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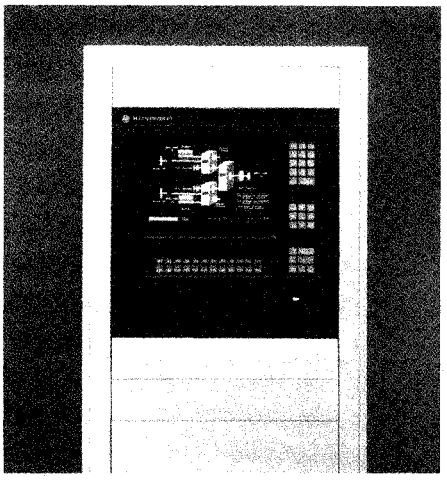
Find the *Conner CP30064H* at our website: *Click HERE*

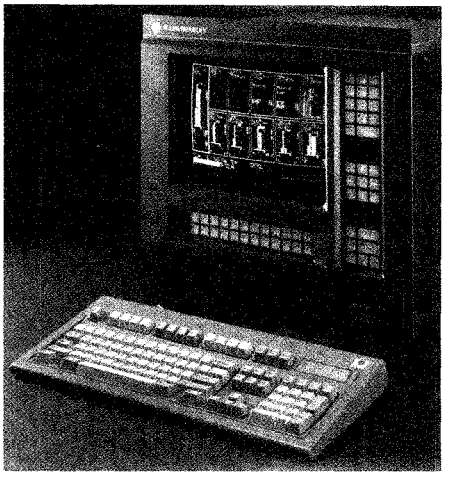
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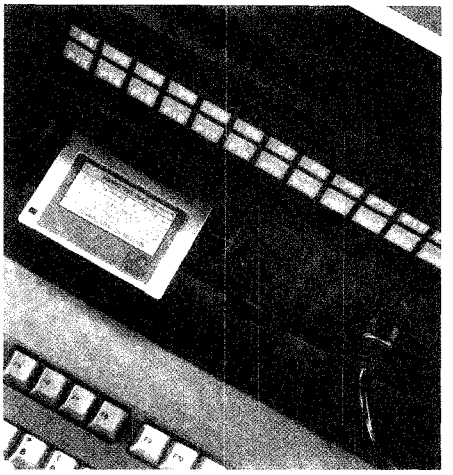
T60 Industrial Workstation

(Cat. No. 6160-PCB1, 6160-PCN1)

Product Data







Couple this flexible industrial workstation with Allen-Bradley software and rely on Allen-Bradley for all your factory floor information needs. Choose Allen-Bradley operator interface software such as ControlView™ man/machine interface software and Advisor™ PC color graphic system. Choose 6200 Series Software for programming PLC® controllers and Distributed Discrete Manufacturing Control software for manufacturing applications. The T60 workstation runs Allen-Bradley software and other MS-DOS® compatible software. Our hardware selection offers advanced networking applications to meet your information and communication requirements. Count on our expertise, which is available to you for prompt product support by phone and service in the field.

Realize improved speed and reliability through the processor module's high level of feature integration and leading-edge design. Our integrated processor module reduces the need for optional adapters.

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The features that typically occupy extra expansion slots are now on this single module. The processor module offers 2Mbytes of memory, the VGA controller, floppy and SCSI hard disk controllers, 2 serial ports, one parallel port, and one piezo speaker port. Your options on this module include up to 6Mbytes of additional memory (DRAM) and an i387SX™ math coprocessor. The i386SX microprocessor features the 32-bit internal architecture of the Intel 386 processor family.

Your Guide to Learning More About the T60 Workstation

This product data covers the following T60 workstation topics:

Section	Page
Benefits	2
Application Software	4
External and Internal Features	13
Networks and Configurations	18
Available Options	24
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Benefits

Minimize downtime with modular design, industrialization, and 386 architecture. The T60 workstation's internal structure consists of integrated parts that you can replace quickly and easily, thus reducing downtime. The industrially-hardened enclosure houses a state-of-the-art i386SX™ microprocessor that offers speed, efficiency, and reliability.

Use 6 expansion slots to establish a custom configuration for your application requirements. This workstation's backplane is designed with 5 AT slots and 1 XT slot available for modules of your choosing.

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Because of the integrated processor module, there are no required modules for these slots. As a result, you have ample room for internal expansion and future enhancements.

Acquire data from machinery level of operation by connecting to Allen-Bradley plant floor devices. You can network the T60 workstation with controllers and I/O devices at the machinery level of operation using optional communication modules. Use Allen-Bradley Data Highway networking products to connect to PLC-2, PLC-3, PLC-5, and PLC-5/250 controllers. Insert the I/O Scanner Module to communicate with up to 16 I/O chassis for integrated data acquisition. This versatile workstation adapts easily to a variety of applications.

Achieve upward compatibility through broadband and baseband networks. The optional Ethernet™ Adapter Card facilitates baseband communication across Ethernet, supporting Novell NetWare™. Use a LAN/PC™ module to communicate across Allen-Bradley LAN/PC networks for broadband networking.

Self-contained unit integrates peripherals and 386 technology in a single-package solution. The T60 workstation saves you the expense of adding peripherals by providing a monitor, floppy drive, optional hard drive, membrane keypads, power supply, expansion bus, and processor module (with serial and parallel ports) all in one 19" chassis. Making this workstation part of your plant floor solution means you save space and can install the hardware with ease.

Use this hardened hardware platform on the plant floor. The T60 workstation is industrially hardened and can withstand extended hours of continuous operation, thus helping you maximize uptime. It features a hardened case, forced air cooling, and two industrial keypads. Doors for the floppy drive and keyboard connector close tightly to preserve NEMA 4 and 12 rating (panel mount only). Mount on a rack or in a panel to suit your application environment.

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Take advantage of many unique features to help save time and effort.

The T60 workstation is structured to help make operation easy for you. For instance, the processor module is free of switches and jumpers for you to configure, thus aiding in speedy system set-up. The auto-sensing power supply adapts to the power it receives (110/220V ac @ 50/60Hz), so you can use the workstation without setting any switches. The Power-On Self Test (POST) tells you the status of your system on start-up, so you know almost immediately whether it is ready to function.

Application Software

This section highlights the following Allen-Bradley software packages that you can use on the T60 workstation:

- ControlView software
- Advisor PC software
- 6200 Series Software
- Distributed Discrete Manufacturing Control software

In addition to these packages, you can use other Allen-Bradley software and most MS-DOS software that is fully IBM compatible. Choose from available packages ranging from word-processing to spreadsheets to database management.

ControlView Software

This modular software system provides plant-wide supervisory control that includes fast, reliable data acquisition and manipulation, custom operator interface with plant floor devices, and communication with upper level plant and corporate workstations. ControlView simplifies integration of your control system, handling the basics efficiently and making it easy to do custom work.

ControlView is ideal for many applications. Use it as a plant floor operator interface, data collection system and concentrator, networked cell/supervisory controller, or custom application development platform.

The ControlView Core (cat. no. 6190-CVC/A) is the heart of the system and offers data acquisition and communication for up to 10,000 points. You can enhance the core with numerous specialized options, including Mouse GRAFIX™ Editor, Alarming, Event Detector, Derived Tags, Allen-Bradley Driver, Modbus™ Driver, Trending, Data Logger, and C-Toolkit.

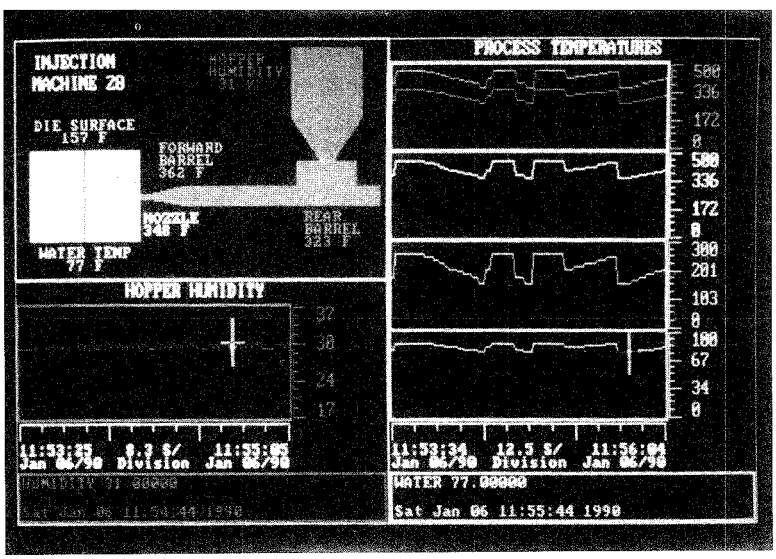
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ControlView lets you:

- analyze and manipulate sophisticated real-time data
- count on prompt, efficient alarm response
- integrate Allen-Bradley programmable controllers, intelligent sensing modules, and motion control devices
- perform historical logging and trending
- interface with higher level plant workstations
- use advanced graphics capabilities in a multi-windowed, multi-tasking operating environment
- control user access to commands, macros, and graphic displays through a specialized security system
- create end-user and OEM applications with customizing tools
- organize a flexible database with intelligent software scanners

The figure below illustrates a ControlView screen.

Figure 1
Sample ControlView screen



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The table below lists items you need for using the ControlView Core (6190-CVC/A). For information about ControlView options, see the ControlView System Overview (pub. no. 6190-2.20) or consult your local Allen-Bradley sales representative. (ControlView products have the catalog number prefix 6190-.)

