attempt to cleanly stop tests that are still running. This may take a few moments. A warning will be displayed, asking if you want to exit to DOS before shutdown is completed. If a problem on the SCSI bus prevents a clean shutdown, press Y to return to DOS.

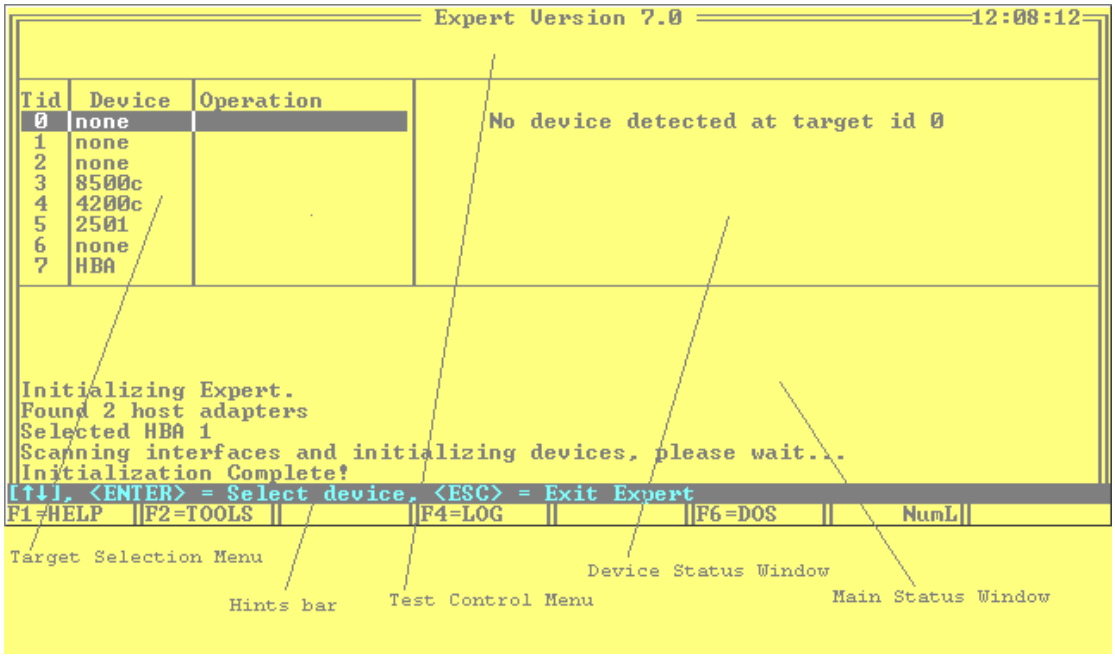
2

General Program Operation

This chapter provides general information about screen features, screen colors, menus and windows, and online documentation.

2.1 Using the Test Control Screen

The Test Control screen, shown below, is the main screen used for program operations.



The Test Control screen contains four main windows:

- **Target Selection Menu:** Allows you to select the target device you want to control. For more information, see section 2.2, “Target Selection Menu.”

- **Test Control Menu:** Allows you to select from the available tests, additional menus, and system operations. For more information, see section 2.3, “Test Control Menu.”

- **Device Status Window:** Shows detailed information about the currently selected target. For more information, see section 2.4. “Device Status Window.” This window is also used by the Toolbox during SCSI command execution and firmware uploads. For more information, see Chapter 4, “Toolbox.”

