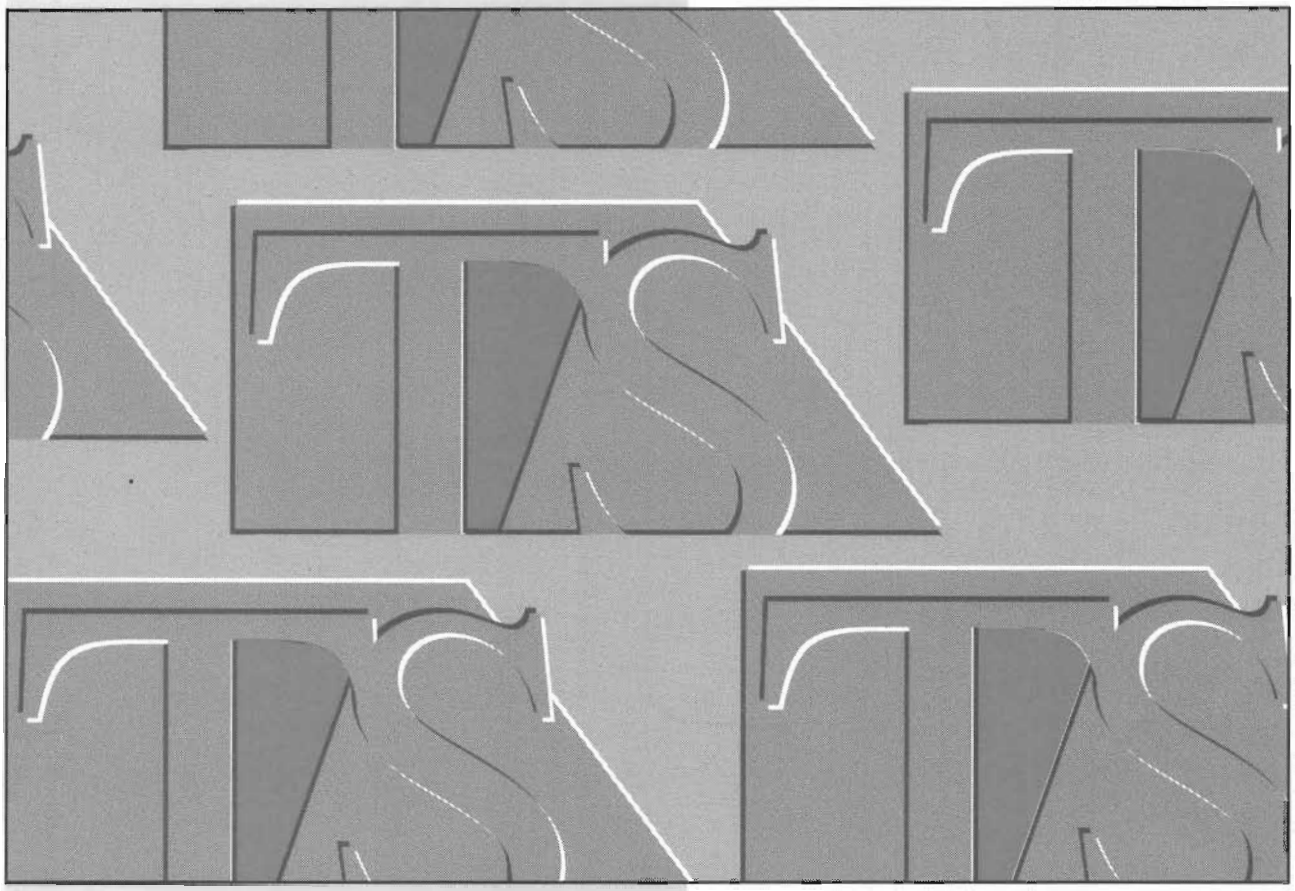
ATEWIN



User's Manual

FFV Test Systems

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1 INTRODUCTION TO ATEWIN

1.1 ABOUT THIS MANUAL

This manual assumes that you have worked with Sun workstations and OpenWindows, and that you know how to work in the OpenWindows environment, using the pointer and the mouse buttons.

Consult *The OpenWindows Version 3 User's Guide* for information on working in the OpenWindows environment.

1.2 SYMBOLS AND CONVENTIONS

- The symbol ↵ means press the RETURN key.
- The **Cntrl–<key>** notation means press <key> while holding down the CONTROL key.
- The **Shift–<key>** notation means press <key> while holding down the SHIFT key.

1.3 WHAT IS ATEWIN

ATEWIN – **ATE Win**dow is a graphical user interface that makes it possible to run the ATS10 and other automatic test systems from a Sun SPARCstation. It emulates the terminal functions of the Hewlett Packard 2645A Display Station that are needed by the test system and also has some additional features.

