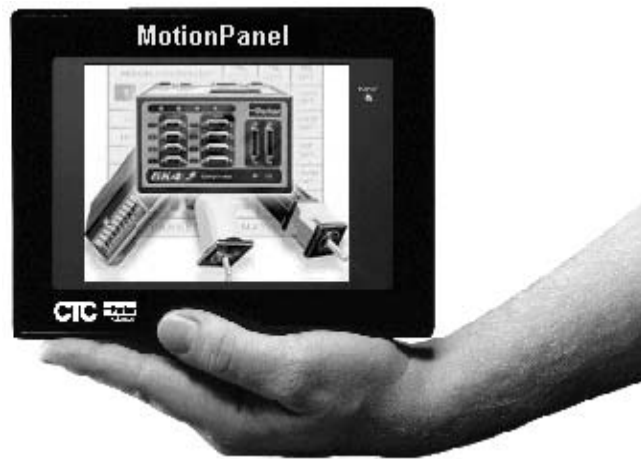


MotionPanel



User Guide

MotionPanel

User Guide

***Parker Automation - CTC
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A3-06166-101

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Product Warranty Information

Parker Automation - CTC 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, our standard product warranty covers these items for 15 months from the date of shipment. Exceptions appear below:

- 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 software License Agreement for additional software warranty information.

If you have any questions about your application or need technical assistance, please check the Support page on the CTC website www.ctcusa.com or call 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. More assistance is available on the Compumotor website www.compumotor.com or by contacting Compumotor at 800-358-9068. See *Customer Support Services* on page 9 of this manual for more information about our support products and services.

Product Usage Notice

The SOFTWARE and/or HARDWARE comprised as a PowerStation is not designed,

manufactured, or intended for use or resale as online control equipment in hazardous environments requiring fail-safe performance, such as in the operation of nuclear facilities, aircraft navigation or communication systems, air traffic control, direct life support machines, or weapons systems, in which the failure of this technology could lead directly to death, personal injury, or severe physical or environmental damage.

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Manual Overview and Support Services

Thank you for purchasing the MotionPanel™ workstation. MotionPanel is an intelligent computer system that allows you to program and monitor high-speed motion controls. Based upon CTC's PowerStation Model P1 workstation, it is factory-configured to communicate via Ethernet with the Compumotor 6K/GV6K/GT6K series of controllers. Thus, it takes advantage of the speed of Ethernet communication and the 6K/GV6K/GT6K's fast status register.

MotionPanel has a durable, 5.7" touchscreen display and an all-in-one PC board with a parallel port, two serial ports, and an Ethernet port. CTC's MachineShop™ Shell and a complete Interact application, created with Interact's Panel Toolkit Module (PTM), are pre-installed. Please review all of the documentation included with MotionPanel before operating the unit.

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Using this Manual

This manual is designed to help you set up and use your MotionPanel workstation.

The manual is divided into the following chapters:

Chapter 1 — Manual Overview and Support Services:

Presents an overview of this manual, the other documentation and software provided with MotionPanel, and advice about getting started with MotionPanel. This chapter also describes CTC's customer support services.

Chapter 2 — Getting Started with MotionPanel:

Describes how to connect MotionPanel to a Compumotor 6K/GV6K/GT6K controller and configure your network for Ethernet or serial communication.

Chapter 3 — MachineShop for MotionPanel: Provides an overview of the MachineShop for MotionPanel software and explains how to use the FlashBack utility to create a bootable Compact Flash card for MotionPanel.

Chapter 4 — MotionPanel Screens: Outlines the structure of MotionPanel's screens.

MotionPanel Documentation

The MotionPanel documentation set contains the information that you need to configure, install, and use MotionPanel. The documentation set is described below. The MotionPanel and PowerStation Model P1 *User Guides* are contained in PDF files on the MachineShop for MotionPanel Installation CD.

Release Notes — Provided whenever there is important information about MotionPanel that does not appear in this manual. Be sure to read any available release notes before installing or operating the unit.

MotionPanel QuickStart Guide — Describes how to connect MotionPanel and a Compumotor 6K/GV6K/GT6K controller via Ethernet.

MotionPanel User Guide — The document you are reading. It provides detailed information about MotionPanel and describes how to use the unit. Please read this manual before operating MotionPanel.

PowerStation Model P1 User Guide — Provides complete specifications, installation instructions, and troubleshooting steps for the MotionPanel workstation.

P1 PowerStation Template — A full-size template of MotionPanel that you can use to prepare the location where you will install the unit.

**Related
Documentation**

In addition to the MotionPanel documentation described earlier, you will find the following documentation useful. The software documentation is contained in PDF files on the MachineShop for MotionPanel Installation CD.

**Software
Documentation**

MachineShop Installation Booklet — Explains how to install MachineShop for MotionPanel software. This manual is shipped with the MachineShop for MotionPanel Installation CD.

MachineShop Getting Started Guide — Tells how to get up and running with MachineShop.

MachineShop Runtime Guide — Provides instructions on how to use the MachineShop Shell to monitor and configure a MotionPanel or other workstation communicating with a MachineShop development system.

Note Throughout this manual, all references to “development PC” or “development system” refer to the computer you use to develop applications.

**Electronic
Documentation**

MachineShop and Interact Online Help — Explains how to perform all operations of MachineShop and Interact. This online help is available within MachineShop and Interact. To access the online help for a specific part of each program, press the F1 key on your keyboard.