Table 1
System requirements for the ControlView Core

If you:	Then purchase this product:	With cat. no:
Have the T60 Industrial Workstation **without** Disk (6160-PCN1)	40Mbyte Disk or 104Mbyte Disk	6160-ID1 **or** 6160-ID2
Develop programs off line (A keyboard is not necessary for online operation)	Keyboard	6160-KBD1 (not industrialized)
REQUIRED (Adding this memory gives you 4Mbytes total memory, configured as 640Kbytes base memory and 3.384Mbytes extended memory)	2Mbyte Memory Upgrade	6160-MME1
REQUIRED	387SX Floating Point Processor	6160-CPA1
	Processor Communications Interface Module **or** Integral Data Highway Interface Module **or** Data Highway or Data Highway Plus Interface Module	1784-KT **or** 6171-IDH **or** 1770-KF2/B

Advisor PC Software

Advisor PC (cat. no. 6171-PCS/E) is an advanced color graphics software interface that lets you monitor and control plant devices from the T60 workstation. The software replaces indicators and mimic panels as the primary means of plant control. Use it to integrate your plant floor data acquisition and controls. Figure 2 below shows a sample screen.

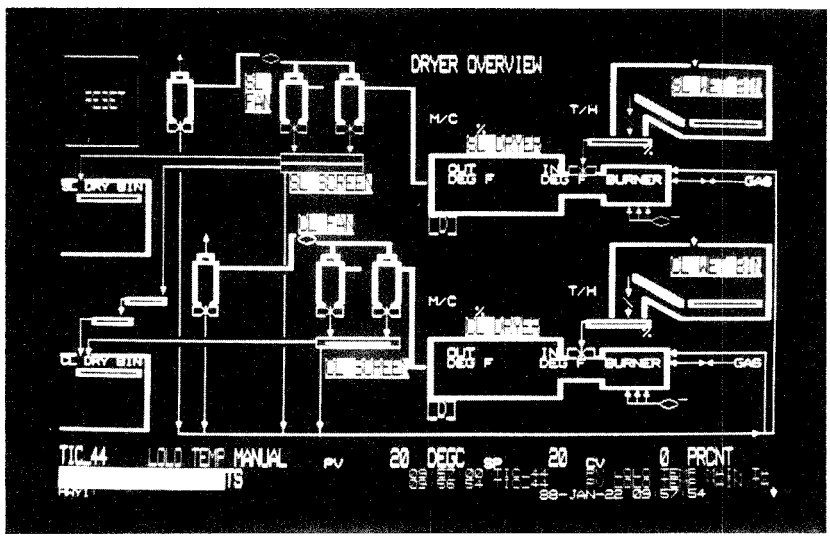
Advisor PC links plant operators with the programmable controller network as well as other networks. This software system presents live process data dynamically from your PLC controllers in full color on the screen and simultaneously executes your control commands. To design a configuration ideal for your application, choose Advisor PC series E products from over 10 specialized options including Data Logger, Extended Memory Driver, Mouse GRAFIX, Network Option, Report Writer, and Serial/Parallel Expander. Use Advisor PC to:

- monitor and supervise plant activity
- control devices connected to PLC I/O
- provide operator prompts based on real events

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- view animated color graphic displays that show levels, limits, status and position
- view faceplate groups to monitor and control devices
- produce real-time trend charts
- create an information management system for data acquisition and report analysis
- recognize and acknowledge alarms
- develop and run custom graphics with a mouse interface

Figure 2
Sample Advisor PC screen



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Table 2 below lists items you need for using Advisor PC software.

Table 2
System requirements for Advisor PC software

Purchase this product:	With cat. no:
40Mbyte Disk **or** 104Mbyte Disk[1]	6160-ID1 **or** 6160-ID2
386 Extended Memory Driver	6171-EM
Processor Communications Interface Module **or** Integral Data Highway Interface Module	1784-KT **or** 6171-IDH
Keyboard[2]	6160-KBD1 (not industrialized)
2 Mbyte Memory Upgrade	6160-MME1

[1] Only purchase a disk if you have the T60 Industrial Workstation without Disk (6160-PCN1).
[2] You need a keyboard for program development, but it is not necessary for online operation.

6200 Series Software

The 6200 Series Software product line lets you program PLC-2, PLC-3, PLC-5, and PLC-5/250 controllers on line or off line using ladder logic. Use this software to program all your PLC controllers directly from the T60 workstation; 6200 software provides the most efficient programming tool because it is tailored by Allen-Bradley specifically for Allen-Bradley products.

Develop, document, and maintain ladder logic programs on line while the T60 workstation connects to a processor, or off line on the T60 workstation alone. The ladder editor lets you create new ladder logic programs or modify existing ladder logic programs with the T60 workstation's function keys or optional keyboard. The various 6200 Series Software packages use the same menu structure, so once you learn to use one package, you master them all.

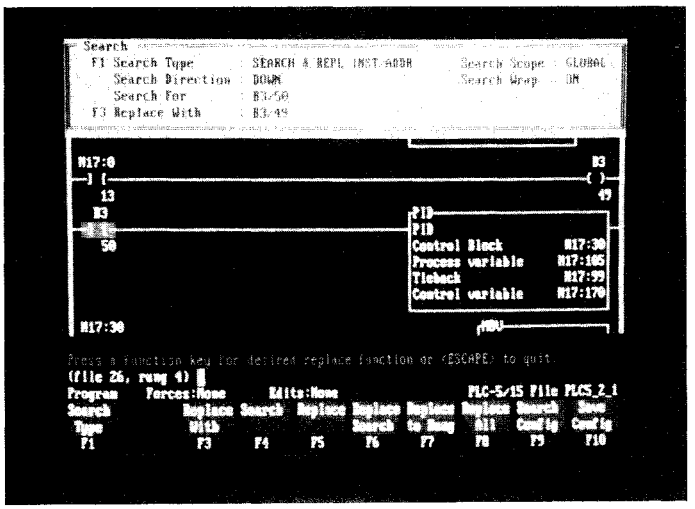
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6200 Series Software lets you:

- create and edit ladder logic programs
- generate reports that describe your processor memory file
- monitor data table files and program files
- create and edit sequential function charts
- maintain and re-use disk files associated with a processor memory file
- configure the software for your application
- edit and document programs simultaneously
- program via a modem or direct link

The figure below shows you a sample screen of 6200 Series Software. Table 3 lists items you need for using the software.

Figure 3
Sample 6200 Series Software screen



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Table 3
System requirements for 6200 Series Software

If you:	Then purchase this product:	With cat. no.:
Have the T60 Industrial Workstation without Disk (6160-PCN1)	40Mbyte Disk **or** 104Mbyte Disk	6160-ID1 **or** 6160-ID2
Operate on line with PLCs	Processor Communications Interface Module **or** another approved module; requirements and options vary according to the type of PLC controller[1]	1784-KT
Develop programs off line (Keyboard not necessary for online operation)	Keyboard	6160-KBD1 (not industrialized)

[1] Contact your local Allen-Bradley office for specific requirements for the 6200 Series Software you intend to use.

Distributed Discrete Manufacturing Control Software

Couple the high-powered T60 workstation with the enhanced diagnostic and monitoring capabilities provided by Distributed Discrete Manufacturing Control software (cat. no. 6400-DDMC). This unique solution helps improve productivity in your manufacturing applications.

The Distributed Discrete Manufacturing Control (DDMC) system integrates the T60 workstation with 6200 Series programming software, ControlView, and 6400 Series software components in a solution that gives you up-to-date diagnostics and a powerful operator interface. Both end-users and OEMs can benefit from the DDMC system. It helps decrease the amount of downtime encountered in system applications and can reduce the time and cost of system integration.

An optional version of the DDMC software includes the Mouse GRAFIX Editor, which lets you develop graphic displays of your machine, process, or line. Use this version to animate your operator interface by configuring points on the graphic display to reflect changes in your process and eliminate costly mimic panels with more precise representations.

DDMC system is integrated and includes Allen-Bradley hardware such as the PLC-5 family of controllers, 1771 I/O, Data Highway Plus, IMC motion controllers, and Dataliner message displays. Choose the optimal system based on your equipment's size, complexity, and performance.

DDMC software lets you:

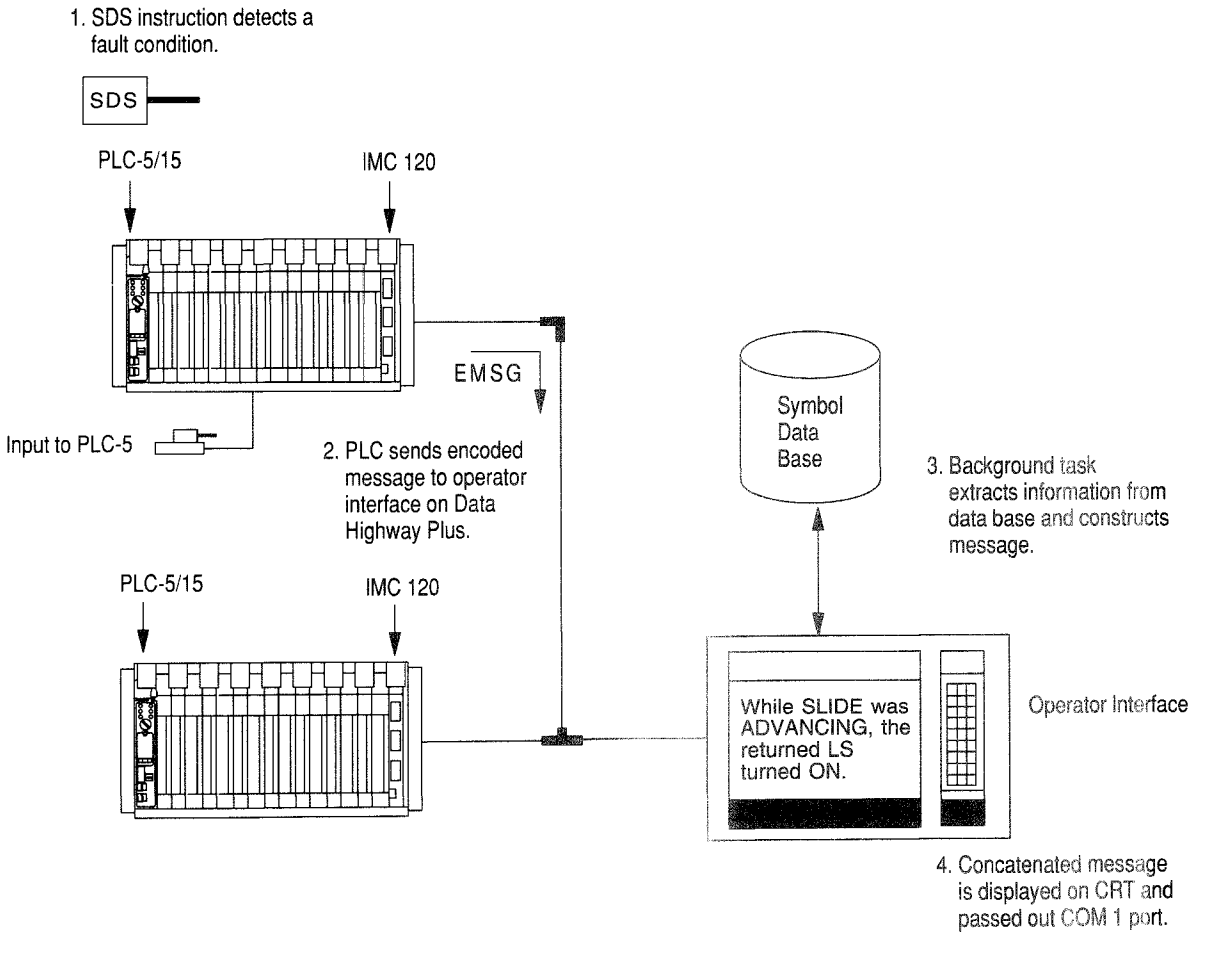
- choose centralized or distributed processing independent of your hardware's location
- use the T60 workstation as a single operator interface for programming, monitoring, diagnosing faults, and accessing machine or process information
- save time and effort with automatic message generation

