POWERSTATION

Shell Runtime Guide

CTC Parker
Automation

POWERSTATION

Shell Runtime Guide

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Product Warranty Information

CTC Parker Automation provides top quality products through rigid testing and the highest quality control standards. However, should a problem occur with your hardware or with the software protection key, CTC's standard product warranty covers these items for 15 months from the date of shipment from CTC. Exceptions appear below:

- PowerStation backlight bulbs have a 90-day warranty.

- Third-party products, such as bus cards, carry the manufacturer's specified warranty.

- For all displays, image retention (burn-in) is not covered by warranty.

- Software revisions that occur within 60 days after purchase are available under warranty upon request. Please review the MachineShop License Agreement for additional software warranty information.

Should you have any questions about your application or need technical assistance, please call CTC's Product Technical Support department at 513-248-1714, 8:00 a.m. to 5:00 p.m., Eastern Time. You may call this same number after hours for emergency assistance. See *Customer Support Services* on page 4 of this manual for more information about CTC's support products and services.

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Manual Overview and Support Services

Welcome to the PowerStation Shell. The PowerStation Shell is a software program that runs on the PowerStation and is used to configure the unit and enable various features for using the PowerStation with Interact.

Chapter Contents

Using this Manual

The PowerStation Shell Runtime Guide is designed to help you get up and running with the PowerStation Shell. This manual describes the PowerStation Shell user interface and provides instructions on how to monitor and configure PowerStation settings from the Shell.

Chapter 1 - Manual Overview and Support Services: Presents an overview of the PowerStation Shell Runtime Guide. It also provides an overview of the support services provided by CTC.

Chapter 2 - Introducing the PowerStation Shell: Introduces you to the PowerStation Shell and its components. It also includes information on how to get help.

Chapter 3 - Configure Hardware Settings: Provides instructions on how to configure the hardware settings and calibrate the touchscreen on the PowerStation.

Chapter 4 - View System Information: Describes how to view information on system resources such as the Shell version number, processor type, installed memory, etc. to help you during PowerStation configuration.

Chapter 5 - Utilities and Keyboard Test: Describes how to access the Interact security device to program the security key, display files and directories on the PowerStation, and restore an Interact project backup from a floppy disk. It also provides instructions on how to perform a keyboard test.

Chapter 6 - Reinstall the PowerStation Shell Software: Provides instructions on how to reinstall the Shell software on the PowerStation.

Documentation Standards

As you read this manual, you will notice that the following documentation standards have been followed.

1. Important terms are shown in **bold**.

2. Text to be entered from the keyboard is shown in `Courier` font.

3. Buttons, menu titles, and keyboard keys are shown in Initial Caps.

4. Indented paragraphs denote one of the following:

   - **Note** - Describes alternative approaches or issues you should be aware of while using a particular function.

   - **Important** - Contains information that needs particular attention while reading the text. Follow this information to save development time and/or minimize problems.

   - **Warning** - Contains information on safety issues. Follow this information to prevent equipment damage or personal injury.

ISO Symbols

This symbol is the International Standards Organization (ISO) symbol for Caution (ISO 3864 No. B.3.1). This symbol denotes information that could affect operation of the PowerStation if not properly followed.

This symbol is the ISO symbol for Caution—risk of electrical shock (ISO 3864 No B.3.6). This symbol denotes information that could cause personal injury from electrical shock or damage to equipment if not properly followed.

Customer Support Services

CTC Parker welcomes your thoughts and suggestions on our products and services. You can contact CTC Parker by telephone, email, or fax. You can also visit CTC Parker on the World Wide Web to learn the latest about CTC Parker hardware, software, and customer support services.

- Telephone: 513-831-2340

- Fax: 513-831-5042

- E-mail: sales@ctcusa.com or support@ctcusa.com

- World Wide Web: http://www.ctcusa.com

CTC Parker recognizes that every customer and every application has different support needs, so CTC Parker offers a variety of support services designed to meet these needs. CTC Parker offers three types of customer support services: Customer Technical Support, Technical Support Products, and the Product Support Program.

Product Technical Support

The Product Technical Support department welcomes any question that might arise as you develop or run your applications. We offer complimentary support for any customer, whether you are an end user, original equipment manufacturer (OEM), system integrator, or distributor.

If you have a question about the PowerStation Shell, be sure to complete the following steps:

1. Consult the PowerStation Shell documentation and other printed materials included with the PowerStation.

2. Check the online help. The PowerStation Shell has extensive online help facilities that cover all aspects of the product.

If you cannot find a solution using one of the above sources, contact CTC Parker's Product Technical Support department at 513-248-1714, 8:00am to 5:00pm, EST. You may call this same number after hours for emergency assistance.

Technical Support Products

Our Technical Support Products department provides service in two areas: training and consulting. CTC Parker offers training on all our products either at CTC Parker in our state-of-the-art training center or at your site. You can learn how to write custom interfaces, develop specialized applications, and implement your complete operator interface application. You can contact the Training Coordinator by phone at 1-800-233-3329 or by email at training@ctcusa.com.

CTC Parker offers consulting services through our Professional Consulting Services (PCS) group. Our PCS group can build your application from the ground up by writing custom communications drivers or designing special modules to perform functions unique to your application. Our team of specialists is flexible, so they can create a project development schedule that meets your needs. You can contact the PCS Coordinator by phone at 1-800-233-3329 or by email at pcs@ctcusa.com.

