

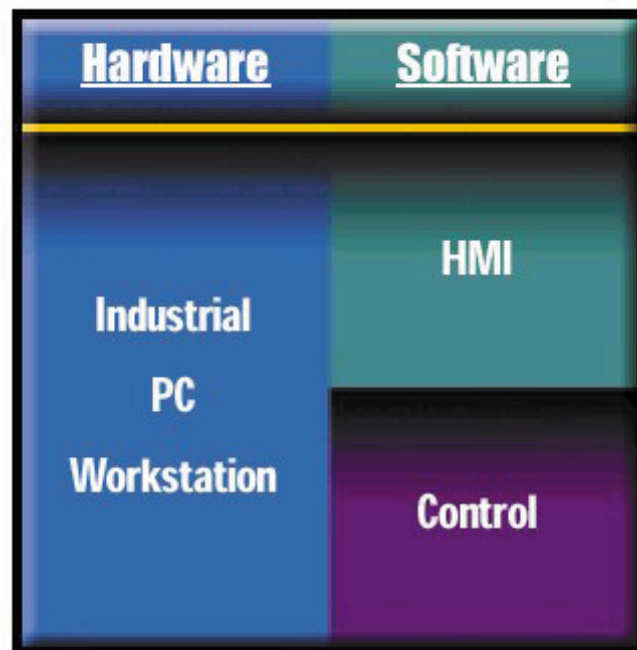


CTC Products Provide a Hardware and Software Solution

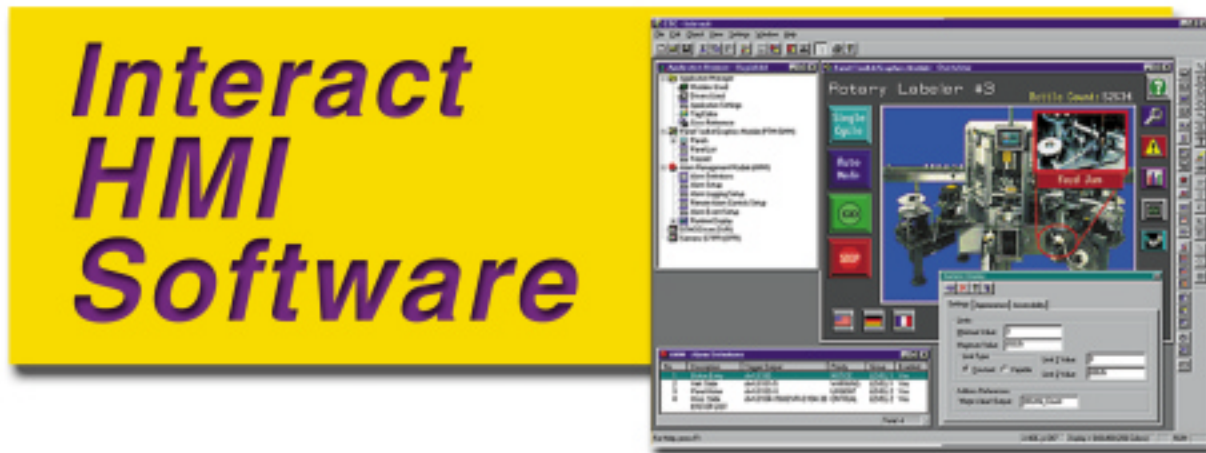
It is not difficult to find a provider of software products for the factory floor. Nor is it hard to find a source that can provide PC hardware solutions. But automation users today need a supplier that can provide both products and bundle them together as a single solution.

Not only can CTC products provide this bundled solution, but because the hardware and software are designed and tested under the same roof, our engineering team can optimize products to yield the best possible system performance.

A single source supplier for PC-based HMI/machine control hardware and software also benefits the machine builder by simplifying integration, support, and training efforts. CTC bundles PowerStation hardware and Interact HMI (Human-Machine Interface) software together, and also now integrates MachineLogic™ PC-based control. Parker is truly a single source for PC-based HMI and Machine Control solutions.



For More Information on HMI & Machine Control Products, Call 1-800-233-3329.



Human-Machine Interface Software

Interact's modular software design delivers a full range of HMI solutions for all of your plant floor machine control needs. Interact lets you start with push-button panel replacement and then allows you to expand with trending, recipes, reporting and networking.

Interact has a complete family of application modules. You buy only those modules you need for your current application, knowing that Interact can easily expand to meet your future needs as well.

As part of CTC's MachineShop™ Development Suite, Interact can easily be integrated with MachineLogic™ PC-Based Control software for a complete machine control solution.

Interact Has the Best Features of Windows and DOS

Interact is also truly unique because it gives you the best features of both Windows and DOS. You develop your application in Windows with Interact's powerful integrated development environment, MachineShop™. For run-time, Interact uses a DOS multi-tasking kernel to keep response times fast and hardware platform costs low.

Plus, Interact can run on any PC or on CTC's PowerStation line of flat-panel workstations. With over 50 device drivers, Interact can work with all major brands of control equipment.

Interact Lets Information Flow throughout your Plant

Managing information flow is critical in today's manufacturing environment. Not only do you want to be able to network workstations on the factory floor but you also want to send this valuable data to other areas such as supervisory stations or MIS departments for analysis.

Interact is the best solution because it covers your need for high speed response times on the plant floor, plus its open architecture design lets you share plant floor data throughout your organization. It's a single solution that offers features to meet the needs of MIS, your Supervisor and SCADA stations, and the plant floor.

Interact HMI Software Modules

Interact is a feature-rich software package that can be tailored to meet the needs of any HMI project. With its modular design (see diagram below), Interact lets you build an application by selecting from a complete family of software modules, ranging from 3-D panel tools, to trending, networking and machine configuration. With Interact, you buy only those modules you need for your current application knowing that Interact can easily expand to meet future needs.

Interact also offers you a variety of connectivity options to programmable controllers and intelligent control equipment. Communication Device Drivers for 50+ and Remote I/O PLC connections are part of the standard product, including several Ethernet and Compumotor motion control drivers.



Core Interact Modules:

Panel ToolKit Module (PTM)

The Panel ToolKit provides a library of over 35 pre-configured 3D panel tools that can be used to construct the touchscreen equivalent of traditional control panels. These “ready-to-use” tools save on development engineering cost and are modeled after hardwired devices, giving operators the consistent look and feel of devices found on the plant floor. Tools include lighted pushbuttons, numeric displays, panel meters, XY plots, and action tools such as Go To / Load Panel. PTM is included with Interact and CTC PowerStations.

Graphics Monitoring Module (GMM)

The Graphics Monitoring Module lets users add graphics displays to the application to make the operator interface as intuitive as possible for operators, thereby decreasing training and support requirements. This module includes 256 color support and free-form graphics, giving designers the flexibility to import a picture of a machine and animate images on the machine to create an application that operators will find easy to use. A CAD-like, object-oriented graphics development environment simplifies the creation of graphical displays. GMM is included with Interact and CTC PowerStations.

Alarm Management Module (AMM)

The Alarm Management Module is a feature rich alarm package that monitors alarm conditions, and allows users to acknowledge and clear alarms from any screen. Operator comments and alarms can be logged along with application parameters. Other features include five levels of alarm priority, user levels that can be assigned to all alarm functions, and color-coded alarm priorities. AMM is included with Interact and CTC PowerStations.

Networking Module (NET)

This Interact Module enables the transfer of multiple applications throughout the manufacturing facility - or in remote locations using off-the-shelf LAN/WAN operating systems. It is a “network aware” architecture that simplifies centralization of applications and/or program files on a network server. NET is included with Interact and CTC PowerStations.

For More Information on HMI & Machine Control Products, Call 1-800-233-3329.



Other Interact Modules:

Recipe Module (RCM)

The Recipe Module (RCM) is designed for batch processing applications. This module creates a library of recipes containing process values, allowing operators to upload, download, modify and store recipes on-line. Other features include a wide range of recipe controls and an automatic recipe activity log.

Machine Configuration Module (MCM)

Machine Configuration Module (MCM) is a valuable Interact option designed to address specific requirements of machine builders and users. With the power of MCM, you have the ability to design, manage and perform efficient manufacturing changeovers. This tool also makes it possible to rapidly develop modular configurations and machine setup functions, allowing you to easily customize products and options to meet your customer's unique requirements.

Data Transfer Module (DTM)

The Data Transfer Module (DTM) provides a high speed gateway to share information between different types of control equipment by exchanging data among multiple drivers. This module allows you to replace expensive networking software and hardware with inexpensive software connections.

Historical Trending Module (HTM)

The Historical Trending Module (HTM) gathers selected data from the machine or process, and allows you to view this data on-line in graphical or spreadsheet format. These data files can also be logged to disk so that they can be analyzed off-line using popular PC packages. Data can be logged on time interval, event or operator input. Advanced features such as data and time search allow for enhanced on-line analysis of logged data.

Report Module (RPM)

The Report Module (RPM) creates free-form reports for any Interact application. These real-time data reports can be previewed on the display screen while in online operation; completed reports can be downloaded to a network or disk for review at a later date. Reports can also be printed in hard copy or ASCII file format.

User Program Module (UPM)

You can add your own software or application-specific features or communication drivers to Interact's architecture through the use of the Software Developers Kit. The UPM is designed to a user-written terminate-and-stay-resident (TSR) program to share data with Interact; the SDK shows users how to write a TSR program that functions as an Interact module or communication driver.