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- add diagnostics to existing ladder logic
- use the operator guidance facilities as an "electronic manual"
- supplement programmable controllers with motion controllers for an integrated control system
- develop programs that contain both control and diagnostics, or programs strictly for monitoring certain devices in your application

The figure below shows a diagram of the typical DDMC system.

Figure 4
Sample DDMC system



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The following table lists minimum system requirements for using DDMC software. For information about DDMC configuration options, see the Distributed Discrete Manufacturing Control Configuration Guide (pub. no. 6401-4.1) or consult your local Allen-Bradley sales representative.

Table 4
System requirements for DDMC software

Purchase this product:	**With cat. no:**
40Mbyte Disk **or** 104Mbyte Disk[1]	6160-ID1 **or** 6160-ID2
2Mbyte Memory Upgrade	6160-MME1
387SX Floating Point Processor	6160-CPA1
Processor Communications Interface Module	1784-KT
Cable	1784-CP
Keyboard[2]	6160-KBD1 (not industrialized)

[1] Only purchase a disk if you have the T60 Industrial Workstation without Disk (6160-PCN1).
[2] You need a keyboard for program development, but it is not necessary for online operation.

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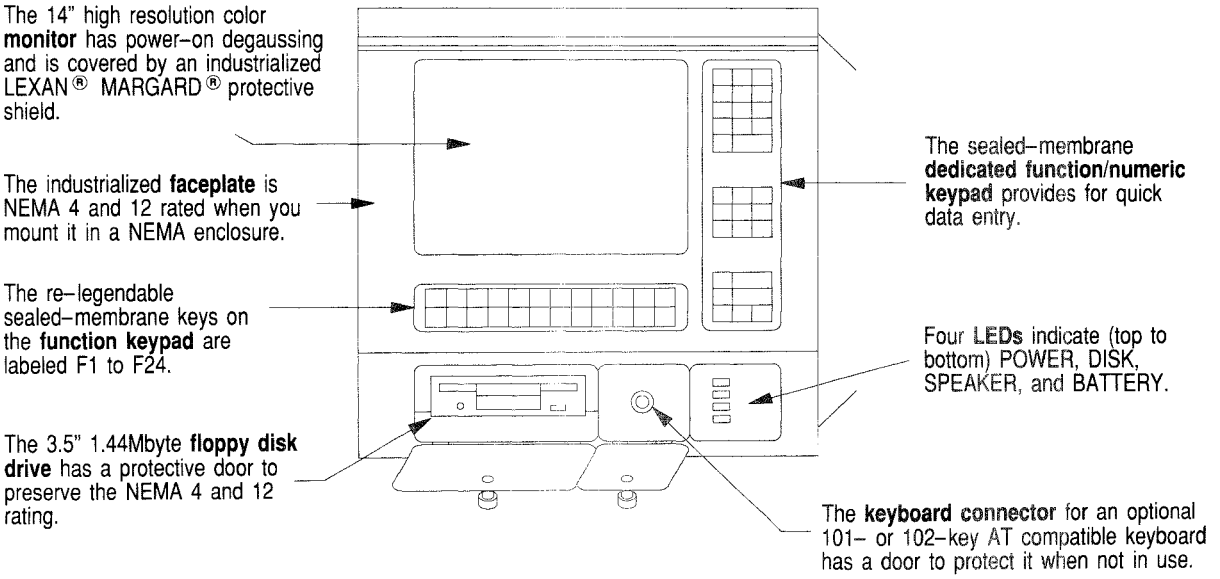
External and Internal Features

The T60 workstation provides an industrially hardened, expandable hardware platform. This workstation is versatile and modular. It lets you design a configuration suitable for your individual application. The T60 workstation runs Allen-Bradley software and other MS-DOS compatible software written for the IBM PC XT/AT™ family of machines. Throughout this product data, the term "T60 workstation" refers to both the T60 Industrial Workstation with 40Mbyte Hard Disk (6160-PCD1) and the T60 Industrial Workstation without Disk (6160-PCN1).

Use this section to become familiar with the T60 workstation's front panel, rear panel, and internal features as well as features of the processor module and disk operating system. Highlights include:

- Industrial chassis with 2 fans for cooling
- Works-in-a-drawer with 6 expansion slots
- 1.44Mbyte floppy drive
- 40Mbyte hard disk (cat. no. 6160-PCD1 only)
- i386SX microprocessor
- 2Mbytes memory (640Kbytes base, 1.384Mbytes extended)
- MS-DOS 4.01 installed

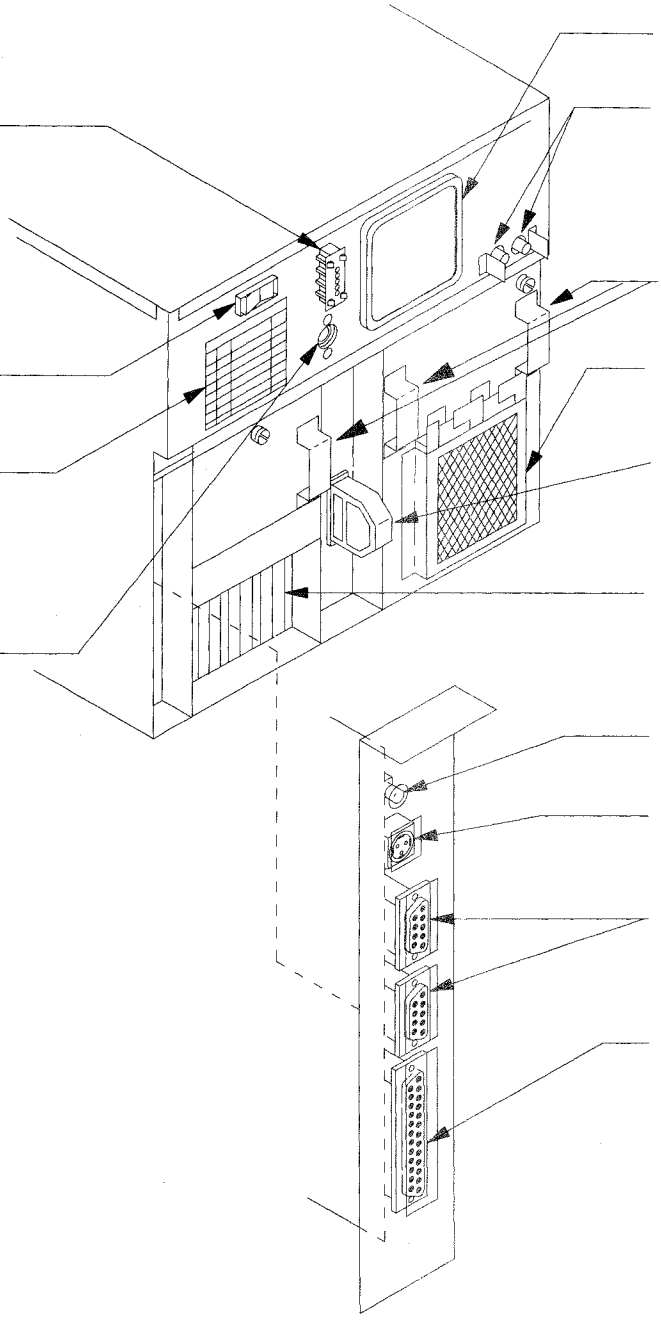
Figure 5
Front panel features



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Figure 6
Rear panel features



The **power strip** connects ac input power.

The **power switch** turns system power on and off; its integral 5 amp circuit breaker provides overcurrent protection.

A **system configuration label** allows you to record information about each module you install.

The **rear keyboard connector** is an alternative to the front connector for an optional 101– or 102–key AT compatible keyboard.

The **upper fan** pulls air out of the chassis to complete the forced air cooling cycle.

The **contrast/brightness controls** adjust monitor output.

The **drawer handles** allow you to remove the slide–out drawer.

