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## 1. IBM PC 300 Series Pentium Systems

October 17, 1994

Announcement Number: 194-347

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### Abstract

The IBM PC 300 Series Pentium\*\* systems redefine the meaning of "entry level" with a new set of desktop products. These high-speed performers are designed to deliver state-of-the-art technology, advanced industrial design, and IBM quality, service and support at competitive prices.

The IBM PC 300 Series has virtually everything you look for in a general computing family -- such as: Pentium processors; PCI/ISA bus technology, either a three-slot/three-bay Spacesaver package or a five-slot/five-bay Desktop package, large capacity hard files, and

choice of keyboards.

Each PC 300 Series system includes powerful new software tools for managing desktop computing assets with ease and effectiveness. Potential benefits include increased productivity, higher user satisfaction, and a lower cost of computing.

Seven model configurations define a range of solutions for specific needs and budget. What's more, with this family of products, IBM introduces the 300 Series/Pentium Custom Configuration Matrix(1), designed to help you define additional model configurations beyond the seven standard models announced today. The 300 Series/Pentium Custom Configuration Matrix offers a building-block approach for 300 Series Pentium system components for custom selecting products. The IBM 101-key basic keyboard is included with the PC 300 Series as the standard keyboard. Alternate keyboards can be selected for an additional charge. IBM intends to build 300 Series systems based on demand; therefore, many of these configurations will be available. Others may be available under special bid terms and conditions.

Purchase Prices: Contact an IBM authorized remarketer or IBM PC Direct.

Planned Availability Date: November 16, 1994

- \*\* Product or company name is a trademark or registered trademark of its respective holder.
- (1) Located in the Charges section
- + Trademark of Microsoft Corporation
- (R) Registered trademark of International Business Machines Corporation
- (2) The Energy Star emblem does not represent EPA endorsement of any product or service. EPA, as a matter of policy, does not endorse any particular company and its products.

## IN BRIEF ...

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New Models	
o Pentium 60MHz models	

- | o High-capacity/performance hard files: 364MB, 540MB, 728MB, and 1080MB (million bytes)
- | o High-performance SVGA local bus (LB) video
- | o PCI/ISA bus technology
- | o Support for 2.88MB diskette drives
- | o Support for up to four IDE DASD devices
- | o PC DOS 6.3/Windows+ 3.0 or OS/2(R) Warp preinstalled on hard file models
- | o Diskette Factory on PC DOS/Windows and OS/2 models
- | o Plug and Play capability on all systems
- | o System support EPA Energy Star(2) requirements for power consumption in idle mode
- | o Excellent expansion capability

#### Common to All Models

- | o One 3.5-inch, 1.44MB diskette drive
- | o 8MB or 16MB memory
- | o 1MB video RAM (DRAM)
- | o External 258KB L2 Cache
- | o PCI local bus SVGA video: 640 x 480, 800 x 600, 1024 x 768, 1280 X 1024
- | o Two high-speed serial ports (9-pin); one high-speed parallel port
- | o Keyboard and pointing device ports
- | o IBM Keyboard; IBM Mouse
- | o Fully upgradeable to Intel's future Pentium\*\* processor technology
- | o All systems Plug and Play capable
- | o All systems are Advanced Power Management capable
- | o HelpWare(R) for full range of service and support
- | o HelpCenter(R) (800-772-2227)

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## DESCRIPTION

The IBM PC 300 Series systems provide leadership technology, advanced industrial design, and IBM quality, service, and support.

### **Leadership Technology**

60MHz Pentium processor

PCI/ISA SelectaBus(TM) technology

Adaptive write-back cache standard

Enhanced local bus IDE hard file controller

Local bus graphics controller

Advanced power management and system asset management

### **Advanced Industrial Design**

Choice of three-slot/three-bay or five-slot/five-bay design

Vertical or horizontal orientation

Choice of keyboards

Quiet and cool operation

Front access PCMCIA support

Lockable DASD

### **Easy Tools**



Easy Tools is a unique set of software tools designed to help you manage your desktop computing asset with ease and effectiveness.

Easy Tools includes:

**Welcome** The first time your users power-on their IBM PCs, they will receive a unique multimedia presentation. It leads users through a simple checklist for setting up their systems. Welcome also includes an online library with comprehensive tutorials on OS/2 and DOS/Windows function. The tutorials are available at any time simply by clicking on an icon.

**NetFinity\*\* Services** NetFinity Services simplifies asset management by allowing LAN administrators to remotely gather system configuration details such as memory size, adapters installed, operating system used, and more. This information can be stored in a database for record keeping and reporting.

**QA Plus\*\*** This diagnostic software tool enables users and system support staff to accurately diagnose common problems on all major system components. The diagnostics may be run by clicking on an icon rather than booting from a diskette.

**Online HouseCall** This tool lets administrators remotely connect with and control user systems to resolve problems quickly and easily. The file transfer function enables administrators to dynamically download device drivers and configuration files. The Chat Box function lets users exchange text messages with administrators.

**Rapid Resume\*\*** Rapid Resume provides two power management modes Standby and Suspend, a Scheduler, and Wake Up on Ring. These features combine to provide Advanced Power Management and efficient unattended operation of your system.

**AnyView\*\*** AnyView for DOS/Windows lets you establish the ideal graphics resolution and color settings for each application on your system. Once established, compatible displays are automatically set up for the active application.

**Diskette Factory** This utility helps you easily create install-level diskettes for your IBM PCs.

**Plug and Play Utility** This software facility for DOS/Windows provides easy installation capability for Plug and Play adapters.