Interact Online Tutorial — Gives step-by-step instructions for creating Interact applications using the Panel Toolkit Module (PTM). This online help file is designed to be run on a MachineShop development system.

Software Components

Each MotionPanel is shipped with the MS-DOS® 6.22 operating system, the MachineShop Shell, and a complete Interact runtime application installed on an 8MB Compact Flash (CF) card. The application consists of over 45 pre-configured screens created with Interact's Panel Toolkit Module (PTM).

CTC also provides MachineShop for MotionPanel software on the MachineShop for MotionPanel Installation CD (KA-83233) so that you can customize the Interact application. For information about what is included in this software, see Chapter 3, *MachineShop for MotionPanel*.

Additional Applications

You can download two additional MotionPanel applications from Parker Automation - CTC's web site:

- 640 x 480 Application
- Input Tools Application

To download these applications, visit www.ctcusa.com, and select the MotionPanel page.

Getting Started

Now that you have opened the MotionPanel package, you can complete the following steps to get started with MotionPanel:

- Unpack the unit
- Connect it to a Compumotor 6K/GV6K/GT6K controller
- Configure your specific application parameters in MachineShop for MotionPanel
- Download these settings to the MotionPanel CF card.
- Connect it to a Compumotor 6K/GV6K/GT6K controller
- Install the MotionPanel in a permanent location

This section gives some tips on performing these activities. More detailed information is available in the remaining chapters of this manual and the other documentation referred to in this chapter.

Before You Begin

Before you connect the MotionPanel to a 6K/GV6K/GT6K controller or mount the MotionPanel in a permanent location, please complete the following steps:

1. Unpack the MotionPanel, and verify that you have received all the components you ordered.
2. Fill out the product registration card, and return it to Parker Automation - CTC. When you register your unit, you will receive a trial membership in the Product Support Program, which provides complimentary telephone technical support, information on product updates, and service bulletins.

Testing the Network Connection

Before you mount the MotionPanel in a permanent location, you may want to connect it to a 6K/GV6K/GT6K controller and test the network connection. Instructions for connecting MotionPanel to a 6K/GV6K/GT6K controller and configuring your network for Ethernet or serial communication are in Chapter 2, *Getting Started with MotionPanel*.

**Installing
MotionPanel**

For complete installation instructions, see the *PowerStation Model P1 User Guide*, included on the MachineShop for MotionPanel Installation CD.

**Configuring and
Downloading
Applications**

Although the Interact runtime screens in MotionPanel are pre-configured, program flow operations and data input functions are application-specific. You will need to configure them using MachineShop for MotionPanel on a development PC, save your settings in PTM, and then download them to the MotionPanel CF card.

For information about how to develop Interact applications and download them, see the *MachineShop Getting Started Guide*, included on the MachineShop for MotionPanel Installation CD.

Documentation Standards

This manual uses the following documentation standards:

1. Commands, buttons, tabs, menu items, and important terms are shown in **bold**.
2. Text to be entered from the keyboard is shown in Courier font.
3. Keyboard keys are shown in Initial Caps.
4. Indented paragraphs denote one of the following:
 - **Note** — Describes alternative approaches or issues that you should be aware of while using a particular function.
 - **Important** — Contains information that you need to pay particular attention to while reading. Follow this information to save development time and 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 the information is 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 the information is not properly followed.

Customer Support Services

You may contact Customer Support through Parker Automation's CTC division or Compumotor division.

CTC Customer Support

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

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

Compumotor Customer Support

You may also contact Compumotor's customer support by telephone, email, or on the World Wide Web.

- Telephone: 800-358-9068
- E-mail: CMR_help@parker.com
- World Wide Web: <http://www.compumotor.com>

Technical Support

Parker Automation - CTC's Technical Support department welcomes your questions 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 MotionPanel, be sure to:

- Check any release notes shipped with the system.
- Consult the documentation and other printed materi-

als shipped with your system.

- Review Chapter 5, “Maintaining and Troubleshooting the P1 PowerStation,” in the *PowerStation Model P1 User Guide*. This guide is included on the MachineShop for MotionPanel Installation CD.

If you cannot find a solution using the above resources:

- Call your CTC products distributor for support.
- View the Technical Support web page at www.ctcusa.com which contains answers to Frequently Asked Questions, application notes, product user guides, and software downloads that may be helpful.
- Contact CTC’s Technical Support department at 513-248-1714, 8:00 a.m. to 5:00 p.m., Eastern Time. You can call this same number after hours for emergency assistance.
- Contact Compumotor’s Technical Support at 800-358-9068.

Training and New Business Development

Parker Automation - CTC’s Training and New Business Development department provides service in two areas: training and consulting. CTC offers training on all our products, either at CTC 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 offers consulting services through our Application Engineering Services group. Our Application Engineering group can build your application from the ground up by writing custom communications drivers or by 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 Application Engineering Services by phone at 1-800-233-3329 or by email at appeng@ctcusa.com.

Documentation

You can download CTC product documentation from our Web site at www.ctcusa.com at the **Support** weblink under **Product Manuals**.

We also welcome your comments on this User Guide or any of our other documentation. Please email your comments to: DocComments@ctcusa.com

Getting Started with MotionPanel

MotionPanel can communicate with any Compumotor 6K/GV6K/GT6K controller via Ethernet or serial connection. The MotionPanel is factory-configured to communicate via Ethernet. But whether you use Ethernet or serial communications, you can connect MotionPanel with one or more 6K/GV6K/GT6K controllers and have your network ready to run in just a few steps.

