

# NEXTSTEP RELEASE 3.2 FOR INTEL PROCESSORS HARDWARE COMPATIBILITY GUIDE



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## NEXTSTEP DEVICE SUPPORT OVERVIEW

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This document describes in general terms the types of PC-compatible hardware that is supported by NEXTSTEP Release 3.2 for Intel Processors.

This guide is divided into three general sections:

- *Certified Systems* - These are PC-compatible systems that have been thoroughly tested by NeXT for the highest level of compatibility with NEXTSTEP.
- *Listed Systems* - These are PC-compatible systems that have been tested by a third party and reported to be compatible with NEXTSTEP.
- *Other Devices and Adapters* - This section lists various devices, adapters and peripherals that have been tested with NEXTSTEP, or reported to be compatible with NEXTSTEP.

Please refer to the specific section for details on testing, compatibility and support of any of the listed items.

**Each of these sections refers to specific NeXTanswers documents available for some listed items. To ensure the greatest possible compatibility and support, NeXT recommends reviewing any available NeXTanswers document before purchase.**

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**NeXTanswers™:** This guide and many other kinds of information are available from NeXTanswers, NeXT's free information-retrieval system. For NeXTanswers documents by fax, call (415) 780-3990 from a touch-tone phone. For NeXTanswers by Internet mail, send e-mail to [nextanswers@next.com](mailto:nextanswers@next.com) with the two-word subject: INDEX HELP.

**Driver Updates:** NeXT and third parties continuously develop and enhance drivers for NEXTSTEP. New drivers or updates to existing drivers can be downloaded from the Internet via e-mail or ftp. NeXTanswers provides an easy method to obtain drivers by e-mail. As described above, follow the instructions for obtaining a document via return e-mail. (Note: You must be able to receive NeXT Mail in order to receive a driver through e-mail) To obtain drivers by ftp, use ftp to access [ftp.next.com](ftp://ftp.next.com), log in as 'anonymous' with any password and cd to pub. In that directory, there is a README file that explains how to download drivers and other NeXTanswers information. The drivers are located under NeXTanswers/Files/Drivers. If you have any further questions about how to obtain a Driver Update contact NeXT Technical Support at 1-800-955-NeXT.

For current device support, please request the latest edition of this NEXTSTEP Hardware Compatibility Guide from NeXTanswers or by calling 1-800-TRY-NeXT (or your local NeXT representative).

# Desktop System Requirements

## OVERVIEW

### GENERAL REQUIREMENTS FOR DESKTOP SYSTEMS

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<b>CPU</b>	i486 <sup>®</sup> -based or Pentium <sup>™</sup> -based PC compatible computer. NEXTSTEP requires a floating-point coprocessor. Systems using processors without a built-in floating-point coprocessor require an add-on floating-point coprocessor, or upgrade to a 486 or Pentium with built-in floating-point support.																	
<b>EXPANSION BUS</b>	ISA, EISA, VL-Bus or PCI expansion bus.																	
<b>AVAILABLE HARD DISK SPACE</b>	NEXTSTEP supports multiple partitioned hard disks, allowing the user to install and boot several operating systems from the same local hard disk. Larger local disks are recommended for stand-alone systems or for systems with a local non-NEXTSTEP partition.  <b>User Environment</b> 120 MB partition minimum, 200 MB recommended for stand-alone systems.  <b>User + Developer Environments</b> 330 MB partition minimum, 400 MB recommended.																	
<b>RAM REQUIREMENTS</b>	RAM requirements vary depending upon your selection of graphics adapter and imaging model.  <table><thead><tr><th>Graphics System / Imaging Model</th><th>Minimum RAM Required</th><th>Recommended RAM</th></tr></thead><tbody><tr><td>32-bit color</td><td>24 MB</td><td>32 MB</td></tr><tr><td>16-bit color</td><td>16 MB</td><td>24 MB</td></tr><tr><td>8-bit grayscale</td><td>12 MB</td><td>16 MB</td></tr><tr><td>2-bit grayscale</td><td>8 MB</td><td>12 MB</td></tr></tbody></table>			Graphics System / Imaging Model	Minimum RAM Required	Recommended RAM	32-bit color	24 MB	32 MB	16-bit color	16 MB	24 MB	8-bit grayscale	12 MB	16 MB	2-bit grayscale	8 MB	12 MB
Graphics System / Imaging Model	Minimum RAM Required	Recommended RAM																
32-bit color	24 MB	32 MB																
16-bit color	16 MB	24 MB																
8-bit grayscale	12 MB	16 MB																
2-bit grayscale	8 MB	12 MB																
<b>GRAPHICS ADAPTERS</b>	See the "Graphics" section in this guide for details on graphics support.																	
<b>DISK INTERFACES</b>	IDE and several SCSI hard disk interfaces are supported.  Note: A SCSI adapter and SCSI CDROM are required for installation of NEXTSTEP.																	
<b>POINTING DEVICES</b>	Microsoft <sup>®</sup> - and Logitech <sup>®</sup> - compatible PS/2 <sup>®</sup> and serial mice. Logitech bus mouse.																	
<b>PRINTERS</b>	Any PostScript printer connected via a serial or parallel port, including the NeXT Color Printer (connected via a SCSI port). NeXT recommends color PostScript printers with PostScript Level II for proper color support.																	
<b>NETWORKING</b>	Several Ethernet and Token Ring networking adapters are supported. A networking adapter is optional.																	
<b>SOUND</b>	NEXTSTEP can support certain PC sound cards for both playback and recording. A sound card is optional.																	