## **IBM Quality, Service, and Support**

Compatible with most industry-standard interfaces and devices

Manufactured to meet IBM's high standards

## HelpWare

### Three-year limited warranty

IBM HelpWare: IBM HelpWare is a comprehensive set of offerings designed to provide you with a full range of service and support options in making your computing experience more productive and enjoyable. As part of our commitment to providing you with the support you demand, we provide many HelpWare services complimentary during the warranty period of your IBM personal computer and additional services are available from the HelpWare Support Family. For detailed information on HelpWare, refer to Services Announcement 694-029, dated October 17, 1994, or call the HelpCenter at 800-772-2227.

## PRODUCT POSITIONING

The IBM PC 300 Series is positioned as the entry-level solution for serious business. These systems deliver state-of-the-art technology and maximum value for general purpose computing. They offer the mix of price and performance required throughout today's enterprise to meet the general computing needs of the commercial customer, from stand-alone productivity to systems and asset management.

Key advantages of the IBM PC 300 Series Pentium systems:

- Leading industry-standard technology for optimum performance, upgrades, compatibility, and investment protection

- Competitively priced

- Easy Tools preloaded for extensive ease-of-use and management capability

- PCI local bus slots for advanced I/O adapters

- RAM memory expandable to 128MB

- Up to 4GB of hard file capacity supported

- Enhanced IDE for support of up to four devices

- Asset/system management with NetFinity and vital product data

Energy Star compliant

Choice of keyboard

Three-year limited warranty behind IBM's quality, reliability, service and support

Key users:

Mainstream users with an acquisition cost/value focus

Customers requiring superior industry-standard technology for mainstream applications

LAN clients requiring price/performance function in AT(R)-class systems

Customers requiring an easy-to-manage system, 24 hours a day

## STATEMENT OF GENERAL DIRECTION

IBM intends to support DMI technology in the new IBM PC 300 Series and 700 Series Systems with planned availability in December 1994.

## PUBLICATIONS

The following publications are shipped with the products. Additional copies of these publications can also be obtained.

Title	Order Number	Part Number
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## Setting Up

Your Personal Computer		83G9820
Using Your Personal Computer	S83G-9822	83G9822
Installing Options in		
Your Personal Computer	S83G-9824	83G9824

The following publications are shipped with PC DOS/Windows models:

Title	Part Number
IBM PC DOS/Microsoft Windows	10H3083
Windows Certificate of Authenticity	83G7669
Windows Registration	83G7768

The following publications are shipped with OS/2 models:

Title	Part Number
OS/2 Publication	83G8109
IBM NetFinity for OS/2	84G0061

The following diskettes are shipped with open bay models:

Title	Part Number
S3 Vision864 SVGA DOS and Windows Drivers	83G7786

Mouse Control Center for DOS and Windows	19H1251
Diagnostic Diskette for 65XX and 68XX Systems	83G9826

The following publications are available immediately. To order, contact your IBM representative.

Title	Order Number	Part Number
Understanding Your Personal Computer	S83G-8299	83G8299
S3 Vision Video Drivers and Utilities	S19H-1188	19H1188
Technical Information Manual	S19H-1185	19H1185
Hardware Maintenance Manual	S83G-7789	83G7789
Diagnostic Diskette for 65XX and 68XX Systems	S83G-7787	83G7787

IBM's System Library Subscription Service (SLSS) is available.

Displayable Softcopy Publications: Understanding Your Personal Computer is offered in displayable softcopy form. This displayable manual can be used with the BookManager(R) READ licensed programs in any of the supported environments. Terms and conditions for use of the machine-readable files are shipped with the files.

Source File Publications: Understanding Your Personal Computer is offered as a no-charge feature.

This file can be used with the BookMaster(R) and DCF licensed programs to create unmodified printed copies of the manual. The source files can also be used with the BookManager BUILD licensed program to create unmodified displayable softcopy manuals. Terms and conditions for use of the machine-readable files are shipped with the files.

## EDUCATION SUPPORT

No self-study/classroom courses will be available specifically for the IBM PC 330 and 350.

Call IBM Direct Education at 800-IBM-TEACH (426-8322), for schedules, education catalogs and enrollments.

## TECHNICAL INFORMATION

### Specified Operating Environment

Hard File Specifications:

Formatted Capacity*	364MB	540MB	728MB
Average Media Data Rate	37.6Mb/sec 4.7MB/sec	34.0Mb/sec 4.3MB/sec	37.6Mb/sec 4.7MB/sec
Average Seek Time	12 ms	12 ms	12 ms
Average Latency	6.7 ms	6.7 ms	6.7 ms
Sector Interleave	1:1	1:1	1:1
Interface	AT (IDE)	AT (IDE)	AT (IDE)
Read/Write Cache	64KB	96KB	96KB
* MB equals million bytes. Mb equals million bits. Actual			

user-accessible capacity may vary slightly based on			
different operating environments.			
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-----+-----+-----+-----			
Formatted Capacity*	1080MB		
-----+-----+-----+-----			
Average Media Data	47.5Mb/sec		
-----+-----+-----+-----			
Rate	5.9MB/sec		
-----+-----+-----+-----			
Average Seek Time	10.5 ms		
-----+-----+-----+-----			
Average Latency	5.56 ms		
-----+-----+-----+-----			
Sector Interleave	1:1		
-----+-----+-----+-----			
Interface	AT (IDE)		
-----+-----+-----+-----			
Read/Write Cache	448KB		
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* MB equals million bytes. Mb equals million bits. Actual			
user-accessible capacity may vary slightly based on			
different operating environments.			
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#### Mechanical Specifications:

##### 6575 Dimensions/Weights

Width -- 360 mm (14.2 in.)