This chapter lists the Compumotor controllers that MotionPanel supports. It then explains how to connect MotionPanel and a 6K/GV6K/GT6K controller and configure your network for Ethernet or serial communication.

Note For information about MotionPanel's specifications, see the *PowerStation Model P1 User Guide*, included on the MachineShop for MotionPanel Installation CD.

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<i>Controller Compatibility</i>	14
<i>Setting up a 6K/GV6K/GT6K Network</i>	15

Controller Compatibility

MotionPanel is factory-configured to communicate with any Compumotor 6K controller via Ethernet or serial connection. The Compumotor 6K series includes the following:

- 6K2
- 6K4
- 6K6
- 6K8
- GV6K
- GT6K

MotionPanel also can communicate with any of the following Compumotor devices by serial connection only. You may need to modify some panels when using serial connections.

- Zeta 610N
- Apex 615N
- OEM 6200
- OEM 6250
- 6200
- 6250

Setting up a 6K/ GV6K/GT6K Network

You can enable your MotionPanel to communicate with a Compumotor 6K/GV6K/GT6K controller via Ethernet or serial connection. This section explains how to create both types of connections.

Important You may want to connect the MotionPanel to a 6K/GV6K/GT6K controller and test the network connection before installing the MotionPanel in its permanent location. For information about how to install MotionPanel, see the *PowerStation Model P1 User Guide*, included on the MachineShop for MotionPanel Installation CD.

Setting up Ethernet Communication

To set up Ethernet communication between MotionPanel and a 6K/GV6K/GT6K controller, you will connect the MotionPanel and the controller by crossover cable and then enable the controller's Ethernet port.

To connect the MotionPanel and a 6K controller via Ethernet, complete the following steps:

1. Connect one end of your Ethernet cable to the MotionPanel, as shown in Figure 2-1.



Figure 2-1: Connecting an Ethernet Cable to Motion-Panel

2. Connect the other end of the cable to the controller, as shown in Figure 2-2.



Figure 2-2: Connecting an Ethernet Cable to the Controller

3. Connect power (24 VDC) to the MotionPanel and the controller, as shown in Figure 2-3.



Figure 2-3: Connecting Power to MotionPanel and the Controller

Compumotor 6K controllers are factory-configured to communicate through their serial ports. To get them to communicate with MotionPanel via Ethernet, you must enable the controller's Ethernet port. To do this, we recommend that you have the following software installed:

- Compumotor 6K controller operating system v. 6.2.6 or higher (in the controller)
- Motion Planner v. 4.2 or higher (in your development PC)

Note Motion Planner is shipped with Compumotor 6K/GV6K/GT6K controllers.

To enable the Ethernet port on a 6K/GV6K/GT6K controller, complete the following steps:

1. Using a serial cable, connect your development PC to the COM2 port on the 6K controller.
2. Start the development PC.
3. Launch Motion Planner on the development PC.

Note For information on how to use Motion Planner, select Help on the MotionPanel menu bar.

The Default Communications Settings dialog box will appear.

- On the **Product** tab, select the 6K/GV6K/GT6K controller that you will use, as shown in Figure 2-4.

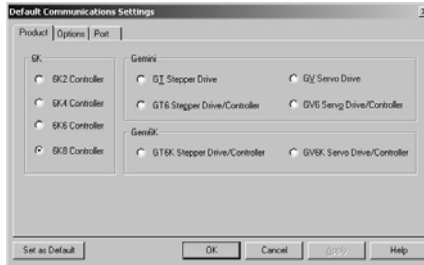


Figure 2-4: Selecting the Controller

- Select the Port tab to specify a port setting.
- Click **OK** to save your default communication settings.

The Motion Planner window will appear.

- In the Motion Planner window, select the **Terminal1** tab.

The Terminal1 emulator screen will appear, as shown in Figure 2-5.

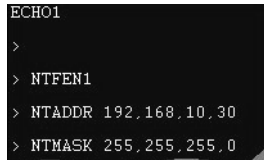


Figure 2-5: Terminal1 Emulator Screen

If you are connecting MotionPanel to just one controller, complete step 8, and then go to step 10. If you are connecting MotionPanel to more than one controller, go to step 9 now.

- Type the following commands in the Terminal1 screen, as shown in Figure 2-6. Press **Enter** after each command.

```
NTFEN1
NTADDR 192,168,10,30
NTMASK 255,255,255,0
```

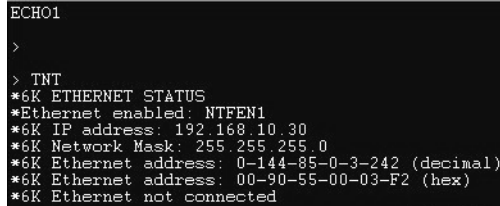
A terminal window with a black background and white text. The prompt 'ECHO1' is at the top. Below it, a series of commands are entered: '>', '> NTFEN1', '> NTADDR 192.168.10.30', and '> NTMASK 255.255.255.0'.

```
ECHO1
>
> NTFEN1
> NTADDR 192.168.10.30
> NTMASK 255.255.255.0
```

Figure 2-6: NTFEN1 Commands

9. Type **TNT** in the Terminal1 screen, as shown in Figure 2-7, and then press **Enter**.

The following information will appear on the screen.