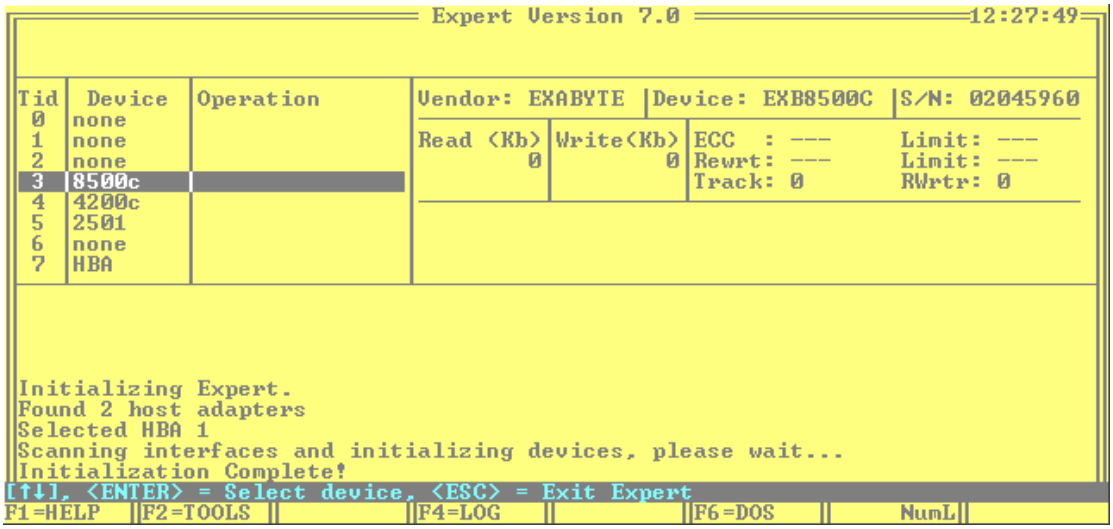
- **Main Status Window:** Shows messages about progress of the tests and general program operation. This window is also used to display the online documentation and the log file. For more information, see section 2.5, “Main Status Window.”

Other useful screen sections are a “hints” bar, showing you which control keys are currently active, and a function key tablet, showing system functions currently available. For more information, see section 2.6, “Function Keys.”

2.2 Target Selection Menu

When EXPERT starts, it automatically scans for attached devices on the SCSI bus. EXPERT determines the Exabyte device type and shows the model next to the target ID in the Target Selection Menu.

The Target Selection Menu is shown below:



Non-Exabyte SCSI peripherals, such as scanners, hard disks, and CD-ROM drives are shown as generic devices. EXPERT has no tests available for non-Exabyte devices.

- Use the up and down arrow keys to move the highlighted cursor bar in the Target Selection Menu to the target you want to control. As you move the cursor bar, the Device Status Window is updated to reflect the status of the currently highlighted device.

  Note: If you have a SCSI wide adapter installed, you will notice a down arrow next to Target ID 7. This indicates that more SCSI IDs are available. Use the arrow keys to move beyond Target ID 7 and show Target IDs 8 through 15.

- Press ENTER to select a test to run. If the highlighted target is already running a test, a menu is displayed that allows you to pause or abort the current test.

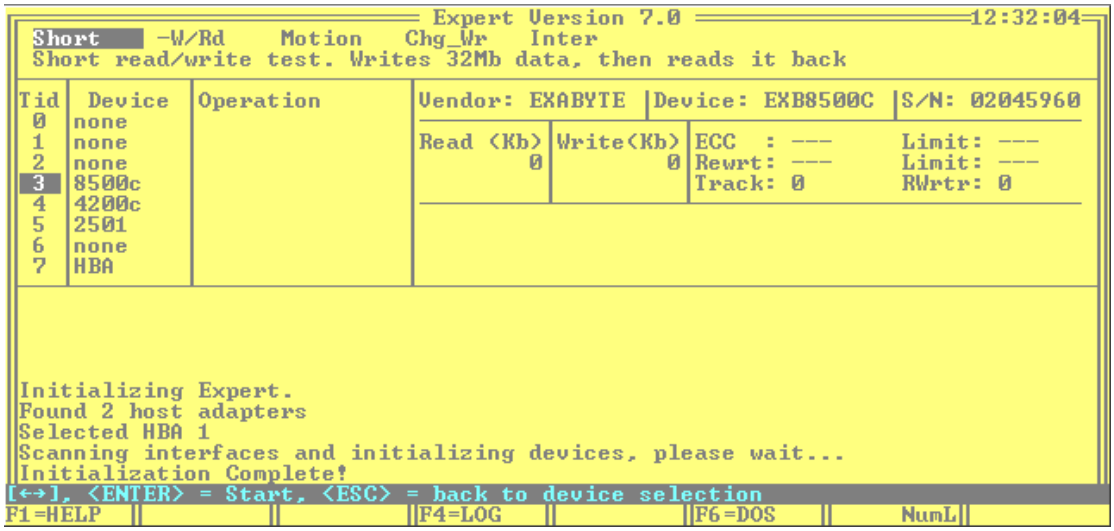
- Press F1 to activate the online documentation for more details.