Depth -- 450 mm (17.7 in.)

Height -- 130 mm (5.1 in.)

Weight -- 8.6 kg (19.0 lb) (Minimum configuration)

Weight -- 10.4 kg (23.0 lb) (Maximum configuration)

## 6585 Dimensions/Weights

Width -- 420 mm (16.5 in.)

Depth -- 448 mm (17.6 in.)

Height -- 160 mm (6.3 in.)

Weight -- 12.7 kg (28.0 lb) (Minimum configuration)

Weight -- 14.1 kg (31.1 lb) (Maximum configuration)

## Electrical Power Specifications:

6575 models -- 145-watt supply with variable speed fan

110-volt or 220-volt operation controlled by a switch on the back of the unit

Built-in overload and surge protection

100-125 (nominal) V AC; 50-60Hz; 3 Amperes (maximum)

200-240 (nominal) V AC; 50-60Hz; 1.5 Amperes (maximum)

6585 models -- 200-watt supply with variable speed fan

110-volt or 220-volt operation controlled by a switch on the back of the unit

Built in overload and surge protection

100-125 (nominal) V AC; 50-60Hz; 5.2 Amperes (maximum)

200-240 (nominal) V AC; 50-60Hz; 2.6 Amperes (maximum)

## Ambient Air Temperature Specifications:

System on: 10.0(degs) to 32.0(degs)C (50(degs) to 90(degs)F at 0 to 2134 m) (0 to 7000 ft)

System off: 10.0(degs) to 43.0(degs)C (50(degs) to 110(degs)F at 0 to 2134 m) (0 to 7000 ft)

Advanced Power Management: The IBM PC 300 Series systems are designed to meet the EPA Energy Star requirements for using less



than 30 watts of power in idle mode when enabled by the power management software provided with the systems. All of the systems released in this announcement meet this requirement of less than 30 watts of power consumption in idle mode when the power management function is fully enabled.

Power consumption is dependent on many variables including system memory, L2 cache, video memory, number and type of hard files, and adapter cards installed. All of the IBM PC 300 Series systems have processors and hard files that support power management.

Noise Level Specifications: Declared acoustical noise emissions (idle mode): LWAd = 4.8 Bels in the 3x3, and 4.9 Bels in the 5x5.

Note: The noise emission level stated is the declared (upper limit) A-weighted sound power level, in Bels, for a random sample of machines, typically configured and operating in idle mode; that is, powered on, but no DASD read/write or other I/O activity. All measurements have been made in accordance with ANSI S12.10, and reported in conformance with ISO 9296.

#### Equipment Approvals:

FCC -- Certified to comply with Part 15 FCC Rules, Class B limits (6382, 6384, 6387 models)

UL -- UL 1950, First Edition (U.S. legal -- OSHA)

CSA -- C22.2 No. 950 (Canada legal)

ISO Compliance: All IBM PC 330 and 350 systems are ISO 9241-3 capable when used with an ISO capable monitor and appropriate software with ISO-compliant fonts.

A Supplier's Declaration will be made available for systems. This document will contain detailed test results of product platforms against recognized National and International Standards/Guidelines on ergonomics, emissions, product safety, acoustics and thermal.

A significant part of this document will address the ISO 9241 and ANSI/HFS 100 Ergonomics Standards. This Declaration demonstrates IBM's commitment to product excellence and will be made available through local IBM branch offices.

#### Operating Environment:

6575:

Temperature: 10(degs) to 32(degs)C (50(degs) to 90(degs)F)

Relative Humidity: 8% to 80%

Wet Bulb: Calorific value: 515 Btu (maximum)

Electrical Power:

90 -- 137 V AC, .08 kVA maximum

180 -- 265 V AC, .30 kVA maximum

Capacity of exhaust: .56 cubic meter/minute 20 CFM

Noise Level: 4.8 dB

Leakage and starting current: 750 uA/95 Amperes

6585:

Temperature: 10(degs) to 32(degs)C (50(degs) to 90(degs)F)

Relative Humidity: 8% to 80%

Wet Bulb: Calorific value: 1060 Btu (maximum)

Electrical Power:

90 -- 137 V AC, .08 kVA maximum

180 -- 265 V AC, .52 kVA maximum

Capacity of Exhaust: .56 cubic meter/minute 20 CFM

Noise Level: 4.9 dB

Leakage and starting current: 750 uA/95 Amperes

Hardware Requirements:

Monitors: Monitors supported by the IBM PC 330 and 350 systems are:

PS/ValuePoint(TM) Color Monitor 6312

PS/ValuePoint Color Monitor 6314

PS/ValuePoint Color Monitor 6317

PS/ValuePoint Color Monitor 6318

PS/ValuePoint Color Monitor 6319

IBM 6315 Color Monitors (Energy Star capable)

IBM 6321-001/003/004 Color Monitors

IBM 6321-011/013/014 Color Monitors

IBM 6322-002 Color Monitors

IBM 6322-022 Color Monitors (Energy Star capable)

IBM 6324 Color Monitors (Energy Star capable)

IBM 6325 Color Monitors (Energy Star capable)

IBM 6327-001/002/004 Color Monitors (Energy Star capable)