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# Portable System Requirements

## OVERVIEW

### GENERAL REQUIREMENTS FOR PORTABLE SYSTEMS

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<b>CPU</b>	i486 <sup>®</sup> -based or Pentium <sup>™</sup> -based PC compatible portable computer. NEXTSTEP requires a floating-point coprocessor. Systems using processors without a built-in floating-point coprocessor require an add-on floating-point coprocessor, or upgrade to a 486 or Pentium with built-in floating-point support.																	
<b>AC-POWERED PORTABLES</b>	AC-powered portables require at least one ISA or EISA slot for a SCSI adapter to install NEXTSTEP from CD-ROM.																	
<b>BATTERY-POWERED PORTABLES AND DOCKING STATIONS</b>	Battery-powered portables require a docking station with at least one ISA slot for a SCSI adapter to install NEXTSTEP from a SCSI CD-ROM drive. Once NEXTSTEP is installed, the portable may be used away from the docking station.																	
<b>AVAILABLE HARD DISK SPACE</b>	NEXTSTEP supports multiple partitioned hard disks, allowing the user to install and boot several operating systems from the same local hard disk. Larger local disks are recommended for stand-alone systems or for systems with a local non-NEXTSTEP partition. <b>User Environment</b> 120 MB partition minimum, 200 MB recommended for stand-alone systems. <b>User + Developer Environment</b> 330 MB partition minimum, 400 MB recommended.																	
<b>RAM REQUIREMENTS</b>	RAM requirements vary depending upon the user's selection of graphics adapter. <table><thead><tr><th>Graphics System</th><th>Minimum RAM Required</th><th>Recommended RAM</th></tr></thead><tbody><tr><td>32-bit color</td><td>24 MB</td><td>32 MB</td></tr><tr><td>16-bit color</td><td>16 MB</td><td>24 MB</td></tr><tr><td>8-bit grayscale</td><td>12 MB</td><td>16 MB</td></tr><tr><td>2-bit grayscale</td><td>8 MB</td><td>12 MB</td></tr></tbody></table> <b>Note:</b> Since 32-bit, 16-bit color and 8-bit grayscale support require LocalBus, VL-Bus, PCI, or EISA graphics adapters, only AC-powered portables with EISA slots can support 32-bit, 16-bit color or 8-bit grayscale.			Graphics System	Minimum RAM Required	Recommended RAM	32-bit color	24 MB	32 MB	16-bit color	16 MB	24 MB	8-bit grayscale	12 MB	16 MB	2-bit grayscale	8 MB	12 MB
Graphics System	Minimum RAM Required	Recommended RAM																
32-bit color	24 MB	32 MB																
16-bit color	16 MB	24 MB																
8-bit grayscale	12 MB	16 MB																
2-bit grayscale	8 MB	12 MB																
<b>GRAPHICS ADAPTERS</b>	Current display technology in popular portable PC-compatibles does not yet support the linear frame buffer NEXTSTEP requires for color or 8-bit grayscale. Therefore, NEXTSTEP supports these systems with 2-bit grayscale at 640 x 480. Active matrix or plasma panels are recommended for better cursor tracking response. ISA systems (AC-powered or through a docking station) can support add-on, high-resolution 2-bit grayscale graphics adapters and EISA-based AC-powered portables can support 16-bit color or 8-bit grayscale graphics with an add-on EISA graphics adapter.																	
<b>DISK INTERFACES</b>	Both built-in IDE and add-on SCSI hard disk interfaces are supported. Battery-powered portables require a docking station to install a SCSI hard disk interface card.  Note: A SCSI adapter and SCSI CDROM are required for installation of NEXTSTEP.																	
<b>POINTING DEVICES</b>	Microsoft- and Logitech-compatible PS/2 and serial mice are supported.																	
<b>PRINTERS</b>	Any PostScript printer connected via a serial or parallel port, including the NeXT Color Printer (connected via a SCSI port). NeXT recommends color PostScript printers with PostScript Level II for proper color support.																	
<b>NETWORKING</b>	Ethernet and Token Ring networking adapters are supported. Battery-powered portables require a docking station to install a networking adapter. A networking adapter is optional.																	
<b>SOUND</b>	NEXTSTEP can support certain PC sound cards for both playback and recording. Battery-powered portables require a docking station to install a sound card. A sound card is optional.																	

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# Certified Desktop Systems

## TABLE LEGEND

Vendor	Model	Expansion Bus	CPU	Graphics Architecture	Supported Graphics Modes												SoftPC Full-Screen Mode	NA #			
					2-bit Grayscale				8-bit Grayscale				16-bit Color						32-bit Color		
					640 x 480	1024 x 768	800 x 600	1024 x 768	1120 x 832	1280 x 1024	1600 x 1200	800 x 600	1024 x 768	1120 x 832	1280 x 1024	1600 x 1200	800 x 600	1024 x 768	1120 x 832	1280 x 1024	1600 x 1200

**VENDOR** Vendor, manufacturer, or system provider.

**MODEL** Model number or name of system or series of systems tested with NEXTSTEP.

**EXPANSION BUS** Standard expansion buses supported: ISA, EISA, VL-Bus (VESA LocalBus), and PCI. Note: EISA systems are compatible with ISA add-on cards.

**CPU** Available CPUs (486 or Pentium).

**GRAPHICS ARCHITECTURE** Graphics architecture of the built-in or add-on graphics adapter. Includes interface (LocalBus, VL-Bus, PCI, EISA) and graphics controller. For systems tested with add-on graphics adapters, see "NEXTSTEP for Intel Processors Graphics" in this guide for additional information on supported adapters.

**SUPPORTED GRAPHICS MODES** Supported resolution of the built-in or add-on graphics adapter. Gray areas indicate supported resolutions and number indicates video frame buffer size (in megabytes) required to support that resolution. In some cases, additional numbers indicate a specific supported resolution.

**SoftPC FULL-SCREEN MODE** Insignia's SoftPC will run in a separate window on all supported configurations. For maximum performance, you can flip SoftPC into full-screen mode.

S=Supported; this configuration has been verified by NeXT to support SoftPC in full-screen mode.

NS=Not supported; this configuration has been verified by NeXT not to support SoftPC in full-screen mode.

If this entry is left blank, NeXT has not verified this configuration to support SoftPC in full-screen mode.

**NeXTANSWER DOCUMENT NUMBER** NeXTanswer Document Number providing detailed setup and configuration information.

**NEXTSTEP CERTIFIED SYSTEMS OVERVIEW** In order to ensure the highest level of compatibility and support, NeXT has developed a process to comprehensively test specific PC-Compatible system configurations with NEXTSTEP.

\* Each specific system configuration has been subjected to a suite of compatibility tests by the NeXT Quality Assurance group.

\* A detailed NeXTanswer support document is available listing the specific configuration tested, and any setup information required to configure the system for NEXTSTEP.