ATEWIN consists of a base window (see Figure 1.) with a display screen and buttons. It also has a number of pop–up windows for additional functions, e.g. capturing and file transfer (described later). The area below the screen is used for messages and is from now referred to as the **message line.**

The following chapters introduces the different parts of ATEWIN.

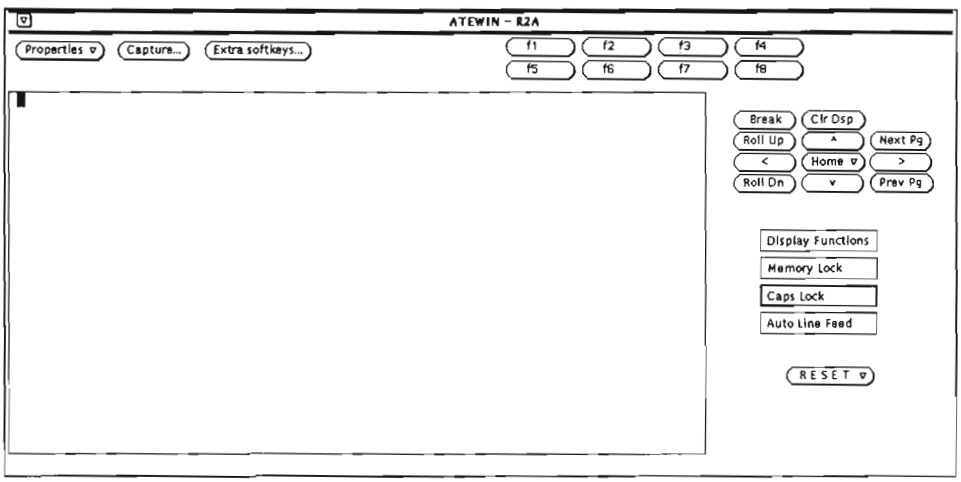

Figure 1. ATEWIN base window

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1.4 STARTING ATEWIN

After you have logged in to your workstation, you start ATEWIN by typing **atewin** at the command prompt of a shell and then pressing the **RETURN** key.

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2 TERMINAL MAIN FEATURES

This chapter describes the terminal emulating part of the software.

2.1 DISPLAY SCREEN

The screen can show 24 lines of up to 80 characters each. This is called a "page". The terminal can store several "pages" of characters. The screen shows one "page" of these characters at a time. When the screen has been filled, the top line rolls off the screen. As you type each line the display will roll up to make room for the new line. This continues until the memory is filled. At this point if you enter another line, one line in memory will be lost to make room for the new line.

2.2 KEYBOARD

2.2.1 ALPHANUMERIC KEYS

The alphanumeric keys on the keyboard is used to enter characters to the remote application. When you press an alphanumeric key, the corresponding character is immediately sent to the host computer.

2.2.2 CURSOR AND DISPLAY CONTROL KEYS

The cursor and display control keys is used to move the cursor and data around the screen and nothing is normally sent to the host computer:

- **Arrow keys** — Move the cursor one position in the direction of the arrow on the key.
- **Home key** — Move the cursor to the left margin of the first line in display memory and display the first "page" of memory.
- **End key** — Move the cursor to the beginning of the line following the last data in display memory.
- **PgUp key** — Display the previous "page" of memory.
- **PgDn key** — Display the next "page" of memory.
- **Cntrl–Arrow–Up key** — Roll the screen up one row.
- **Cntrl–Arrow–Down key** — Roll the screen down one row.

2.2.3 SOFTKEYS

The softkeys are the keys labeled **F5** through **F12** on top of the keyboard. **F5** through **F12** are keyboard equivalents to the softkey buttons described in section 2.5 and corresponds to the buttons f1 through f8, respectively. **Shift–F5** through **Shift–F12** are keyboard equivalents to the extra softkey buttons described in section 2.6 and corresponds to the buttons f9 through f16, respectively.

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2.3 CURSOR AND DISPLAY CONTROL BUTTONS

The cursor and display control buttons are used to move the cursor and data around the screen:

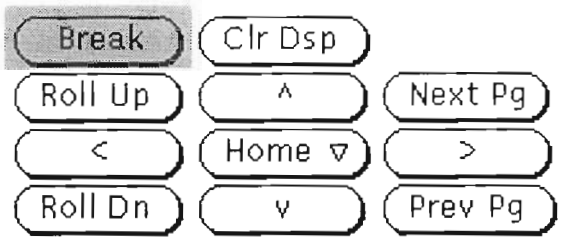

Figure 1. Cursor and display control buttons

- **Clr Dsp** — Clear display memory from the cursor position to the end of memory.
- **Arrow buttons** — Move the cursor one position in the direction of the arrow on the key.
- **Roll Up** — Roll the screen up one row.
- **Roll Dn** — Roll the screen down one row.
- **Next Pg** — Display the next "page" of memory.
- **Prev Pg** — Display the previous "page" of memory.
- **Home** — This is a menu button with two choices:
  1. **Home** — Move the cursor to the left margin of the first line in display memory and display the first "page" of memory.
  2. **Home Down** — Move the cursor to the beginning of the line following the last data in display memory.