IBM 6327-023 Color Monitors (Energy Star capable)

IBM 9524 Color Monitors (Energy Star and NUTEK capable, base/touch models)

IBM 9525 Color Monitors (Energy Star and NUTEK capable, base/touch models)

IBM 9527 Color Monitors (Energy Star and NUTEK capable, base/touch models)

IBM 9521 Color Monitors (Energy Star and NUTEK capable, base/touch models)\*

IBM PS/2(R) Color Displays 8511, 8512, 8513, 8518 (VGA only)

IBM PS/2 Color Displays 8514, 8515 (VGA and 1024 x 768 (I))

IBM PS/2 Color Displays 8516 (VGA and 1024 x 768 (I) touch screen)

## IBM PS/2 Mono Monitor 8504 (VGA only)

\* When power managed to the VESA "Off" state, the IBM 9521 Color Monitors require the monitor power-on switch to be pressed to return the monitor to the normal power-on state.

The IBM PC 330 and 350 support VESA Display Power Management Signaling (DPMS). The DPMS drivers are preloaded on the systems.

The IBM PC 330 and 350 support VESA Display Data Channel (DDC). The DDC protocol allows basic configuration information to be passed between a system unit and its attached monitor. This capability enables a DDC-enabled system unit to automatically configure the graphics adapter to drive an attached DDC-capable monitor in its optimum display mode (highest resolution and refresh rate).

The IBM 6315, 6317, 6322, 6324, 6325, 6327, 9524, 9525, 9527, and 9521 monitors are ISO capable.

Video: All IBM PC 330 and 350 systems have a PCI local bus providing SVGA graphics. Operating system/driver support is required to provide the following VGA and SVGA video modes. All systems have 1MB of video memory (DRAM) standard and support the following video modes:

640 x 480, 256 colors (60, 72, 75, 85Hz)

640 x 480, 32K colors (60, 72, 75Hz)

640 x 480, 64K colors (60, 72, 75Hz)

640 x 480, 16M colors (60, 72, 75Hz)

800 x 600, 16 colors (56, 60, 72, 75Hz)

800 x 600, 256 colors (56, 60, 72, 75, 85Hz)

800 x 600, 32K colors (56, 60, 72, 75Hz)

800 x 600, 64K colors (56, 60, 72, 75Hz)

1024 x 768, 16 colors (43 (I), 60, 70, 72, 75Hz)

1024 x 768, 256 colors (43 (I), 60, 70, 72, 75Hz)

1280 x 1024, 16 colors (43 (I), 60, 72, 75Hz)

With 2MB of video DRAM (optional) the following additional modes are supported:

800 x 600, 16M colors (56, 60, 72, 75Hz)

1024 x 768, 32K colors (43 (I), 60, 70, 72, 75Hz)

1024 x 768, 64K colors (43 (I), 60, 70, 72, 75Hz)

1280 x 1024, 256 colors (45 (I), 60, 70, 75Hz)

1600 x 1200, 256 colors (49 (I))

#### Notes:

All modes are non-interlaced unless otherwise noted. (I) indicates interlaced.

The monitor attached should support the modes and frequencies desired.

MFI modes 2, 3 and 4; MFI mode 5 (132 columns) is supported in some graphics modes.

Note: The monitor attached should support the modes and frequencies desired.

#### Software Requirements:

**Operating System Software:** The primary operating system environments for IBM PC 330 and 350 will be IBM PC DOS 6.3 and Microsoft Windows 3.1 or OS/2 Warp Version 3.0 (OS/2 Warp). These operating systems will be preinstalled on selected models. Systems that are preinstalled will not ship with operating system diskettes, but will be preinstalled with Diskette Factory, a utility that allows customers to produce the diskette images of the preinstalled software.

IBM PC 330 and 350 will be tested for compatibility with the following operating systems. A documented compatibility report will be made available to marketing and support channels when testing is complete. This compatibility report will also be made available to users via various IPCC Bulletin Boards.

DOS 5.02

PC DOS 6.1

PC DOS 6.3

MS-DOS\*\* 6.0

MS-DOS 6.2

OS/2 2.1 (with S3 805 Drivers)(2),(3)

OS/2 2.11 (with S3 DXP Drivers)(4),(3)

OS/2 Warp

OS/2 Extended Services(TM) 1.0

Windows 3.1

Windows for Work Groups\*\* 3.11

Windows NT\*\*

OS/2 LAN Server 2.0

OS/2 LAN Server 3.0

Novell\*\* NetWare\*\* 2.2

Novell NetWare 3.11

Novell NetWare 4.0

DEC PathWorks\*\*

DEC NET\*\*

SCO\*\* UNIX\*\* 3.2v.4

AIX(R) 1.3

## Solaris\*\*

- (2) OS/2 2.1 requires a corrective fix to support Intel\*\* SL Series processors used in the IBM PC 330 and 350 systems.
- (3) Additional drivers are also needed for IDE CD-ROM and SVGA, and are available on the OS/2 Bulletin Board.
- (4) OS/2 2.11 supports only SVGA 256 color drivers.

Note: Operating system video graphics driver support is required for the IBM PC 330 and 350 SVGA graphics capabilities. Although these systems will be compatibility tested with the above operating systems, additional video driver support may be required from the operating system vendor.