The **lower fan** draws air in through a removeable, washable air filter.

The removeable **SCSI**[1] **terminator** attaches to the SCSI bus expansion connector.

6 **module slots** are available for modules of your choice. (Filler plates to cover opening not shown.)

The **reset button** initiates hardware reset and is recessed to prevent accidental actuation.

The **external speaker jack** provides for optional audio output to an external piezo speaker. (A speaker does not come with the T60 workstation.)

Two **serial ports** (two 9–pin D–shell connectors) provide RS–232 serial interfaces labeled COM1 and COM2.

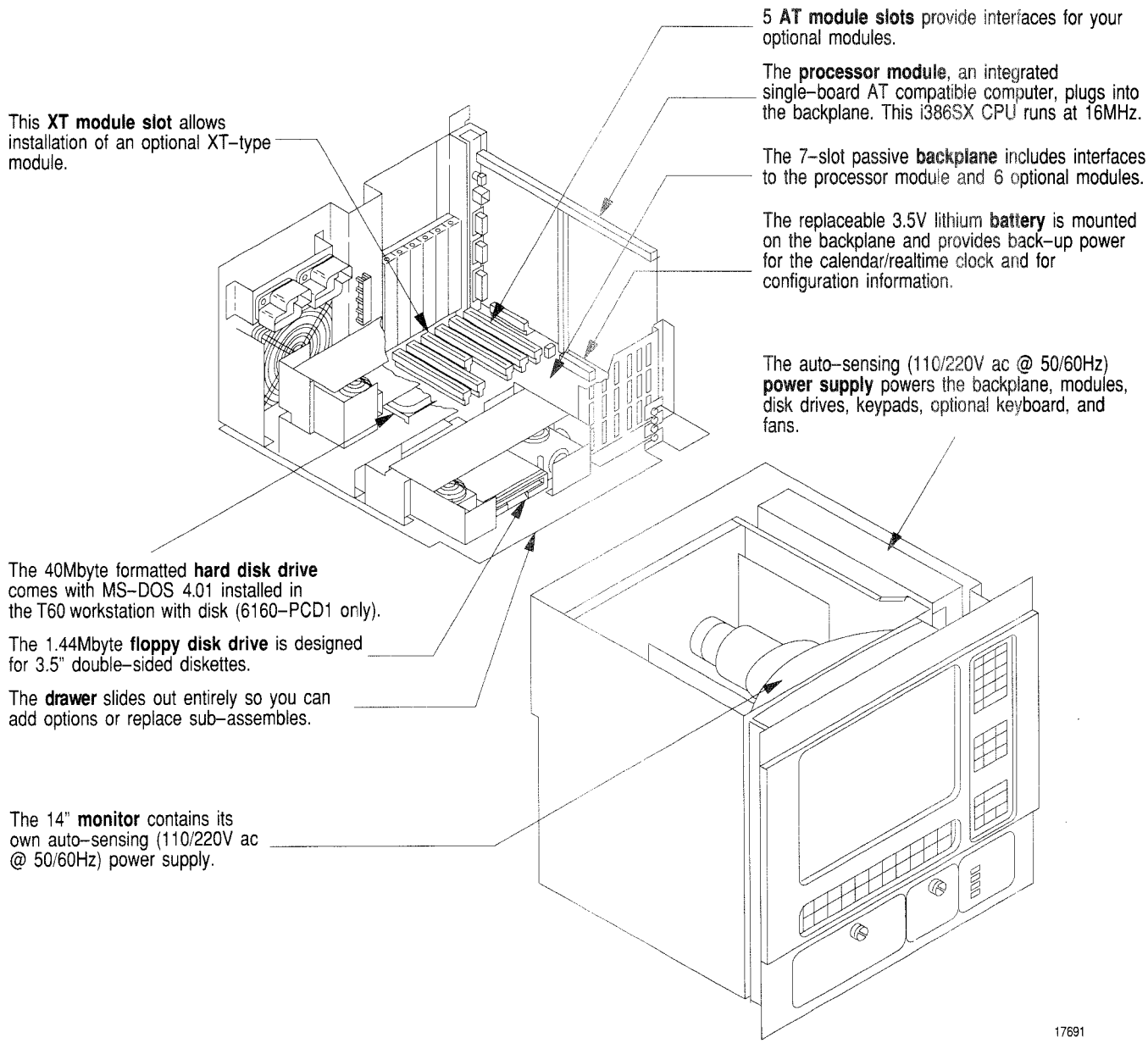
The **parallel port** (a 25–pin D–shell connector) provides a Centronics compatible interface for a printer or other parallel device. It is labeled LPT1.

[1] Small Computer System Interface

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Figure 7
Internal features



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Processor Module Features

The processor module is a single-board AT-compatible CPU built around the Intel i386SX processor. The module is entirely free of cables because it routes signals through the T60 workstation's backplane.

Advanced technology on the processor module integrates standard peripherals such as two serial ports, one parallel port, a VGA graphics controller, a floppy controller, and an SCSI hard disk interface. Additional processor module features include:

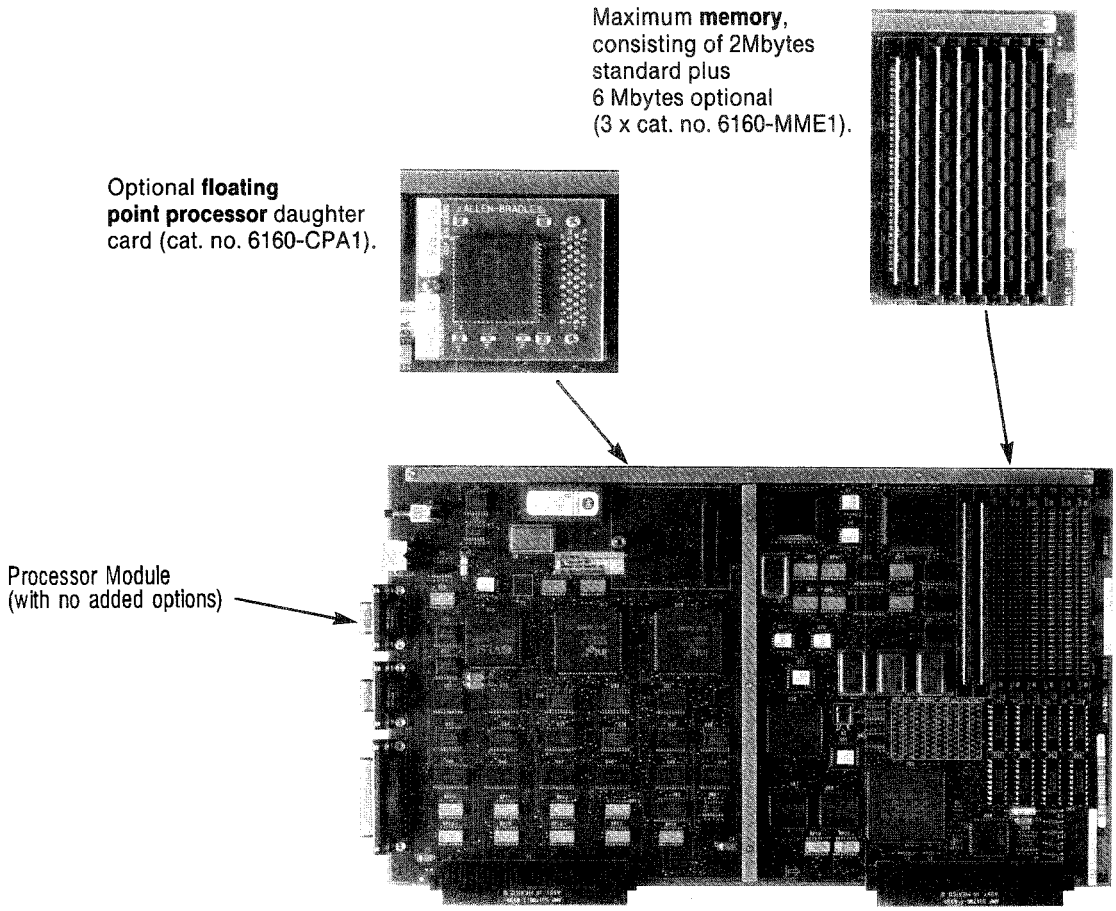
- i386SX microprocessor operating at 16MHz
- **Optional** 387SX Floating Point Processor daughter card
- 2Mbytes of memory (640Kbytes base memory and 1.384Mbytes extended memory)
- Up to 6Mbytes of **optional** additional memory (memory size options of 2, 4, and 8Mbytes)
- LIM EMS 4.0 emulation
- external piezo speaker port
- back panel reset switch
- battery monitor with status indicator light
- 8242 keyboard controller
- Award™ BIOS
- 1Mbyte EPROM for PC, SCSI, and VGA BIOS's
- Power On Self Tests (POST), resident in the BIOS, execute automatically after power up or reset
- Standard complement of PC/AT processor peripherals (i. e., battery-backed time-of-day clock, battery-backed CMOS RAM for configuration information, 7 DMA channels, 13 interrupt lines, and 3 programmable interval timers)
- No jumpers on the processor module for you to configure

Figure 8 shows the processor module as it comes with the T60 workstation (cat. no. 6160-PCD1 or 6160 PCN1) or as a replacement part (cat. no. 6160-CPU1). Each enlargement above the module shows an option.

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For more detailed information on the processor module, see the specification section at the end of this publication.