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2.4 BREAK BUTTON

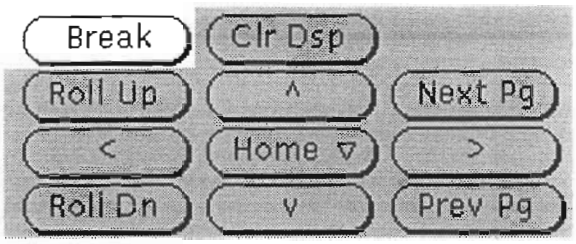

Figure 2. Break button

The **Break** button sends a break on the serial port connected to the ATE.

2.5 SOFTKEY BUTTONS

The softkey buttons are programmable buttons that can be assigned up to 80 characters each. They can be programmed from the keyboard as well as by the application program. The definition of a button is treated as normal keyboard input. See the Modifying Properties chapter for information on how to enter new softkey definitions from the keyboard.

Figure 3. Softkey buttons

If you clicks a softkey button while **Auto Line Feed** is active, then every carriage return character in the definition will be followed by a line feed character.

2.6 EXTRA SOFTKEY BUTTONS

The extra softkey buttons differs from the softkey buttons described in section 2.5, in that they can not be programmed by the application program. Therefore, the extra softkey buttons may be safely used without risking the assignments to be overwritten by the application.

Click the **Extra softkeys...** button to make the extra softkeys pop–up window become visible.

Figure 4. Extra softkeys button

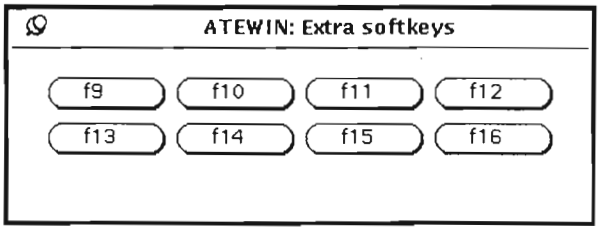

Figure 5. Extra softkeys pop–up window

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2.7 TERMINAL CONTROL SETTINGS

The terminal control settings are used to select modes of operation and to control such functions as capital character lock and automatic line feed.

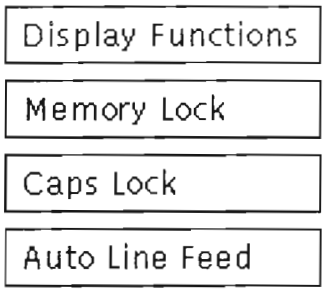

Figure 6. Terminal control buttons

- **Display Functions** — When activated, control functions received from the host computer are not executed. Instead, received escape sequences and control codes are displayed. If a display control key is pressed, or a display control button is clicked while in this mode (refer to sections 2.2.2 and 2.3), then the corresponding escape sequence is sent to the host, rather than the function being performed locally.
- **Memory Lock** — Freezes data at the top of the screen. Entered data rolls around the frozen data and into the terminal's memory.
- **Caps Lock** — Locks all alphabetical keys to upper–case characters.
- **Auto Line Feed** — Appends a line feed to every carriage return.

2.8 RESET BUTTON

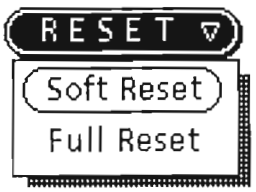

Figure 7. Reset menu button

The **RESET** button is a menu button with two choices:

1. **Soft Reset** — Clears communication line and turns display functions off.
2. **Full Reset** — Sets terminal to power–on state. Clears screen and memory. Memory lock and display functions are turned off and softkeys are cleared. Communication line is cleared.

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3 CAPTURE MODE

This chapter describes how to use the capturing feature. The capture mode makes it possible to log all screen output to a file.