The IBM Personal Computer 300 and 700 Series will have models preloaded with the latest version of OS/2 Warp Version 3. Some customers who have standardized on previous levels of OS/2 may have a requirement for an earlier version. IBM Personal Systems Programming (PSP) has agreed to provide those customers with an additional OS/2 2.11 license for a minimal fee. Customers who require an additional licenses can call the IBM Personal Computer HelpCenter at 800-772-2227 to receive instructions on removing the preloaded version of OS/2, the process for obtaining additional 2.11 licenses, and the associated fee.

Diskette Factory: The Diskette Factory Icon on systems preinstalled with PC DOS/Windows allows the user to build (copy from hard file to diskette) diskette copies of the original system software products that came preinstalled on the hard file. These preinstalled software products include PC DOS, Windows, SVGA video drivers, diagnostics, and other program diskettes.

Diskette Factory (OS/2) builds OS/2 installation, diagnostic, device driver, and other diskettes for programs contained in the preinstalled software.

BIOS: IBM PC 330 and 350 use SurePath(TM) BIOS. FLASH ROM supports Compatibility BIOS (CBIOS) and POST.

Plug and Play Support: IBM PC 330 and 350 support the Plug and Play specifications designed to make it easier for users to install, upgrade, and make changes to their personal computers. Plug and Play systems using Plug and Play adapter cards are self-configuring.

All IBM PC 330 and 350 systems have BIOS support and a Plug and Play Utility that support this emerging technology for hardware

and software.

The IBM PC 330 and 350 setup utility contains a list of IBM monitors the user can select. When a monitor is selected, the refresh rate is set to the highest rate for each resolution. The default resolution for PC DOS/Windows and OS/2 preloads is 640 x 480, 256 colors, 60Hz. If a higher resolution driver is installed, the setup utility will select the highest refresh rate the monitor will support. For non-IBM monitors, the user can customize the refresh rate by specifying the maximum horizontal refresh rate the monitor can support for each resolution.

**Advanced Power Management (APM):** The IBM PC 330 and 350 support the APM Specification Version 1.1.

APM provides a cooperative environment in which applications, operating systems, and device drivers work together to reduce power consumption.

The IBM PC 300 Series systems have an advanced power management feature called Standby. This power management feature places the system in standby mode after a user-defined interval has elapsed with no activity. The system resumes operation when the keyboard or mouse is used. Systems with preinstalled software come with this power management feature already set up. The setup utility program has a default setting of 20 minutes for automatically initiating power management of the display, processor, and hard file.

The scheduler feature is used to start events when the system is off. The scheduler may start events such as power-off, power-on, and program initiation.

The Rapid Resume Manager may be set up to save the current state of your system to the hard file when the power is turned off or an automatic power-off is scheduled. Your system now returns to the state it was in when you powered off, when you turn power on, or automatic power-on is scheduled. Network operation is not maintained during power-off.

The Wake Up on Ring feature allows an incoming call to an installed modem to turn on the system.



**BIOS Setup Utility:** The BIOS setup utility program has power management options also. This program does power-saving functions when Power Manager is not installed.

**Remote Diagnostics:** The diagnostics provided with the system have a co-session feature. This feature allows the diagnostics to be run remotely over a phone line when a modem is attached to the system.

## Compatibility and Supported Products

**Power for Supported Products:** The user should ensure that the total power required to support a desired system configuration is within the power provided by the IBM PC 330 and 350 system.

**Hardware Compatibility:** The IBM PC 330 and 350 hardware maintain compatibility with adapters and devices, which fully support the following interfaces and physically fit into the system. The IBM PC 330 and 350 will be tested with the following adapters and devices plus additional IBM and OEM hardware for compatibility. A documented statement of compatibility will be made available to marketing and support channels when testing is completed. This compatibility document will also be made available to users via various IPCC Bulletin Boards.

For adapters/options not included in the compatibility test list, the user should contact the manufacturer or place of purchase to validate compatibility.

**Hard Files:** AT IDE Interface (ATA Revision 3.0)

IDE Hard File Optional Features:

Description	Feature Number	Part Number
IBM 170MB IDE Hard File	None	70G7424
IBM 270MB IDE Hard File	1928	70G8487

IBM 364MB IDE Hard File	1929	70G8488
IBM 527MB IDE Hard File	1926	70G8486
IBM 728MB IDE Hard File	1989	70G8511
IBM 1GB IDE Hard File	3955	94G3186

#### I/O Adapter Card Optional Features:

Adapters that are AT/ISA bus compatible and operate at 8MHz.

Adapters that are PCI bus compatible (Rev. 2.0).

#### Diskette Drives: AT Interface

Description	Feature Number	Part Number
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#### Diskette Optional Features

IBM Internal 1.44MB Diskette Drive	1969	70G8499
IBM Internal 1.2MB Diskette Drive	3288	32G3947
IBM Internal 2.88MB Diskette Drive		32G4338

#### CD-ROM Optional Feature

IBM IDE Dual-Speed CD-ROM	3589	70G8519
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Processor Upgrade Optional Features: Intel's future OverDrive\*\* processors based on Pentium processor technology.

Monitors: Monitors supported by the IBM PC 330 and 350 systems are listed in the Hardware Requirements section.

VGA or SVGA (operates at VGA or higher frequencies)

Physical interface compatible with IBM's PS/2 VGA interface

Video Memory Optional Features:

Description	Feature Number	Part Number
1MB Video Memory Upgrade - 60ns	2453	92G7443

Serial Ports: Two 16550 9-pin connectors with RS-232-D electrical interface

Note: To use the two serial I/O ports simultaneously, devices connected to the serial ports must have a small 9-pin connector, otherwise there is not enough space. For devices that do not provide a small 9-pin connector, IBM has available an optional adapter cable part number 68X3873.