Product Support Program

Our Product Support Program (PSP) is designed to keep you up-to-date with the current version of MachineShop software. The PSP consists of a renewable, one-year membership that provides you with free upgrades, utilities, automatic notification of software updates, and other valuable tools for Interact. Single-user, site, and corporate licenses are available. The PSP is an easy, cost-effective way to automatically receive the most recent Interact software and the associated utilities. You can contact the PSP Coordinator by phone at 1-800-233-3329 or by email at psp@ctcusa.com.

Chapter Summary

This chapter has provided an overview of CTC's support products and services as well as described the chapters included in this manual.

In the next chapter you will learn about the PowerStation Shell user interface.

Introducing the PowerStation Shell

The PowerStation Shell (referred to as "the Shell" throughout this manual) is the primary user interface for CTC PowerStations. The Shell works in conjunction with Interact Project Manager (IPM) to provide essential communication functions between a development system running IPM and a runtime system running the PowerStation Shell. These communication functions include downloading and uploading files and projects and creating and restoring remote project backups.

The Shell also provides hardware support functions for configuring and maintaining the PowerStation. This chapter introduces you to the PowerStation Shell and its components. It also includes information on how to get help.

Chapter Contents

Shell Basics

Prior to using the PowerStation, you should understand the features available with the PowerStation Shell Utility. The PowerStation Shell either comes pre-installed on your system or is included on a disk shipped with your unit. This is based on when you purchased your unit.

If you need to reinstall the Shell software or the touchscreen drivers, you can use the PowerStation Shell Setup disk. See *Chapter 6* for more information.

Selecting Screen Options

To select screen options, touch the menu item or move the cursor over the menu item you want to select and press the left mouse button. A submenu of options appears that you can change for this menu item. Upon selecting a submenu, you can return to the previous menu by:

- pressing the PREVIOUS MENU button on the screen
- touching outside the pop-up menu area
- pressing the left mouse button outside the pop-up menu area
- pressing the Esc key on the keyboard
- pressing the right mouse button
- pressing the Cancel button on units with function keys.

If you need Help on an item, move the cursor over the item, and press the F1 key on the keyboard.

Throughout the remainder of this document, it is assumed that you are using a keyboard and mouse.

Shell User Interface

When you first power up the PowerStation, the Shell Main Menu appears. The Shell Main Menu contains information about the project currently loaded on the PowerStation. If no project exists, these settings will be set to NONE.

A typical PowerStation Shell screen is displayed as shown below:

Important The Main Menu for the P1 PowerStation is slightly different than the screen above.

The following items appear on the Shell Main Menu:

Name	Description
PROJECT NAME	Displays the name of the currently loaded project.
INTERACT TYPE	Displays whether Interact software is installed on your PowerStation. Will display 'UNKNOWN,' 'EXTENDED DEVELOPMENT' (not on P1/P2 units), or 'RUNTIME.'
MODULES	Displays the abbreviated name of each Interact module installed with the application you are using on the PowerStation. For example, if the Panel Toolkit Module is loaded, the acronym 'PTM' is displayed.
DRIVERS	Displays the abbreviated name of each Interact driver installed with the application you are using on the PowerStation. For example, if the Siemens Programming Port driver is loaded, the acronym 'SIEMPP' is displayed.

Name	Description
APPLICA-TIONS	Displays a list of applications in the project that were created in Interact or copied from another project.

Shell Main Menu

The Main Menu is the primary method for navigating through the Shell options. This section provides a description of each item on the Shell Main Menu.

Config Settings

The Config Settings or Settings button allows you to change the PowerStation's hardware settings. Once the assignments have been made, they are stored in the PWR.CFG file.

Important The hardware configuration settings stored in the PWR.CFG file are saved on drive C. Do not delete this file, or you will have to reset the hardware configuration.

System Info

The System Info or Sys Info button displays a submenu that allows you to view information on system resources such as the Shell version number, processor type, installed memory, etc. Use this information to assist you during PowerStation configuration. This information will be requested whenever you contact CTC's Product Technical Support department for assistance.

Go To Interact

The Go To Interact or Go To ITR button allows you to execute Interact from the Shell. This execution provides the proper environment for Interact to create and use the applications with the currently selected project.

The Interact module displayed is determined by the project's Startup Application configuration setting in the Application Manager. If this setting is None, the Application Manager Main Menu is displayed.

Upon exiting Interact, the Shell Main Menu appears.

Utility Menu (not available on the P1)

The Utility Menu button displays a submenu that allows you to access the Interact security device and view directory names and file names, including their size and date/time information. On P3 through P7 Power-Stations, you can also restore an Interact project from a floppy disk to the hard drive.

Help On Shell

The Help On Shell or Help button allows you to enter the Shell help system. To request help on a menu button or option, move the cursor to the function, and press the F1 key on the keyboard.

To exit the Help, press the Esc key on the keyboard, press the right mouse button, or (on P2 and greater units) click outside the Help box. If more than one page of information is available for an item, press the PgUp or PgDn buttons on the lower right corner of the screen.

Exit Shell

The Exit Shell button allows you to exit the Shell program and return to DOS. When you select this button, the Shell reminds you that you must have a keyboard connected to the PowerStation before you can exit the Shell. If you have a keyboard connected to the PowerStation, select YES to exit the Shell. You can restart the Shell at any time by typing **PSU** and pressing the Enter key on the keyboard.

System Tests (not available on the P1)

The System Tests button displays a submenu of tests that you can perform on the PowerStation. At this time, the only test you can perform is a keyboard test.