Figure 1. Capture button

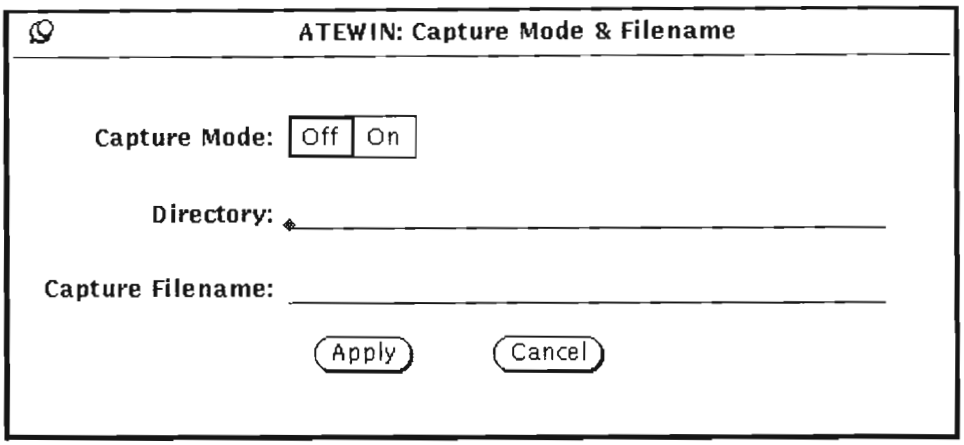

Figure 2. Capture pop–up window

3.1 ACTIVATING CAPTURING

Perform the following steps to activate capturing:

1. Click the **Capture...** button. The capture pop–up window becomes visible.
2. Enter the path of the directory where you want the capture file to be stored.
3. Enter the name of the capture file.
4. Turn the mode setting **On**.
5. Click the **Apply** button to activate capturing or the **Cancel** button to dismiss the window and cancel any changes you may have done.

If you clicks the **Apply** button and the file you specified already exists, you will be asked to confirm whether you want to **Overwrite** the file, **Append** to the file or **Cancel** the apply command.

3.2 DEACTIVATING CAPTURING

Perform the following steps to deactivate capturing:

1. Click the **Capture...** button. The capture pop–up windows becomes visible.
2. Turn the mode setting **Off**.
3. Click the **Apply** button to deactivate capturing or the **Cancel** button to dismiss the window and cancel any changes you may have done.

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4 FILE TRANSFER

This chapter describes the file transfer functions of ATEWIN. File transfers are used to copy files, both text files and binary files, from ATEWIN to the ATE and vice versa.

4.1 GENERAL

The HP2645 terminal has two cartridge tape drives that can be used to store data. The computer can read from and write to the cartridge tapes by sending commands (escape sequences) via the serial interface to the terminal. It is also possible to load programs ("boot") into the computer from a cartridge tape.

Some of these functions are also implemented in ATEWIN. It is possible to:

- Transfer text files from ATEWIN to the ATE.
- Transfer text files from the ATE to ATEWIN.
- Transfer binary files from ATEWIN to the ATE.
- Transfer binary files from the ATE to ATEWIN.
- Transfer program files from ATEWIN to the ATE (boot).

4.2 TEXT FILES VS. BINARY FILES

Text files are files that contains lines of text. The text lines have varying length, i.e. the record length varies. Each line is terminated by a newline character.

Binary files may also have varying record length, but the records are not separated by newline characters. Instead, each record has length information attached to it.

When transferring files between the ATE and ATEWIN, a decision has to be made if the record length information in binary files should be preserved or not. The file system in the HP1000 computer uses the file record model (with length information), while the UNIX file system in the Sun workstation handles a file like a stream of bytes. For text files, this is no problem since the workstation can handle newline–separated files without record length information. For binary files, however, record length information must be stored in the file when it is transferred from the ATE to the workstation, otherwise it will be impossible to transfer the file back to the ATE.

Other types of computers may prefer the UNIX file model without record length information. By selecting the "File Transfer Settings" alternative from the "Properties" menu, a pop–up window is displayed. The "Binary File Mode" setting selects between files with length information ("Preserve binary records") or files without length information ("Use packed files"). The first alternative must be used if ATEWIN is connected to a HP1000 computer. If the latter alternative is chosen, the "Block Size" setting becomes active. This setting determines how large blocks of data a binary file should be divided into when transferred from ATEWIN to the ATE.

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4.3 TAPE EMULATION VS. NAMED FILES

Handling files on a cartridge tape is different from handling files on disk. The cartridge tape does not have a directory, so files on the tape cannot be identified by a name, but rather by their position on the tape. The HP2645 terminal understands several commands that may be sent from the ATE to control the cartridge tape in different ways, such as rewinding the tape, skipping records and/or files forwards and backwards, reading and writing the tape etc.

