

# NEXTSTEP for Intel Processors

**Title:** NEC Express/II P60ST

**Entry Number:** 1467

**Expiration of Certification:** June 12 1995

**Last Updated:** <<Date July 21 1995>>

## **Product Vendor:**

NEC Technologies, Inc.  
1414 Massachusetts Ave,  
Boxborough MA 01719  
USA

+1 (800) 632 4636 USA toll-free phone - sales and information

+1 (800) 366 0476 USA toll-free faxback system

+1 (800) 388 8888 USA toll-free phone - support

+1 (508) 264 8000 international phone

WWW: <http://www.nec.com/>

**Keywords:** EISA, PCI, Pentium, NEC, Tower

## **Explanation of Certification**

To ensure a high level of compatibility and support for PC-compatible system configurations, NeXT has developed a process for comprehensively testing specific configurations for compatibility with NEXTSTEP for Intel Processors.

In this process, the NeXT Quality Assurance group subjects each specific system configuration to a suite of compatibility tests. If a system configuration passes the test suite, it is considered *certified*. Only the manufacturing revisions of a system unit and its add-on cards listed in the NeXTAnswer are considered certified. Once a configuration is certified, NeXT creates a detailed NeXTanswers document (like this one) that lists the specific configuration tested, plus any setup information required to configure the system for NEXTSTEP.

Because of the detailed information that's available on certified configurations, NeXT delivers the best technical support on them. Keep in mind that a system platform might be 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 configurations.

**Note:** NeXT certification does not necessarily mean a configuration is error-free. Certified systems may contain detected or undetected compatibility problems.

## Overview:

The NEC Express II/P60ST is a high-performance, Pentium® based PC with EISA and PCI expansion busses.

## Certified Components:

NeXT has certified the following components(\*):

**System CPU Board(s)**

NEC Express/II P60ST

**CPU Type(s) & Speed(s)**

60 MHz Intel Pentium™

**System RAM**

32MB

**IDE Controller(s)**

none

**SCSI Controller(s)**

Onboard DPT 2022/ax

**SCSI CD-ROM Drive(s)**

NEC 3Xi CD-ROM drive

**Hard Drive(s)**

545MB Conner CP30540

**Floppy Drive(s)**

Integrated 1.44MB 3.5"

**Graphics Adapter(s)**

Diamond Viper PCI with 2MB VRAM

**Serial Port(s)**

Integrated, COM1,COM2

**Parallel Port(s)**

Integrated, LPT1

**Keyboard(s)**

NEC, PS/2 interface

**Mice and Other Pointing Devices**

NEC, PS/2 interface

**LAN Adapter(s)**

Intel EtherExpress 16

**Sound Card(s)**

ProAudio Spectrum 16

**Monitor(s)**

NEC 5fg

(\*) Note that only the firmware and hardware revision numbers specified in the "Technical Specification" section below are certified. Occasionally vendors may modify firmware or hardware characteristics without changing model numbers. Only systems with the specified firmware and hardware revision(s) have been certified.

**Setup and Installation:**

**Switch Settings:**

Switch block SW3:

- 1: ON Built-in video controller disabled
- 2: OFF Built-in diskette controller enabled
- 3: OFF Password security enabled
- 4: OFF BIOS reprogram allowed
- 5: OFF BIOS reprogram over network allowed
- 6: OFF CMOS settings not cleared

**EISA settings:**

Use the EISA Configuration Utility to configure the computer to the following settings:

System - NEC Express/II P60ST System Board

Drive Configurations

Drive A: Type 1.44MB

Drive B: Type None

Primary Controller Drive Types

Hard Drive 1 Type None

Hard Drive 2 Type None

Secondary Controller Drive Types

Hard Drive 3 Type	None
Hard Drive 4 Type	None
Custom Defined Hard Drive 1	
Auto Detect Drive Parameters	YES
Number of Cylinders	0
Number of Heads	0
Number of Sectors per Track	0
Write Precomp	0
Landing Zone	0
Custom Defined Hard Drive 2	
Auto Detect Drive Parameters	NO
Number of Cylinders	0
Number of Heads	0
Number of Sectors per Track	0
Write Precomp	0
Landing Zone	0
Custom Defined Hard Drive 3	
Auto Detect Drive Parameters	NO
Number of Cylinders	0
Number of Heads	0
Number of Sectors per Track	0
Write Precomp	0
Landing Zone	0
Custom Defined Hard Drive 4	
Auto Detect Drive Parameters	NO
Number of Cylinders	0
Number of Heads	0
Number of Sectors per Track	0
Write Precomp	0
Landing Zone	0
IDE Disk Drive Features	
Built-in IDE Controller	Disabled
IDE DMA Channel Select	DO NOT assign any DMA
Primary IDE Transfer Mode HD1	Standard PIO
Primary IDE Transfer Mode HD2	Standard PIO
Primary IDE Transfer Mode HD3	Standard PIO

Primary IDE Transfer Mode HD4 Standard PIO

SCSI Disk Drive Features		
Built-in SCSI Smart ROM		Enable ROM addr C8000
Built-in SCSI Termination		Internal