\* Because of the detailed information available to customers and NeXT's Customer Support personnel, NeXT delivers the best technical support on certified configurations.

\* A system platform is loosely referred to as "certified" if it has one or more certified configurations, but all the benefits of certification are available only to users of the specific certified configuration.

\* Only the specific revisions of a system unit and its add-on cards listed in the NeXTanswer are certified. Always refer to the latest version of this guide, and the associated NeXTanswer to ensure the specific version of a system is fully certified by NeXT.

\* NeXT certification does not necessarily mean "error free". Certified systems may contain detected or undetected compatibility problems; please refer to the NeXTanswer for the latest information.

# Certified Desktop Systems

## PC MANUFACTURERS

Vendor refer to footnote below	Model	Expansion Bus	CPU	Graphics Architecture	Supported Graphics Modes																Screen Mode	S	NA #
					2-bit Gray/scale				8-bit Gray/scale				16-bit Color				32-bit Color						
					640 x 480	1024 x 768	800 x 600	1024 x 768	1120 x 832	1280 x 1024	1600 x 1200	800 x 600	1024 x 768	1120 x 832	1280x 1024	1600 x 1200	640x 480	800x 600	1024x 768	1120x 832			
Canon	object station 4.1			Wingline	Currently undergoing certification by NeXT Computer, Inc.																		
COMPAQ	XE 466	ISA	486	LocalBus QVison	2MB	2MB	2MB	2MB	2MB	2MB	2MB	2MB	2MB	2MB	2MB	2MB	2MB	2MB	2MB	S	1671		
	XE 560	ISA	Pentium	LocalBus QVison	2MB	2MB	2MB	2MB	2MB	2MB	2MB	2MB	2MB	2MB	2MB	2MB	2MB	2MB	2MB	NS	1672		
DEC	XL 560	ISA	Pentium	PCI Diamond Viper PCI	1MB	1MB	1MB	1MB	1MB	1MB	1MB	1MB	1MB	1MB	2MB	2MB	2MB	2MB	2MB	NS	1559		
	MTE 466d2	EISA	486	LocalBus S3-905			1MB													S	1459		
	MTE 466d2	EISA	486	LocalBus S3-928				1MB												S	1459		
	LPx 466	ISA	486	LocalBus S3-928				1MB												S	1581		
Eatonex	WS466		486		Planned for certification by NeXT Computer, Inc.																		
	WS4100		486 DX4		Planned for certification by NeXT Computer, Inc.																		
HEWLETT PACKARD	Vectra XM-Series	ISA	486	LocalBus S3-928				1MB		2MB	2MB	2MB	2MB	2MB	2MB					S	1464		
	Vectra XP-Series	ISA	Pentium	LocalBus S3-928	2MB	2MB	2MB	2MB	2MB	2MB	2MB	2MB	2MB	2MB	2MB	2MB	2MB	2MB	2MB	4MB	S	1665	
	Premier	ISA	Pentium	LocalBus ATI 68800	Planned for certification by NeXT Computer, Inc.																		
NEC	Image 466es	ISA	486	LocalBus ET4000 W32i	1MB	1 MB	2MB	2MB	2MB	2MB	1MB	2MB	2MB	2MB	2MB	2MB	2MB	2MB	2MB	S	1466		
	Image 4100es	ISA	486	LocalBus ET4000 W32i	Planned for certification by NeXT Computer, Inc. - problem identified with Triple Spin CDROM																		
	PowerMate				Planned for certification by NeXT Computer, Inc.																		
	Express/II P66ST	EISA	Pentium	Diamond Viper PCI 2MB VRAM	1MB	1MB			2MB	2MB	1MB	2MB	2MB	2MB	2MB	2MB	2MB	2MB	2MB	2MB	S	1467	

1. When considering a complete system or add-on card, please refer to any available NeXT manuals before purchasing equipment. To contact NeXT manuals, see page one (1) for instructions.

2. A SCSI adapter and SCSI CDROM are required for installation of NEXTSTEP.

# Certified Portable Systems

## TABLE LEGEND

Vendor	Model	Power Source	Built-in Panel Type	Built-in Expansion	Docking Station Expansion	CPU	Max DISK/ RAM	Supported Graphics Resolution 2-bit Grayscale				NeXTanswer Document Number
								Built-in Panel	External Monitor			
									640 x 480	640 x 480	800 x 600	

**VENDOR** Vendor, manufacturer, or system provider.

**MODEL** Model number or name of system (or series of systems) tested with NEXTSTEP.

**POWER SOURCE** Standard power source: AC or battery.

**BUILT-IN PANEL TYPE** Built-in display panel technology: passive matrix, active matrix, or plasma.

**BUILT-IN EXPANSION** For AC-powered portables: Fax/Modem, etc., + ISA or EISA slots. For battery-powered portables: Fax/Modem, PCMCIA, etc. This is reference information only, and does not represent supported devices.

**DOCKING STATION EXPANSION** For battery-powered portables, ISA, Mass Storage (MS), Keyboard + Mouse + Monitor Port (KMM). NA indicates not applicable to AC-Powered portables.

**CPU** Available CPUs (486 or Pentium).

**MAX DISK/RAM** Maximum hard disk and RAM supported by this system. Contact manufacturer for current sizes supported.

**SUPPORTED GRAPHICS RESOLUTION 2-BIT GRAYSCALE** Supported resolution of the built-in graphics adapter. Gray areas indicate supported resolutions. "Built-in Panel" indicates resolution supported by built-in graphics display panel. "External Monitor" indicates resolution supported by the built-in graphics adapter when connected to an external monitor.

**NeXTANSWER DOCUMENT NUMBER** NeXTanswer Document Number providing detailed setup and configuration information

**NEXTSTEP CERTIFIED SYSTEMS OVERVIEW**

In order to ensure the highest level of compatibility and support, NeXT has developed a process to comprehensively test specific PC-Compatible system configurations with NEXTSTEP.