Figure 8
Processor module with featured options
(options enlarged to show detail)



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Disk Operating System

We install **MS-DOS 4.01** and **GW-BASIC®** before we ship the T60 workstation. For information on these packages, refer to the MS-DOS and GW-BASIC user guides that come with your workstation. See the following table for shipment information:

If you purchase:	Then you receive the following media:	And you receive this documentation:
T60 Industrial Workstation with 40Mbyte Hard Disk (cat. no. 6160-PCD1)	Your hard disk with MS-DOS 4.01 and GW-BASIC installed **and** floppy disks with MS-DOS 4.01 and GW-BASIC installed	MS-DOS 4.01 and GW-BASIC user guides
T60 Industrial Workstation without Disk (cat. no. 6160-PCN1)	Floppy disks with MS-DOS 4.01 and GW-BASIC installed	

Networks and Configurations

You can use the T60 workstation in a variety of configurations depending on your particular application. This section offers sample configurations to give you different ideas for positioning the T60 workstation in your network. The sample configurations include:

- T60 workstation with disk
- Combination configurations
- Networking with I/O

Contact your local Allen-Bradley sales representative for system requirements for each configuration.

T60 Workstation with Hard Disk

Use the T60 Industrial Workstation with Disk (6160-PCD1) as an independent station on your network, or connect it to your host workstation.

The T60 workstation with a hard disk lets you:

- monitor activities on your network with software packages such as ControlView and Advisor
- program PLC controllers on line or off line with 6200 Series Software
- establish local data storage
- use DDMC software to diagnose machine faults and access machine or process information

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- transfer files to and from other stations on your network
- communicate plant floor information to your host computer

Figures 9 through 11 show sample configurations of the T60 workstation with a hard disk.

Figure 9
Stand-alone configuration with PLC controllers

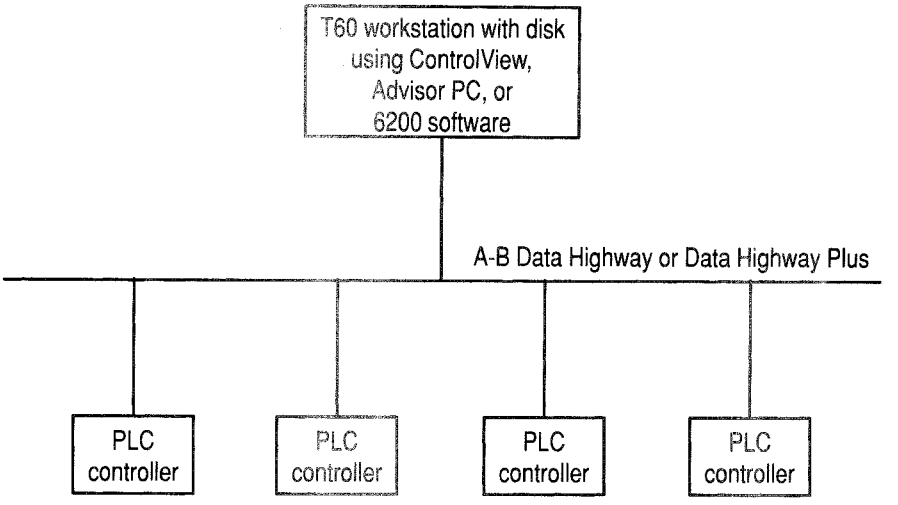
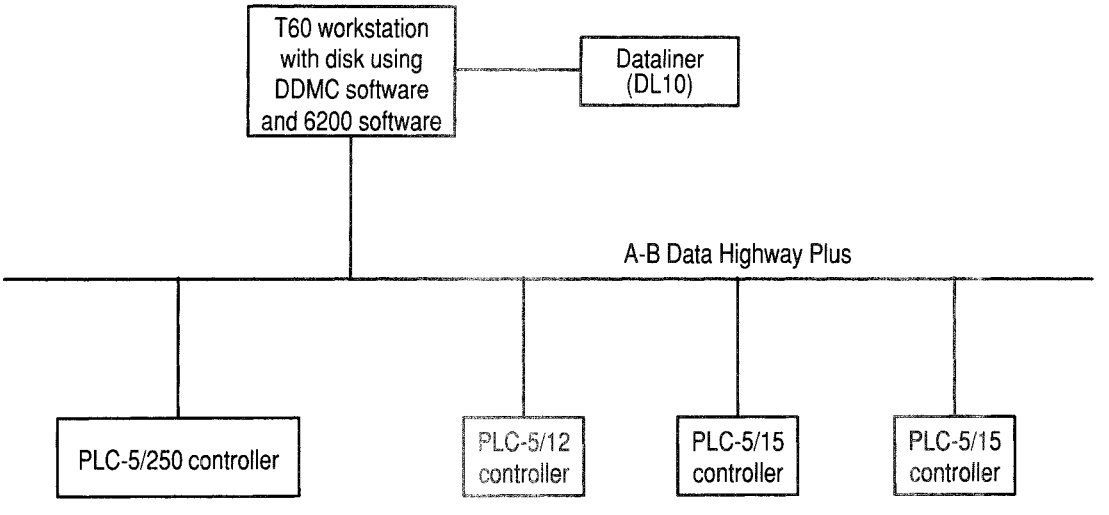


Figure 10
T60 workstation with disk in a DDMC configuration

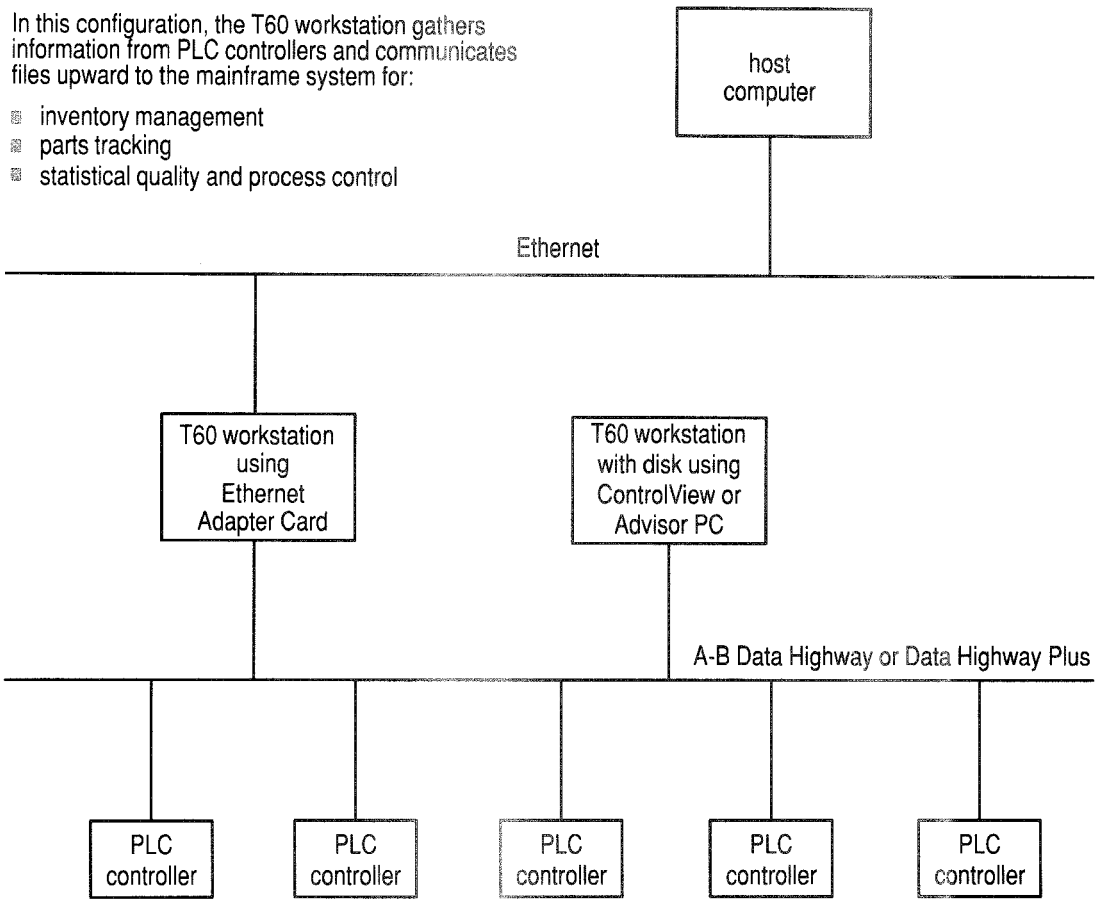


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Figure 11
T60 workstation with disk networking with a host computer

In this configuration, the T60 workstation gathers information from PLC controllers and communicates files upward to the mainframe system for:

- inventory management
- parts tracking
- statistical quality and process control