There may exist old programs in use that control the cartridge tape drives in various ways. To make it possible to continue using such programs, ATEWIN can emulate some of the cartridge tape operations. The cartridge tape files are emulated by creating files that are named "LEFT.0", "LEFT.1", "LEFT.2", etc that correspond to the first, second and third file on the left cartridge tape unit. Files on the "right" cartridge tape unit are called "RIGHT.0", "RIGHT.1" and so on. ATEWIN keeps track of the current "tape" position. The position can be changed by commands (escape sequences) from the ATE.

In other situations it might be desirable to handle files in the workstation by name rather than emulating cartridge tape drives. By selecting the "File Transfer Settings" alternative from the "Properties" menu, a pop–up window is displayed. The "File Transfer Mode" setting selects between the cartridge tape emulation mode, "Emulate HP2645 tape drives", and named file mode, "User supplied file names". If the latter alternative is selected, no cartridge tape emulation is done, but a "file chooser" pop–up window is displayed to let the user select a file name before the file transfer starts.

The "File Transfer Settings" pop–up window also has a "Directory" text field. This field is used to define the name of the directory where the files emulating tape files are stored. If tape emulation is not in use, the "file chooser" pop–up is activated starting in this directory.

4.4 TRANSFERRING FILES

All file transfer operations in ATEWIN are started by escape sequences sent from the ATE. To transfer a file, just give the usual command to the ATE by typing it in the ATEWIN terminal window. For example, to transfer a file named "&test::63" from a HP1000 RTE system (which has the left HP2645 cartridge tape drive as logical unit 4) to ATEWIN, type:

ST,&TEST::63,4

This will start the file transfer. Depending on the "File Transfer Mode" setting, the user might be prompted for a workstation file name:

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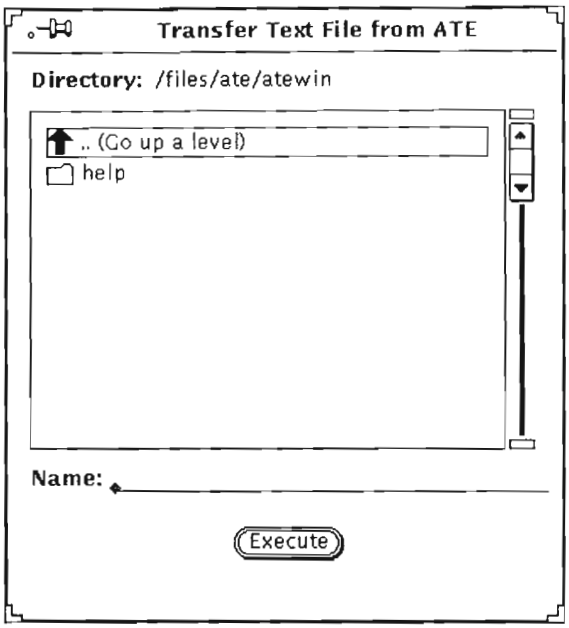

Figure 1. File transfer "file chooser" pop–up window.

Select a file by clicking on it and pushing the "Execute" button. Alternatively, a file name may be typed on the "Name:" text line. When the file transfer starts, a pop–up window like this one is displayed:

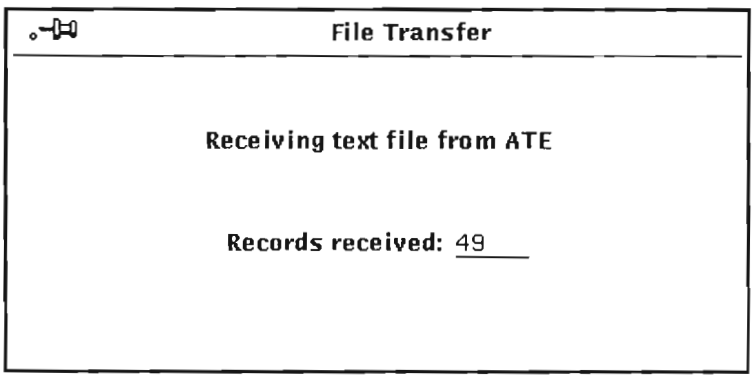

Figure 2. File transfer pop–up window.

The record count in the pop–up window is continuously updated as the file transfer progresses. When the file transfer is complete, the pop–up window is removed.

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4.5 BOOT

The cartridge tape drives in the HP2645 terminal are sometimes used for loading executable programs into the memory of HP1000 computers. Examples of programs are off–line disk backup, diagnostic programs and bootstrap loading of certain operating systems.

The boot operation starts when a boot escape sequence (ESC e) is received from the ATE. Depending on the "Boot Mode" setting in the "Boot Settings" pop–up window, a default boot file is transferred to the ATE, or a "file chooser" pop–up window is displayed to let the user select a file to be transferred.