- \* Each specific system configuration has been subjected to a suite of compatibility tests by the NeXT Quality Assurance group.
- \* A detailed NeXTanswer support document is available listing the specific configuration tested, and any setup information required to configure the system for NEXTSTEP.
- \* Because of the detailed information available to customers and NeXT's Customer Support personnel, NeXT delivers the best technical support on certified configurations.
- \* A system platform is loosely referred to as "certified" if it has one or more certified configurations, but all the benefits of certification are available only to users of the specific certified configuration.
- \* Only the specific revisions of a system unit and its add-on cards listed in the NeXTanswer are certified. Always refer to the latest version of this guide, and the associated NeXTanswer to ensure the specific version of a system is fully certified by NeXT.
- \* NeXT certification does not necessarily mean "error free". Certified systems may contain detected or undetected compatibility problems, please refer to the NeXTanswer for the latest information.

# Certified Portable Systems

## PC MANUFACTURERS

Vendor  Refer to foot-note below 1,2,3	Model	Power Source	Built-in Panel Type	Built-in Expansion	Docking Station Expansion	CPU	Max DISK/ RAM	Supported Graphics Resolution 2-bit Grayscale				NeXTanswer Document Number
								Built-in Panel	External Monitor			
									640 x 480	640 x 480	800 x 600	
<b>COMPAQ</b>	LTE Lite4/25c	Battery	Active Matrix Color	Fax/Modem	ISA, MS, KMM	486SL	200/20					1472
<b>NEC</b>	UltraLite Versa C	Battery	Active Matrix Color	PCMCIA	ISA, MS, KMM	486SL	340/20					1477

# Listed Desktop Systems

## TABLE LEGEND

Vendor	Model	Expansion Bus	CPU	Graphics Architecture	Graphics Modes																Release Tested	SoftPC Full-Screen Mode	NA #	
					2-bit Gray/scale				8-bit Gray/scale				16-bit Color				32-bit Color							
					640 x 480	1024 x 768	800 x 600	1024 x 768	1120 x 832	1280 x 1024	1600 x 1200	800 x 600	1024 x 768	1120 x 832	1280 x 1024	1600 x 1200	800 x 600	1024 x 768	1120 x 832	1280 x 1024				1600 x 1200

**VENDOR** Vendor, manufacturer, or system provider.

**MODEL** Model number or name of system or series of systems tested with NEXSTEP.

**EXPANSION BUS** Standard expansion buses supported: ISA, EISA, VL-Bus (VESA LocalBus), and PCI. Note: EISA systems are compatible with ISA add-on cards.

**CPU** Available CPUs (486 or Pentium).

**GRAPHICS ARCHITECTURE** Graphics architecture of the built-in or included graphics adapter. Includes interface (LocalBus, VL-Bus, PCI, EISA) and graphics controller. For systems tested with add-on graphics, see "Graphics" in this guide for choice of supported adapters.

**GRAPHICS MODES** The resolution of the built-in or included graphics adapter. Gray areas indicate supported resolutions and number indicates video frame buffer size (in megabytes) required to support that resolution. "Built-in VGA" indicates resolution supported by built-in standard VGA graphics; higher resolution support may require an add-on graphics adapter.

**RELEASE TESTED** The Release of NEXSTEP for Intel Processors used to test this system.

**SoftPC FULL-SCREEN MODE** Insignia's SoftPC will run in a separate window on all supported configurations. For maximum performance, you can flip SoftPC into full-screen mode. S=Supported; This configuration has been reported to support SoftPC in full-screen mode. If this entry is left blank, this configuration has not been reported to support SoftPC in full-screen mode.

**NA #** NeXTAnswer Document Number providing detailed setup and configuration information.

**NEXSTEP LISTED SYSTEMS OVERVIEW** Listed systems are those whose NEXSTEP compatibility has been reported by a third party, not determined by NeXT's Quality Assurance department. NeXT lists these systems for informational purposes only, as a convenience to our customers. NeXT does not warrant or monitor the accuracy or completeness of the information provided on Listed systems.



# Listed Desktop Systems

## PC MANUFACTURERS

Vendor	Model	Expansion Bus	CPU	Graphics Architecture	Graphics Modes																Release Tested	SoftPC Full-Screen Mode	NA #				
					2-bit Grayscale				8-bit Grayscale				16-bit Color											32-bit Color			
refer to footnote below 1,2					640 x 480	1024 x 768	800 x 600	1024 x 768	1120 x 832	1280 x 1024	1600 x 1200	800 x 600	1024 x 768	1120 x 832	1280x1024	1600 x 1200	800 x 600	1024 x 768	1120 x 832	1280 x 1024	1600 x 1200						
AST	Premnia 4/d	EISA	486	LocalBus ATI 68800								1MB													3.2	S	
CONTINENTAL COMPUTER	3800 NeXT EISA	EISA	486	VL-Bus ATI 68800								1MB	2MB												3.2	S	
	3800 NeXT ISA	ISA	486	VL-Bus ATI 68800								1MB	2MB												3.2	S	
	Eclipse 535e	ISA	486	Number 9 GXE Level 11									2MB												3.2		1572
Data Net	Eclipse 850e	ISA	Pent.	Number 9 GXE Level 12									2MB												3.2		1571
	Eclipse 850e	ISA	PS4C	Diamond Stealth 64									4MB												3.2		1673
Dell	OptiPlex MXV Series	ISA	486	Number 9 GXE Level 12									2MB												3.2		1462
	6472-xxx	ISA	486	VL-Bus									2MB												3.2		1611
IBM	6482-xxx	VL-Bus	DY2	Number 9 GXE - Level 12									2MB												3.2		1612
	6492-xxx	ISA	486	Number 9 GXE - Level 12									2MB												3.2		1612
JCS	JC/NX 466/2C	ISA	486	C&T Wingline									2MB												3.2		
	JC/NX 466/2N	ISA	486	C&T Wingline									2MB												3.2		
	JC/NX 480/2C	ISA	486	C&T Wingline									2MB												3.2		
LAN Computer Services, Inc.	Micro Intl. GA-4861A	EISA	486	VL-Bus ATI Ultra Pro									2MB												3.2		1663
	StreetLight Software	ISA	486	ATI Graphics Ultra Pro									2MB												3.2		1569

1. When considering a complete system or add-on card, please refer to any available NeXTtransvers before purchasing equipment.  
To contact NeXTtransvers, see page one (1) for instructions.