Floppy Diskette Drive Features		
Floppy Boot		Enable
Floppy Write		Enable

Port Configurations		
Built-in Parallel Setup		I/O 378 (LPT1), IRQ7
Built-in Parallel Mode		Bi-directional (PS/2 type)
Built-in Serial 1 Setup		I/O 3F8 (COM1), IRQ4
Built-in Serial 2 Setup		I/O 2F8 (COM2), IRQ3

Misc Configurations		
Built-in Mouse Port		Enable
Built-in Modem		I/O 3E8 (COM3), IRQ4
Typematic Rate		Maximum
Boot Up Error Messages		Display
Numlock State at boot		On at boot
Auto Setup Software		Disable
Global Cashing		Enable
ISA Video Shadow		Enable
Memory Gap at 15Meg		Disable
Extended Memory (KB)		15360
Monitor Scan Rate		Type1: 640x480@60,800x600@50,1024x768@82 {I}
Built-in Video		VGA or EGA

SCSI - DPT SCSI Host Bus Adapter (PM2x22a/9x)  
CONTROLLER PARAMETERS

Hardware Mapping		
ISA I/O Ports		Secondary
Interrupt Number		15 Edge
HBA SCSI ID		7

WD1003 Emulation, Drive 0	
SCSI ID	Disable
SCSI LUN	0
WD1003 Emulation, Drive 1	
SCSI ID	Disable
SCSI LUN	0

SCSI PARAMETERS	
Maximum Transfer Rate	5MB/s*
Command Queuing	Enabled*
Command Timeout	Enabled

CACHE PARAMETERS	
Cache	Enabled (Write-Through)
Maximum Percent Dirty	50%
Maximum Percent Read-Ahead	30%
Read-Ahead	Enabled (8 blocks)
Caching Threshold	16 blocks
Caching Parameters	EISA Config override

!DPTA410.CFG Version	005d5
----------------------	-------

\* transfer rates greater than 5 MB/s require good cables and termination. Some SCSI devices do not support command queing.  
note: these settings are different from those suggested for the DPT 2022 card.

## Technical Specification of Certified System

The following information technically defines the specific configuration NeXT certifies.

**Tested under NEXTSTEP for Intel Processors Release 3.2**  
**Hardware Configuration Information**

**NEC Express/II P60ST**  
Type(s) : Tower  
Model Number(s) : ST-3100-2733-CV

**System CPU Board(s)**

NEC Express/II P60ST  
BIOS Version: PhoenixBIOS 1.01  
BIOS Revision Number: 1.00.17

**CPU Type(s) & Speed(s)**

60 MHz Intel Pentium

**System RAM**

32MB

**IDE Controller(s)**

none\*

\*the NEC Express II/P60ST includes an IDE controller, but this system was certified without an IDE drive.

**SCSI Controller(s)**

DPT 2122/A9x  
Interface: EISA (integrated)  
BIOS Revision Number: v002.C  
Firmware Revision Number(s): v05c.6

**SCSI CD-ROM Drive(s)**

NEC 3Xi CD-ROM (internal)  
Model Number: CDR-500  
Firmware Rev. 2.5

**Hard Drive(s)**

545MB - Conner CP30540 (SCSI)

**Floppy Drive(s)**

Integrated 1.44MB 3.5"

**Graphics Adapter(s)**

Diamond Viper PCI  
Interface: PCI  
BIOS Revision Number: 3.10  
Chipset: Weitek Power9000

RAMDAC: Brooktree Bt485KPJ135  
VRAM: 2MB

#### **Serial Port(s)**

Integrated, COM1,COM2

#### **Parallel Port(s)**

Integrated, LPT1

#### **Keyboard(s)**

NEC, PS/2 interface  
Model Number:

#### **Mice and Other Pointing Devices**

NEC, PS/2 interface  
Model Number:

#### **LAN Adapter(s)**

Intel EtherExpress 16 (\*)  
Interface: ISA adapter  
Connectors: BNC, AUI

#### **Sound Card(s)**

ProAudio Spectrum 16 (\*)

#### **Monitor(s)**

NEC 17" color  
Model Number: 5fg (\*)

(\*) NeXT added this item to the configuration to complete certification.

## **Known Problems:**

### **Release 3.2:**

- 7 This system uses the Diamond Viper PCI video board. SoftPC is not supported in full screen mode with the Diamond Viper. See NextAnswers document #1573\_Diamond\_Viper.rtf for details.
- 7 NeXTstep requires firmware revision 2.5 for the NEC 3Xi CD-ROM drive.
- 7 This system will sometimes fail to format a floppy for NeXT or Macintosh filesystems.



**Release 3.3:**

- 7     Upgrading to 3.3 incorrectly upgrades the DPT SCSI driver to the EISA version.    The on-board SCSI is not a true EISA device, so the machine will fail to reboot.    You must use the ISA version of the driver.

See Also:

- 1573\_Diamond\_Viper.rtf
- 1206\_Intel\_Ether\_Express\_Ethernet\_Adapter.rtf
- 1457\_DPT\_2022\_EISA\_SCSI\_Adapter.rtf
- 1158\_Pro\_Audio\_Spectrum\_16\_Sound\_Adapter.rtf