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5 GETTING HELP

This chapter describes the On–line Help facility. Most items in ATEWIN have a Help window that you can display.

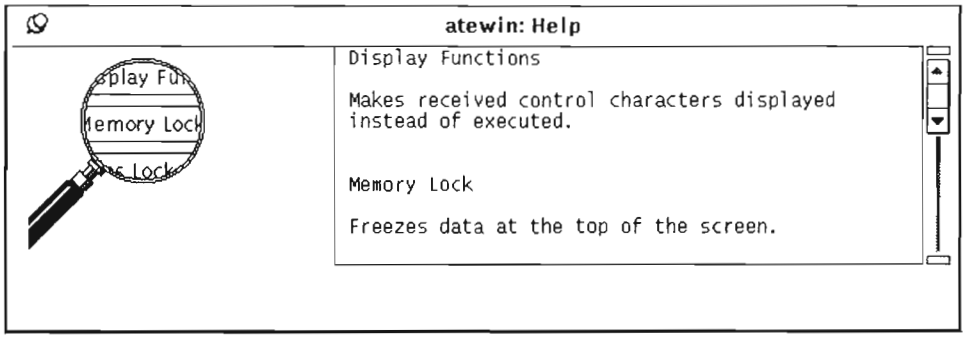

Figure 1. On–line Help pop–up window

5.1 DISPLAYING A HELP WINDOW

Perform the following steps to display a Help window:

1. Point to the item for which you want help. The item can be any button, setting, text entry etc.
2. Press the **Help** key on the keyboard. A Help window is displayed. The item (or a portion of it) that you pointed to is displayed in the magnifying glass. Context–sensitive help for that item is displayed in the pane of the Help window, as shown in Figure 1.
3. Dismiss the Help window by clicking the SELECT mouse button on the pushpin.

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6 MODIFYING PROPERTIES

This chapter describes how to change the default settings of the software. The default settings are stored in the file "**.atewin–defaults**" in your home directory. If the defaults file does not already exist, it will be created the first time you perform a save operation (described in this chapter). This chapter also describes how to select another font size to be used in the display screen. The property functions are activated by the **Properties** menu button, shown in Figure 1.

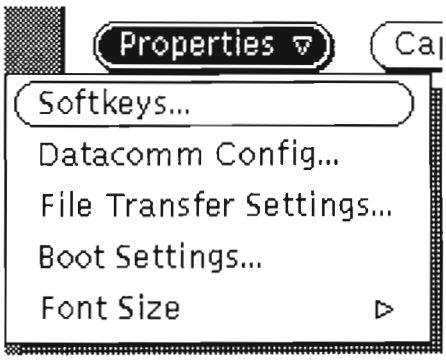

Figure 1. Properties menu button

The following sections describes the choices on the **Properties** button menu.

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6.1 SOFTKEYS

When you choose **Softkeys...** from the properties button menu, the Softkeys pop–up window becomes visible. The current softkey definitions are displayed. However, you will not see any control characters that may be included.

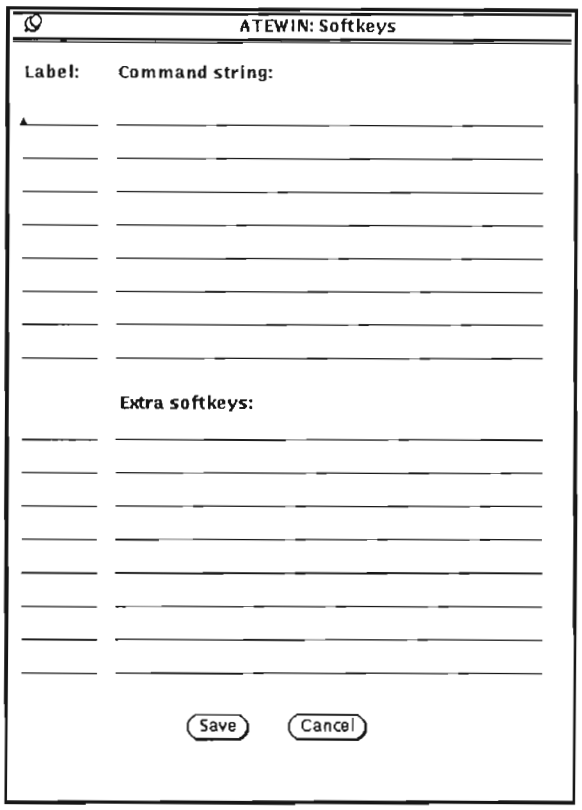

Figure 2. Softkeys pop–up window

6.1.1 EDITING A SOFTKEY DEFINITION

Edit the definition using the standard editing functions e.g. the delete key. Control characters may be included when **display functions** is active.