DOS Shell (not available on the P1)

The DOS Shell button allows you to enter DOS mode without exiting the Shell. You will need to connect a keyboard to the PowerStation prior to selecting this option. CTC includes the DOS utilities on all PowerStations equipped with a hard drive. Refer to your DOS manual for instructions on how to use the DOS utilities. To return to the Shell, type **`exit`** at the prompt.

Chapter Summary

In this chapter you have been introduced to the PowerStation Shell interface. You have also learned how to access the online help.

In the next chapter you will learn how to use the PowerStation Shell to configure many of the system's hardware settings.

Configure Hardware Settings

The Config Settings option (or Settings option on the P1) allows you to change the PowerStation hardware settings. This includes the PowerStation setup and the path where the Interact application and executable files reside.

This chapter describes how to configure the hardware settings and calibrate the touchscreen on the PowerStation.

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Power On Operation

Using the Power On Operation option, you may select whether Interact or the Shell will run after the PowerStation is turned on.

To configure the Power On Operation, complete the following steps:

1. Select the **CONFIG SETTINGS** or **SETTINGS** button on the Main Menu screen.

    The Configuration Settings screen appears.

    > **Note** If you are running on a P1 PowerStation, skip to step 3. The Set Hardware option is not available on the P1 PowerStation.

2. Select the **SET HARDWARE** button.

    The Hardware Settings screen appears

3. Select the **POWER ON OPERATION** option.

4. Toggle to select one of the following options:

    -   **RUN INTERACT -** The PowerStation loads Interact automatically without interaction from the user. When the user exits Interact, the Shell Main Menu is displayed. This selection is particularly useful if a power cycle should occur because the unit would automatically run Interact when the power is restored.

    -   **SHELL MAIN MENU** (default) - The PowerStation loads the Shell and displays the Shell Main Menu.

Display the Mouse Port

You may display the port where the mouse is connected if an external mouse is connected to the PowerStation. This is done using the Mouse Port option on the Hardware Setup menu.

> **Note** This option is not available on the P1 PowerStation.

Important A mouse will only work if it is attached to COM1, COM2, or the PS/2 port, using the supplied Y-adapter cable. You can attach download cables to either COM1 or COM2.

To display the mouse port, complete the following steps:

1. Select the **CONFIG SETTINGS** button on the Main Menu screen.

The Configuration Settings screen appears.

2. Select the **SET HARDWARE** button.

   The Hardware Settings screen appears.

3. Select the **MOUSE PORT** option.

The port setting is displayed for informational purposes and cannot be changed through the Shell.

Display the TouchScreen Port

You may display the port where the touchscreen is connected if your PowerStation is configured to use a touchscreen. This is done using the TouchScreen option on the Hardware Settings menu.

> **Note** This option is not available on the P1 PowerStation.

To display the touchscreen port, complete the following steps:

1. Select the **CONFIG SETTINGS** button on the Main Menu screen.

   The Configuration Settings screen appears.

2. Select the **SET HARDWARE** button.

   The Hardware Settings screen appears.

3. Select the **TOUCHSCREEN** option.

The port setting is displayed for informational purposes and cannot be changed through the Shell. See your *PowerStation User Guide* for instructions on how to change the touchscreen IRQ and address settings.

Configure the Shift Key

Using the Shift Config option on the Hardware Settings menu, you may configure the Shift key that appears on the faceplate of the P5 PowerStation.

> **Note** This option is only available on the P5 PowerStation.

To configure the Shift key on the P5 PowerStation, complete the following steps:

1. Select the **CONFIG SETTINGS** button on the Main Menu screen.

   The Configuration Settings screen appears.

2. Select the **SET HARDWARE** button.

   The Hardware Settings screen appears.

3. Select the **SHIFT CONFIG** option.

   The following pop-up menu appears.

4. Select one of the following modes:

   • **Momentary** - When you press and hold the Shift key, you have access only to the F21 through F40 function keys. When you release the Shift key, you automatically regain access to the F1 through F20 keys.

- **Lock** - When you press the Shift key, it locks, allowing access only to the F21 through F40 function keys. To regain access to the F1 through F20 keys, you must press the Shift key again to release the lock.

- **Lock/Release** - When you press the Shift key, it locks, allowing access to the F21 through F40 function keys only until you press and release any other key.

An indicator on the Shift key is lit whenever the Shift key is activated or in the locked mode.

> **Note** Operating a Message Input tool or a popup Numeric Keypad tool when the faceplate Shift mode is on, will input values of 2, 4, 6, and 8 for the Down, Left, Up, and Right arrow keys, respectively. To avoid entering these values when you want to use the arrow keys to control the cursor, make sure the Shift mode is off.

Configure the Select Key

Using the Select Config option on the Hardware Settings menu, you may select the key scan code that you want to be generated whenever the Select button is pressed.

> **Note** This option is only available on the P5 PowerStation.

To configure the Select key, complete the following steps:

1. Select the **CONFIG SETTINGS** button on the Main Menu screen.

   The Configuration Settings screen appears.

2. Select the **SET HARDWARE** button.

   The Hardware Settings screen appears.

3. Select the **SELECT CONFIG** option.

The following pop-up menu appears.

4. Select the key scan code that you want to be generated whenever the Select button is pressed.

Important The button you select here must agree with the Selection Key that you select in Interact for the Select button to work correctly with Interact.

Enable Downloads

Before you can download a project to the PowerStation, you must enable the serial port that you are going to use for the download. This is done using the Download Enable option. When a serial port is enabled for download, the Shell "takes control" of the port to "listen" for the start of a project download; this takeover may interfere with TSRs or network drivers that use that serial port.

To allow other software drivers to use a particular serial port, that port should be set to DISABLED. The Shell automatically disables any serial port enabled for downloading whenever it detects a touchscreen or a mouse is connected to it.