2. A SCSI adapter and SCSI CDRROM are required for installation of NEXTSTEP.

# Listed Portable Systems

## TABLE LEGEND

Vendor	Model	Power Source	Built-in Panel Type	Built-in Expansion	Docking Station Expansion	CPU	Max DISK/ RAM	Graphics Resolution 2-bit Grayscale				NeXTanswer Document Number
								Built-in Panel	External Monitor			
									640 x 480	640 x 480	800 x 600	

<b>VENDOR</b>	Vendor, manufacturer, or system provider.
<b>MODEL</b>	Model number or name of system (or series of systems) tested with NEXTSTEP.
<b>POWER SOURCE</b>	Standard power source: AC or battery.
<b>BUILT-IN PANEL TYPE</b>	Built-in display panel technology: passive matrix, active matrix, or plasma.
<b>BUILT-IN EXPANSION</b>	For AC-powered portables: Fax/Modem, etc., + ISA or EISA slots. For battery-powered portables: Fax/Modem, PCMCIA, etc. This is reference information only, and does not represent supported devices.
<b>DOCKING STATION EXPANSION</b>	For battery-powered portables, ISA, Mass Storage (MS), Keyboard + Mouse + Monitor Port (KMM). NA indicates not applicable to AC-Powered portables.
<b>CPU</b>	Available CPUs (i486 or Pentium).
<b>MAX DISK/RAM</b>	Maximum hard disk and RAM supported by this system. Contact manufacturer for current sizes supported.
<b>GRAPHICS RESOLUTION 2-BIT GRAYSCALE</b>	The resolution of the built-in graphics adapter. Gray areas indicate supported resolutions. "Built-in Panel" indicates resolution supported by built-in graphics display panel. "External Monitor" indicates resolution supported by the built-in graphics adapter when connected to an external monitor.
<b>NeXTANSWER DOCUMENT NUMBER</b>	NeXTanswer Document Number providing detail setup and configuration information.
<b>NEXTSTEP LISTED SYSTEMS OVERVIEW</b>	<i>Listed</i> systems are those whose NEXTSTEP compatibility has been reported by a third party, not determined by NeXT's Quality Assurance department. NeXT lists these systems for informational purposes only, as a convenience to our customers. NeXT does not warrant or monitor the accuracy or completeness of the information provided on <i>Listed</i> systems.

# Listed Portable Systems

## PC MANUFACTURERS

Vendor  Refer to foot-note below 1,2,3	Model	Power Source	Built-in Panel Type	Built-in Expansion	Docking Station Expansion	CPU	Max DISK/ RAM	Graphics Resolution 2-bit Grayscale				NeXTanswer Document Number
								Built-in Panel	External Monitor			
									640 x 480	640 x 480	800 x 600	
AST	PowerExec 4SL	Battery	Passive Mono or Color	Fax/Modem	ISA, MS, KMM	486SL	200/32					
	PowerExec 4SL	Battery	Active Matrix Mono	Fax/Modem	ISA, MS, KMM	486SL	200/32					
COMPAQ	Portable 486/M	AC	Passive Matrix Mono	Fax/Modem EISA	NA	486	525/32					
	Portable 486/C	AC	Active Matrix Color	Fax/Modem EISA	NA	486	525/32					
NEC	Prospeed 486C	AC	Active Matrix Color	Fax/Modem EISA	NA	486SX	200/20					
	UltraLite Versa M	Battery	Passive Matrix Mono	PCMCIA	ISA, MS, KMM	486SL	340/20					1477
TOSHIBA	T6400DX	AC	Passive Mono or Plasma	Fax/Modem ISA	NA	486	200/32					1116
	T6400DXC	AC	Active Matrix Color	Fax/Modem ISA	NA	486	200/32					1116
	T4400SX	Battery	Passive Mono or Plasma	Fax/Modem	ISA, MS, KMM	486SX	120/20					
	T4400SXC	Battery	Active Matrix Color	Fax/Modem	ISA, MS, KMM	486SX	120/20					
	T4400C	Battery	Active Matrix Color	Fax/Modem	ISA, MS, KMM	486	200/20					

1. When considering a complete system or add-on card, please refer to any available NeXTanswers before purchasing equipment. To contact NeXTanswers, see page one (1) for instructions.
2. A SCSI adapter and SCSI CDROM are required for installation of NEXTSTEP.
3. A docking station, SCSI adapter and SCSI CDROM are required for installation of NEXTSTEP.

### NEXTSTEP GRAPHICS SYSTEM

NEXTSTEP's Display Postscript graphics system supports such advanced capabilities as scalable fonts, unified imaging model for both screen display and printing, image transparency (also known as alpha channel), Pantone color matching, and Pixar Interactive Renderman 3D imaging.

NEXTSTEP's window server composites multiple layers of images, and allows the user to work with images of any quality with any supported imaging model, in other words users can work with a 32-bit color image even on a 2-bit grayscale system!

In order to provide these sophisticated capabilities NEXTSTEP requires a "workstation"-style linear frame buffer graphics system and a high performance 32-bit data path to the frame buffer. The number of colors or shades of gray, depth of transparency, etc., varies depending on the image model supported.

Imaging Model	Colors or Shades of Gray	Transparency (alpha channel)
32-bit color	24-bit (16M colors)	8-bit (256 levels)
16-bit color	12-bit (4,096 colors)	4-bit (16 levels)
8-bit grayscale	8-bit (256 shades of gray)	8-bit (256 levels)
2-bit grayscale	2-bit (4 shades of gray)	2-bit (4 levels)

#### 32-BIT COLOR

**Overview** NEXTSTEP supports 32-bit color on a variety of graphics controller chips that support linear frame buffer access. Due to the performance requirements of 32-bit color, these graphics adapters must be connected via LocalBus, VESA LocalBus (VL-Bus), PCI or EISA. The ISA expansion bus does not provide the 32-bit data path, or adequate performance to support NEXTSTEP 32-bit color. Refer to the Desktop Systems and Add-on Graphics Adapter charts for specific adapter support.

#### 16-BIT COLOR

**Overview** NEXTSTEP supports 16-bit color on a variety of graphics controller chips that support linear frame buffer access. Due to the performance requirements of 16-bit color, these graphics adapters must be connected via LocalBus, VESA LocalBus (VL-Bus), PCI or EISA. The ISA expansion bus does not provide the 32-bit data path, or adequate performance to support NEXTSTEP 16-bit color. Refer to the Desktop Systems and Add-on Graphics Adapter charts for specific adapter support.