- Press F2 to enter the toolbox (not available if a test is running).

2.3 Test Control Menu

The Test Control Menu consists of two lines: the upper line displays up to eight selectable tests and the lower line explains what the currently highlighted test will do.

An example Test Control Menu is shown below:



General operation of the Test Control Menu is as follows:

- After selecting the SCSI ID of the target, press ENTER. The Test Control Menu appears at the top of the screen.
- Use the left and right arrow keys to move the highlighted bar to the test you want to select.
- Press ENTER to execute the highlighted test.
- Press ESC at any time if you do not want to execute any of the tests on the menu.
- Press F1 to activate the online information on the Test Control Menu.

Note: Some tests require special preparations to run successfully. If the highlighted test has special requirements, an extra function key F3 is available. See section 2.6, “Function Keys,” for more information.

2.4 Device Status Window

The Device Status Window shows the status of the target currently highlighted in the Target Selection Menu. It provides details such as the progress of tests currently running, pass/fail results of previous tests, and statistical information about the performance of the target. Since different device families have different test parameters, the information displayed varies from device to device.

Information provided for each target includes:

- Vendor information as found in the SCSI Inquiry data.

- Model information as found in the SCSI Inquiry data. Note that this does not necessarily correspond to the detected device in the Target Selection Menu. For example, an Exabyte 4mm drive may return R-BYTE RB-150 in the SCSI Inquiry data and still be correctly identified as an EXB-4200c.

- Serial number information. If the device has the ability to report its serial number across the SCSI bus, this window is automatically filled in. If the device has no serial number support, you are prompted to fill in the number when you start the first test. You do not need to re-enter the serial number on subsequent tests.

- For tape drives: The amount of data read and written during test operation.

- For libraries: The number of pick and place cycles performed during test operation.

Information specific to 8mm tape drives includes:

- Percentage rewrites that occurred during write operation of the test
- Percentage of successfully performed ECC operations while reading
- Number of tracking errors that occurred during the test
- Number of rereads that occurred during the test
- The maximum allowable value for each of the above parameters

Information specific to 4mm tape drives includes:

- Percentage of write block errors that occurred during write operation of the test
- Percentage of read block errors that occurred during read operation of the test
- Number of rereads that occurred during read operation of the test
- Number of C3 ECC corrections that occurred during read operation of the test
- Internal tape drive temperature
- Number of loads of the tape currently used
- The maximum allowable value for each of the above parameters

Information specific to minicartridge tape drives includes:

- Percentage rewrites that occurred during write operation of the test
- Percentage of successfully performed ECC operations while reading
- Number of positioning errors that occurred during the test
- Number of rereads that occurred during the test
- The maximum allowable value for each of the above parameters

Information specific to libraries includes:

- Element address of each tape drive installed

- SCSI ID of each tape drive installed

  Note: Some libraries do not automatically report the SCSI ID of the installed tape drives. The SCSI ID fields are left blank for these libraries. When the first test is started, you are prompted to fill in the SCSI ID fields manually.

- Element address of the robot arm (CHM or cartridge handling mechanism)

During execution of a test, the statistics for the highlighted device are updated automatically every two seconds. This allows you to observe trends in the numbers returned by the target.

To display hardware and driver information for the HBA used by EXPERT on the Device Status Window, highlight the HBA in the Target Selection Menu.

2.5 Main Status Window

The Main Status Window displays all messages generated by EXPERT. This includes results of tests, failure messages, SCSI command output from the Toolbox, and general system messages.

The Main Status Window has the following special functions:

- Displays the online documentation when F1 is pressed
- Displays the test setup requirements when F3 is active
- Displays the contents of the log file when F4 is pressed

Refer to section 2.6, “Function Keys,” for more information about these function keys.