Note It is possible that all the download ports could become disabled by multiple changes to the configuration file. If this occurs, then you will have to manually enable them using the DOWNLOAD ENABLE setting on the SETTINGS menu.

To disable/enable serial ports for downloads, complete the following steps:

1. Select the **CONFIG SETTINGS** or **SETTINGS** button on the Main Menu screen.

    The Configuration Settings screen appears.

    Note   If you are running on a P1 PowerStation, skip to step 3. The Set Hardware option is not available on the P1 PowerStation.

2. Select the **SET HARDWARE** button.

    The Hardware Settings screen appears.

3. Select the **DOWNLOAD ENABLE** option.

    The following pop-up menu appears.

4. Select the COM port to toggle between enable and disable.

Set the Port IRQs

In order for the Shell to use the installed serial ports for downloading and for touchscreen operation, the Shell must have knowledge of the hardware IRQ numbers used by each serial port. These IRQ numbers are typically set by hardware jumpers on the System Support card. The IRQ numbers in the Shell must match the hardware jumper settings for proper operation.

Note   This option is not available on the P1 PowerStation.

To set the port IRQs, complete the following steps:

1. Select the **CONFIG SETTINGS** button on the Main Menu screen.

   The Configuration Settings screen appears.

2. Select the **SET HARDWARE** button.

   The Hardware Settings screen appears.

3. Select the **SERIAL PORT IRQS** option.

In almost all cases, COM1 uses IRQ4 and COM2 uses IRQ3. There are, however, no standard IRQ assignments for COM3 and COM4 serial ports, so these settings must be determined from examining the system hardware configuration.

Set Date and Time

You may change the PowerStation's date and time using the System Clock option.

To set the date and time, complete the following steps:

1. Select the **CONFIG SETTINGS** or **SETTINGS** button on the Main Menu screen.

   The Configuration Settings screen appears.

   Note If you are running on a P1 PowerStation, skip to step 3. The Set Hardware option is not available on the P1 PowerStation.

2. Select the **SET HARDWARE** button.

   The Hardware Settings screen appears.

3. Select the **SYSTEM CLOCK** option.

The following pop-up menu appears.

4. Use the numeric keypad to enter the desired value.

The range for each parameter appears below:

DAY	1 - 31	HOUR	0 - 23
MONTH	1 - 12	MINUTE	0 - 59
YEAR	1980 - 2099	SECOND	0 - 59

Adjust Brightness Level

You may change the brightness level of the PowerStation touchscreen display using the Set Brightness option on the Hardware Settings menu. You may either Decrease or Increase the screen brightness.

> **Note** Not all display types support brightness adjustments. If the installed display does not support brightness adjustments, this menu option will not appear.

To adjust the brightness level of your display, complete the following steps:

1. Select the **CONFIG SETTINGS** button on the Main Menu screen.

The Configuration Settings screen appears.

2. Select the **SET HARDWARE** button.

The Hardware Settings screen appears.

3. Select the **SET BRIGHTNESS** option.

   A pop-up menu appears.

4. Select one of the following options:

   • **Decrease** - decreases the screen brightness

   • **Increase** - increases the screen brightness

Each click on a selection will increase or decrease the brightness by one level.

Adjust Contrast Level

You may change the contrast level of the PowerStation touchscreen display using the Set Contrast option on the Hardware Settings menu. You may either Decrease or Increase the screen contrast.

> **Note** Not all display types support contrast adjustments. If the installed display does not support contrast adjustments, this menu option will not appear.

To adjust the contrast level of your display, complete the following steps:

1. Select the **CONFIG SETTINGS** button on the Main Menu screen.

   The Configuration Settings screen appears.

2. Select the **SET HARDWARE** button.

   The Hardware Settings screen appears.

3. Select the **SET CONTRAST** option.

   A pop-up menu appears.

4. Select one of the following options:

   • **Decrease** - decreases the screen brightness

   • **Increase** - increases the screen brightness

Each click on a selection will increase or decrease the contrast by one level.

Set Path

You may specify the path where the Interact application and executable files will reside on your system. This is done using the Set Path option.

>   **Note**   This option is not available on the P1 PowerStation.

To set the path, complete the following steps:

1. Select the **CONFIG SETTINGS** button on the Main Menu screen.

    The Configuration Settings screen appears.

2. Select the **SET PATH** button

    The following pop-up window appears.
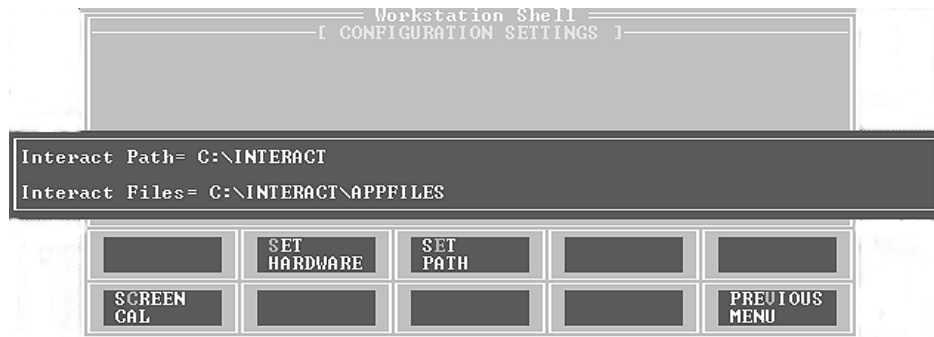
3. Enter the location where you want the Interact application and executable files to reside.