Parallel Port: One bi-directional ECP/EPP port

Pointing Device: IBM PS/2-compatible mouse

Keyboard Device:

Description	Feature Number	Part Number
IBM Basic Keyboard (101 keys) (Default)	7420	71G4644
IBM Enhanced Keyboard (101 keys) (Alternate)	5650	61G2838
IBM Keyboard with TrackPoint(TM) II (Alternate)	9081	82G3281

## IBM Space Saving Keyboard

(84 keys) (Option)	5109	1396050
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## IBM Host Connect Keyboard

(122 keys) (Option)	6400	1396400
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Memory: IBM 72-pin (1 inch) SIMMs: 4MB, 8MB, 16MB, 32MB (70ns)

## Memory Optional Features:

Description	Feature Number	Part Number
4MB Memory Module Kit-70ns	3479	92G7539
8MB Memory Module Kit-70ns	3480	92G7541
16MB Memory Module Kit-70ns	3482	92G7543
32MB Memory Module Kit-70ns	3483	92G7545

## Communications Optional Features:

Description	Feature Number	Part Number
IBM 16/4 ISA-16 Adapter		73G2032
IBM Network 16/4 II		03F0215
IBM LAN Adapter for Ethernet		48G7169
IBM LAN Adapter for Ethernet -- CX		60G0615
IBM LAN Adapter for Ethernet -- TP		60G0605
ISA 14.4 Kbps Data/Fax Modem		

with Wake Up on Ring	4213	13H6686
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#### Other Optional Features:

Description	Feature Number	Part Number
Two Slot Front Access PCMCIA Adapter for ISA	4836	81G4246

### Software Compatibility

PC DOS 6.3: The IBM PC 330 and 350 maintain compatibility with applications that operate under IBM PC DOS 6.3 and/or Microsoft Windows 3.1. Although various applications have been tested, the user should consult the software publisher to validate support.

OS/2 Warp: The IBM PC 330 and 350 maintain compatibility with applications that operate under IBM OS/2 Warp. Although various applications have been tested, the user should consult the software publisher to validate support.

Systems Compatibility Report: The IBM PC 330 and 350 will be tested for compatibility with numerous IBM and OEM operating systems, software applications, and programs. A documented compatibility report will be made available to marketing and support channels when testing is completed. This compatibility report will also be made available to users via various IPCC Bulletin Boards.

For software not included in the compatibility test report the user should contact the manufacturer or place of purchase to validate compatibility.

#### Limitations:

With 32-bit addressing the maximum memory address space on IBM PC

330 and 350 models is 4GB. Of the 128MB of maximum system memory, the system requires 348KB for its use. This leaves the customers with a maximum of 127.6MB of the memory address space for their usage.

72-pin (70ns) (1-inch) industry-standard memory SIMMs, 128MB maximum memory.

Maximum external (L2) cache memory supported is 256KB.

Maximum video RAM supported is 2MB.

Maximum of four hard files supported.

Maximum single IDE hard file size supported is 1GB.

Maximum of two diskette drives supported.

OS/2 2.1 does not support the Intel SL Series processors. A corrective fix is available through the Support Center.

OS/2 1.3 and 2.0 support hard file partitions up to 528MB only.

The IBM Token-Ring Network Adapter II is recommended to be used in systems with a maximum of 16MB of memory.

If all I/O card slots are populated, average wattage of the I/O cards should be limited to 8.5 watts. Populating all I/O card slots with options that have an average load of greater than 8.5 watts will cause recommended thermal limits in the I/O card area to be exceeded.

## Planning Information

**Customer Responsibilities:** The IBM PC 330 and 350 are designated as customer setup (CSU). CSU allowance is one day.

**Cable Orders:** There are no cabling requirements, other than for system power, keyboard and mouse connections. All cables are provided with the system unit and the instructions are provided as part of initial setup.

The 220-volt power cables are provided by the countries at the point-of-sale.

To support more than two IDE devices on the IBM PC 330 and 350, customers can purchase the IDE Hard File Cable Option (#2593, 06H3610).

**Installability:** The IBM PC 330 and 350 are designed to function in either the horizontal (desktop) or vertical position using an

approved floor stand.

By following the setup instructions, the user attaches the keyboard, peripherals, and verifies that the AC voltage switch on the power supply is set to the correct position. Power is then turned on and setup is run after the computer has successfully completed its initial self tests.

The Setup Utility resides in ROM. In some instances, the user will be prompted to run this utility, or the user may invoke it by pressing the F1 key during memory POST.

The IBM PC 330 and 350 have a universal power supply that operates with either 115 V AC or 230 V AC. The setting is selected by manually operating the switch on the rear of the systems. All power supplies have built-in overload protection and surge protection.

**Problem Determination:** If a failure is found at initial installation, a message will appear on the screen. If POST is successfully completed, the system attempts to load an operating system from the "A" drive. If an operating system is not found, the system attempts to load one from the "C" drive. If an operating system is not found, the user will be prompted to insert a diskette via an icon.

The trouble-shooting procedures consist of a power-on self test and easy-to-follow trouble-shooting charts designed to assist the user in isolating a defective machine element. The failing element (display, keyboard or mouse) can then be replaced or repaired under existing warranty provisions. Customers should contact the Personal Systems HelpCenter (800-722-2227) for service assistance. Outside the U.S. and Canada, call the Personal Systems HelpCenter (800-722-2227), place of purchase, or local IBM branch office.