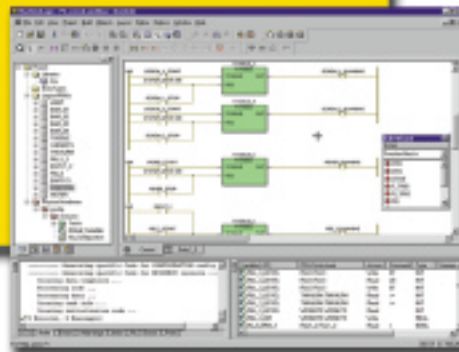
Ordering Information

(See MachineShop section for information about ordering development software.)

Interact DOS Runtime Systems	
Description	Model #
Interact Runtime Core Modules (PTM, GMM, AMM, NET)	INT-5160
Interact Runtime Core Modules + 1 Optional Module	INT-5161
Interact Runtime Core Modules + 2 Optional Modules	INT-5162
Interact Runtime Core Modules + 4 Optional Modules	INT-5164
Interact Runtime Core Modules + All Optional Modules*	INT-516A

* The Interact DDE Server is not included with the All Modules option.

MachineLogic™ PC-Based Control



PC-Based Machine Control Software

The benefits of PC-based control are being brought to the machine builder - without all of the cost - with CTC's MachineLogic Control Software. MachineLogic is a deterministic, hard real-time control system with program execution times down to one millisecond. It offers the best of both PLC and PC-based technologies and supports all IEC 61131-3 languages including ladder logic.

MachineLogic can be run on CTC's entire family of PowerStation workstations, ranging from the 6" display P1/P1P up to the 15" PS10 and P9, giving users the ability to match the workstation with the specific needs of the project. MachineLogic can run stand-alone or can be used in conjunction with CTC's Interact, the #1 rated machine control HMI software.

MachineLogic features a high level of reliability because it runs on solid state Flash versus hard drive systems. It uses of a PLC control engine that has been proven in thousands of installations, high-speed retentive memory and easy on-line editing.

I/O Support

MachineLogic supports three types of I/O: fieldbuses (such as Profibus and DeviceNet), Ethernet I/O and PC I/O in a PC/104 format for lower cost systems. Although other third party I/O products work with MachineLogic, CTC's MachinePoint™ I/O provides users with unique features as well as a single source for machine control. (Details on MachinePoint can be found on page 316).

Two Runtime Targets - One Development Software

CTC offers a MachineLogic Soft Runtime option, which runs control software on the host CPU, or a Slot Card Runtime, which runs independent of the host CPU and operating system. Both PC-based control runtime targets share the same MachineShop™ development environment and toolbar, with the ability to easily download a program. For larger PC-based control applications, the PCI Slot Card features performance that is beyond even "higher-end" PLC and PC controls.



Slot Card Features:

- Independent CPU processor will more than handle most any machine control application.
- Embedded OS - designed for control applications.
- Over 4MB of application memory space available - many times greater than previous MachineLogic release.
- Supports Profibus/DeviceNet (1 card per application) and Ethernet I/O at the same time.
- 3 connections available for system debug - Ethernet and RS232 (card) and PowerStation Ethernet port.
- Compact FLASH application storage with automatic transfers between CF disk (on PowerStation) and PCI card.
- PCI communication allows remote Interact workstations to communicate with a Slot Card via standard PowerStation Ethernet port.

For More Information on HMI & Machine Control Products, Call 1-800-233-3329.

Features and Specifications

EC 61131 Compliance

- IEC 1131-3 Programming Languages Specification

Operating System

- Development: Windows 95/98/Me/2000/NT
- Soft Runtime: RTX DOS (executes in MS DOS or ROM DOS systems only)
- Slot Card Runtime: Embedded Real-Time OS

Programming Languages

- LD Ladder Diagram
- FBD Function Block Diagram
- SFC Sequential Function Chart
- IL Instruction List
- ST Structured Text

Multitasking Execution

- Up to 16 simultaneous tasks
- Cyclic task (fixed interval)
- System task (internal)

Instruction Set

- All instructions outlined in IEC 61131-3
- User developed function and function blocks
- PID routines

HMI Interface

- Slot Card Interfaces to CTC's Interact HMI product via high speed PCI bus
- Soft Runtime communicates with Interact via shared memory

Hardware Requirements

- Slot Card Runtime operates on PS10/12/15 (-3 or -4 expansion), P9 PowerStations or standard PC with PCI Bus (V.2.1 or later with CTC MLSCR Card). One card per system.
- Soft Runtime operates on all PowerStations or standard PC with ISA or PC/104 slot (with CTC Control Adapter card)

Data Types Supported (Runtime)

- Data Types Supported (Runtime)
- Boolean
- Short integer
- Integer
- Double integer
- Unsigned Short integer
- Unsigned integer
- Unsigned double integer
- Byte
- Word
- Double word
- Real
- Time
- String

I/O Support

- Profibus DP
- DeviceNet
- Ethernet Modbus TCP I/O
- PC/104 I/O (TBD)

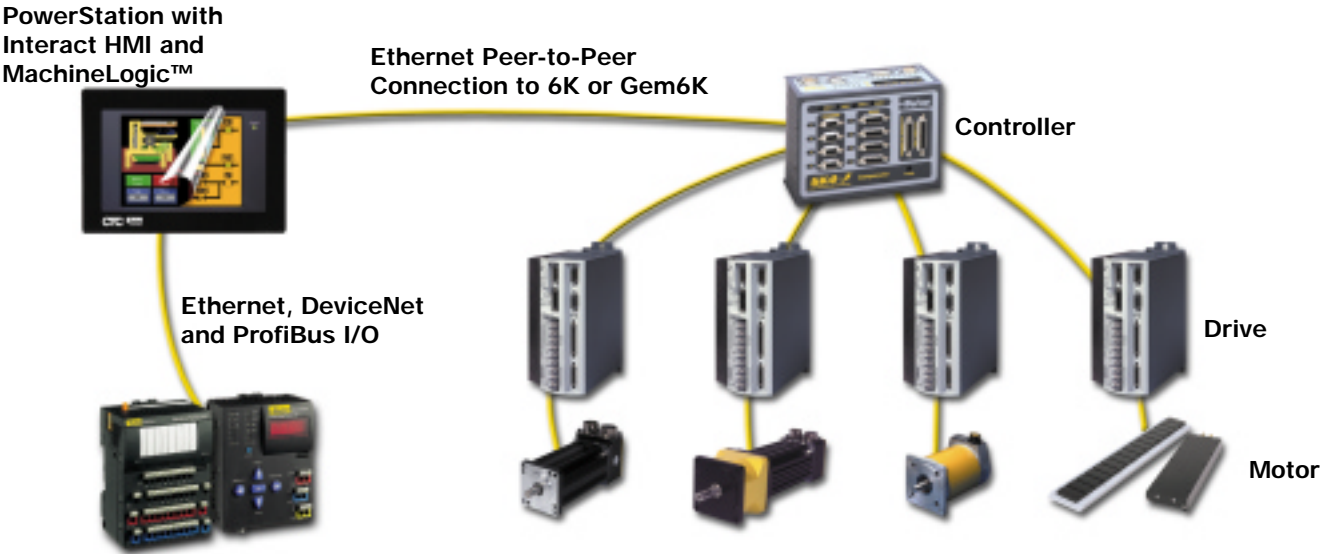
Debug Tools

- Instance tree
- On line monitoring
- Forcing
- Watchlist
- Break points
- Array and Structure debug
- Single stepping/single cycling
- Logic Analyzer

Additional Features

- Off-line simulation and debug
- Application templates for simplified project creation
- On-line documentation
- Interact has the ability to exchange tags with MachineLogic
- MachineShoop utility interfaces MachineLogic and Interact development environments

PC-Based Machine Control Architecture



Ordering Information

(See MachineShop™ section for information about ordering development software.)

MachineLogic Runtime Systems***	
Description	Model #
MachineLogic Slot Card (requires PCI slot) Unlimited Tags Runtime	MLSC-6123
MachineLogic Unlimited Tags Soft Runtime for PC/104 System	MLC-6120
MachineLogic Unlimited Tags Soft Runtime for ISA System	MLC-6121
DeviceNet UCS MachineLogic IO Interface Card****	MLDVN -1000-A
Profibus PC/104 5136 Interface (5136-PFB-104)^^	PFB-5136-104-A
Profibus ISA 5136 Interface (5136-PFB-ISA)^^	PFB-5136-ISA-A

*** Requires Interact 6.0 for HMI, New MachineShop Shell, and 8 MB Compact FLASH or equivalent.

****Card factory installed on MachineLogic Control Adapter Card. MachineLogic Control Adapter and I/O Interface cards require two card slots total.

^^ Must be purchased with MachineLogic Runtime (MLC-6121). PowerStations should be ordered without Class1 Div 2 approvals when MLC-6121-A is installed.

For More Information on HMI & Machine Control Products, Call 1-800-233-3329.



MachineShop™ Development Suite



Development Environment for Interact and MachineLogic™

MachineShop is an integrated suite of Windows-based software for developing Interact HMI and MachineLogic PC-based control applications.