Important   Any changes you make to this setting are also made to the "SET INTERACT=" and "SET INTERACT_FILES=" lines in your AUTOEXEC.BAT file. However, these changes will not take effect until you restart the PowerStation or exit the Shell.

Calibrate the Touchscreen

The PowerStation's touchscreen is calibrated prior to being shipped from CTC. However, you may need to recalibrate the touchscreen when you begin using the PowerStation for the first time or whenever the cursor location and the location on the screen where the user touches do not match.

Important   The calibration utility requires a keyboard and involves calibrating the touchscreen for text and for graphics.

To calibrate the touchscreen, complete the following steps:

1. Select the **CONFIG SETTINGS** or **SETTINGS** button on the Main Menu screen.

    The Configuration Settings screen appears.

    Note   If you are running on a P1 PowerStation, skip to step 3. The Set Hardware option is not available on the P1 PowerStation.

2. Select the **SET HARDWARE** button.

    The Hardware Settings screen appears.

3. Select the **SCREEN CAL** button.

    A message window appears reminding you that a keyboard is required to calibrate the touchscreen.

4. Select the **YES** button if you have a keyboard connected to the PowerStation.

    The Calibration Utility appears on the screen.

5. Follow the instructions on the screen.

    See the *PowerStation User Guide* for detailed instructions on how to use the calibration utility on your PowerStation.

Chapter Summary

In this chapter you learned how to configure the hardware settings on the PowerStation.

In the next chapter you will learn how to use the Shell to view system information including the Shell version number, processor type, and installed memory.

View System Information

The System Information option in the Shell provides information on system resources to assist you during PowerStation configuration. This chapter describes how to view system information on the PowerStation.
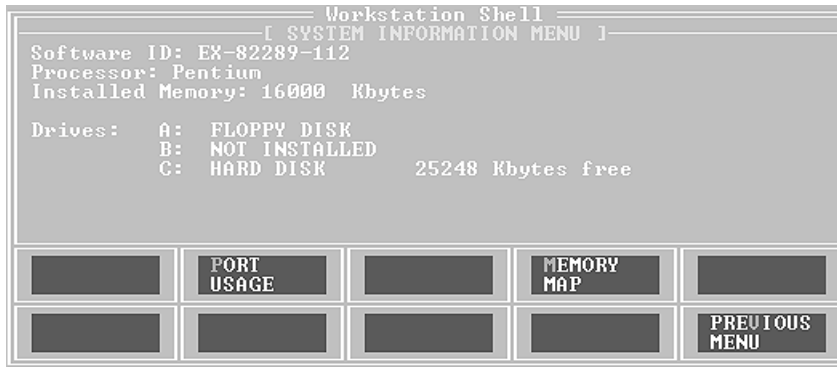
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System Information Option

The System Information option allows you to view the Shell version number, the processor type, installed memory, etc. This information will be requested whenever you contact CTC's Product Technical Support department for assistance.

To view system information, complete the following step:

• Select the **SYSTEM INFO** or **SYS INFO** button on the Main Menu screen.

   The System Information Menu screen appears.

```
════════════════ Workstation Shell ═════════════
─────────────[ SYSTEM INFORMATION MENU ]──────────
Software ID: EX-82289-112
Processor: Pentium
Installed Memory: 16000  Kbytes

Drives:   A:   FLOPPY DISK
          B:   NOT INSTALLED
          C:   HARD DISK        25248 Kbytes free
```

```
┌──────────┐ ┌──────────┐ ┌──────────┐ ┌──────────┐ ┌──────────┐
│          │ │ PORT     │ │          │ │ MEMORY   │ │          │
│          │ │ USAGE    │ │          │ │ MAP      │ │          │
└──────────┘ └──────────┘ └──────────┘ └──────────┘ └──────────┘
┌──────────┐ ┌──────────┐ ┌──────────┐ ┌──────────┐ ┌──────────┐
│          │ │          │ │          │ │          │ │ PREVIOUS │
│          │ │          │ │          │ │          │ │ MENU     │
└──────────┘ └──────────┘ └──────────┘ └──────────┘ └──────────┘
```

The following items appear on the System Information Menu:

| Name	Description
SOFTWARE ID	Identifies the version of the Shell utility.
PROCESSOR	Identifies the type of processor installed in the PowerStation.
INSTALLED MEMORY	Lists the amount of DRAM installed in the Power-Station in Kbytes.
DRIVES	Lists the type and size of the drives installed on the PowerStation along with the amount of free disk space. On P3 through P7 units, the Compact Flash is identified as a "device driver" in the list. On P1 and P2 units, the flash drive is identified as a "hard disk" in the list.

View Port Memory Assignments

The Port Usage option on the System Information menu allows you to view the port memory assignments for the PowerStation.

> **Note** This option is not available on the P1 PowerStation.

To view the port memory assignments, complete the following step:

• Select the **PORT USAGE** button on the System Information menu.

The Workstation Ports screen appears.
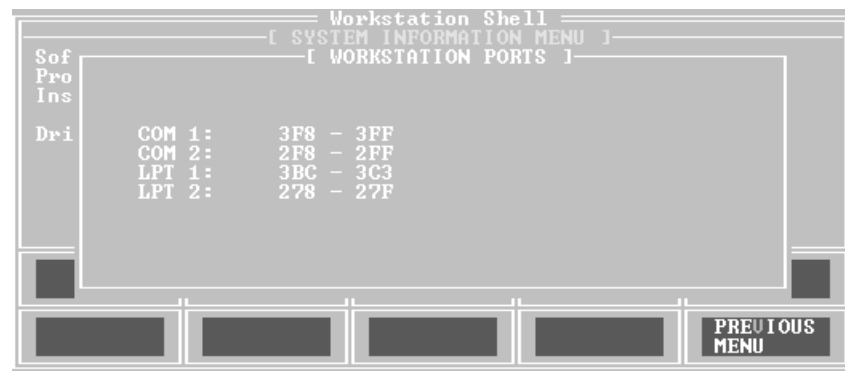
The information displayed in the screen is based on your hardware config-uration.