In any of the above functions, if the information is too large to fit in the window, a scrollbar appears. You can use the following keys to browse through the information:

- Use the up and down arrow keys to scroll the information one line at a time.
- Use the PgUp and PgDn keys to scroll the information one page at a time.
- Use the Home and End keys to move to the beginning or end of the information, respectively.

2.6 Function Keys

EXPERT uses the following function keys:

- F1 **- HELP.** This key is available throughout the program and is context sensitive. For example, if you are ready to send a SCSI command from the Toolbox and several option fields are available, press F1 to display information related to the option fields.

- F2 **- TOOLBOX**. This key is available in the Target Selection Menu. The Toolbox is available for each SCSI target address, whether there is a device detected at that address. The Toolbox is not available for the HBA or for devices that are currently executing a test.

- F3 **- DETAIL.** This key is only available if you are about to start a test that requires special precautions or requirements. For example, a library test may require cartridges to be placed in a specific order. Pressing F3 when it is available displays a window that operates identically to the HELP function.

- F4 **- LOGFILE.** This key allows you to view the contents of the EXPERT log file while testing continues. The log file viewer has a limit of 32,000 lines. If your log file grows beyond that size, you must use an external file viewer.

- F6 **- SHELL.** This key allows you to shell to DOS without exiting EXPERT. Available memory in the DOS shell varies with the number of tape drives running tests. Under extreme circumstances, the available memory may be inadequate for starting a DOS shell. During execution of the DOS shell, all EXPERT device tests are suspended.

3

EXPERT Tests

This section describes the tape drive and library tests available in EXPERT.

3.1 General Test Guidelines

Follow these guidelines to obtain meaningful test results with EXPERT:

- Use EXATAPE™ data cartridges when testing with EXPERT. A tape drive can only be tested properly with a known good data cartridge.

- Use a set of "gold tapes" to test your tape drives. To create a "gold tape," take a known good tape drive, run a few short tests with a new tape, and make sure all tests pass well within limits. Label the tape and write down the average performance parameters (ECC, rewrites). Retest the tape every now and then to make sure it is not wearing out and it has not been damaged by a faulty tape drive. Retire a tape if its test results start to get worse or if it has been damaged.

- Keep track of how often you use your test tapes and estimate how long your set of test tapes will last. Use the *Exabyte Head and Tape Life* document as a guide.

- Use quality SCSI cables. Dedicate a set of known good cables for use with EXPERT. You will need three types of cables to test all possible Exabyte devices:

  - 50-pin ribbon cable with a header connector for connection to an internal tape drive (the other end must match the connector on the controller card)

  - 50-pin Centronics-type SCSI-1 connector for connection to an enclosure or older-model library (the other end must match the connector on the controller card)

  - 50-pin SCSI-2 high-density connector for connection to a newer-model library (the other end must match the connector on the controller card)

3.2 Tape Drive Tests

You can use the following EXPERT tests to verify proper operation of Exabyte tape drives:

Note: The tests available depend on the type of tape drive.

- **SHORT** This test is designed to quickly verify basic functionality of the target. It exercises the target's ability to write data to tape and read it back correctly.

- **-W/R** This is a full write-read test. A test pattern is written to tape and then read back several times, exercising the tape drive for an extended period.

- **MOTION** This test writes a test pattern with several filemarks, performing write splice tests. It then performs a series of space operations to verify proper mechanical operation of the device.

- **CHGWR** This test creates a Read Interchange tape and reads it back to verify proper creation. The resulting tape can be used for the INTER test.

- **INTER** This test verifies that tapes written by another Exabyte tape drive can successfully be read back, verifying proper mechanical alignment.

Notes: Libraries and any installed tape drives are logically related. When EXPERT starts up, it tries to detect which tape drives are inside each library and marks them as "allocated." If you try to run a test on a tape drive that is allocated to a library, you are prompted to "deallocate" it. Answer N to abort any tape drive test you are trying to run. Answer Y to proceed with the test. You cannot deallocate the tape drive if the library is currently running a test.

Some tests require special preparations to run successfully. Press F3 to see if the highlighted test has special requirements. See section 2.6, "Function Keys," for more information.