A terminal window with a black background and white text. The prompt 'ECHO1' is at the top. Below it, the command '> TNT' is entered, followed by several lines of status information: '*6K ETHERNET STATUS', '*Ethernet enabled: NTFEN1', '*6K IP address: 192.168.10.30', '*6K Network Mask: 255.255.255.0', '*6K Ethernet address: 0-144-85-0-3-242 (decimal)', '*6K Ethernet address: 00-90-55-00-03-F2 (hex)', and '*6K Ethernet not connected'.

```
ECHO1
>
> TNT
*6K ETHERNET STATUS
*Ethernet enabled: NTFEN1
*6K IP address: 192.168.10.30
*6K Network Mask: 255.255.255.0
*6K Ethernet address: 0-144-85-0-3-242 (decimal)
*6K Ethernet address: 00-90-55-00-03-F2 (hex)
*6K Ethernet not connected
```

Figure 2-7: Controller Ethernet Address

10. At the bottom of the Terminal1 screen, type **Reset**, and then press **Enter**.

11. Turn on the MotionPanel, as shown in Figure 2-8.

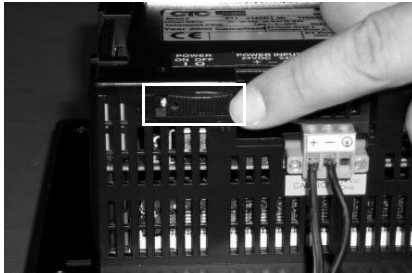


Figure 2-8: Turning On MotionPanel

The MotionPanel Main Menu will appear, as shown in Figure 2-9.

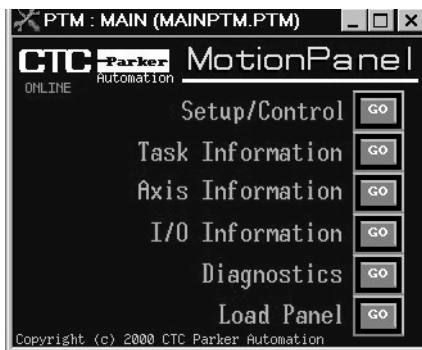


Figure 2-9: MotionPanel Main Menu

You can now run the MotionPanel Interact application.

Ethernet settings in MotionPanel

Ethernet settings in MotionPanel are factory-configured. You can verify them in the MachineShop Shell.

To verify MotionPanel's Ethernet settings, complete the following steps:

1. Connect a keyboard to the MotionPanel.
2. From the Shell Main Menu, select **Settings**.

The Settings submenu will appear, as shown in Figure 2-10.

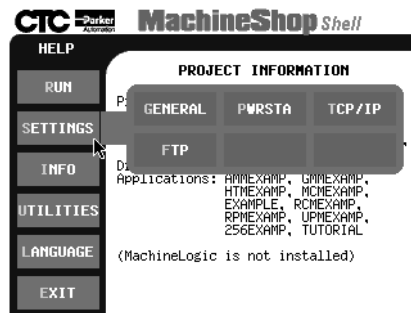


Figure 2-10: MachineShop Settings Submenu

3. On the Settings submenu, select **TCP/IP**.

The TCP/IP Setup menu will appear, as shown in Figure 2-11.

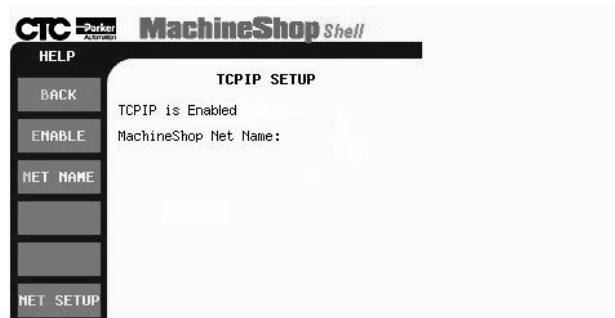


Figure 2-11: TCP/IP Setup Menu

4. On the TCP/IP Setup menu, select **NET SETUP**.

The TCP/IP Network Setup menu will appear, as shown in Figure 2-12.



Figure 2-12: TCP/IP Network Setup Menu

5. On the Network Setup menu, select **NET 1**.

The NET 1 submenu will appear, as shown in Figure 2-13.

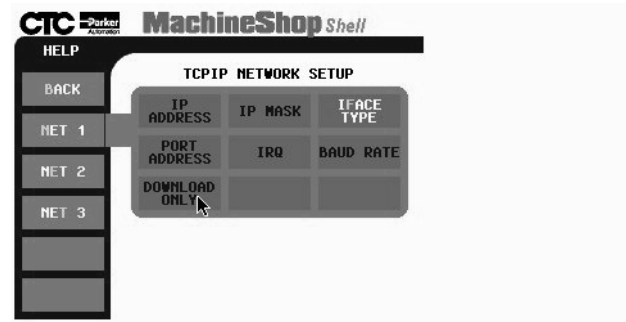


Figure 2-13: NET 2 Submenu

6. Select the button for each of the settings listed in the left column below, and verify that the settings match those shown in the right column.

Note You must select the **IFACE TYPE** setting first in order to activate the other setup buttons.