Packaging:

IBM PC 330 and 350:

- System Unit Carton

  - System Unit (6575, 6585)

  - Hardware Assembly package

Power cord (110 V AC)

Mouse

Hardware publications

Software Publications Package (PC DOS/Windows) or

Software Publications Package (OS/2)

Keyboard Carton

Basic Keyboard (Default) 71G4644

Enhanced Keyboard (Alternate) 82G3295

TrackPoint Keyboard (Alternate) 82G3281

World Trade Considerations: NLS support is provided for the following countries/languages:

Belgian Dutch

Brazilian Portuguese

Canadian French

Denmark

Finland

France

Germany

Italy

LA Spanish

Norway

Poland



Portugal

Spain

Sweden

UK English

The NLS support includes PC national language code page support, national language keyboard support, multilingual nomenclature, and translated documentation and machine-readable information as required by the individual countries.

### **Security, Auditability, and Control**

The IBM PC 330 and 350 support the following security features:

Cover key lock

Secure removable media

Secure fixed DASD

Power-on password

Setup Utility password (administrator password)

Boot sequence control

Diskette boot inhibit

Boot without keyboard or mouse

Diskette write protect (jumper)

Diskette I/O control

Hard file I/O control

Serial port I/O control

Parallel port I/O control

U-Bolt anchoring feature

To assist in security, system management, and asset management, the following system identifiers (Vital Product Data) are provided:

Machine type and model

System serial number

Manufacturing identifier

User management is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communications facilities.

## TERMS AND CONDITIONS

Volume Discount: Volume purchasing is not available under the Volume Discounts Section of the IBM Customer Agreement (ICA).

IBM Credit Corporation Financing: Term leases and installment payment plans are available for commercial and state and local government customers.

Customer Fulfillment Option Applies: Yes

Warranty Period:

System Hardware -- Three years; however, an optional one-year period is available via special bid.

IBM Programs -- Three months.

Media -- Three months.

Non-IBM Programs -- Not warranted by IBM, warranty, if any is as provided by the program's supplier.

Licensing: IBM programs included with the IBM PC 330 and 350 are licensed under the terms and conditions of the IBM Program License Agreement or IBM System Program License Agreement. A copy of these agreements are included in the documentation that

ships with the system.

Non-IBM programs are available from IBM as distributed by the program supplier. Terms and conditions of the supplier apply. They are included in their respective program packages in the documentation that ships with the system and are passed on to the customer.

#### Warranty Service:

##### System Hardware

First Year, IBM On-Site Repair (IOR), 8:00 a.m. to 5:00 p.m. Monday through Friday, Next Day Response

Second and Third Years, Customer Carry-In Repair (CCR)

##### Optional Features -- Customer Carry-in Exchange (CCE)

Note: Optional features purchased new and installed in an IBM system may be serviced by IBM or IBM resellers under the warranty service available for the IBM system (IOR or CCR).

If warranty service is required, the customer should call the IBM Personal Systems HelpCenter at 800-772-2227 or an IBM authorized reseller. The HelpCenter and IBM authorized resellers will assist the user with problem isolation.

If a system hardware problem is identified by the IBM Personal Systems HelpCenter, the HelpCenter will assist the customer in obtaining service. Some parts of the system, such as the keyboard and mouse, are considered customer replaceable units (CRUs). The HelpCenter representative will explain IBM's exchange procedures for replacing defective CRUs. For IBM optional features that are within their warranty period, or purchased new and installed in an IBM system that is under warranty, the HelpCenter will explain IBM's exchange procedures for replacing defective optional features.

Alternative Service: Two levels of warranty upgrade are available during the warranty period. IOR, 8:00 a.m. to 5:00 p.m. Monday through Friday, is available for the second and third years, and IOR, 24 hours a day, seven days a week, is available for all three years.

Note: CSO/MRSO/SSA automatic On-Site Warranty upgrades are not applicable. The automatic on-site warranty upgrade applies to one-year CCR warranty machines only.

IBM Maintenance Service (post warranty): IOR, 8:00 a.m. to 5:00 p.m. Monday through Friday. A 24 hours a day, 7 days a week coverage is available for an additional charge.

Note: Non-IBM products installed in a system either on warranty or Maintenance Service may be serviced by IBM. Additional service support charges may apply. Refer to the Charges section.

International Warranty Service: Customers who travel or need to move products to another country will be able to register the products for IBM International Warranty Service. On registering with the International Warranty Service Office (IWSO), IBM will issue an International Warranty Service Certificate that will be honored virtually worldwide, where IBM or IBM resellers sell and service IBM PC products. During the original warranty period, customers will be provided service through the service delivery methods available for their specific IBM system in the servicing country.

For more information on IBM International Warranty Service in the United States and Canada, or to register your IBM PC systems, contact IBM at 800-IWS-7426 (497-7426). Refer to Services Announcement, 694-028, dated October 17, 1994.

IBM Hourly Service Rate Classification: One

IBM Warranty Service, Maintenance Service or IBM Hourly Service may be obtained by calling 800-IBM-SERV (426-7378). IBM Hourly Service is available at the applicable rate and terms, including element exchange price, if applicable.

Volume Maintenance Options: None

Mid-Range System Option: The IBM PC 330 and 350 are eligible machines for the Mid-Range System Option\* of the ICA.