Your Expert program may contain additional tests not described in this manual.

3.3 Library Tests

You can use the following EXPERT tests to verify proper operation of Exabyte libraries:

Note: The tests available depend on the type of library.

- **X_TEST** This test performs random cartridge moves and accesses all areas of the library equally. This test checks basic mechanical operation of the library.

- **WALK** This test "walks" two cartridges through all fixed slot locations in the library. This test checks mechanical alignment of the library.

Notes: Libraries and any installed tape drives are logically related. When EXPERT starts, it tries to detect which tape drives are inside each library and marks them as "allocated." If the allocation has been removed (for instance, by running a manual tape drive test on one of the allocated drives), you may be prompted to reestablish the allocation. Answer N to abort the library test you are trying to run. Answer Y to proceed. You cannot start a library test if one of the tape drives inside the library is running a tape drive test.

Some tests require special preparations to run successfully. Press F3 to see if the highlighted test has special requirements. See section 2.6, "Function Keys," for more information.

Your Expert program may contain additional tests not described in this manual.

4

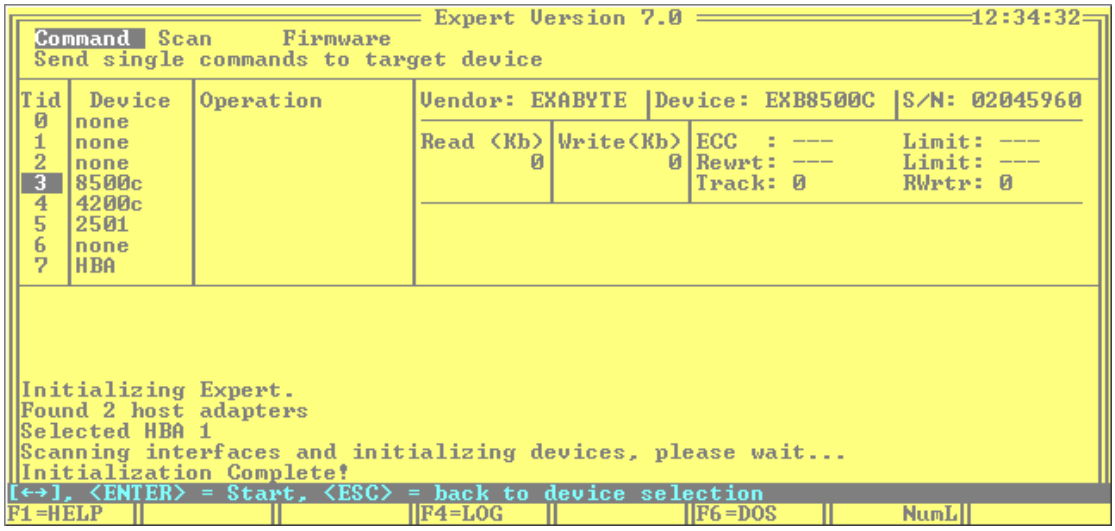
Toolbox

This chapter describes the Toolbox functions in EXPERT.

4.1 Toolbox Menu

The Toolbox Menu offers a set of utility functions that you can use to closely control the target device. To activate the Toolbox, highlight the SCSI ID for the target you want to control in the Target Selection Menu and press F2.

The Toolbox Menu is displayed, as shown below:



Note: The Toolbox is not available for targets that are currently executing a test.

The Toolbox contains the following utilities:

- **COMMAND** This utility allows you to issue SCSI commands to the current target address. See section 4.3, “SCSI Commands,” for more information.

- **SCAN** This utility allows you to re-scan the current target address. See section 4.3, “Scan Address,” for more information

- **FIRMWARE** This utility allows you to upgrade your device with new firmware. This utility is only available for devices that support transferring new firmware across the SCSI bus. See section 4.4, “Firmware,” for more information.

4.2 Scan Address

When you start EXPERT, the program scans attached devices and tries to identify them as Exabyte products. If a device is off, the program cannot test the device, even if you turn it on later. The SCAN utility allows you to correct this situation by manually scanning the address you select.