IFACE TYPE	:	NE2000
IP ADDRESS	:	192.168.10.29
IP MASK	:	255.255.255.0
PORT ADDRESS	:	280
IRQ	:	10
DOWNLOAD ONLY	:	OFF

After you have entered each setting, select **NET 1** to return to the NET 1 submenu, and select another button to verify a setting.

- Important** You can change MotionPanel's Ethernet settings, but be very careful when doing so. A typo or punctuation error will set the wrong parameter.
7. When you have finished verifying Ethernet settings, select **Back** to return to the TCP/IP Setup Menu and **Back** again to return to the Shell Main Menu.

Cable diagrams

If you must construct an Ethernet cable for your 6K/ GV6K/GT6K network, refer to the diagrams in Figure 2-14.

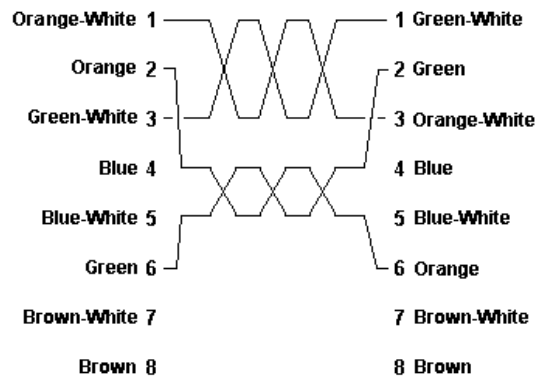
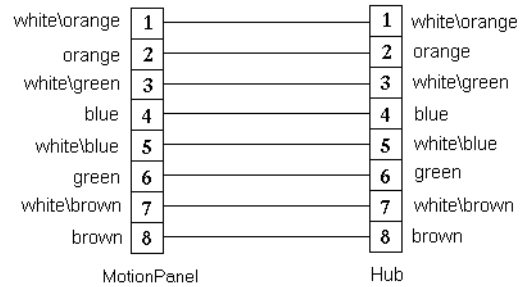


Figure 2-14: Ethernet Cable Diagrams

Setting up Serial Communication

To set up serial communication between MotionPanel and a 6K/GV6K/GT6K controller, you must complete the following steps:

- Connect MotionPanel and the controller by serial cable
- Configure MotionPanel to use one of its serial ports to communicate with the controller
- Configure the controller to use one of its serial ports to communicate with MotionPanel
- Configure the CMOT driver for serial communication

tion

Connecting MotionPanel and a 6K/GV6K/GT6K controller

To connect MotionPanel and a 6K/GV6K/GT6K controller via serial cable, complete the following steps:

1. Connect power (24 VDC) to the MotionPanel and the controller, as shown in Figure 2-15.



Figure 2-15: Connecting Power to MotionPanel and the Controller

2. Connect one end of your serial cable to the COM1 port on the MotionPanel.
3. Connect the other end of the serial cable to the COM1 port on the controller.

MotionPanel is factory-configured to communicate with a 6K/GV6K/GT6K controller via Ethernet. To use a serial connection between these devices, you must configure the MotionPanel to communicate through one of its serial ports.

Configuring MotionPanel to use a serial port

To configure MotionPanel to use a serial port, complete the following steps:

1. Connect a keyboard to the MotionPanel.
2. From the Shell Main Menu, select **Settings**.

The Settings submenu will appear, as shown in Figure 2-16 on page 25.

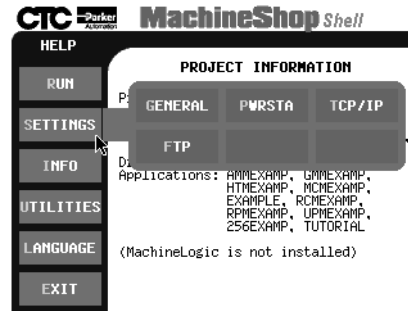


Figure 2-16: MachineShop Settings Submenu

3. On the Settings submenu, select **TCP/IP**.

The TCP/IP Setup menu will appear, as shown in Figure 2-17.



Figure 2-17: TCP/IP Setup Menu

4. On the TCP/IP Setup menu, select **NET SETUP**.

The TCP/IP Network Setup menu will appear, as shown in Figure 2-18 on page 26.



Figure 2-18: TCP/IP Network Setup Menu

5. On the Network Setup menu, select **NET 2**.

The NET 2 submenu will appear, as shown in Figure 2-19.

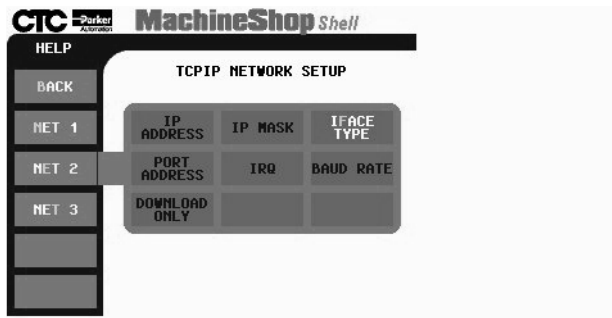


Figure 2-19: NET 2 Submenu

6. Select the button for each of the settings listed in the left column below, and enter the settings listed in the right column.