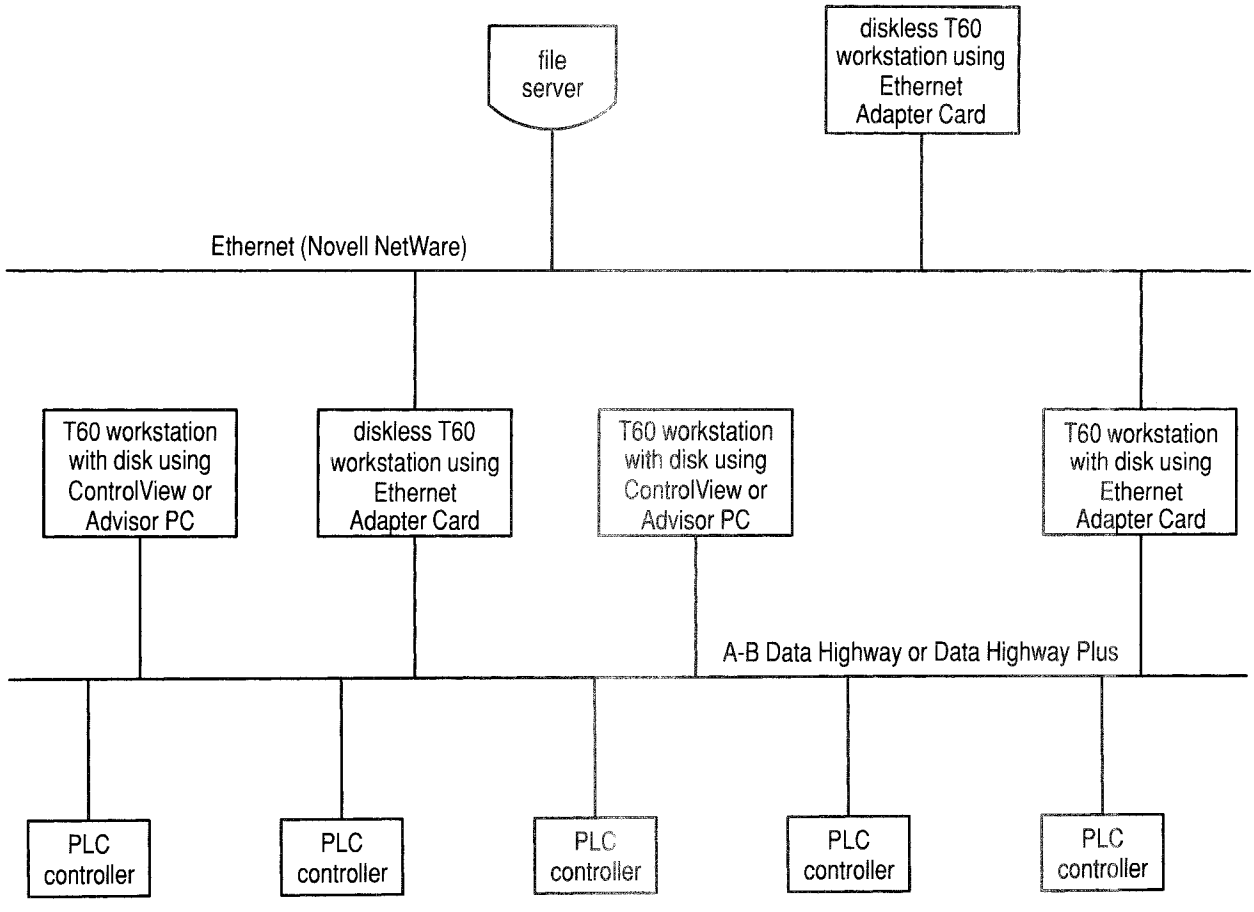
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Combination Configurations

Take advantage of this versatile product's networking capabilities by using T60 workstations with and without hard disks on a network with a file server. Networking with a central file server:

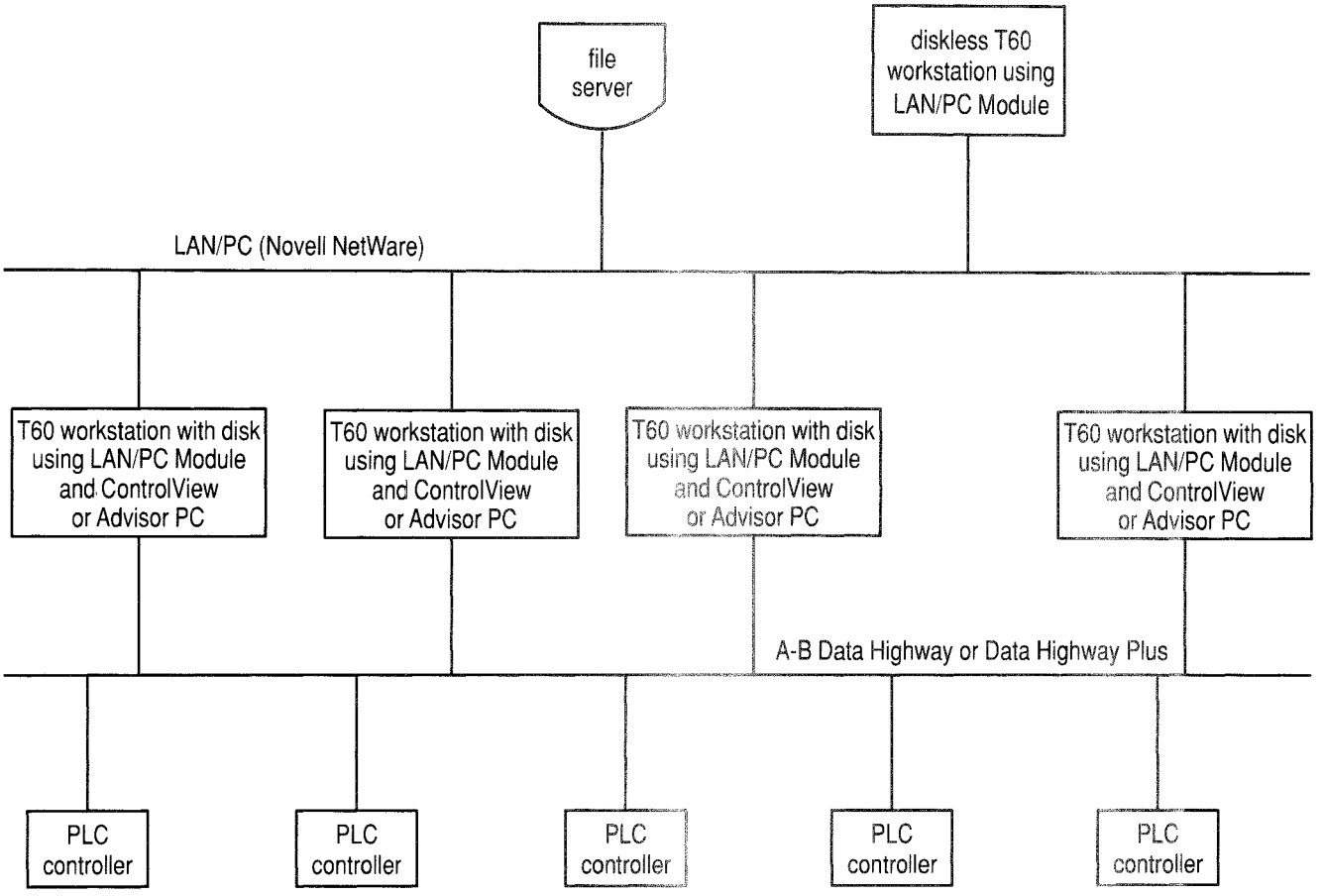
- does away with the necessity for transferring files from one machine to another via floppy disks or slow serial connections
- provides consistency, ensuring that your operators access the same displays and not different variations or revisions of them
- ensures that the same data is available to your operators at the same time

Figure 12
Networking with a central file server using Ethernet Adapter Cards



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Figure 13
Networking with a central file server using LAN/PC modules



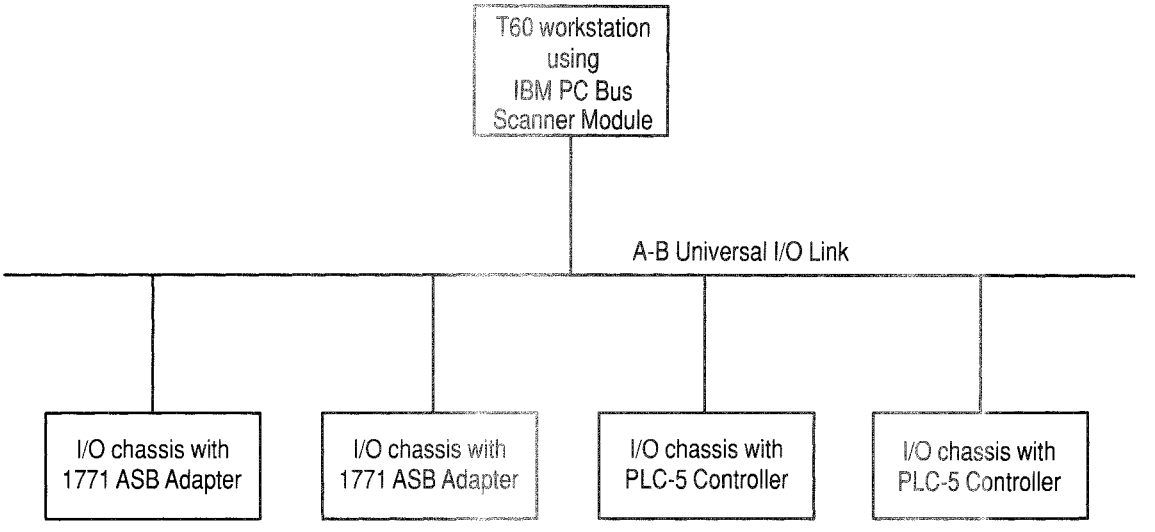
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Networking with I/O

You can connect up to 16 I/O chassis to the T60 workstation with **or without** a disk. The IBM PC Bus Scanner Module (cat. no. 6008-SI) lets the workstation access up to 1,024 discrete inputs and outputs through a single interface.

The following figure shows a sample I/O configuration.

Figure 14
Stand-alone configuration with I/O



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Available Options

The following table lists options and enhancements designed specifically for the T60 workstation. For other suitable Allen-Bradley options, see the end of this section.