MachineShop's convenient toolbar includes a Project Manager, Environment Navigation, and a PowerStation Transfer area. Whether you buy Interact, MachineLogic, or both, these tools make it easy to manage, create, integrate and transfer your machine applications.

MachineShop runs on a standard PC, as well as CTC's full line of PowerStation's, integrating all of these products into a bundled solution that can fit the requirements of any machine.

For a complete machine control solution, integrate MachineLogic control with Interact HMI software - and run it on one of CTC's PowerStation workstations.

Project Management

MachineShop's Project Management is a simple, intuitive way to configure and manage automation projects. It conveniently collects configuration data and runtime files into a central location. By allowing MachineLogic and Interact projects to appear in a single, unified environment, development tasks are simplified.

The Project Management allows the user to...

- Backup and restore data from storage devices such as disks, hard drives and networks
- Document all project information
- Access data on runtime storage requirements and components used for the application
- Easily perform project tasks with the guidance of "Wizards"
- Use a common tag list for MachineLogic and Interact.

PowerStation Transfer

Once an application has been developed, MachineShop's PowerStation Transfer manages and transfers files that are needed to create or update a runtime project. These convenient tools simplify the transfer process, so projects can go online quickly.

PowerStation Transfer can...

- Automatically transfer run time projects including Interact and/or MachineLogic
- Back up and restore runtime projects
- Transfer projects via the Internet
- Transfer with a serial connection or direct to Compact FLASH
- Help users select transfer options, using Wizard-based guidance.

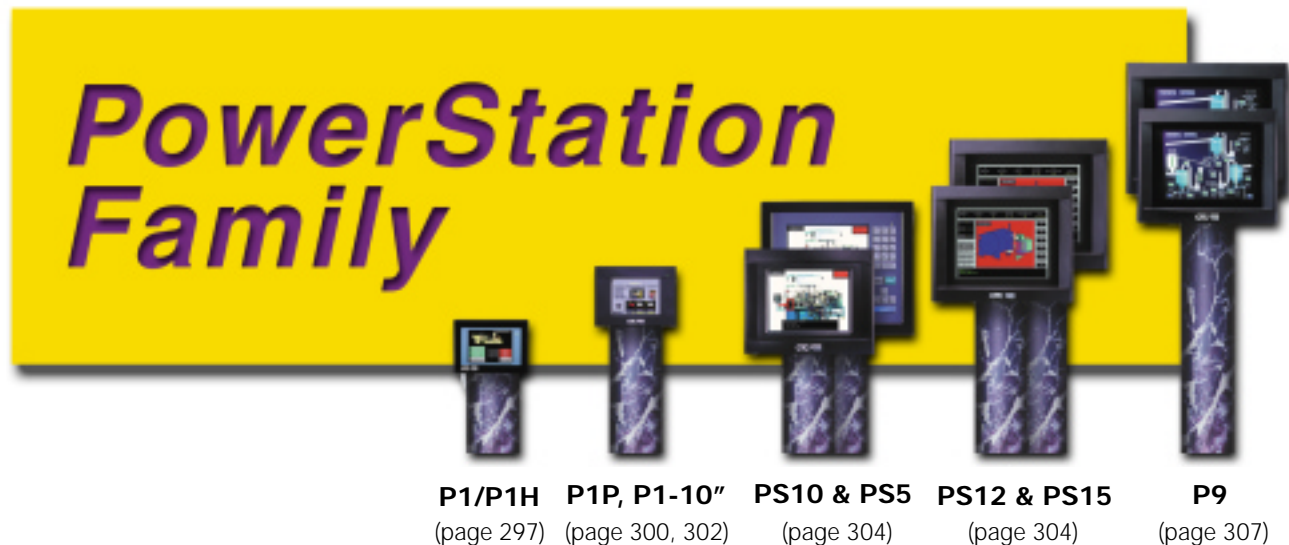
The PowerStation family includes a range of workstations to meet the needs of every machine you build —from a 6" panel replacer to a 15" high performance PC. The flexible line of PowerStation workstations lets you select from Processors, display types, expansion and storage capabilities to get the right PowerStation for your application. Every PowerStation is bundled with #1 rated Interact HMI and is available with MachineLogic PC-Based Control Software - for a complete machine control solution.

Ordering Information

When ordering MachineShop Development Software, be sure to include software options and/or modules that match runtime software configuration that were ordered.

MachineShop Development Software Configurations

Description	Model #
Interact Only (PTM, GMM, AMM, NET)	MSP-1N00
Interact + 1 Optional Module	MSP-1N10
Interact + 2 Optional Modules	MSP-1N20
Interact + 4 Optional Modules	MSP-1N40
Interact + All Optional Modules	MSP-1NA0
Interact (PTM, GMM, AMM, NET) & MachineLogic	MSP-1000
Interact & MachineLogic + 1 Optional Module	MSP-1010
Interact & MachineLogic + 2 Optional Modules	MSP-1020
Interact & MachineLogic + 4 Optional Modules	MSP-1040
Interact & MachineLogic + All Optional Modules	MSP-10A0
MachineLogic Only	MSP-10N0



A Workstation For Every Machine You Build

The PowerStation family includes a range of workstations to meet the needs of every machine you build—from a 6" panel replacer to a 15" high performance PC. The flexible line of PowerStation workstations lets you select from processors, display types, expansion and storage capabilities to get the right PowerStation for your application. Every PowerStation is bundled with #1 rated Interact HMI and is available with MachineLogic PC-Based Control Software - for a complete machine control solution.

Removable Compact FLASH

All CTC PowerStations come equipped with many helpful features such as removable Compact FLASH for software storage. This non-volatile solid-state technology offers significantly higher reliability than conventional hard drive systems while simplifying development and maintenance support.

Simply create any changes on a PC and copy to flash cartridge (compact flash cartridge fits into any standard PCMCIA adaptor). This cartridge can be sent to a customer and inserted into a PowerStation. Upon power up, all change are incorporated into the unit.



Factory-Floor Rugged

Parker's CTC line of PowerStation workstations is quality designed, manufactured and tested in Parker's Milford, Ohio facility. Here, pride is taken in delivering a quality workstation that you can count on to operate 24 hours a day, regardless of harsh factory floor environments. The "Build Quality In" philosophy is evident throughout the entire engineering and manufacturing process from the very beginning of the product design process up to the time the product is shipped out the door to the customer. Perhaps that's why approval agencies have stated that CTC products have one of the highest levels of self-assessment in the industry.

Built-in Ethernet Communications

PowerStations come standard with built-in 10/100 Base-T Ethernet port* so that you can take full advantage of Ethernet communications on the factory floor. Interact HMI software includes Ethernet drives for Modbus, TCP/IP, A-B PLCs, Compumotor 6K motion controllers, Gemini drive/controllers and more, with OPC server applications for exchanging data with Windows systems.

- 10/100 Base-T Ethernet Port*
- Ethernet Drivers for Common Factory Devices
 - A-B ControlLogix PLC
 - A-B PLC-5, SLC 505
 - Compumotor 6K Motion Controller
 - Modbus TCP/IP (Modicon Quantum and Momentum)
 - TI505 Ethernet family of PLCs
 - More to come...
- Exchange Data with Window Systems
 - OPC Server Applications SCADA, MES, MIS

*P1 units include a 10 Base-T Ethernet port.

For More Information on HMI & Machine Control Products, Call 1-800-233-3329.

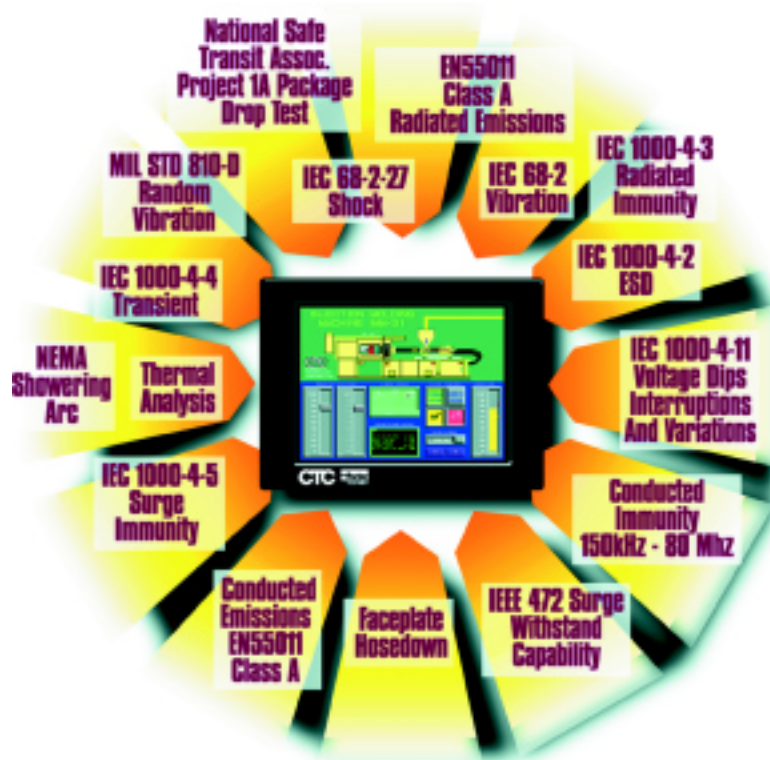
CTC Product Quality

PowerStation workstations are designed to meet the challenge of passing more tests in one day than most other units see in a lifetime. CTC PowerStations are designed and tested to withstand conditions occurring in a factory setting including electrical noise, mechanical shock and vibration, high temperature and humidity levels. This attention to detail is carried out into all areas of the design including EMI (electromagnetic immunity), detailed thermal, shock and vibration analysis and hosedown testing. Quality goes beyond testing the product to ensure robustness. It also involves selection of the right components and technology that fit an industrial environment. This is why CTC has instituted an unsurpassed supplier relationship process. This process makes true partners of our component suppliers by ensuring the use of the right components, including design reviews and quarterly performance evaluation with the supplier. In addition, the manufacturing team tests each and every unit before it is shipped using a unique 100% system "burn-in" in which the unit is thermal and power cycled over a period of time. It is quality-driven testing like this that builds in the reliability you need on the factory floor.