When you are erasing characters in a softkey definition and nothing seems to happen when you press the delete key, there was probably a control character in that position.

Perform the following steps to change a softkey definition:

1. Select the definition you want to change.
2. Edit the definition. (Use Delete key to erase characters).
3. Click the **Save** button to store the definitions in the defaults file or the **Cancel** button to dismiss the window and cancel any changes you may have done.

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6.2 DATACOMM CONFIG

When you choose this item from the properties button menu, the Datacomm Config pop–up window becomes visible. The current communication parameters in the defaults file are displayed.

The device setting selects one of two possible serial ports in the workstation. The baudrate setting selects the rate at which the terminal will send and receive data. The parity setting selects whether even, odd, or no parity is supplied with each character sent to the host computer. Parity is also used to determine if each character has been correctly received. The stop bits setting selects if one or two stop bits is sent with each character. Some slow serial devices (such as a 12531 board in a HP1000 computer) require two stop bits to give the computer enough time to handle a received character before the next character arrives.

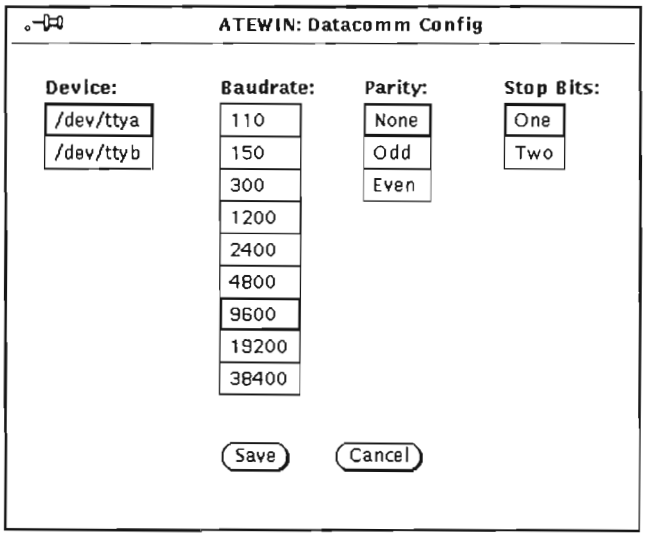

Figure 3. Datacomm Config pop–up window

Perform the following steps to change communication parameters:

1. Select the new device setting.
2. Select the new baudrate setting.
3. Select the new parity setting.
4. Select the new stop bits setting.
5. Click the **Save** button to apply the changes to the communication line and store the settings in the defaults file or the **Cancel** button to dismiss the window and cancel any changes you may have done.

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6.3 FILE TRANSFER SETTINGS

When you choose this item from the properties button menu, the File Transfer Settings pop–up window becomes visible. The current settings in the defaults file are displayed.

The Directory text field selects the directory where files will be stored when transferred from the ATE and where to look for files when transferring to the ATE.

The File Transfer Setting selects one of two possible file transfer modes: "Emulate HP2645 tape drives" and "User supplied file names". See the File Transfer chapter for explanation of file transfer modes.

The Binary File Mode setting selects whether binary files should contain record length information or not. If not, the Block Size setting controls the size of the data blocks sent to the ATE when transferring binary files. See also the File Transfer chapter for more explanation.

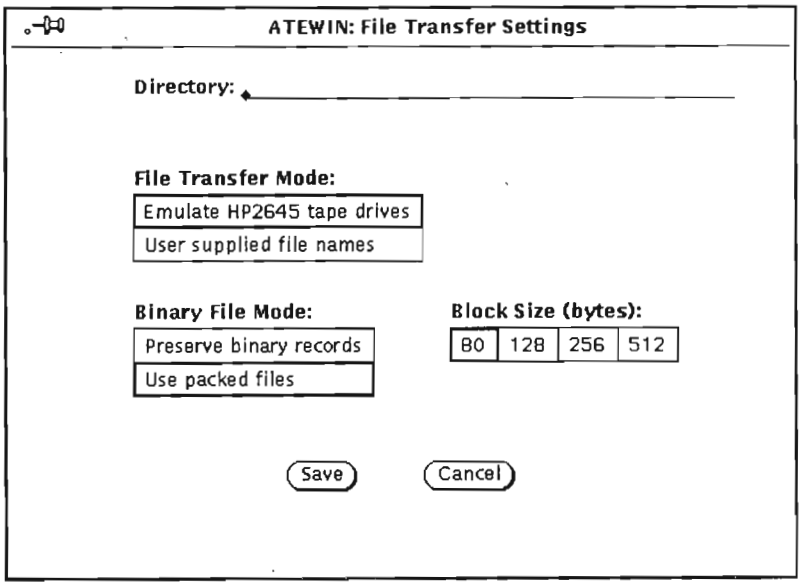

Figure 4. File Transfer Settings pop–up window.