Note You must enter the **IFACE TYPE** setting first in order to activate the other setup buttons.

```

IFACE TYPE      : Serial
IP ADDRESS      : 10.0.0.2
IP MASK         : 255.255.255.0
PORT ADDRESS    : 3F8
IRQ             : 4
DOWNLOAD ONLY   : ON
  
```


After you have entered each setting, select **NET 2** to return to the NET 2 submenu, and select another button to enter a new setting.

7. When you have finished entering the network settings, select **Back** to return to the TCP/IP Setup Menu and **Back** again to return to the Shell Main Menu.
8. You can now run the MotionPanel Interact application.

Note For further information about MachineShop Shell settings, see the *MachineShop Shell Runtime Guide*.

Compumotor 6K/GV6K/GT6K controllers are factory-configured to communicate via serial communication. If you have previously configured your 6K/GV6K/GT6K controller for Ethernet communication, you will have to re-configure it to use one of its serial ports.

To configure the 6K/GV6K/GT6K controller to use a serial port, complete the following steps:

1. Using a serial cable, connect your development PC to the COM2 port on the 6K/GV6K/GT6K controller.
2. Start the development PC.
3. Launch Motion Planner on the development PC.

Note For information on how to use Motion Planner, select Help on the MotionPanel menu bar.

The Default Communications Settings dialog box will appear.

4. On the **Product** tab, select the controller that you will use, as shown in Figure 2-20 on page 28.

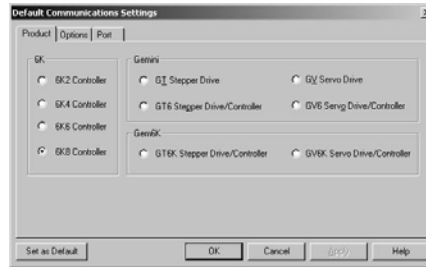


Figure 2-20: Selecting the Controller

Note The default port setting for the development PC is **COM1**. If you wish, you can confirm this by selecting the **Port** tab.

5. Click **OK** to save your default communication settings.

The Motion Planner window will appear.

6. In the Motion Planner window, select the **Terminal1** tab.

The Terminal1 emulator screen will appear, as shown in Figure 2-21.



Figure 2-21: Terminal1 Emulator Screen

7. Type the following commands in the Terminal1 screen, as shown in Figure 2-22 on page 29. Press **Enter** after each command.

```
NTFENO  
RESET
```

```
ECHO1
>
> NTFEN0
> NTADDR 192,168,10,30
> NTMASK 255,255,255,0
```

Figure 2-22: NTFEN0 Commands

Configuring the CMOT driver for serial communication

To configure the CMOT driver for serial communication, complete the following steps:

1. On your development PC, launch MachineShop for MotionPanel from the shortcut on your Windows desktop.

The MachineShop Welcome screen will appear.

2. Select **Open an Existing MachineShop Project**, as shown in Figure 2-23.



Figure 2-23: Opening a MachineShop Project

3. Select the MotionPanel Interact application: **MOTPANEL**.

4. Select the Interact icon in the middle of the Machine-Shop toolbar, as shown in Figure 2-24.



Figure 2-24: Interact Icon

Interact will open the MotionPanel application, and the Application browser will appear, as shown in Figure 2-25.



Figure 2-25: Interact Application Browser

5. Select the Compumotor G6K/6K/6000 Driver (CMOT), as shown in Figure 2-25.

The CMOT driver dialog box will appear, as shown in Figure 2-26. Note that the **Ethernet** connection is selected on the Connection tab.

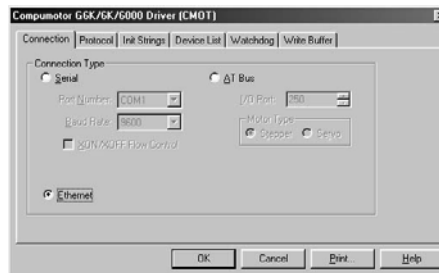


Figure 2-26: CMOT Driver Ethernet Connection

6. On the Connection tab, select the Serial connection, as shown in Figure 2-27 on page 31.

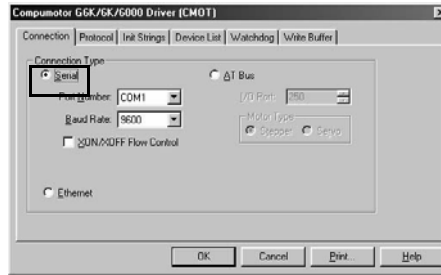


Figure 2-27: CMOT Driver Serial Connection

Click **OK** to accept your new setting, and Exit Interact.

You can now run the MotionPanel application.

Cable diagrams

If you must create a serial cable to connect to the Motion-Panel, refer to the following diagrams.

Figure 2-28 illustrates the cable diagram for the RS232.

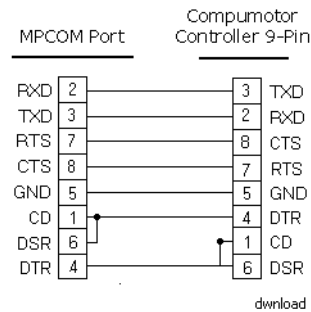


Figure 2-28: RS232 Cable Diagram to Compumotor Controller

Figure 2-29 illustrates the cable diagram for the RS422.