- Integrated Development Teams
- Qualified Component Selection
- Supplier Certification
- Continuous Design Reviews
- Commitment to Continuous Improvement

Internal and Agency Product Testing

- Environmental Evaluation
 - Temperature
 - Humidity
 - NEMA 4 Hosedown
 - Chemical Resistance
- Power Supply Testing
- System Functionality
- Electromagnetic Compatibility (EMC) Testing
 - Emissions
 - Immunity
- Mechanical/Packaging Testing
 - Vibration
 - Shock
- Agency Certification
 - UL/cUL
 - CE





P1/P1H PowerStations

P1: A powerful display-based panel replacement alternative

CTC's 1/4 VGA PowerStation is a powerful, PC architecture hardware and HMI solution for your panel replacement applications. The Model P1 workstation includes Interact software for panel replacement, along with alarming, graphics and networking capability. This software combination makes it easy for you to replace pushbuttons, digital meters, and other devices used in panels, eliminating the time and cost of hardwiring. The Model P1 PowerStation gives operators the information they need to more effectively monitor and control your machine or process. In addition, free-form graphics and animation capability enables you to provide a realistic representation of your application.

P1H: A "basic" HMI with Interact Panel ToolKit and Networking Runtime software

The P1H PowerStation provides another alternative for customers seeking a low cost solution for simple push button replacement applications.

This new "basic" HMI with only Interact Panel ToolKit Runtime and Networking Runtime software is able to use 50+ Interact Drivers and is available in two models - monochrome and color. Customers can use either MachineShop or the new MachineShop Basic HMI Package (which includes only the Interact Panel Toolkit Module) to develop P1H screens. Users in the field can also easily upgrade the P1H to a fully functional P1.

P1/P1H PowerStations - a solution for any OEM application

You can use CTC's Model P1/P1H PowerStations in a wide variety of applications, such as packaging, paper, food, beverage, pharmaceutical, and petro/chemical. In addition, Interact applications are portable - so you can use the same Model P1 Interact application on any workstation or PC platform. Plus, Interact works with most control equipment; this feature is beneficial for OEMs whose equipment must support multiple PLCs.

CTC's P1 and P1H PowerStations can do the following for your machines:

- Replace hardwired panels, save time and reduce installation cost
- Reduce panel size
- Support over 25 Interact PLC communication drivers
- Provide applications that can migrate to other PowerStations or PCs
- Use the full featured, Interact HMI software
- Removable Compact FLASH memory for easy field upgrades

For More Information on HMI & Machine Control Products, Call 1-800-233-3329.



P1/P1H PowerStations

	Features	Values
Software	Interact Run-Time Software	P1: PTM, AMM, GMM, NET; P1H: PTM, NET
Display	Type Backlight Monochrome/Color Resolution Size	Flat Panel Cold Cathode Fluorescent Tube Mono - LCD; Color - STN 1/4 VGA (320 x 240) 5.7" (145 mm) Diagonal
CPU	80386 SX/40 MHz	
System Memory	Standard	8 MB standard (1 SIMM 72 pin)
Storage Memory	Compact FLASH cartridge	16MB Compact FLASH (minimum) (Field replaceable FLASH Disk)
I/O Ports	Serial Ethernet; (NE 2000 compatible) Parallel Expansion Slots	(1) RS232/422/485 (non-isolated) (1) RS232 (non-isolated) 10 MBPS; 10Base-T with RJ45 connector IBM Parallel PC/104 (16 bit)
User Interface	Function Key Numeric Key Touchscreen Keyboard Port Mouse	On Screen On Screen Yes (analog resistive) IBM AT with Y-cable IBM AT with Y-cable
Package	Designed for Temperature Range Rel. Humidity Vibration Shock Weight Overall Size	NEMA 4, 4X 0-45 C (non-condensing) 5-95% 10-150 Hz, 1G 10G, 11 msec (operating) 30G, 11 msec (non-operating) 3.3 lbs. (1.5 Kg) (HxWxD) 7.7" x 5.6" x 3.2" (194.7 x 142.7 x 81 mm)
Power Requirements	AC Maximum Power Consumption DC Maximum Power Consumption	90-260 VAC; 50/60 Hz; (Ext.Opt.) 50 Watts max. 18-30 VDC 25 Watts
Agency Approval	CE; UL/CUL;	(Class I Division 2 - Available as option on DC units only)

Ordering Information

(See MachineShop section for information about ordering development software.)

P	1	1	-		1		D	R
Family	Touch only	Display		DRAM	Storage	Power	Interact	

P1 Common Configurations	
Description	Model #
Mono LCD - FLASH	P11-014DR
Color STN - FLASH	P11-314DR

P1 Factory-Installed (or User-Installed) Hardware Accessories	
Description	Model #
PC/104 Installation Kit for a single PC/104 card	P11-PC104
PC/104 Installation Kit for two PC/104 cards	P12-PC104
PC/104 Installation Kit for three PC/104 cards	P13-PC104
Class I, Div. 2 Approval for P1 Units	P11-FM01-A
Allen-Bradley 1771 Remote I/O Card and Driver	ABR-3205

P1H Configurations (2 Configurations Available)	
Description	Model #
Mono LCD - FLASH	P1H-014DR
Color STN - FLASH	P1H-314DR

Adding Options to an Existing P1H Runtime	
Description	Model #
P1H Upgrade to P1 (GMM, AMM)*	PP1-5160

* P1H Upgrade is for Runtime software only. MachineShop (MSP-1N00-P or equivalent) must be purchased/used to create AMM and GMM functionality.

MachineShop Basic HMI Package for P1H

The MachineShop Basic HMI Package includes one software development system for the Interact Panel Toolkit (PTM) and Interact Networking. This package is available with the purchase of a P1H PowerStation. It may be upgraded to a standard MachineShop Interact development system by purchasing an upgrade package that enables the use of Alarm Management and Graphic Monitoring Modules. When the MachineShop Basic HMI Package is ordered, development software for PTM and Networking Modules is included with a Compact Flash PCMCIA Adapter.

Description	Model #
P1H MachineShop Basic HMI Development (PTM, NET)	MSP-1NH0-P
Upgrade to Standard MachineShop HMI (GMM, AMM)	MOD-5060-H

For More Information on HMI & Machine Control Products, Call 1-800-233-3329.





P1P PowerStation

It's a perfect fit for applications that need high speed and high functionality in a compact hardware package!

The 6" P1P is a Pentium-based HMI workstation with advanced features, yet is small enough to fit almost any machine. It also sports an all-new look...with its sleek bezel design and graphical displays, bringing a modern, high tech look to any machine. The P1P not only offers a 6" STN display, but also provides a full VGA TFT option, which can run all of CTC's Interact software modules. This also means that the P1P can run applications developed for larger PowerStation workstations - on a smaller, more compact unit.

The P1P comes bundled with CTC's core Interact HMI software modules (panel tools, graphics, alarming and networking) and is a perfect companion to CTC's MachineLogic PC-based control software. All of this allows you to integrate HMI and machine control in a small, yet powerful, package.

Typically, smaller HMI workstations have slower processors, but the P1P delivers much higher speed with its Pentium processor. The P1P is an open architecture unit that offers expansion capabilities — it comes standard with a solid-state 16 MB Compact FLASH memory cartridge that is expandable to 128 MB. The removable Compact FLASH allows users to make changes to applications by simply dropping in an updated cartridge.

Ordering Information

(See MachineShop section for information about ordering development software.)