You may re-scan addresses of devices that were correctly identified. This effectively resets the device to the state it was in when EXPERT was started. All statistics are cleared. If the device does not support serial number retrieval through the SCSI bus, you must re-enter the serial number the first time you start a test after the SCAN utility was used.

Most Exabyte libraries will not be identified correctly until they have completed their power-on self-test (POST). The library will be identified by EXPERT as a generic "changer" during POST. The SCAN utility allows you to retry the identification without having to exit EXPERT.

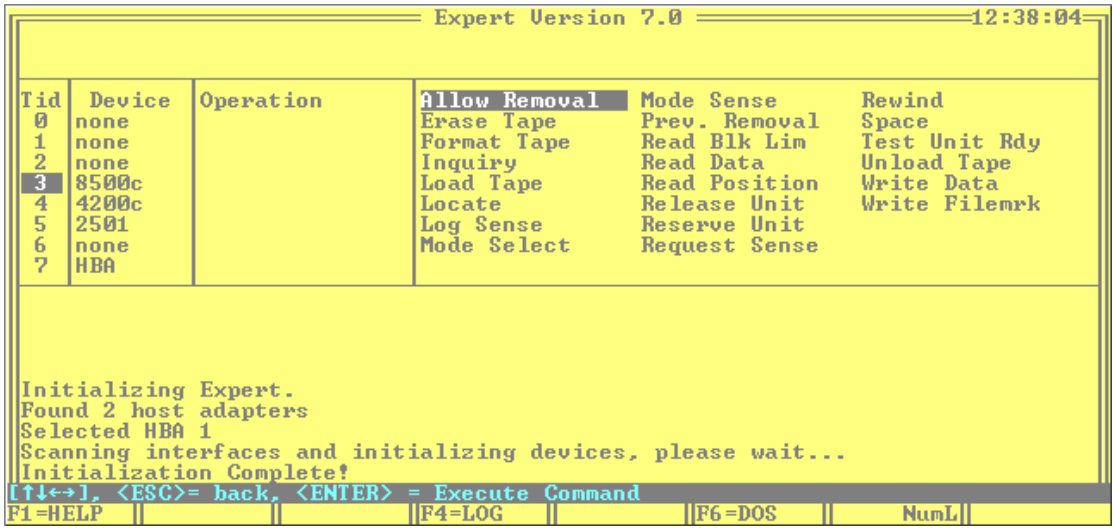
Important

Do not remove a device from the SCSI bus, replace it with a different device with the same SCSI ID, and then use the SCAN utility to identify the new device. Although the identification may be correct, some host adapters will hang when performing write and read operations. This is because of a mechanism called "synchronous negotiation." A mismatch could cause the SCSI bus to hang and stop all running processes.