Eligible Types	Discount	
	Three-Year	Five-Year
6575	5%	5%
6585	5%	5%

Corporate Service Option: The IBM PC 330 and 350 are eligible machines for the Corporate Service Option\* of the ICA.

	Discount	
	Three-Year	Five-Year
Network	7%	7%
System	5%	5%

Extended Maintenance Option: The announced products are eligible machines under the Extended Maintenance Option\* of the ICA.  
Central Facility Maintenance Service Option: The announced products are eligible machines for Central Facility Maintenance Service Option\* of the ICA.

A minimum of six machines are required to be at the central facility before requesting maintenance service. The Additional Maintenance Charge Factor is currently 0.5 hours. The terms and conditions are stated in the Attachment for Central Facility Maintenance Service Option.

\* A revised exhibit will be available at a later date.

Product Availability Status: New product available

Field Installable Features: Yes

Model Conversions: No

Customer Setup: Yes

Licensed Internal Code: No

IBM Education Order Center: This product is available for ordering through the IBM Education Order Center. Availability through the Education Order Center may not coincide with the product availability dates noted in other sections of this document.

The IBM Education Order Center is the order processing location for selected personal computers and related hardware/software for eligible education end users. Eligible end users are defined as faculty and staff members of qualified kindergarten through twelfth

grade educational institutions and students, faculty and staff members of higher educational institutions, which have an education product coordinator.

National Education Price (NEP): A National Education Price is available.

## CHARGES

Product Charges: These products are available from IBM authorized remarketers and through IBM PC Direct. Please contact an IBM authorized remarketer or IBM PC Direct for prices.

The following is a list of standard models that will be stocked:

Description	Machine Type	Model	Part Number
PC 330 (3x3)			
P60-60, 364 HF, 8MB, DOS/Windows	6575	14F	657514F
P60-60, 540 HF, 8MB, DOS/Windows	6575	15F	657515F
P60-60, 540 HF, 16MB, DOS/Windows	6575	15H	657515H

## PC 350 (5x5)

P60-60, 364 HF, 8MB,  
DOS/Windows

6585

14F

658514F

P60-60, 540 HF, 8MB,  
DOS/Windows

6585

15F

658515F

P60-60, 540 HF, 16MB,  
DOS/Windows

6585

15H

658515H

P60-60, 540 HF, 16MB,  
OS/2

6585

15J

658515J

The following configuration guide is provided to assist you in defining additional model configurations that meet your specific requirements. The product numbers (machine type and model) are constructed by using the Custom Configuration Matrix shown below. Because the number of possible custom configurations is great, some configurations you construct may not be readily available and will require special bid terms and conditions.

Custom Configuration Matrix				
6575-10D = Base Model Number				
65	_	_	_	_

7 = 3x3 Form Factor	
8 = 5x5 Form Factor	
-----	
5 = 5V/PCI/ISA System Board	
-----	
1 = P60-60 Processor	
-----	
0 = No Hard File	
4 = 364MB Hard File	
5 = 540MB Hard File	
7 = 728MB Hard File	
8 = 1G Hard File	
-----	
E = 8MB Memory, (No HF System)	
F = 8MB Memory, PC DOS 6.3/Windows 3.1	
G = 8MB Memory, OS/2 Warp	
H = 16MB Memory, PC DOS 6.3/Windows 3.1	
G = 16MB Memory, OS/2 Warp	
-----	
65xxxx = New Machine Type Model Number Part Number	
-----	

### Instructions for Using the Custom Configuration Matrix

To use the matrix and custom configure a system to meet your requirements, always begin with the number "65". This designates the 300 Series product line. To complete the machine type, simply read down the left side of the matrix and select the numeric or alpha character that designates the form factor and system board that you want. After you've completed the machine type designation, continue down the matrix and select the processor, hard file, and memory/operating system that you want, using the numeric and alpha characters that correspond to your selections, to designate the model. An example of this follows:

65 =	300 Series
65 8 =	Desktop 5x5
658 5 =	5V/PCI/ISA System Board
6585 1 =	P60-60 Processor



65851 5 = 540 MB Hard File  
658515 F = 8MB Memory, PC DOS 6.3/Windows 3.1

You have now custom configured a machine type model 6585-15F. The ordering part number is 658515F.  
Publication Charges: IBM's System Library Subscription Service (SLSS) is available.

### Alternative and Maintenance Service Charges

Service Support Charge for Non-IBM Products in 6575 and 6585 Desktop Products

	IBM On-Site 8am -- 5pm	IBM Coverage 24 x 7
Warranty	\$30	\$30
Maintenance Service	30	30

Note: In addition to the service support charge other charges may be applicable if the non-IBM product has a separate maintenance charge.

Alternative Service Charges:

	Year 1	Years 2/3	
	IBM	Years 2/3	IBM
	On-Site	IBM	On-Site
	24 x 7	On-Site	24 x 7
	4 Hour	8am -- 5pm	4 Hour
	Response	Next Day	Response
6575-XXX	\$30	\$30	\$40
6585-XXX	30	30	40

## Annual Minimum Maintenance Charges:

Machine		IBM	IBM	
Type	Model	On-Site	On-Site	CFMS
		8am -- 5pm	24 x 7	
6575	14F	\$145	\$196	\$137
6575	15F	145	196	137
6575	15H	145	196	137
6585	14F	225	304	213
6585	15F	225	304	213
6585	15H	225	304	213
6585	15J	225	304	213

CFMS = Central Facility Maintenance Service

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