P	1	2	-				D	R	-	
Family	Pentium	Display		DRAM	Storage	Power	Interact	Agency		

P1P Common Configurations	
Description	Model #
Color STN (1/4 VGA) Pentium - FLASH	P12-334DR-3
Color TFT (Full VGA) Pentium - FLASH	P12-434DR-3

Factory-Installed (or User-Installed) Hardware Accessories	
Description	Model #
PC/104 Installation Kit for a single PC/104 card	P11-PC104
PC/104 Installation Kit for two PC/104 cards	P12-PC104
PC/104 Installation Kit for three PC/104 cards	P13-PC104
Allen-Bradley 1771 Remote I/O Card and Driver	ABR-3205-A

P1P PowerStation

	Features	Values
Software		MachineShop with Interact Runtime PTM, AMM, GMM, NET
Display	Type Backlight Monochrome/Color Resolution Size	Flat Panel Cold Cathode Fluorescent Tube Color - LCD, TFT STN: 1/4 VGA (320 x 240) TFT: VGA (640 x 480) 5.7" (145 mm) Diagonal (LCD) 6.4" (163 mm) Diagonal (TFT)
CPU	Pentium	(consult factory for specific processor information)
System Memory	Standard	32 MB (minimum)
Storage Memory	Compact FLASH Floppy Disk Drive Hard Drive	16 MB compact FLASH (minimum) (Field replaceable FLASH Disk) N/A N/A
I/O Ports	Serial Ethernet Parallel Expansion Slots External Video	(1) RS232/422/485 (1) RS232 10/100 Base-T with RJ45 connector IBM Enhanced PC/104 (16 bit) N/A
User Interface	Function Key Numeric Key Touchscreen Select Key Cancel Key Keyboard Port Mouse	On Screen On Screen Analog Resistive N/A N/A IBM AT with Y-cable PS/2 with Y-cable
Package	Designed for Temperature Range Rel. Humidity (non-condensing) Vibration Shock Weight Overall Size (HxWxD)	NEMA 4, 4X 0-45 C 5-95% 10-150 Hz, 1G (Sin) 10-500 Hz 1.5G (RMS Random) 10G, 11 msec (operating) 30G, 11 msec (non-operating) 3.26 lbs. (1.48 Kg) 8.7" x 6.3" x 3.25" (221 mm x 160 mm x 82.5 mm)
Power Requirements	AC Maximum Power Consumption DC Maximum Power Consumption	90-260 VAC; 50/60 Hz; (Ext. Opt.) 50 Watts max. 18-28 VDC 25 Watts
Agency Approval	CE; UL/CUL	Class I Division 2 (DC units only)

For More Information on HMI & Machine Control Products, Call 1-800-233-3329.





P1-10" PowerStation

The new addition to the P1 PowerStation line features a 10" Pentium 166 processor package. Like the other P1 products, this new economical 10" unit is available in color and mono display options with PC/104 expansion. The P1-10" comes bundled with Interact Core Modules (panel tools, graphics, alarming, and networking), and can also come bundled with any of the interact optional modules, as well as MachineLogic, CTC's PC-Based Control software.

Ordering Information

(See MachineShop section for information about ordering development software.)

P	1	5	-				D	R	-	
Family	Model	Display	DRAM	Storage	Power	Interact	Agency			

P1-10" Common Configurations	
Description	Model #
10" Mono LCD - Pentium 166 MHz - FLASH	P15-044DR-3
10" Color TFT Pentium 166MHz- FLASH	P15-444DR-3
10" Color High Bright TFT Pentium 166MHz- FLASH	P15-544DR-3

Factory-Installed (or User-Installed) Hardware Accessories	
Description	Model #
Expansion kit: for two PC/104 cards total	COV-2000
Expansion kit: for three PC/104 cards total	COV-3000

P1-10" PowerStation

	Features	Values
Software	Interact Runtime	PTM, GMM, AMM, NET. Additional modules and MachineLogic PC-Based Control Software optional
Display	Type Backlight Monochrome/Color Resolution Size	Flat Panel Cold Cathode Fluorescent Tube Mono - LCD; Color - TFT VGA (640 x 480) 9.4" (239 mm) Diag. (Mono/LCD)) 10.4" (264 mm) Diag. (Color/TFT)
CPUs	Pentium	(consult factory for specific processor information)
System Memory	Standard	32 MB (minimum)
Storage Memory	Compact FLASH (Type II connectors) Floppy Disk Drive Hard Drive CD ROM Video Memory	16 MB Compact FLASH (minimum) N/A N/A N/A 2 MB High Speed SDRAM
I/O Ports	Serial Ethernet Parallel Expansion Slots External Video USB	(1) RS232/422/485 (2) RS232 10/100Base-T w/ RJ45 connector (1) 25-Pin D-sub connector (supports Bi-directional SSP/SPP/ECP) 1 PC/104 Standard, up to 3 PC/104 cards supported N/A N/A
User Interface	Function Key Numeric Entry Touchscreen Keyboard/Mouse Port	Pop-Up On Screen Pop-Up On Screen Analog Resistive 8-wire 1 PS/2 Mouse port & 1 PS/2 Keyboard port
Package	Designed for Temperature Range Rel. Humidity (non-condensing) Vibration Shock Weight Overall Size (H x W x D)	NEMA 4/4X 0-50°C 5-95% 10-150 Hz, 1G (Sin): 10-500 Hz .5G (RMS Random) 10G, 11 msec (operating) 30G, 11 msec (non-operating) ~13.4 lbs. (6.07 Kg) 11.02" x 13.78" x 4.29"
Power Requirements	AC -- Max. Power Consumption DC -- Max. Power Consumption	90-250 VAC; 50/60 Hz; (external – purchased separately) – 110 Watts max 18-28 VDC Standard -- 78 Watts max
Agency Approval Plan	(not yet approved)	CE, UL/CUL , Class 1 Div. 2

For More Information on HMI & Machine Control Products, Call 1-800-233-3329.



PS Series



PS Series PowerStations

Match the Right Display Size with the Right Functionality...at the Right Price

CTC has taken its popular PowerStation line and enhanced it with more displays and hardware configuration options. With the new modular PS Series, you can get the hardware and software features you need at the price point you want. These PowerStations offer you more value at a very competitive price - plus you get an open platform to run advanced HMI capabilities such as recipe handling, trending or reporting. The PS Series simply gives you more options than any other operator interface solution.

The PS5 Function Key PowerStation model includes arrows for cursor control and features 40 function keys (20 plus Shift) for operators who prefer traditional function key operation. This flat-panel workstation features Interact's Core Modules (Panel Tools, Panel Alarms, Graphics and Networking Modules), and all drivers. The PS5 can run additional Interact modules; it also supports networking options.

You can literally mix and match displays, expansion capabilities, hardware configurations, and software functionality to get the right workstation for your machine. To build your custom operator interface to get the best possible solution for your application...

1. Choose your display

10" 12" 15" No Display

2. Choose your expansion needs

PC/104 ISA/PCI

3. Choose your workstation package

- Integrated "PS" PowerStation bundled with CTC's Interact HMI software
- "PC" version workstation with Windows without Interact (See Industrial PC section)
- "RS" Remote System with Interact (or "RC" Remote Computer) that is cable-connected to a separate monitor

RS "Remote System" PowerStation

A powerful, "RS" version PowerStation offers the performance and features of the PS Series hardware platform without an integrated display. Remote Systems can be mounted in an enclosure and cable-connected to a separate 12" or 15" Industrial Flat Panel Monitor.



PS Series PowerStation

	Features	Values
10" Display (PS10 & PS5)	Type Monochrome/Color Resolution Screen Size	Flat Panel Mono LCD; Color TFT VGA (640 x 480) 9.4" (239 mm) Diagonal (Mono LCD) 10.4" (264 mm) Diagonal (Color TFT)
12" Display (PS1)	Type Monochrome/Color Resolution Screen Size	Flat Panel Color TFT SVGA (800 x 600) 12.1" (310 mm) Diagonal
15" Display (PS15)	Type Monochrome/Color Resolution Screen Size	Flat Panel Color TFT XGA (1024 x 768) 15.1" (380 mm) Diagonal
Software	PS/RS Bundled PowerStation	Includes Interact Runtime: PTM, GMM, AMM, NET.
CPU	Pentium	(consult factory for specific processor information)
System Memory	Standard	32 MB (minimum)
Storage Memory	Compact FLASH (Type II connectors) Floppy Disk Drive Hard Drive CD ROM	16 MB Compact FLASH (minimum), (1 external & 1 internal), (also supports MicroDrive) Optional (external, surface or panel mount) EIDE Interface (consult factory for HD capacity) Optional Super Slim CD ROM
I/O Ports	Serial Ethernet Parallel Expansion Slots: • PC/104 models • ISA/PCI models External Video USB	(1) RS232/422/485 (2) RS232 10/100Base-T w/RJ45 connector (1) 25-Pin D-sub connector (supports Bi-directional SSP/SPP/ECP) 3 PC/104 cards are supported 3 slots (2 ISA 1 ISA/PCI Configurable) or (2 PCI 1 ISA/PCI configurable) [Note: 1 PC/104 card is supported in this configuration] (1) Analog 15-Pin D-sub connector (supports simultaneous video mode) (2) USB Ports
User Interface	Function Key Numeric Key Touchscreen* Keyboard Port Mouse	PS5 only: 40 (20 plus shift) PS5 only: yes Analog Resistive (8-wire, 1024 x 1024 resolution) 1 PS/2 Keyboard port 1 PS/2 Mouse port
Package	Designed for Temperature Range Rel. Humidity (non-condensing) Vibration** Shock Cutout Dimensions: • 10" Display*** • 12" Display • 15" Display	NEMA 4/4X 0-50 C 5-95% 10-500 Hz, 0.5 (RMS Random); [Compact Flash units: 10-500 Hz, 1g (RMS Random)] 10G, 11 msec (operating) 30G, 11 msec (non-operating) 9.86" (250 mm) x 12.60" (320 mm) clip mount 11.25" (286 mm) x 14.14" (359 mm) clip mount 12.40" (315 mm) x 15.9" (404 mm) clip mount
Power Requirements	AC Maximum Power Consumption DC Maximum Power Consumption	90-250 VAC; 50/60 Hz (external supply only) 110 Watts 18-28 VDC 78 Watts
Agency Approval	UL,CUL,CE; Class 1 Division 2	

* Not applicable to RS and RC units.