Display the Memory Map

The Memory Map option on the System Information menu allows you to display the memory map of the PowerStation. Use this option whenever you install I/O cards that use memory addresses to make sure the card does not conflict with the PowerStation's memory addresses.

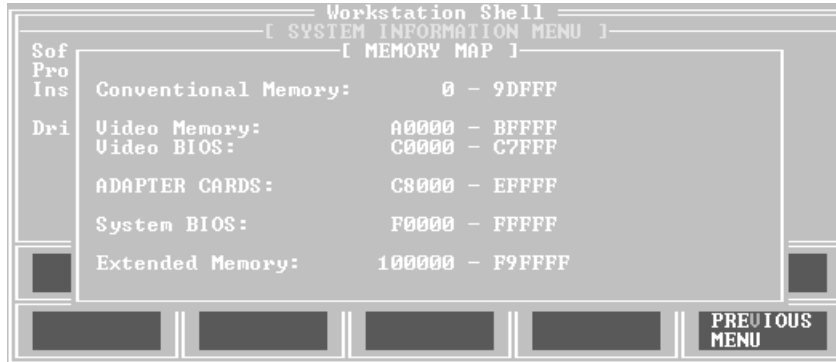> **Note** This option is not available on the P1 PowerStation.

To display the memory map, complete the following step:

• Select the **MEMORY MAP** button on the System Information menu.

The Memory Map screen appears.

```
════════ Workstation Shell ════════
─────[ SYSTEM INFORMATION MENU ]──────
Sof┌──────────[ MEMORY MAP ]──────────
Pro│
Ins│ Conventional Memory:      0 - 9DFFF
   │
Dri│ Video Memory:        A0000 - BFFFF
   │ Video BIOS:          C0000 - C7FFF
   │
   │ ADAPTER CARDS:       C8000 - EFFFF
   │
   │ System BIOS:         F0000 - FFFFF
 ┌─┐│
 │ ││ Extended Memory:   100000 - F9FFFF
 └─┘└
┌──────┐┌──────┐┌──────┐┌──────┐┌PREVIOUS┐
│      ││      ││      ││      ││MENU    │
└──────┘└──────┘└──────┘└──────┘└────────┘
```

Chapter Summary

In this chapter you learned how to view information on system resources such as the Shell version number, processor type, installed memory, etc. to help you during PowerStation configuration.

In the next chapter you will learn how to access the Interact security device, display a list of all files and directories on the PowerStation, and perform a keyboard test.

Utilities and Keyboard Test

This chapter describes how to access the Interact security device to program the security key, display files and directories on the PowerStation, and restore an Interact project backup from a floppy disk. It also provides instructions on how to perform a keyboard test.

If you are running on a P1 PowerStation, you may skip this chapter.

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Security Keys

You may enable options and transfer enabled options between security keys. This is done using the Security Key option on the Utility Menu. When you select the Security Key option, the Shell activates the Security Key Utility. The Security Key Utility also displays security key information (Serial Number and Key Number) and installed module information for the security key(s) attached to the workstation.

> **Note** This option is not available on the P1 PowerStation.

To access the Security Key Utility, complete the following steps:

1. Select the **UTILITY MENU** button on the Main Menu screen.

   The Utility Menu screen appears.

2. Select the **SECURITY KEY** button.

   The Security Key Utility screen appears.

3. To upgrade the key and enable or transfer modules and drivers, follow the basic guidelines listed below:

   • To upgrade the PowerStation's internal key, place the upgrade key on the LPT1 (parallel) port and use the **Upgrade** command in the Security Key Utility.

   • To enable modules and drivers on the PowerStation's internal key, use the **Enable Option** command in the Security Key Utility.

   • To transfer modules and drivers to the PowerStation's Internal Key, place a key with the enabled module or driver on the LPT1 port of the PowerStation, and use the **Transfer Option** command in the Security Key Utility.

   > **Note** When you choose the Enable Option command, a numeric keypad appears so you can enter enabling codes. This eliminates the need for an external keyboard.

Display Directory Information

You may display a list of all the files and directories on the PowerStation using the Dir option on the Utility Menu.

> **Note**   This option is not available on the P1 PowerStation.

To display directory information, complete the following steps:

1. Select the **UTILITY MENU** button on the Main Menu screen.

    The Utility Menu screen appears.

2. Select the **DIR** button.

    A pop-up menu appears.

3. Select the desired drive letter and directory to display the files in that directory.

The directory path is listed at the top of the screen. The number of files, the total number of bytes in this directory, and the total number of bytes remaining on this drive are listed at the bottom of the screen. This menu also displays file names with their size and the date and time the file was created.

If the list of files is greater than what can be displayed on screen, use the arrow keys or the Page Up and Page Down keys to scroll through the list.