#### 8-BIT GRAYSCALE

**Overview** NEXTSTEP supports 8-bit grayscale on a variety of graphics controller chips that support linear frame buffer access. Due to the performance requirements of 8-bit grayscale, these graphics adapters must be connected via LocalBus, VESA LocalBus (VL-Bus), PCI or EISA. The ISA expansion bus does not provide the 32-bit data path, or adequate performance to support NEXTSTEP 8-bit grayscale. Refer to the Desktop Systems and Add-on Graphics Adapter charts for specific adapter support.

#### 2-BIT GRAYSCALE

**Overview** NeXT has developed a special driver that simulates the linear frame buffer required by NEXTSTEP's graphics system on segmented frame buffer graphics adapters such as standard VGA and Super VGA cards. This allows NEXTSTEP to support most standard VGA cards as well as certain Super VGA cards. Refer to the Desktop Systems and Add-on Graphics Adapter charts for specific adapter support. These graphics adapters can be connected via LocalBus, VESA LocalBus (VL-Bus), PCI, EISA or ISA.

# Other Devices and Adapters - Graphics

## TABLE LEGEND

Graphics Controller	Vendor	Model	Expansion Bus/Interface	Graphics Resolutions														Driver Name	Avail	NA #	Appr.		
				2-bit Gray/scale				8-bit Gray/scale				16-bit Color				32-bit Color							
				640 x 480	1024 x 768	800 x 600	1024 x 768	1120 x 832	1280 x 1024	1600 x 1200	800 x 600	1024 x 768	1120 x 832	1280 x 1024	1600 x 1200	800 x 600	1024 x 768	1120 x 832	1280 x 1024	1600 x 1200			

**GRAPHICS CONTROLLER** Graphics controller used by the add-on graphics adapter.

**VENDOR** Vendor, manufacturer, or system provider of the graphics adapter.

**MODEL** Model number or name of the add-on adapter.

**EXPANSION BUS/INTERFACE** Expansion Bus or Interface used by this graphics adapter: LocalBus, VL-Bus (VESA Standard LocalBus), PCI, ISA, or EISA.

**GRAPHICS RESOLUTIONS** The resolution of the graphics adapter. Gray areas indicate supported resolutions and number indicates video frame buffer size (in megabytes) required to support that resolution.

**DRIVER NAME** Name of graphics driver used by NEXTSTEP for Intel Processor' Configure application (Video Devices section).

**Avail.** Availability indicates the current distribution status of any device driver. *CD-ROM* - indicates this driver is included on the latest release of NEXTSTEP for Intel Processors CD-ROM disc; *Planned* - Indicates this driver is planned by NeXT or a 3rd party (if available an approximate date is given for availability of the driver); *Avail.* - Indicates this driver is available from either NeXT or a 3rd party. For drivers available from NeXT, see page 1 for distribution of driver updates.

**SoftPC FULL-SCREEN MODE** Insignia's SoftPC will run in a separate window on all supported controllers. For maximum performance, you can flip SoftPC into full-screen mode. S=Supported; this controller has been verified by NeXT to support SoftPC in full-screen mode.

NS=Not supported; this controller has been verified by NeXT not to support SoftPC in full-screen mode.

If this entry is left blank, NeXT has not verified this controller to support SoftPC in full-screen mode.

**NA #** NeXTanswer Document Number providing detailed setup and configuration information.

**APPROVED** An add-on adapter or peripheral is said to be *approved* when it has been tested as a component of one or more NeXT certified configurations. Note that one piece of approved hardware may be incompatible with another; to ensure compatibility, chose a certified configuration and review any available NeXTanswers.

# Other Devices and Adapters - Graphics

## GRAPHICS ADAPTERS

Graphics Controller see footnote 1	Vendor	Model	Expansion Bus / Interface	Graphics Resolutions																Driver Name	Avail.	SoftPC Full- Screen Mode	NA #	Appr.																			
				2-bit Grayscale				8-bit Grayscale				16-bit Color				32-bit Color																											
				640 x 480	1024 x 768	800 x 600	1024 x 768	1120 x 832	1280 x 1024	1600 x 1200	800 x 600	1024 x 768	1120 x 832	1280 x 1024	1600 x 1200	800 x 600	1024 x 768	1120 x 832	1280 x 1024	1600 x 1200																							
ATI 68800 Rev 3, 6	ATI	Graphics UltraPro VL-Bus	VL-Bus			1MB		2MB			1MB	2MB	2MB Rev 6 only									ATI Ultra Pro	CD-ROM	S	1122	YES																	
		ATI	Graphics UltraPro EISA	EISA			1MB		2MB			1MB	2MB	2MB Rev 6 only									ATI Ultra Pro	CD-ROM	S	1122	YES																
ATI 68800 AX	ATI		VL-Bus, PCI	See readme file included with the driver or a future version of this guide for supported modes.																																							
			LocalBus	1MB	1MB	1MB	2MB	1MB	2MB	2MB													Intel Premier on-board Driver	BETA Avail.		1664	BETA																
ATI 88900GX	ATI		VL Bus	See readme file included with the driver or a future version of this guide for supported modes.																																	Planned Q3 94						YES
Canon	Canon		LocalBus	See readme file included with the driver or a future version of this guide for supported modes.																																	Canon object.s t ion Display driver	BETA		1632	BETA		
COMPAQ DIVISION	Compaq		OVision 1024/E			1MB					1MB											Compaq OVision	CD-ROM						YES														
			OVision 1280/E			1MB		2MB			1MB	2MB				2 MB 640 x 480							Compaq OVision Update	Nxt Ans.		1590 1591	YES																
CIRRUS LOGIC GD542X	STB	Horizon	ISA	.5 MB																		Cirrus Logic GD542X	CD-ROM	S				YES															
Cirrus Logic 5434				See readme file included with the driver or a future version of this guide for supported modes.																																							
JAWS	DELL	450DE/2 DGX	LocalBus									2MB										Dell Jaws DGX	CD-ROM	S				YES															
TSENG LABS ET-4000 AX			ISA	.5 MB																		Tseng Labs ET- 4000	CD-ROM				YES																
TSENG LABS ET-4000 W321	Several	Several	VL-Bus	See readme file included with the driver or a future version of this guide for supported modes.																																Tseng Labs ET4000 W321	Beta Avail.	S	1621 1622	BETA			
STANDARD VGA	Various	Various	ISA																			Default VGA Adapter	CD-ROM					YES															
S3-805	micro Computer Products AG	micro Crystal 8S	VL-Bus ISA			1MB	1MB				1MB											S3	CD-ROM			1485																	

1. When considering a complete system or add-on card, please refer to any available NetTransfers before purchasing equipment.