** Does not apply to MicroDrive option.

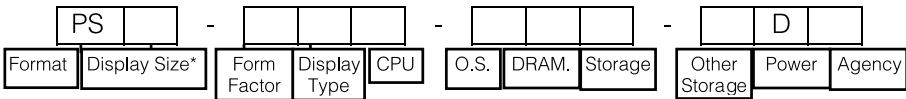
*** PS5 dimensions not included (consult factory).

For More Information on HMI & Machine Control Products, Call 1-800-233-3329.



Ordering Information

(See MachineShop section for information about ordering development software.)



* Does not denote display size for PS5 models

PS Series Common Configurations	
Description	Model #
10" Mono LCD - Pentium - FLASH	PS10-2M2-DD1-AD3
10" Color TFT - Pentium - FLASH	PS10-2T2-DD1-AD3
10" Bright Color TFT - Pentium - FLASH	PS10-2H2-DD1-AD3
12" Color TFT - Pentium - FLASH	PS12-2T2-DD1-AD3
15" Color TFT - Pentium - FLASH	PS15-2T2-DD1-AD3

Function Key Version (PS5) Common Configurations	
Description	Model #
10" Mono LCD - Pentium - FLASH	PS51-2M1-DD1-AD3
10" Color TFT - Pentium -FLASH	PS51-2T1-DD1-AD3
10" Bright Color TFT - Pentium -FLASH	PS51-2H1-DD1-AD3

RS (Remote System Version) Common Configurations	
Description	Model #
No Display (Remote System) - Pentium - FLASH	RS00-202-DD1-AD3

Factory-Installed (or User-Installed) Hardware Accessories	
Description	Model #
Expansion kit: for two PC/104 cards total	COV-2000
Expansion kit: for three PC/104 cards total	COV-3000



P9 PowerStation

The most powerful and serviceable PowerStation yet!

CTC's high-end industrial workstation is a powerful and rugged PC platform for machine control with either a 12" or 15" display. These units stand apart from the competition by offering a variety of features and options, plus a high level of reliability and serviceability for the plant floor. The P9 is available with either a 12" or 15" color TFT display for large screen applications. Features like field replaceable bulbs, hard drive, CD-ROM, floppy drive and CPU board make these units easy to maintain and troubleshoot. Plus the unique design makes them a powerful and maintainable PC solution for plant floor applications.

P9 PowerStation Models

There are a variety of P9 PowerStation configurations available; some of the workstation's features are listed here.

- Bundled with Interact software or MachineLogic PC-based control software
- 12" SVGA (800 x 600), color TFT display or 15" XGA (1024 x 768) color TFT display
- Celeron /Pentium III
- Compact FLASH and/or Hard Drive storage
- 32x CD-ROM drive
- 3.5" floppy drive
- 3 RS232 serial ports, 1 RS232/422/485 serial port
- 10/100 base-T Ethernet port, 2 USB ports, 1 parallel port
- 2 ISA and 1 PCI or 3 ISA slots
- Designed for NEMA 4/4X
- Quality resolution scaling from XGA or SVGA to VGA
- Field replaceable hard drive, CD-ROM and floppy drive
- Field upgradable NLX CPU board

RS9 "Remote System"

CTC has developed a powerful, new "RS" version that is based on the new P9 hardware platform. Now you can get all of the power, expandability and serviceability of the P9 in a Remote System that can be mounted in an enclosure and cable-connected to one of our 12" or 15" Industrial Flat Panel Monitors. This configuration offers a RS solution with a Celeron or Pentium III processor up to 1 GHz.



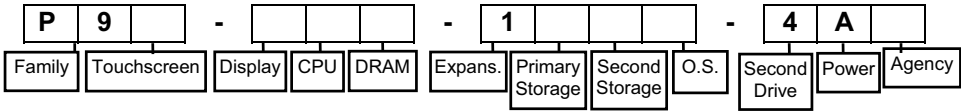
For More Information on HMI & Machine Control Products, Call 1-800-233-3329.

P9 PowerStation

	Features	Values
Software	Interact Run-Time Software	PTM, AMM, GMM, NET
Display	Type Backlight Color Resolution Size	Flat Panel Cold Cathode Fluorescent Tube TFT SVGA (800 x 600) or XGA (1024 x 768) 12.1" or 15.1" Diagonal
CPUs	Celeron; Pentium III	(consult factory for specific processor information)
System Memory	Standard	32 MB SDRAM DIMM (minimum)
Storage Memory	Compact FLASH cartridge PCMCIA FLASH Adapter FLASH Card Hard Disk Card SRAM Card CD-ROM Drive Floppy Disk Drive Hard Drive	16 MB compact FLASH (minimum) Via 3rd Party Via 3rd Party Adapter Board Via 3rd Party Adapter Board Via 3rd Party Adapter Board 32x (min.) CD-ROM (standard) 3.5", 1.44 MB, Side Access (standard) EIDE Interface (consult factory for HD capacity)
I/O Ports	Serial Ethernet USB Parallel Expansion Slots Sound	(1) RS232/422/485 (isolated) (3) RS232 10/100 Base-T Ethernet Controller RJ45 Interface 2 Ports Bi-directional IBM Enhanced 2 ISA/1 PCI or 3 ISA Slots (user configurable) ESS AudioDrive Sound Controller SoundBlaster Pro Compatible Sound Interface External mini audio stereo jack
User Interface	Function Key Numeric Key Touchscreen Keyboard Port Mouse Port	Onscreen Onscreen Yes (analog resistive) PS/2 Keyboard (AT-style adapter cable included) PS/2 Mouse (AT-style adapter cable included)
Package	Designed for Temperature Range Rel. Humidity (non-condensing) Vibration Shock Weight Overall Size (HxWxD - Behind Panel)	NEMA 4, 4X 0-50 C (for 850 MHz and lower) 5-95% 0.25g rms 10G, 11 msec (operating) 30G, 11 msec (non-operating) 12" - 27.76 lbs. (12.59 Kg) 15" - 31.12 lbs. (14.12 Kg) 12" - 12.1" x 15.1" x 10.00" (308mm x 383mm x 254mm) 15" - 13.3" x 16.8" x 10.20" (338mm x 427mm x 259mm)
Power Requirements	AC Maximum Power Consumption	AC (90-260V) autoranging 120 Watts
Agency Approval	UL/CUL/CE	

Ordering Information

(See MachineShop section for information about ordering development software.)



P9 Common Configurations	
Description	Model #
12" TFT Display - Celeron - FLASH	P91-4NA-140A-4A3
15" TFT Display - Celeron - FLASH	P91-5NA-140A-4A3
12" TFT Display - Pentium III - FLASH	P91-4PA-140A-4A3
15" TFT Display - Pentium III - FLASH	P91-5PA-140A-4A3

P9 RS (Remote System Version) Common Configurations	
Description	Model #
No Display - Celeron - FLASH	P9R-0NA-140A-4A3
No Display - Pentium III - FLASH	P9R-0PA-140A-4A3



For More Information on HMI & Machine Control Products, Call 1-800-233-3329.

Industrial PC Family



PC5, PC10, PC12, PC15 and RC Industrial PCs

CTC Industrial PCs are modular workstations that supply full functionality and open PC architecture to run any Windows or DOS package, and have the same rugged design as CTC's standard PowerStation. These PCs include a range of options to meet the needs of any factory floor application - from a compact 10" unit up to a 15" large screen PC. You can select from display types, expansion and storage capabilities to get the right PC for your application. There are even Remote Computers (RC) available (without display) in which an enclosed back shell can be mounted in an enclosure and cable-connected to one of CTC's flat panel industrial monitors.

The PC5 Function Key PC model includes arrows for cursor control and features 40 function keys (20 plus Shift) for operators who prefer traditional function key operation. Features include: Compact FLASH storage media, built-in Ethernet port and a NEMA 4/4X rating. These Industrial PC PowerStations are higher-end units that supply full functionality and open PC architecture to run any Windows or DOS package, and have the same rugged design as CTC's standard PowerStation.