Restore Project Backup

On P3 through P7 PowerStations, you may restore an Interact project backup from a floppy drive to a Compact Flash or a hard drive. This is done using the Restore Project option on the Utility Menu.
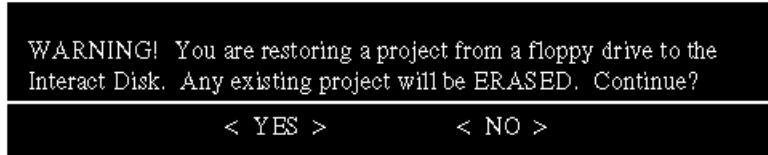
To restore an Interact project backup, complete the followings steps:

1. Select the **UTILITY MENU** button on the Main Menu screen.

    The Utility Menu screen appears.

2. Select the **RESTORE PROJECT** button.

The following warning message appears.

```
WARNING!  You are restoring a project from a floppy drive to the
Interact Disk.  Any existing project will be ERASED.  Continue?

              < YES >              < NO >
```

3. Select **YES** to restore the project.

Perform Keyboard Test

You may perform a keyboard test on the PowerStation using the Keyboard Test option on the System Tests menu.

> **Note** This option is not available on the P1 PowerStation.

To perform a keyboard test, complete the following steps:

1. Select the **SYSTEM TESTS** button on the Main Menu screen.

   The System Diagnostics Menu screen appears.

2. Select the **KEYBOARD TEST** button.

   The Keyboard Test appears on the screen.

```
═══════════════ Workstation Shell ═══════════════
          ─[ SYSTEM DIAGNOSTICS MENU ]─


KEYBOARD TEST
PRESS F1 TWICE TO EXIT
<CTRL, ALT AND SHIFT KEYS WILL NOT BE DISPLAYED>

Key Press: SELECT


┌──────────┐ ┌──────────┐ ┌──────────┐ ┌──────────┐ ┌──────────┐
│          │ │ KEYBOARD │ │          │ │          │ │          │
│          │ │ TEST     │ │          │ │          │ │          │
└──────────┘ └──────────┘ └──────────┘ └──────────┘ └──────────┘
┌──────────┐ ┌──────────┐ ┌──────────┐ ┌──────────┐ ┌──────────┐
│          │ │          │ │          │ │          │ │ PREVIOUS │
│          │ │          │ │          │ │          │ │ MENU     │
└──────────┘ └──────────┘ └──────────┘ └──────────┘ └──────────┘
```

3. Press a key.

The PowerStation will display the text string that matches that key.

Note　If your PowerStation has a touchscreen, upon pressing the display the text string "SELECT" is displayed. Also, pressing the Shift, Ctrl, or Alt keys does not display a text string.

Chapter Summary

In this chapter you learned how to use the utility options to access the Interact Setup Utility to program the security key, list all files and directories on the PowerStation, and restore Interact project backups on P3 through P7 PowerStations. You also leaned how to perform a keyboard test.

In the next chapter you will learn how to reinstall the Shell software on the PowerStation.

Reinstall the Shell Software

Using the PowerStation Shell Installation disk, you can install or reinstall the Shell software. This disk automatically installs the PowerStation Shell, touchscreen drivers, and the factory-default AUTOEXEC.BAT and CONFIG.SYS files (if desired) on a Compact Flash drive or hard drive.

This chapter provides instructions on how to reinstall the Shell software on the different types of PowerStations.

Chapter Contents

P1 PowerStation

This section explains the procedure to install or reinstall the PowerStation Shell software on the P1 PowerStation. You can install or reinstall the Shell using the Shell Installation disk (KA-72578-101) that was shipped with your PowerStation.

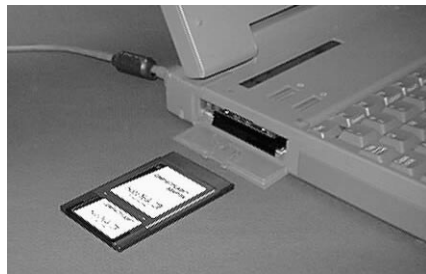**To install the PowerStation Shell software, complete the following steps:**

1. Turn off the PowerStation.

Important Make sure that the PowerStation is turned off when inserting or removing the Compact Flash (CF) card.

2. Remove the flash card from the PowerStation's flash card slot.

   See the *PowerStation User Guide* for complete instructions on how to remove and replace the Compact Flash.

3. Insert the CF card into the PC's PCMCIA slot, using the CF-to-PCM-CIA adapter.

   The PCMCIA drivers should recognize and configure the card as an ATA card, assigning an additional drive letter for the card (e.g., D:).

   Note In this example, drive D: represents the PCMCIA card; however, your system may assign a different drive letter to the PCMCIA card.

4. Insert the Shell Installation disk into the PC's floppy drive.

5. Enter MS-DOS mode.

6. At the DOS prompt, type **A:INSTALL A:\ D:**

7. Press **Enter** to execute this command.

This will install the PowerStation Shell files and necessary drivers on to drive D (or the drive assigned to the CF card in the PCMCIA slot).

8. You will be asked whether you wish to install the standard CTC AUTOEXEC.BAT and CONFIG.SYS files as part of the installation. CTC recommends that you answer "Yes."

   If you answer Yes, the existing AUTOEXEC.BAT and CONFIG.SYS files will be renamed to AUTOEXEC.OLD and CONFIG.OLD. If you answer No, the factory-default files will be copied to AUTOEXEC.CTC and CONFIG.CTC in the root directory of drive D, and you will need to manually update your existing AUTOEXEC.BAT and CONFIG.SYS files later.

9. Once the AUTOEXEC.BAT and CONFIG.SYS files have been copied on to your system, press any key to continue.

10. Press **N** when you are asked if you want to recalibrate the touchscreen.

    You cannot recalibrate the touchscreen until you reinstall the CF card in the PowerStation.