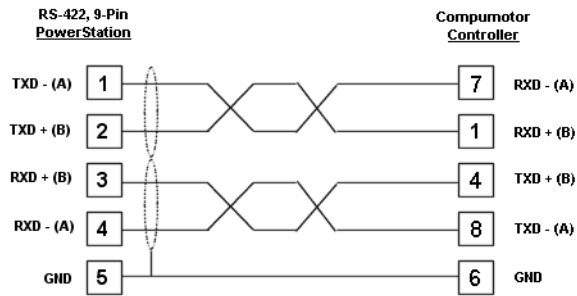


Figure 2-29: RS422 Cable Diagram to Compumotor Controller

Figure 2-30 illustrates the cable diagram for the RS485.

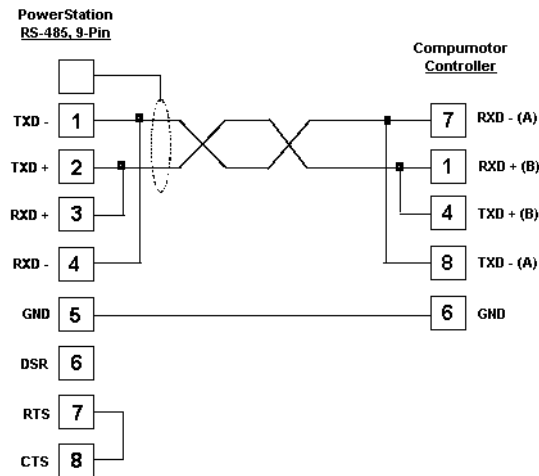


Figure 2-30: RS485 Cable Diagram to Compumotor Controller

MachineShop for MotionPanel

The MotionPanel workstation comes with a copy of MachineShop for MotionPanel software, distributed on the MachineShop for MotionPanel Installation CD (KA-83233). When installed on a development PC, MachineShop for MotionPanel will allow you to customize the Interact application that is factory-installed on MotionPanel's Compact Flash (CF) card. This chapter identifies the components of MachineShop for MotionPanel and explains how you can use the FlashBack utility to restore MotionPanel's operating software to a CF card.

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Introducing MachineShop for MotionPanel

You can customize your Interact application screens using a specially designed version of CTC's MachineShop HMI software called MachineShop for MotionPanel.

Important Although the Interact runtime screens on MotionPanel's CF card are pre-configured, program flow operations and data input functions are application-specific. You will need to configure them using MachineShop for MotionPanel on a development PC, save your settings in Interact PTM, and then download the settings to the CF card. For information about how to develop Interact applications and download them, see the *MachineShop Getting Started Guide*, included on the MachineShop for MotionPanel Installation CD.

MachineShop for MotionPanel includes the Interact Application Manager (APM) and Panel Tool Kit Module (PTM), and the Compumotor G6K/6K/6000 (CMOT) Device Driver.

Installing MachineShop for MotionPanel

MachineShop for MotionPanel is distributed on the MachineShop for MotionPanel Installation CD (KA-83233), which includes all of the software and documentation you will need to use MotionPanel.

To install MachineShop for MotionPanel, complete the following steps:

1. Insert the MachineShop for MotionPanel Installation CD into the CD-ROM drive of your development PC.
If automatic installation is enabled on your system, installation will begin, and the Setup Welcome dialog box will appear. Go to step 4.
If automatic installation is disabled, complete steps 2-3.
2. On the Windows taskbar, click **Start**, and then click **Run**.
The Run dialog box will appear.

3. In the Run dialog box, next to the word “Open,” type **D:\Setup.EXE**, and click **OK**. (If necessary, substitute your CD-ROM drive letter for **D**.)

The Setup Welcome dialog box will appear.

4. Select **Next**.

The Select Operation dialog box will appear.

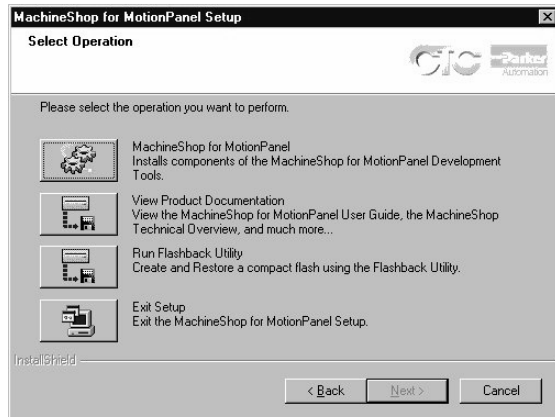


Figure 3-1: MachineShop Select Operation

5. Select the **MachineShop for MotionPanel** button, and follow the installation wizard to install the program.

Important When asked, be sure to select a **Typical** installation.

A Typical installation will install the following items:

- MachineShop Setup program
- MachineShop Toolbar
- Interact components (Licensed WAM, APM, PTM, CMOT Device Driver, fonts)
- MotionPanel MSP project
- Internet Explorer v. 5 (IE5)*
- TCP/IP*
- FlashBack Utility

- Adobe Acrobat Reader
- Documentation (Documentation includes online help for MachineShop and Interact; the Interact Online Tutorial; and PDF files for the *MotionPanel User Guide*, *PowerStation Model P1 User Guide*, *MachineShop Getting Started Guide*, and the *MachineShop Runtime Guide*. Adobe Acrobat Reader, installed with MachineShop for MotionPanel, enables you to read these files.)

***Note** The starred (*) networking components will be installed if they are not already on your computer. You may be asked to configure these components as they are installed. Configuration instructions are in the *MachineShop Installation Booklet*, shipped with the MachineShop for MotionPanel CD.