Ordering Information

PC		-				-				-		D	
Format	Display Size*		Form Factor	Display Type	CPU		O.S.	DRAM.	Storage		Other Storage	Power	Agency

* Does not denote display size for PC5 models

PC10/PC12/PC15 Common Configurations	
Description	Model #
10" Color TFT - Pentium - Hard Drive	PC10-2T2-8DA-AD3
10" Bright Color TFT - Pentium - Hard Drive	PC10-2H2-8DA-AD3
12" Color TFT - Pentium - Hard Drive	PC12-2T2-8DA-AD3
15" Color TFT - Pentium - Hard Drive	PC15-2T2-8DA-AD3

Function Key (PC5) Common Configurations	
Description	Model #
10" Bright Color TFT - Pentium - Hard Drive - Touchscreen	PC51-2H1-DD1-AD3

RC (Remote Computer Version) Common Configurations	
Description	Model #
No Display - Pentium - Hard Drive	RC00-202-8DA-AD3

PC5, PC10, PC12, and PC15 Industrial PCs

	Features	Values
10" Display (PC10 & PC5)	Type	Flat Panel - TFT
	Color	N/A
	Resolution	VGA (640 x 480)
	Screen Size	10.4" (264 mm) Diagonal
10" Display (PC12)	Type	Flat Panel
	Color	Color TFT
	Resolution	SVGA (800 x 600)
	Screen Size	12.1" (310 mm) Diagonal
15" Display (PC15)	Type	Flat Panel
	Color	Color TFT
	Resolution	XGA (1024 x 768)
	Screen Size	15.1" (380 mm) Diagonal
Operating System	PC/RC Industrial PCs	Choices include Windows 98/2000/NT/Embedded NT
CPU	Pentium	(consult factory for specific processor information)
System Memory	Standard	32 MB (minimum)
Storage Memory	Compact FLASH (Type II connectors)	128 MB Compact FLASH (minimum), (1 external & 1 internal), (also supports MicroDrive) Compact FLASH slots, (1 external & 1 internal), (also supports MicroDrive)
	Floppy Disk Drive	Optional (external, surface or panel mount)
	Hard Drive	EIDE Interface (exact sizes vary - consult factory for HD capacity)
	CD ROM	Optional 24x Super Slim CD ROM
I/O Ports	Serial	(1) RS232/422/485 (2) RS232
	Ethernet	10/100Base-T w/RJ45 connector
	Parallel	(1) 25-Pin D-sub connector (supports Bi-directional SSP/SPP/ECP)
	Expansion Slots	3 PC/104 cards are supported 3 slots (2 ISA 1 ISA/PCI Configurable) or (2 PCI 1 ISA/PCI configurable) [Note: 1 PC/104 card is supported in this configuration]
	• PC/104 models	
	• ISA/PCI models	
	External Video	(1) Analog 15-Pin D-sub connector (supports simultaneous video mode)
User Interface	USB	(2) USB Ports
	Function Key	PC5 only: 40 (20 plus shift)
	Numeric Key	PC5 only: yes
	Touchscreen*	Analog Resistive (8-wire, 1024 x 1024 resolution)
	Keyboard Port	1 PS/2 Keyboard port
	Mouse	1 PS/2 Mouse port
Package	Designed for	NEMA 4/4X
	Temperature Range	0-50 C
	Rel. Humidity (non-condensing)	5-95%
	Vibration**	10-500 Hz, 0.5 (RMS Random); [Compact Flash units: 10-500 Hz, 1g (RMS Random)]
	Shock	10G, 11 msec (operating) 30G, 11 msec (non-operating)
	Cutout Dimensions:	
	• 10" Display***	9.86" (250 mm) x 12.60" (320 mm) clip mount
Power Requirements	• 12" Display	11.25" (286 mm) x 14.14" (359 mm) clip mount
	• 15" Display	12.40" (315 mm) x 15.9" (404 mm) clip mount
	AC	90-250 VAC; 50/60 Hz (external supply only)
	Maximum Power Consumption	110 Watts
Agency Approval	DC	18-28 VDC
	Maximum Power Consumption	78 Watts
Agency Approval	UL,CUL,CE	Class 1 Division 2

* Not applicable to RS and RC units.

*** PC5 dimensions not included (consult factory)

** Does not apply to MicroDrive option

For More Information on HMI & Machine Control Products, Call 1-800-233-3329.



PC9 Industrial PC

CTC's high-end industrial workstation is a powerful and rugged PC platform for machine control and a durable, open solution for powering PC-based factory automation into the future. These units stand apart from the competition by offering a variety of features and options, plus a new level of reliability and serviceability for the plant floor. The PC9 is available with either a 12" or 15" color TFT display for large screen applications. Features like field replaceable bulbs, hard drive, CD-ROM, floppy drive and CPU board make these units easy to maintain and troubleshoot. Plus the unique design makes them a powerful and maintainable PC solution for plant floor applications.

There are a variety of PC9 PowerStation configurations available; some of the workstation's features are listed here.

- 12" SVGA (800 x 600), color TFT display or 15" XGA (1024 x 768), color TFT display
- Celeron/Pentium III
- Compact FLASH and/or Hard Drive storage
- 32x CD-ROM drive
- 3.5" floppy drive
- 3 RS232 serial ports, 1 RS232/422/485 serial port
- 10/100 base-T Ethernet port, 2 USB ports, 1 parallel port
- 2 ISA and 1 PCI or 3 ISA slots
- Designed for NEMA 4/4X
- Analog resistive touchscreen
- Field replaceable hard drive, CD-ROM and floppy drive
- Field upgradable NLX CPU board

PC9 Remote Computer Version

CTC has developed a powerful, new remote PC that is based on the new PC9 hardware platform. Now you can get all of the power, expandability and serviceability of the PC9 in a Remote Computer that can be mounted in an enclosure and cable-connected to one of our 12" or 15" Industrial Flat Panel Monitors. This configuration offers a remote solution with a Celeron or Pentium III processor up to 1 GHz.



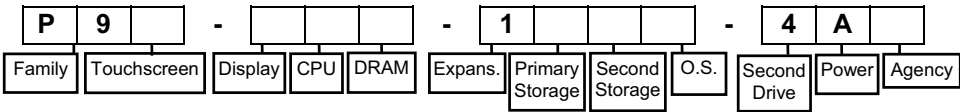
PC9 Industrial PC

	Features	Values
Display	Type Backlight Color Resolution Size	Flat Panel Cold Cathode Fluorescent Tube TFT SVGA (800 x 600) or XGA (1024 x 768) 12.1" or 15.1" Diagonal
CPUs	Celeron; Pentium III	(consult factory for specific processor information)
System Memory	Standard	32 MB SDRAM DIMM (minimum)
Storage Memory	Compact FLASH cartridge PCMCIA FLASH Adapter FLASH Card Hard Disk Card SRAM Ca D-ROM Drive Floppy Disk Drive Hard Drive	16MB compact FLASH (minimum) Via 3rd Party Via 3rd Party Adapter Board Via 3rd Party Adapter Board Via 3rd Party Adapter Board 32x (min.) CD-ROM (standard) 3.5", 1.44 MB, Side Access (standard) EIDE Interface (consult factory for HD capacity)
I/O Ports	Serial Ethernet USB Parallel Expansion Slots Sound	(1) RS232/422/485 (isolated) (3) RS232 10/100 Base-T Ethernet Controller RJ45 Interface 2 Ports Bi-directional IBM Enhanced 2 ISA/1 PCI or 3 ISA Slots (user configurable) ESS AudioDrive Sound Controller SoundBlaster Pro Compatible Sound Interface External mini audio stereo jack
User Interface	Function Key Numeric Key Touchscreen Keyboard Port Mouse Port	Onscreen Onscreen Yes (analog resistive) PS/2 Keyboard (AT-style adapter cable included) PS/2 Mouse (AT-style adapter cable included)
Package	Designed for Temperature Range Rel. Humidity (non-condensing) Vibration Shock Weight Overall Size (HxWxD - Behind Panel)	NEMA 4, 4X 0-50 C (for 850 MHz CPU and lower) 5-95% 0.25g rms 10G, 11 msec (operating) 30G, 11 msec (non-operating) 12" - 27.76 lbs. (12.59 Kg) 15" - 31.12 lbs. (14.12 Kg) 12" - 12.1" x 15.1" x 10.00" (308mm x 383mm x 254mm) 15" - 13.3" x 16.8" x 10.20" (338mm x 427mm x 259mm)
Power Requirements	AC Maximum Power Consumption	AC (90-260V) autoranging 120 Watts
Agency Approval	UL/CUL/CE	(Class 1 Div 2 optional)

For More Information on HMI & Machine Control Products, Call 1-800-233-3329.



Ordering Information



PC9 Common Configurations	
Description	Model #
12" TFT Display - Celeron - Hard Drive	P91-4NA-1A0J-4A3
15" TFT Display - Celeron - Hard Drive	P91-5NA-1A0J-4A3
12" TFT Display - Pentium III - Hard Drive	P91-4PA-1A0J-4A3
15" TFT Display - Pentium III - Hard Drive	P91-5PA-1A0J-4A3

PC9 RC (Remote Computer Version) Common Configurations	
Description	Model #
No Display - Celeron - Hard Drive	P9R-0NA-1A0J-4A3
No Display - Pentium III - Hard Drive	P9R-0PA-1A0J-4A3



Industrial Monitors

These sleek, high-resolution Industrial Monitors enhance the overall look and functionality of your machine. Available in 12" or 15" displays, both models feature a lightweight displays with multiple mounting options.