This option/enhancement:	With cat. no.:	Consists of:	And provides the following benefits:
2Mbyte Memory Upgrade	6160-MME1	Extended memory upgrades that attach to processor module; sold in increments of 2Mbytes (2 SIMM sticks per cat. no.); memory 16 bits wide; can add either 2Mbytes or 6Mbytes to system	Memory upgrades fit right on the processor module, providing speed and memory expansion without using module slots. You can add either 2Mbytes or 6Mbytes of memory to your system. Add 2Mbytes and increase your memory to 4Mbytes, or add the maximum of 6Mbytes and increase your total memory to 8Mbytes.
387SX Floating Point Processor	6160-CPA1	i387SX math coprocessor daughter card that fits on processor module; meets ANSI/IEEE standard 754-1985 for binary mathematical functions; 16 MHz clock frequency	This high-performance numerics processor extends the architecture of the i386SX Processor Module with floating point, extended register, and BCD data types. The i387SX vastly increases the rate of operation of mathematical application software. Use this valuable enhancement for spreadsheets, graphic displays, and financial calculations.
40Mbyte Disk	6160-ID1	40Mbyte hard disk	Add this disk when you wish to upgrade a diskless T60 workstation (6160-PCN1), or use it as a spare/replacement part for a T60 workstation with disk (6160-PCD1). It offers you 40Mbytes of storage.
104Mbyte Disk	6160-ID2	104Mbyte hard disk	Upgrade a diskless workstation (6160-PCN1) or a 40Mbyte-disk system (6160-PCD1) for maximum hard disk storage in your T60 workstation. This disk provides 104Mbytes of storage to meet high-capacity system requirements.
Keyboard	6160-KBD1	101-key keyboard, AT compatible (not industrialized)	This keyboard is designed specifically for use with the T60 workstation during system configuration. It connects through the front or back of the workstation.
1.44Mbyte Floppy Drive 386SX Processor Module CMOS RAM Battery Power Supply	6169-FD1 6169-CPU1 6169-BAT 6169-PS1	Each item comes installed in the T60 workstation and is available as a spare or replacement	Purchase these items as spare/replacement parts to help reduce plant floor downtime. The T60 workstation's modular design allows you to easily replace a part and quickly return your system to full functions.[1]

[1] Replaceable parts include all items in this table.

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Other Options

The table below lists other Allen-Bradley products compatible with the T60 workstation. For additional information concerning these items, see the Allen-Bradley Industrial Computer and Communication Product Guide (ICCG-1.1) or consult your local Allen-Bradley sales representative.

Table 6
Other options suitable for the T-60 workstation

This option/enhancement:	With cat. no.:	Provides:
LAN/PC Network Interface Modules	varies depending on frequency	LAN/PC modules for communication across standard broadband coaxial cable (For information on individual modules, see LAN/PC Overview, pub. no. 6626-2.11)
Processor Communications Interface Module	1784-KT	An XT module occupying a single AT or XT slot; it connects to PLC controllers or Data Highway Plus networks
IBM PC Bus Scanner Module	6008-SI	A switch-selectable AT or XT module occupying two slots; it connects up to 16 I/O chassis through a shielded twisted pair cable
Integral Data Highway Interface	6171-IDH	An XT module occupying a single AT or XT slot; it connects to Data Highway or Data Highway Plus networks
Advisor PC Serial/Parallel Expander 4 Serial/1 Parallel	6171-MX5	An expander adding 4 serial ports and 1 parallel port; it fits in a single standard AT slot
Advisor PC Serial/Parallel Expander 6 Serial/2 Parallel	6171-MX8	An expander adding 6 serial and 2 parallel ports; it fits in a single standard AT slot
Ethernet Adatper Card	6628-A5	An AT module occupying a single AT slot; it communicates across a standard baseband cable for connection to Ethernet

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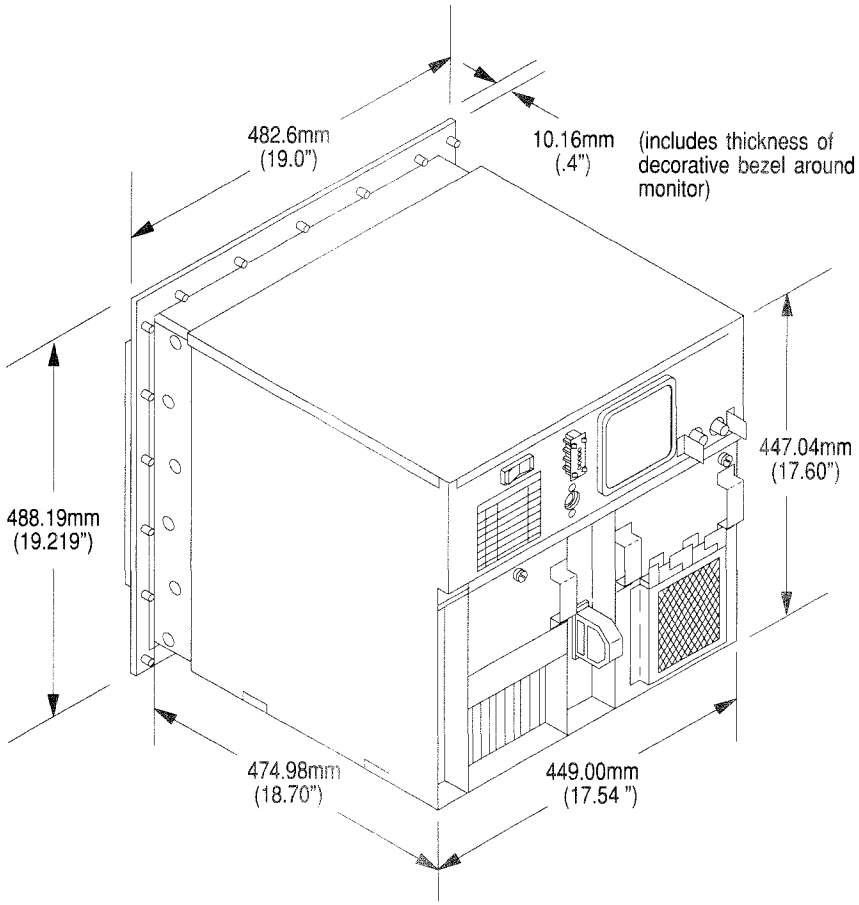
Mounting Preparations

You can mount the T60 workstation in a panel, rack, or cabinet. This section gives you overall dimensions of the system, describes how to prepare for panel, rack, or cabinet mounting, and gives you other important information to aid your mounting preparations.

Dimensions of the System

The figure below shows dimensions of the chassis and the faceplate.

Figure 15
Workstation dimensions



Dimension	Main Chassis	Faceplate
Height	447.04mm (17.600in.)*	488.19mm (19.219in.)
Width	449.00mm (17.540in.)	482.60mm (19.000in.)
Depth	474.98mm (18.700in.)**	10.16mm (0.400in.)

* Includes thumbscrews on bottom.
** To end of potentiometer guard.

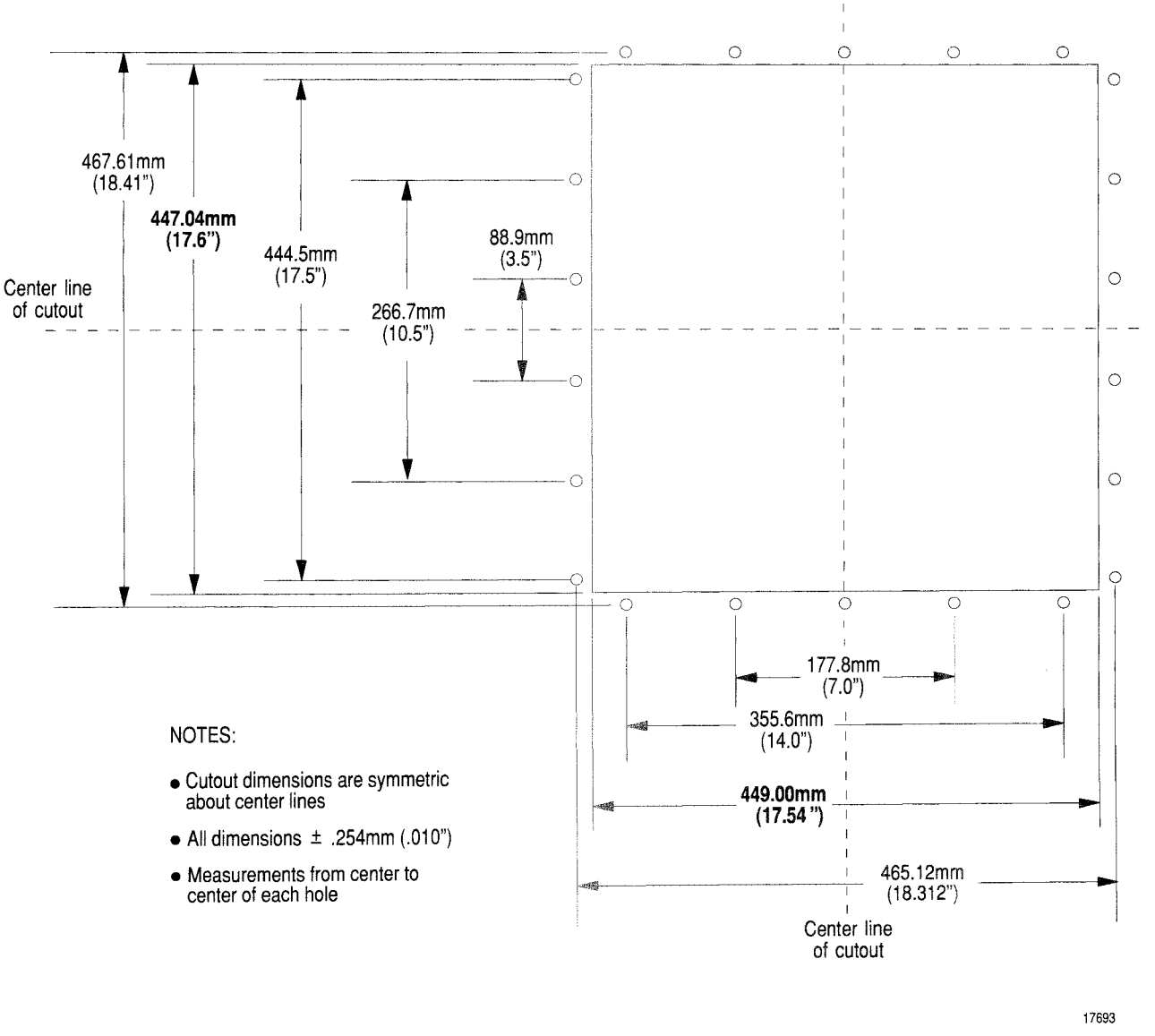
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Panel Mounting Preparations

The figure below shows you cutout dimensions for cutting and drilling a panel to mount the T60 workstation. Use a 'K' bit and drill the holes 7.14mm (.281 inch) in diameter to accommodate the 10-32 studs on the back of the workstation's faceplate.