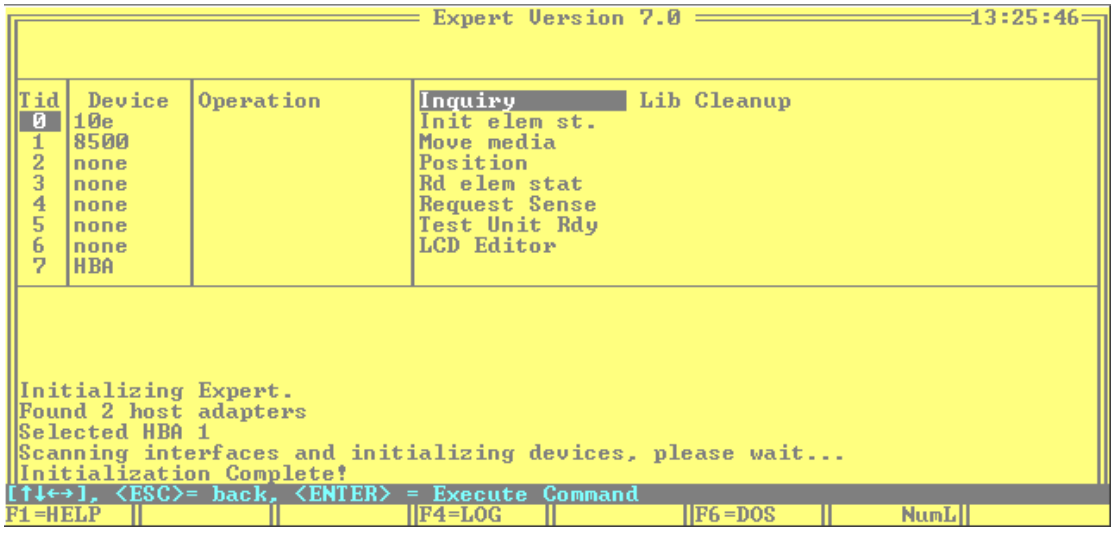
4.3 SCSI Commands

EXPERT supports sending separate SCSI commands to targets on the SCSI bus. This allows you to closely control operation of each device. When you enter this menu, a list of SCSI commands appropriate for the current target is displayed.

An example of the SCSI command menu for tape drives is shown below:



An example of the SCSI command menu for libraries is shown below:



Different SCSI commands are available for different device types:

- For tape drives, you can choose from a range of SCSI commands such as READ, WRITE, REWIND, UNLOAD, and others. The MODE SELECT command uses a second-level menu for those tape drives that support Mode Pages.

- For libraries, you can choose commands like MOVE MEDIUM, READ ELEMENT STATUS, and others. Two non-SCSI commands are available from this menu:

  - **Library Cleanup.** This command attempts to replace all cartridges to their original location when EXPERT was started. This allows easy recovery from a failed or aborted test.

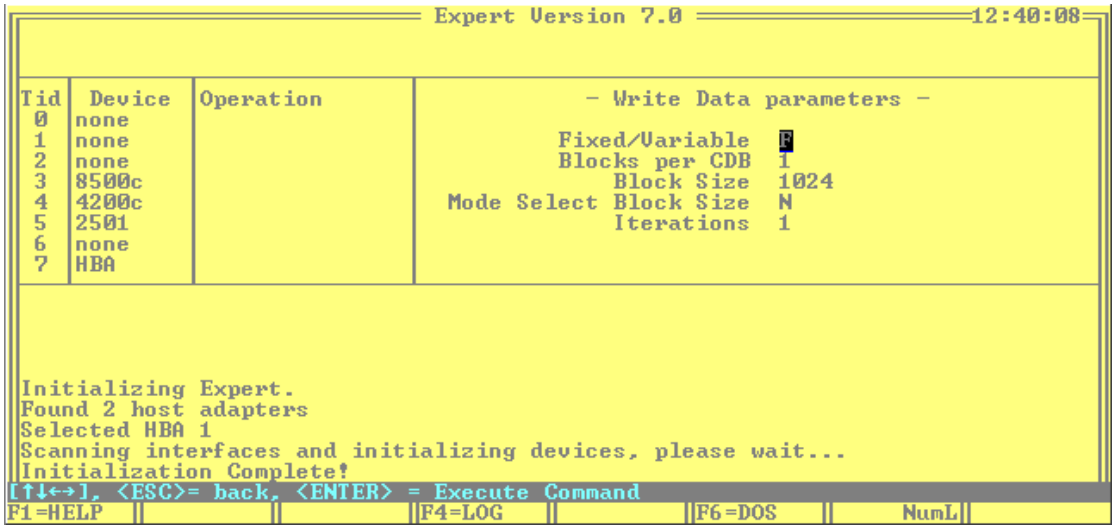
    Note: The Library Cleanup command will not work if the library has encountered a fatal hardware error or if you have opened the library door. Opening the door invalidates the cartridge inventory and makes it impossible for the library to replace the cartridges.

  - **LCD Editor (for libraries with a four-line LCD).** This is an extended function that allows you to enter text to be displayed on the library's LCD. Two entry fields allow you to store the text in non-volatile memory or to restore the factory default.

- For generic devices and for target addresses where no device was found, two commands are available: TEST UNIT READY and INQUIRY. These commands allow you to check the status and type of the device attached, if any, without risking accidental data loss on unsupported devices.