Setup also will automatically add the Compumotor Motion Planner suite component to the MachineShop toolbar if you install Motion Planner on your development PC before running the setup program. Motion Planner will appear as a tab on the toolbar.

Using the FlashBack Utility

MotionPanel uses a Compact Flash card as its startup drive. This card contains the MS-DOS 6.22 operating system, the MachineShop Shell, and all of MotionPanel's pre-configured application screens. If any of these files is deleted or becomes corrupted, and you wish to replace it, or if you want to create a new, bootable CF card, you can do so easily by using the FlashBack utility. FlashBack restores all of MotionPanel's operating software to a CF card in one, simple operation. To do this, you will open FlashBack from the MachineShop for MotionPanel Installation CD (KA-83233) and use the instructions in the FlashBack online help to reformat the CF card.

To reformat a CF card for MotionPanel, complete the following steps:

1. Insert the MachineShop for MotionPanel Installation CD into the CD-ROM drive of your development PC.

If automatic installation is enabled on your system, installation will begin, and the Setup Welcome dialog box will appear. Go to step 4.

If automatic installation is disabled, complete steps 2-3.
2. On the Windows taskbar, click **Start**, and then click **Run**.

The Run dialog box will appear.
3. In the Run dialog box, next to the word "Open," type **D:\Setup.EXE**, and click **OK**. (If necessary, substitute your CD-ROM drive letter for **D**.)

The Setup Welcome dialog box will appear.
4. Select **Next**.

The Select Operation dialog box will appear, as shown in Figure 3-1 on page 35.

5. Select the **Run Flashback Utility** button.

The FlashBack Utility dialog box will appear as shown in Figure 3-2.

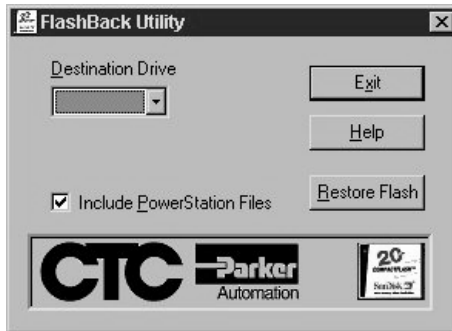


Figure 3-2: FlashBack Utility Dialog Box

6. Click the **Help** button to find complete, online instructions for operating the FlashBack utility.

Note If you wish, you can copy **FlashUtil.exe** to a directory of your choosing on your hard drive and run the utility from there.

MotionPanel Screen Structure

MotionPanel is a runtime system. The MachineShop Shell and a complete Interact application, created with Interact's Panel Toolkit Module (PTM), are factory-installed on an 8MB Compact Flash (CF) card shipped with all MotionPanel workstations. The application consists of over 45 Interact runtime screens. During runtime, you can control and monitor system parameters by navigating through these screens.

This chapter provides the topology of the MotionPanel screens. The topology is a nested listing of the screens that maps out the order in which the screens appear.

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Screen Topology

40

Screen Topology

Table 4-1 and Table 4-2 below illustrate the overall structure of the Interact runtime screens in MotionPanel. The screen structure of the 6K controller differs from that of the GV6K and GT6K controllers.

Note The screen structure for the GV6K and GT6K controllers is the same.

6K Controller Main Menu

The following table provides the screen structure for the Main Menu of the 6K controller.

Table 4-1		
Setup/Control		
	Driveen	
	Homlimstat	
	Jogax1	
	Jogax2	
	Motion	
	Program	
		Tlarge
	Paucon	
	Kill	
	Comstatus	
		Exit
Task Information		
	Sysstat	
	Prgstate	
	Tasker	
	Trncmd	
		Tlarge
Axis Information		
	Motpar	
	Motpar2	
	Motaxis	

Table 4-1		
	Servost	
	Cotrlmod	
	Advmot	
	Advmot2	
	Follsta	
	Advfolst	
I/O Information		
	Onbdlim	
	Trigin	
	Onbdout	
	Brickmenu	
		Brick1
		Brick2
		Brick3
		Brick4
		Brick5
		Brick6
		Brick7
		Brick8
Diagnostics		
	Drvstat	
	Entry	
		Tlarge
	Terminal	
		Tlarge
Additional Screens		
	Load Panel	

Table 4-1: Screen topology for the 6K controller

GV6K and GT6K Controllers Main Menu

The following table provides the screen structure for the Main Menu of the GV6K and GT6K controllers:

Table 4-2		
Setup/Control		
	Gemdren	
	Gemhommot	
	Program	
		Tlarge
	Paucon	
	Kill	
	Comstatus	
		Exit
Task Information		
	Sysstat	
	Prgstate	
	Tasker	
	Trncmd	
		Tlarge
Axis Information		
	Gemmotpar	
	Gemstat	
	Gemfol	
I/O Information		
	Gemonio	
	Brickmenu	
		Brick1
		Brick2
		Brick3
		Brick4
		Brick5

Table 4-2		
		Brick6
		Brick7
		Brick8
Diagnos- tics		
	Gemtas	
	Gemtasx	
	Entry	
		Tlarge
	Terminal	
		Tlarge
Additional Screens		
	Load Panel	

Table 4-2: Screen topology for the GV6K and GT6K controllers

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- 6K/GV6K/GT6K controller 1, 2, 6, 15, 24
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