Figure 16
Cutout dimensions



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Rack Mounting Preparations

Mount the T60 workstation on a 19-inch universal spacing rack that conforms to the EIA standard (RS-310-C). Figure 17 (previous page) shows the location of the studs on the back of the T60 workstation's front panel. Since these studs are **threaded**, use a rack in which the holes are **not threaded**. If the rack has threaded holes, drill them out with a 'K' bit (7.14mm or .281 inch) to provide clearance for the 10-32 studs.

Cabinet Mounting Preparations

Depending on your cabinet, use the information for either panel or rack mounting in the previous two sections. Other important details such as clearances and thermal rating are listed in the table below.

Mounting Factors and Measurements

This factor:	Has the following measurement(s):
Clearance for air flow	Allow 25.4mm (1 in.) from top, bottom, sides Allow 101.6mm (4 in.) from back
Clearance for parts replacement	Allow additional space below, behind, and above the chassis to remove the drawer and lid
Operating temperature	41 to 122° F or 5 to 50° C
Thermal rating	1,962 BTU/hour maximum
Maximum thermal excursion rate operating non-operating	 Δ36° F or Δ20° C per hour Δ18° F or Δ10° C per hour
Relative humidity	10% to 80% non-condensing
Relative humidity excursion rate	Δ10% per hour
Weight	32.2kg (71.0 lbs.)
Mounting studs	10-32 threaded studs (The workstation comes with nuts for its 22 studs)
Holes for mounting studs	7.14mm (.281 in.) in diameter

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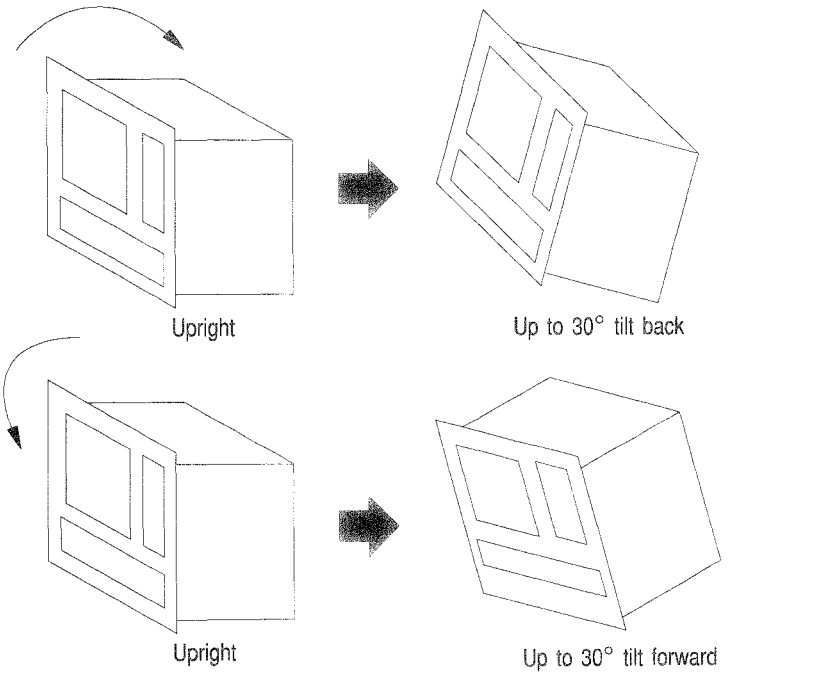
Mounting Orientations

You can mount the T60 workstation:

- in an upright position
- tilted back **up to 30°** (below you so you look down at the screen)
- tilted forward **up to 30°** (above you so you look up at the screen)

The figure below illustrates the maximum tilts for the workstation.

Figure 17
Maximum mounting orientations



For More Information

For further information about the T60 Industrial Workstation (cat. no. 6160-PCD1 or 6160-PCN1), contact your local Allen-Bradley sales representative.

When you purchase the workstation, you receive a T60 Industrial Workstation User's Manual (pub. no. 6160-6.5.1).

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Specifications

Physical

Dimension	Main Chassis		Faceplate	
Height	447.04mm	17.600 in.	488.19mm	19.219 in.
Width	449.00mm	17.540 in.	482.60mm	19.000 in.
Depth	474.98mm	18.700 in.	10.16mm[1]	0.400 in.[1]
Clearance for air flow	Allow 25.40mm (1 in.) from top, bottom, sides Allow 101.6mm (4 in.) from back			
Clearance for parts replacement	Allow additional space below, behind, and above the chassis to remove the drawer and lid			
Weight	Entire unit: 32.20kg (71.00 lbs.); drawer alone: 6.51kg (14.35 lbs.)			
NEMA rating	Front bezel is NEMA 4 and 12 rated (panel mount configuration only)			

[1] Includes thickness of decorative bezel around monitor

Environmental Conditions

Operating temperature	41 to 122° F 5 to 50° C
Storage temperature (floppy media exempt)	–4 to 140° F –20 to 60° C
Maximum thermal excursion rate operating non-operating	 Δ36° F or Δ20° C per hour Δ18° F or Δ10° C per hour
Relative humidity	10% to 80% non-condensing
Relative humidity excursion rate	Δ10% per hour
Altitude for operation	0 to 2,000m (0 to 6,560 ft.)
Maximum altitude for storage	9,144m (30,000 ft.)

Shock and Vibration

Shock/Vibration	Operating	Non-Operating
Shock	15g peak acceleration 11ms duration	30g peak acceleration 11ms duration
Vibration	5 to 2000Hz 0.1524mm (0.006 in.) peak to peak 1.0g maximum peak acceleration	5 to 2000Hz 0.381mm (0.015 in.) peak to peak 2.5g maximum peak acceleration

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System Power

Operating line voltage	90 to 132V ac and 185 to 264V ac (automatically sensed)
Operating line frequency	47 to 63Hz
Power requirement	575 watts maximum
Inrush current (average for one cycle)	45 amps @ 115V ac 90 amps @ 230V ac
Input line protection	5 amp thermal circuit breaker
Thermal rating	1,962 BTU/hour maximum
Battery	3.6V lithium battery Capacity: 1.75 amp-hours

Power Available for Optional Modules

At this voltage:	The total power available for optional modules is:	No single module may exceed:
+5V	13.0 amps	7.0 amps
+12V	3.0 amps	2.4 amps
–5V	0.8 amp	0.8 amps
–12V	1.5 amps	1.5 amps

Power Supply

Output power	225 watts
Inrush current (average for one cycle)	30 amps @ 115V ac 60 amps @ 230V ac
Overvoltage protection (+5V dc output)	5.9 to 6.6V dc
Transient response for all outputs: Following a 25% load step decrease Following a 25% load step increase	 4% within 700 micro seconds 3% within 700 micro seconds

Monitor

Resolution (horizontal x vertical)	Up to 738 x 496 including borders
Scanning frequencies: Horizontal scan Vertical scan	 31.5KHz nominal 45Hz to 100Hz
Degaussing	Automatic at power-on

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Floppy Disk Drive

Formatted capacity	1.44Mbytes *
Rotation speed	300 RPM
Continuous speed variation	+/– 1.5%
Instantaneous speed variation	+/– 1.5%
Access time:	
Track to track slew rate	3ms
Head settling time	15ms maximum
Average access time	94ms
Motor start time	500ms maximum
Rotational latency	100ms average
Structure:	
Track density	135 TPI
Number of cylinders	80
Number of tracks	160
R/W heads	2

* High density 3 1/2" floppies must be used.

40Mbyte and 104Mbyte Hard Disks

	40Mbyte Formatted Hard Disk	104Mbyte Formatted Hard Disk
Interface	SCSI	SCSI
Storage capacity	40Mbytes	104Mbytes
Number of data surfaces	2	8
Tracks per surface	1026	776
Track density	1400TPI	1200TPI
Formatted track capacity	20,480 bytes	16,896 bytes
Bytes per block	512	512
Blocks per drive	82,080	204,864
Sectors per track	41	33
Seek times at nominal dc voltage:		
Track to track	8ms	8ms
Average	25ms	25ms
Maximum	50ms	45ms
Average latency	8.4ms	8.4ms
Rotation speed	3557 RPM +/– 0.1%	3575 RPM +/– 0.1%
Data transfer rates:		
To/from media	1.50Mbytes/s	1.25Mbytes/s
To/from buffer	1.66Mbytes/s	1.66Mbytes/s

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Processor Module

Feature	Standard	Optional
i386SX microprocessor at 16MHz	X	
i387SX Floating Point Processor daughter card		X
2Mbytes of zero-wait-state DRAM with byte parity, configured as: 640Kbytes base memory 1.384Mbytes extended memory	X	
SIMM sticks for up to 6Mbytes additional DRAM		X
LIM EMS emulation	X	
Shadow RAM operation	X	
Memory mapping options	X	
Award BIOS	X	
1Mbyte EPROM containing PC, SCSI, and VGA BIOS's	X	
Power On Self Tests (POST)	X	
Standard PC/AT peripherals: Battery-backed TOD clock Battery-backed CMOS RAM for configuration information 7 DMA channels 13 interrupt lines 3 programmable interval timers	X	
VGA graphics controller	X	
SCSI hard disk controller	X	
Floppy diskette controller	X	
8242 keyboard controller and BIOS	X	
Two RS-232 serial ports (COM1 and COM2) with a maximum baud rate of 19.2K	X	
Parallel port (LPT1)	X	
External piezo speaker port	X	
External piezo speaker		X[1]
Battery monitor with status indicator light	X	
Back panel reset switch	X	

[1] Allen-Bradley does not provide this option; customer must supply it.

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