Several commands require extended input in the form of SCSI command parameters. When you select one of these commands, a menu with one or more input fields is displayed. The fields include default values. Use the arrow keys to move to the fields you want to change. For details on the available fields, refer to the *SCSI Reference* for the current target or press F1 to use the online documentation. Press ESC to return to the previous menu level.

The extended input fields for the SCSI WRITE command are shown below:



Each time you press ENTER, the selected SCSI command is executed using the displayed options (if any). The results are displayed in the Main Status Window. If a command returns information, the information is displayed in hexadecimal format. To interpret this information, refer to the *SCSI Reference* for the target. If Check Condition status is returned, the SCSI sense information is shown automatically and includes information about the sense key, ASC, and ASCQ.

Note: Detailed explanation of all available commands is beyond the scope of this manual. Refer to the *SCSI Reference* for your target for more details.

4.4 Firmware

CAUTION

Do not interrupt the firmware upload process in any way, or you may render the target device inoperable. Also, if the target is reset by a power failure or by a SCSI bus reset while it is reprogramming its flash program memory, the unit may become inoperable. If this occurs, return the device to your dealer or to Exabyte for repair.

EXPERT includes a utility for uploading tape drive firmware across the SCSI bus. To activate this utility, select the Toolbox Menu and select Firmware.

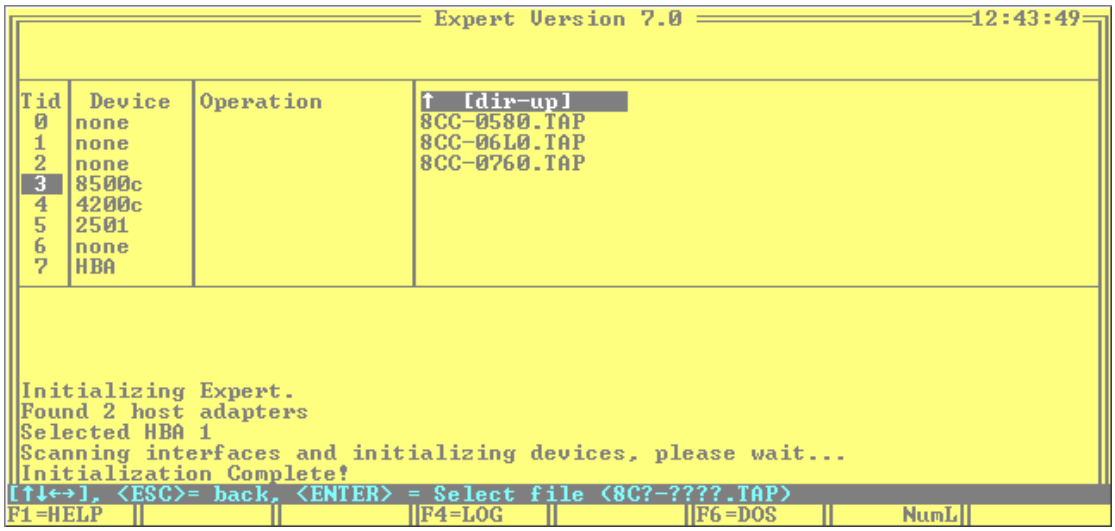
Important

The Firmware utility is not available if the device does not support firmware uploads across the SCSI bus.

When you select the Firmware utility, a File Selection menu is displayed. This menu shows all firmware files available for your target as well as any subdirectories accessible from your current working directory. (To receive a firmware file, contact Exabyte at one of the numbers listed in "Getting Help," at the back of this manual.)

Note: Only files matching the DOS filename mask shown in the Hints bar are displayed. The DOS filename mask depends on the current target device type. For example, if your target is an Exabyte EXB-8505, all files matching the mask 8SC-????.TAP are displayed. This includes files such as 8SC-6S1.TAP and 8SC-0781.TAP.

An example File Selection menu is shown on the next page.



To select the correct firmware file, use the arrow keys to move the highlight bar and press ENTER. The selected firmware file is transferred to the target, which verifies the firmware file and then reprograms its flash program memory. After completing the firmware upgrade, the device resets itself and returns control to EXPERT.

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