# Other Devices and Adapters

## ADDITIONAL DEVICE SUPPORT

### NEXTSTEP DEVICE SUPPORT

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NEXTSTEP supports a variety of additional devices and add-on adapters.

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#### DISK INTERFACES

Both IDE and several SCSI hard disk interfaces are supported.

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#### POINTING DEVICES

Microsoft<sup>®</sup> - and Logitech<sup>®</sup> -compatible PS/2<sup>®</sup> and serial mice. Logitech bus mouse.

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#### PRINTERS

Any PostScript printer connected via a serial or parallel port, including the NeXT Color Printer (connected via a SCSI port). NeXT recommends PostScript printers with PostScript Level II for proper color support.

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#### NETWORKING

Several Ethernet and Token Ring networking adapters are supported. A networking adapter is optional.

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#### SOUND

NEXTSTEP can support certain PC sound cards for both playback and recording. A sound card is optional.

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#### ADDITIONAL DEVICES

Other popular PC peripherals such as FAX/Modems are supported.

### DRIVERKIT

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NEXTSTEP for Intel Processors incorporates a newly developed object-oriented driver architecture called DriverKit. DriverKit allows the quick development of device drivers for new peripherals and add-on cards for Intel-based PCs running NEXTSTEP. DriverKit's architecture allows drivers to be loaded at run-time, thereby allowing users to add additional cards or devices to their systems without re-installing the main operating system. Loadable device drivers also allow NeXT and third parties to easily distribute additional drivers as they become available. In order to promote the availability of drivers for NEXTSTEP, NeXT includes the Driver Kit development tools, and source code examples of several drivers on the NEXTSTEP Developer CDROM. NeXT is actively working with hardware manufacturers and third parties to provide additional drivers for NEXTSTEP for Intel Processors.

Developers interested in becoming a registered driver developer, should contact NeXT Developer Relations (1-800-TRY-NeXT) and join the registered developer program.



# Other Devices and Adapters

## ADDITIONAL DEVICE SUPPORT LEGEND

Device Type	Vendor	Model	Expansion Bus/Interface	Features	Driver Name	Avail.	NA #	Approved
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- 
- DEVICE TYPE**                      Class of device or adapter supported.
- 
- VENDOR**                              Vendor, manufacturer, or system provider of the supported device or adapter.
- 
- MODEL**                                Model number or name of the supported device or adapter.
- 
- EXPANSION BUS/  
INTERFACE**                      Expansion Bus or Interface used by this device: CPU Board (built onto the systems CPU board), LocalBus, VL-Bus (VESA Standard LocalBus), PCI, ISA, or EISA. Note: EISA expansion bus slots are compatible with ISA adapters.
- 
- FEATURES**                            Features of the device, or class of devices. This includes additional capabilities and/or protocols supported by this device or adapter. It also includes any limitations of the use of the device.
- 
- DRIVER NAME**                      Name of driver used by NEXTSTEP's Configure application.
- 
- NA #**                                    NeXTAnswer Document Number providing detailed setup and configuration information.
- 
- APPROVED**                            An add-on adapter or peripheral is said to be *approved* when it has been tested as a component of one or more NeXT certified configurations. Note that one piece of approved hardware may be incompatible with another; to ensure compatibility, chose a certified configuration and review any available NeXTAnswers.

# Other Devices and Adapters

## ADDITIONAL DEVICE SUPPORT PRODUCTS

Device Type refer to footnote below 1	Vendor	Model	Expansion Bus/Interface	Features	Driver Name	Avail.	NA #	Approved	
FLOPPY DISK		3.5in 1.44MB Floppy			Floppy Disk Controller	CD-ROM			
IDE HARD DISK INTERFACE		IDE			IDE Disk Controller	CD-ROM			
SCSI HARD DISK INTERFACE	Adaptec	1540 B, C or CF	ISA		Adaptec 1542B	CD-ROM 1520, 1521- update	1107 - B 1108 - C	YES	
		1542 B, C or CF	ISA	Includes a floppy controller.	Adaptec 1542B	CD-ROM 1520, 1521- update	1107 - B 1108 - C	YES	
		1740	EISA	Supported in 1540 compatibility mode only	Adaptec 1542B	CD-ROM 1520, 1521- update	1475	YES	
		1742	EISA	Includes a floppy controller. Supported in 1540 compatibility mode only	Adaptec 1542B	CD-ROM 1520, 1521- update	1475	YES	
		274x	EISA	The 2742 has a floppy drive interface	Adaptec 2740 Adaptec 2742 (floppy)	Planned Q3 94			
		284x	VL-Bus		Adaptec 2840	Planned			
		2940	PCI		Adaptec 2940	Planned Q3			
		6x60	EISA		Adaptec 6x60	Planned Q3			
		7770	EISA		Adaptec 7770	Planned			
	Bus Logic	542B	ISA		Adaptec 1542B	CD-ROM 1520, 1521- update	1362	YES	
		747S	EISA		Adaptec 1542B	CD-ROM 1520, 1521- update	1118	YES	
		445S	VL-Bus		Adaptec 1542B	1520, 1521- update		YES	
			44xC	VL-Bus		Bus Logic 44xC	Planned Q3 Beta Avail.	TBD	BETA

1. When considering a complete system or add-on card, please refer to any available NeXTanswers before purchasing equipment.

Note: Floppy controllers on add-on SCSI adapters are not currently supported.