- 12" SVGA (800 x 600), or 15" XGA (1024 x 768)
- Advanced video image autosizing for lower resolutions
- Analog resistive touchscreen
- Serial touchscreen interface
- Optional cable lengths - 6', 15', 25', 50'
- Video frequency detect
- 24 VDC power (optional AC brick)
- On-screen display control
- Rear button control for on-screen display
- Field replaceable bulbs

12" and 15" Industrial Monitors		
	Features	Values
12" Display	Type Backlight Color Resolution Size	Flat Panel Cold Cathode Fluorescent Tube TFT 12" SVGA (800 x 600) 12.1" (310 mm) Diagonal
15" Display	Type Backlight Color Resolution Size	Flat Panel Cold Cathode Fluorescent Tube TFT 15" XGA (1024 x 768) 15.1" (380 mm) Diagonal
User Interface	Touchscreen Video Controls	Analog Resistive On Screen Display (OSD) controlled by rear panel buttons
Package	Designed for Temperature Range Rel. Humidity (non-condensing) Vibration Shock	NEMA 4, 4X 0-50°C 95% 10-500 Hz, 0.5g (RMS) 10G, 11 msec (operating); 30G, 11 msec (non-operating)
	12" Display Weight / Size (H x W x D)	14.6 lbs. (6.6 Kg) / 12.1" x 15.1" x 3.6"; 308 mm x 383 mm x 91 mm
	15" Display Weight / Size (H x W x D)	17.2 lbs. (7.8 Kg) / 13.3" x 16.8" x 3.8"; 338 mm x 427 mm x 96 mm
Power Requirements	AC - Maximum Power Consumption DC - Maximum Power Consumption	90-260 VAC; 50/60Hz (Ext. Opt.), 50 Watts maximum 20-36 VDC, 30 Watts maximum
Agency Approval	CE, UL/CUL	Class 1 Div 2

Ordering Information

Industrial Monitor Common Configurations	
Description	Model #
12" Color TFT Display	PM1-4A1-XD3
15" Color TFT Display	PM1-5A1-XD3

For More Information on HMI & Machine Control Products, Call 1-800-233-3329.



I/O for MachineLogic

MachinePoint™ I/O is CTC's remote I/O system for connecting field devices to MachineLogic PC-based control through an industrial fieldbus. It is part of a bundled solution, giving you a single source for machine control, HMI, workstations and fieldbus I/O.

CTC's MachineLogic and MachinePoint work together to provide a systems solution for machine control. Although other third party I/O products work with MachineLogic, MachinePoint I/O offers you more features (such as replaceable circuitry) than many other solutions. Plus, you'll benefit because the MachineLogic and MachinePoint I/O combination has already been factory tested to work together as an integrated solution for machine control applications.

MachineLogic communicates to the I/O through a fieldbus option (Profibus or DeviceNet) or Ethernet I/O (ModbusTCP/IP). You can choose one of CTC's buscoupler products to read the protocol, and then select from several I/O solutions to handle your machine inputs and outputs.

CTC offers two models to meet your specific project needs: the Standard Buscoupler model (for applications that require more advanced features such as remote diagnostics) or the Economy Buscoupler (same performance as the standard buscoupler, but at a lower cost).

Standard Buscoupler Features

- 4 character display
- Keypad for advanced features
- Diagnostic features
- Service functions
- Error code display
- Mode operation access
- Single stepping/single cycling

Economy Buscoupler Features

- "On module" diagnostics
- Operating Mode display
- Remote forcing
- Remote Run/Stop capability

Modular I/O

MachinePoint Modular I/O offers a variety of benefits, including a unique replaceable circuitry feature that allows modules to be replaced without having to disconnect field wiring. Modular I/O can accommodate up to 6 modules per buscoupler.

Modular I/O Features

- Analog or digital I/O products
- Opto-isolation at fieldbus connection
- Full range of addresses for Profibus
- Easy error code indication
- Fast/easy setup and commissioning
- No software required
- Low cost analog I/O
- Reset I/O to "zero" or "last known" state on bus failure

Compact I/O

- Incorporates buscoupler and I/O into one package
- Suitable for small I/O count nodes
- Supports Profibus and DeviceNet
- No analog I/O supported

Ordering Information and Part Numbers

MachinePoint I/O Products	
Bus Interface	Model #
Buscoupler Ethernet	W83-034-0000-1
Buscoupler Profibus-DP	W83-030-0000-1
Economy Buscoupler Profibus-DP	W83-030-0001-1
Buscoupler DeviceNet	W83-032-0000-1
Economy Buscoupler DeviceNet	W83-032-0001-1
Bus 24 VDC I/O and Interface*	Model #
Compact 16I Profibus-DP	W83-030-1000-1
Compact 8I/O Profibus-DP	W83-030-1100-1
Compact 16O Profibus-DP	W83-030-1200-1
Compact 8I 8I/O Profibus-DP	W83-030-1300-1
Compact 16I DeviceNet	W83-032-1000-1
Compact 8I/O DeviceNet	W83-032-1100-1
Compact 16O DeviceNet	W83-032-1200-1
Compact 8I 8I/O DeviceNet	W83-032-1300-1
24 VDC I/O**	Model #
Digital 16 I	W83-035-3000-1
Digital 8 I/O	W83-035-3100-1
Digital 16O	W83-035-3200-1
Digital 8I 8I/O	W83-035-3300-1
DC 2 amp Digital Output	Consult Factory
Input, NPN Support 24 VDC	Consult Factory
AC I/O**	Model #
230 VAC - 4 Inputs	W83-035-5005-1
115 VAC - 4 Inputs	W83-035-5000-1
Relay**	Model #
Relay Output - 4 SA/250V**	W83-035-5200-1
Analog**	Model #
Analog 4I +/- 10V	W83-035-4000-1
Analog 4I 0..10V	W83-035-4001-1
Analog 4I 20mA	W83-035-4010-1
Analog 4I/4O +/- 10V	W83-035-4100-1
Analog 4I/4O 10V	W83-035-4101-1
Analog 4I/4O 20mA	W83-035-4110-1
Analog 4I/4O 4-20mA	W83-035-4111-1
Specialty**	Model #
Specialty Module 4I Pt100/Pt1000 (RTD Input)	W83-035-4040-1
Specialty Module 4I Type J/K Thermocouple	W83-035-4050-1
Specialty Module 4I Counter	W83-035-5400-1
Specialty Module 4I Quadrature Inputs	W83-035-5410-0

* Expansion Modules are not compatible with Compact I/O family.

** Modular I/O is not compatible with Compact I/O family.

For complete specifications for each I/O module, please visit www.ctcusa.com.

For More Information on HMI & Machine Control Products, Call 1-800-233-3329.



MotionPanel™



MotionPanel™ for the 6K Controller and Gemini Drive/Controllers

Cut Your Motion/HMI Setup Time From Hours To Minutes

With MotionPanel's menu-driven interface, you can manage multiple 6K motion programs without having to write and debug additional code. Unlike two and four line alphanumeric displays, MotionPanel provides easy-to-read touchscreens (optional color displays are available) with more understandable menus for the user. With the Windows-based Interact development software, you can even customize panels to simplify and enhance screens for the operator. Try doing that with a proprietary alphanumeric display device!

This PC-based flexibility, combined with high speed Ethernet communications, provides the most advanced, easy-to-use motion/HMI package available for machine control today!

- Automatically detects up to 8 axes of 6K motion
- Automatically detects digital and analog expansion I/O
- Instantly uploads motion programs from solid-state Compact FLASH disk - including scaling
- PC-based hardware/software with an upgrade path to advanced HMI functionality

Plug and Play Setup

1. **Connect Ethernet cable.**
2. **Power up MotionPanel**
3. **Enable Compumotor 6K Ethernet connection**
4. **Touch the pre-configured panels and go!**

Features

Software

- On-line Diagnostics in Graphical Format for Easy Maintenance
- One-Touch 6K Backups with Download/Upload to MotionPanel - with Scaling!
- Brick I/O Setup and Easy to Read Status Information
- Clear Layout of Task Status Information
- Ability To Test Applications Without Downloading
- On-line Help Provided for Each Panel
- Includes MachineShop for MotionPanel Software for Easy Customization of Panels [TR6]
- Seamless Upgrade Path to CTC's Interact with Advanced HMI Functionality

PC-Based, Factory-Hardened Platform

- 6" Flat Panel Computer
- Easy Field Maintenance
- 1/4 VGA Monochrome or Color STN Display
- NEMA 4, 4x

Compact Flash Storage

- MotionPanel and 6K Program Backup
- 8 MB capacity
- Accessible from Outside of Unit
- Eliminates the Need for Serial Downloads

Communications

- High Speed Connections for Multiple 6Ks
- Ethernet Port
- 2 Serial Ports (1-RS232 & 1 RS 232/422/485)
- 1 Parallel Port

Compatible Compumotor Controllers



For complete information on the 6K controller, please see the Controller section of this catalog.

Compumotor controllers compatible with MotionPanel HMI include the 6K Controller (above), the GT6K Drive/Controller (below, left), the GV6K Drive/Controller, the GV6 Drive/Controller (below, right) and GT6 Drive/Controller.



For complete information on the Gemini GV6K, GT6K, GV6 or GT6 drive/controllers, please see the Gemini product information in both the Servo Drive and Stepper Drive sections of this catalog.

Ordering Information

MotionPanel Configurations	
Description	Model #
Mono LCD - FLASH	PMP-014DM
Color STN - FLASH	PMP-314DM

Adding Options to an Existing MotionPanel Runtime

The base MotionPanel unit includes Runtime software for Interact's Panel Toolkit Module (PTM). To add alarming and free-form graphics functionality, purchase the MotionPanel upgrade that includes Runtime software for Interact's Graphics Monitoring Module (GMM) and Alarm Management Module (AMM). Adding this option converts the base MotionPanel unit to a P1 Runtime system.

Description	Model #
MotionPanel Upgrade to P1 (NET, GMM, AMM)*	PP1-5160

* MotionPanel Upgrade is for runtime software only. MachineShop Development (MSP-1N00-P or equivalent) must be purchased/used to create NET, AMM and GMM functionality and use additional communications drivers.



For More Information on HMI & Machine Control Products, Call 1-800-233-3329.