    The PowerStation Shell installation is complete.

11. Eject the CF-to-PCMCIA adapter, and remove the CF from the adapter.

    The CF card is now ready to use in the PowerStation.

    Important   Always make sure that the PowerStation is turned off when inserting and removing the CF card.

12. Insert the CF card into the PowerStation's flash card slot.

13. Power up the PowerStation.

    The PowerStation will automatically load the PowerStation Shell.

14. Recalibrate the touchscreen.

    See *Chapter 3* for instructions.
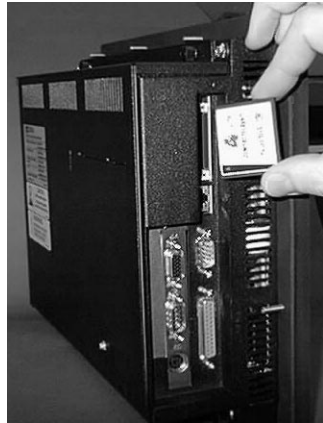
P2 PowerStation

This section explains the procedure to install or reinstall the PowerStation Shell software on the P2 PowerStation. You can install or reinstall the Shell using the Shell Installation disk (KA-72451-212) that was shipped with your PowerStation.

To install the PowerStation Shell software, complete the following steps:
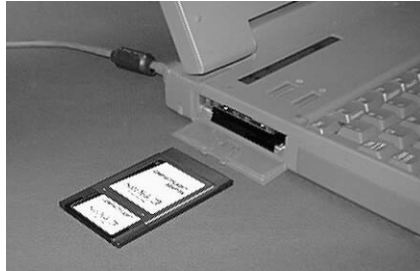
1. Turn off the PowerStation.

Important   Make sure that the PowerStation is turned off when inserting or removing the Compact Flash (CF) card.

2. Remove the flash card from the PowerStation's flash card slot.

See the *PowerStation User Guide* for complete instructions on how to remove and replace the Compact Flash.

3. Insert the CF card into the PC's PCMCIA slot, using the CF-to-PCM-CIA adapter.

The PCMCIA drivers should recognize and configure the card as an ATA card, assigning an additional drive letter for the card (e.g., D:).

   Note   In this example, drive D: represents the PCMCIA card; however, your system may assign a different drive letter to the PCMCIA card.

4. Insert the Shell Installation disk into the PC's floppy drive.

5. Enter MS-DOS mode.

6. At the DOS prompt, type **`A:INSTALL A:\ D:\`**

7. Press **Enter** to execute this command.

This will install the PowerStation Shell files and necessary drivers on to drive D (or the drive assigned to the CF card in the PCMCIA slot).

8. You will be asked whether you wish to install the standard CTC AUTOEXEC.BAT and CONFIG.SYS files as part of the installation. CTC recommends that you answer "Yes."

If you answer Yes, the existing AUTOEXEC.BAT and CONFIG.SYS files will be renamed to AUTOEXEC.OLD and CONFIG.OLD. If you answer No, the factory-default files will be copied to AUTOEXEC.CTC and CONFIG.CTC in the root directory of drive D, and you will need to manually update your existing AUTOEXEC.BAT and CONFIG.SYS files later.

9. Once the AUTOEXEC.BAT and CONFIG.SYS files have been copied on to your system, press any key to continue.

10. Press **N** when you are asked if you want to recalibrate the touchscreen.

You cannot recalibrate the touchscreen until you reinstall the CF card in the PowerStation.

The PowerStation Shell installation is complete.

11. Eject the CF-to-PCMCIA adapter, and remove the CF from the adapter.

    The CF card is now ready to use in the PowerStation.

Important Always make sure that the PowerStation is turned off when inserting and removing the CF card.

12. Insert the CF card into the PowerStation's flash card slot.

13. Power up the PowerStation.

    The PowerStation will automatically load the PowerStation Shell.

14. Recalibrate the touchscreen.

    See *Chapter 3* for instructions.

P3 through P7 PowerStation

This section explains the procedure to install or reinstall the PowerStation Shell software on the P3 through P7 PowerStation. You can install or reinstall the Shell using the Shell Installation disk (KA-72451-212) that was shipped with your PowerStation.

To install the PowerStation Shell software, complete the following steps:

1. Insert the Shell Installation disk into drive A.

2. Change to the root directory of drive A.

3. Type **Install A: C:** at the DOS prompt.

4. Press **Enter** to execute this command.

    This will copy the Shell files into the C:\CTC directory and the touchscreen drivers into the C:\TOUCH directory.

5. At the end of the installation, you will be asked if you would like the factory-default AUTOEXEC.BAT and CONFIG.SYS files to be copied to the root directory of C.

If you answer Yes, the existing AUTOEXEC.BAT and CONFIG.SYS files will be renamed to AUTOEXEC.OLD and CONFIG.OLD. If you answer No, the factory-default files will be copied to AUTOEXEC.CTC and CONFIG.CTC in the root directory of drive C.

6. Once the AUTOEXEC.BAT and CONFIG.SYS files have been copied on to your system, press any key to continue.

7. If the \TOUCH directory was erased or did not exist prior to running the installation program, you will be asked if you would like to calibrate the touchscreen.

   Press Y to enter the touchscreen calibration utility, or press N to perform the calibration at a later time.

   CTC recommends you calibrate the touchscreen at this time. Your PowerStation will not run properly if the touchscreen is not calibrated.

Chapter Summary

In this chapter you learned how to reinstall the PowerStation Shell software on the PowerStation.

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