# Other Devices and Adapters

## ADDITIONAL DEVICE SUPPORT PRODUCTS (CONTINUED)

Device Type refer to footnote below 1	Vendor	Model	Expansion Bus/Interface	Features	Driver Name	Avail.	NA #	Approved
DPT		2021/90	ISA	1MB-64MB Cache upgradable.	DPT 2012-B EISA	CD-ROM	1476	YES
		2021/95	ISA	1MB-64MB Cache upgradable. Includes a floppy controller.	DPT 2012-B EISA	CD-ROM	1476	YES
		2012/90	EISA	512K-16.5MB Cache upgradable.	DPT 2012-B EISA	CD-ROM	1358	YES
		2012/95	EISA	512K-16.5MB Cache upgradable. Includes a floppy controller.	DPT 2012-B EISA	CD-ROM	1358	YES
		2022 /90	EISA	1MB-64MB Cache upgradable.	DPT 2012-B EISA	CD-ROM	1457	YES
		2022 /95	EISA	1MB-64MB Cache upgradable. Includes a floppy controller.	DPT 2012-B EISA	CD-ROM	1457	YES
		2122/90	EISA	1MB-64MB Cache upgradable	DPT 2012-B EISA	CD-ROM		YES
		2122 /95	EISA	512K-16.5MB Cache upgradable. Includes a floppy controller.	DPT 2012-B EISA	CD-ROM		YES
		2000 Series Driver Update	EISA		DPT 2000	Nxt. Ans.	1625 1626	YES
SCSI TAPE		SCSI Tape			SCSI Tape Driver	CD-ROM		
PARALLEL PORT		Standard Parallel Port			On-Board Parallel Port	CD-ROM	1330	
SERIAL PORTS		Standard Serial Ports		Supports COM1 & COM2	On-Board Serial Ports	CD-ROM	1208	
LOCAL AREA NETWORK ADAPTERS	3COM	EtherLink III (3C509)	ISA	Ethernet Coax Twisted Pair - planned Q2	3COM EtherLink III Ethernet Adapter	CD-ROM	1482	YES
		EtherLink III(3C579)	EISA	Ethernet Coax Twisted pair	3COM EtherLink III Ethernet Adapter	Nxt. Ans	1653, 1654	YES
	Cogent	EM935, EM932	EISA	thick coax and thin coax, and thick coax and twisted pair cabling	Cogent EM935, EM932	NXT Ans	1564, 1565	YES
		EM960	PCI	32-bit	CogentEM960	Beta Avail.	1667,1668	BETA
	SMC	EtherCard PLUS Elite 16 (8013)	ISA	Ethernet Coax or Twisted Pair	SMC 16 Ethernet Adapter	CD-ROM	1110	YES
		SMC EtherCard Elite Ultra16	ISA			Planned Q3		
	Canon		Local Bus		Canon object.station	Beta Avail.	1633	BETA
	HP	Vectra XP and XM	Local Bus	HP Vectra XP and XM support of AMD 79C960 chipset	HPVectra_XM_XP_L ANDriver	NXT Ans	1623, 1624	YES

1. When considering a complete system or add-on card, please refer to any available NeXTanswers before purchasing equipment.

Device Type	Vendor	Model	Expansion Bus/Interface	Features	Driver Name	Avail.	NA #	Approved
refer to footnote below 1								
	Intel	EtherExpress 16 (TP, Coax or Combo)	ISA	Ethernet Coax or Twisted Pair	Intel EtherExpress Ethernet Adapter	CD-ROM	1206	YES
		Intel TokenExpress ISA Token_Ring Adapter Update	ISA	Token Ring	Intel TokenExpress ISA Token Ring Adapter UPDATE	NXTAns	1613, 1614	YES
		Intel Ether Express Flash 32	EISA	82596 32-bit LAN Coprocessor		Planned		
		Intel EtherExpress PRO	ISA	82595-based 16-bit ISA adapler		Planned		
		Intel EtherExpress PRO/ 100	EISA PCI	82596-based 32-bit EISA and PCI adapler				
	IBM	Token-Ring 16/4 Adapter	ISA	16/4 Mbps 8 bit I/O 64k Buffer Share RAM	IBM Token-Ring 16/4 Adapter	NXT Ans	1515, 1523, 1524	YES
<b>POINTING DEVICES</b>	Microsoft	MS Mouse or Compatible	Serial or PS/2 Mouse Port		Serial Mouse or PS/ 2-Style Mouse	CD-ROM	1360	YES
	Logitech	Mouse Man (Right or Left)	Serial or PS/2 Mouse Port		Serial Mouse or PS/ 2-Style Mouse	CD-ROM	1360	YES
		Mouse Man Bus	Bus Mouse Adapter		Bus Mouse	CD-ROM	1360	YES
		PS2 Keyboard and Mouse		UPDATE to support newer Logitech Mouse		BETA	1669 1670	BETA
<b>AUDIO DEVICES</b>	Media Vision	ProAudio Spectrum 16	ISA	Up to CD Quality Stereo Record & Playback	ProAudioSpectrum 16	CD-ROM	1158	YES
		Pro Studio 16	ISA	Up to CD Quality Stereo Record & Playback	ProAudioSpectrum 16	CD-ROM		YES
		Jazz				Planned		
	Creative Labs	SoundBlaster 16	EISA, ISA		SoundBlaster 16	Planned Q3 94		YES
	Intel	GX/Professional CPU- Board Audio Support	CPU Board	Up to CD Quality Stereo Record & Playback	IntelGXAudio	Nxt Ans. UPDATE	1651, 1652	YES
	Compaq	Business Audio	CPU Board	Up to CD Quality Stereo Record & Playback		CD-ROM		YES
	Microsoft	Sound System	ISA	Up to CD Quality Stereo Record & Playback		CD-ROM	1471	YES
	Various	Standard PC Speaker Support	CPU Board	System Audio Alerts only	System Beep Driver	CD-ROM		YES
<b>PRINTERS</b>	NeXT	NeXT Color Printer	SCSI					YES
	Various	Standard Adobe PostScript Printers	Serial or Parallel					
<b>CD-ROM DRIVES</b>	NEC	CDR-74	External					YES
	NeXT	Sony-541	External					YES
<b>TAPE BACKUPS</b>	Archive	Viper 150		QIC, 512-byte blocks				YES
	Archive	Python		DAT, 512-byte blocks				YES