Perform the following steps to change file transfer settings:

1. Edit the directory name.
2. Select the new file transfer mode setting.
3. Select the new binary file mode setting.
4. Select the new block size setting (if active).
5. Click the **Save** button to apply the changes and store the settings in the defaults file or the **Cancel** button to dismiss the window and cancel any changes you may have done.

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6.4 BOOT SETTINGS

When you choose this item from the properties button menu, the Boot Settings pop–up window becomes visible. The current settings in the defaults file are displayed.

The Default Boot File text field contains the name of a binary file. The contents of the file is sent to the ATE upon reception of a boot request (ESC e).

The Boot Mode setting selects whether the contents of the default boot file should be transferred to the ATE or if the user first must select a file when a boot request is received. If the latter alternative (User supplied file names) is selected, the "Default Boot File" text field is made inactive. See also the Boot chapter in this manual.

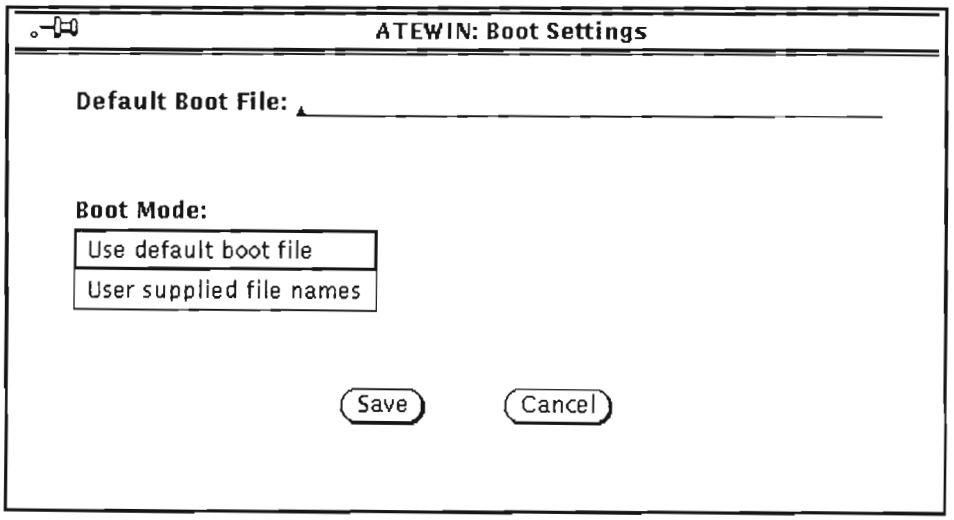

Figure 5. Boot Settings pop–up window.

Perform the following steps to change boot settings:

1. Edit the default boot file name.
2. Select the new boot mode setting.
3. Click the **Save** button to apply the changes and store the settings in the defaults file or the **Cancel** button to dismiss the window and cancel any changes you may have done.

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6.5 FONT SIZE

The font size menu lets you change the size of the font in the display screen.

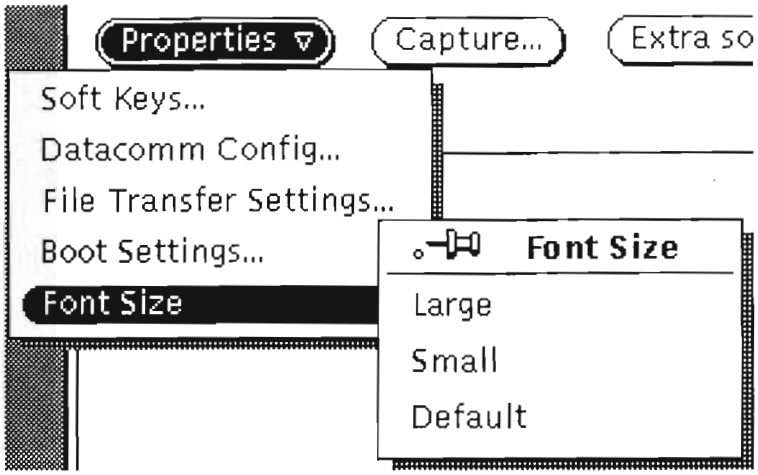

Figure 6. Font Size menu.

There are three font sizes available for the display area, Large, Small and Default. The Default font size is the one ATEWIN loads at startup time. Choose Large or Small to obtain a font size larger than or smaller than the Default font size, respectively.

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