

# NEXTSTEP for Intel Processors

**Title:** Compaq Deskpro XE 560

**Entry Number:** 1672

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**Date Certified:** 27 July 1994

**Expiration of Certification:** 27 July 1995

**NEXTSTEP Release Certified:** 3.2

## **Product Vendor:**

Compaq Computers

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**Keywords:** ISA, Pentium, Compaq, Desktop

## 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. Be sure to read all Known Problems before installing on this system.

## Overview

The Compaq Deskpro XE 560 is an Intel Pentium™ based desktop PC with ISA expansion bus, and built-in sound and graphics.

## Certified Components:

NeXT has certified a configuration consisting of the following components(\*):

### System CPU Board(s)

Compaq Deskpro XE 560

BIOS Version: 486A

BIOS Revision Number: 09/28/93

### CPU Type(s) & Speed(s)

60 MHz intel Pentium™

**System RAM**

72MB maximum tested

**IDE Controller(s)**

Integrated

**SCSI Controller(s)**

Adaptec 1540CF

Interface: ISA

BIOS Revision Number: v2.0

Firmware Revision Number(s): 553801-00 C, 553601-00 C

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

Toshiba external double speed CD-ROM

Model Number: TXM3401E1

**Hard Drive(s)**

Quantum 540AT

Interface: IDE

Size: ~500MB

**Floppy Drive(s)**

Integrated 1.44MB 3.5"

**Graphics Adaptor(s)**

Compaq QVision

Interface: built-in local bus

BIOS Revision Number: 09/07/93

Chipset: QVision 1280/I

RAMDAC: Brooktree Bt485KPJ135

VRAM: 2MB

**Serial Port(s)**

Integrated, COM1

**Parallel Port(s)**

Integrated, LPT2

**Keyboard(s)**

Compaq, PS/2 interface

Model: Enhanced II Keyboard

**Mice and Other Pointing Devices**

Microsoft, PS/2 interface

Part number: 28898

### **LAN Adapter**

Compaq LAN adapter (Intel EtherExpress 16 compatible)

Interface: ISA adapter

Connectors: Twisted pair

-or-

Intel EtherExpress 16

Interface: ISA adapter

Connectors: BNC

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

Compaq Business Audio (Microsoft Windows Sound System Compatible)

Interface: built-in

### **Monitor(s)**

NEC 5FG

Note that only the firmware and hardware revision numbers specified are certified. Occasionally vendors may modify firmware or hardware characteristics without changing model numbers. Only systems with firmware and hardware revisions actually tested by NeXT have been certified.

## **Setup and Installation**

### **Hardware Setup:**

The BIOS address switches on the Adaptec 1540CF card need to be changed to set the ROM address to D4000H. This prevents a conflict with the Compaq's on-board BIOS ROMs.

Switch S1:

- |       |                                   |
|-------|-----------------------------------|
| 1 OFF | Software controls termination     |
| 2 OFF | Set I/O port to 0x330             |
| 3 OFF | " "                               |
| 4 OFF | " "                               |
| 5 ON  | Disable onboard floppy controller |
| 6 OFF | Set BIOS address to D4000H        |

7 ON           "       "  
8 OFF          "       "

### **System Board Switch Settings:**

Switch block SW502:

S1 OFF        Enable built-in video  
S2 OFF        Allow configuration changes  
S3 OFF        Allow writing to diskettes  
S4 OFF        Reserved (always off)  
S5 OFF        Retain passwords  
S6 OFF        Prevent Flash BIOS updating

### **CMOS settings:**

Access the CMOS configuration utility by pressing F10 during boot up. Configure the computer to the following settings:

#### Processor and Memory

Speed: High  
Base Memory: 640K  
IRQ12 Source: Pointing Device Interface  
Alternate A20 Switching: Disabled

#### Video

VGA RAM bus width: 16 Bits  
VGA ROM bus width: 16 Bits

#### Storage

Diskette drive A: 1.44-megabyte (3.5 inch)  
Diskette Drive B: Not Installed  
Fixed Disk Drive(s)  
    Primary Disk 1:       Type 42 (528.0 mbytes)  
    Primary Disk 2:       Not installed  
    Secondary Disk 1:     Not installed  
    Secondary Disk 2:     Not installed

### Advanced Settings

Diskette controller: Enabled  
Fixed Disk Controller: Primary Address

### Communications

Serial Interface 1: COM1, IRQ4  
Parallel Interface: LPT2, IRQ7

### Input Devices

Numlock power-on state: On

### Security

power-on password: Disabled  
Advanced settings: (none selected)

### Audio

Audio: On  
Address: Primary (530h-537h)

### Driver settings:

Use Configure.app to set the following parameters:

Display: Compaq QVision Display Adapter update  
Port Address: 2 bytes at 0x3B4  
Mapped Memory: 4096K at 0x19000000

**Note:** this driver is not on the NEXTSTEP 3.2 CD-ROM. It is available through NeXTanswers, or from NeXT Support. See the Known Problems section for details.

Pointing Device: PS/2-style mouse  
IRQ: 12  
resolution: 150 dots per inch

Network: Intel EtherExpress Ethernet adapter  
Port Address: 16 bytes at 0x300  
IRQ: 10  
Connector: BNC

SCSI: Adaptec 1542B SCSI Adapter  
DMA Channel: 5  
Port Address: 4 bytes at 0x330  
IRQ level: 11

Audio: Microsoft Sound System  
DMA Channel: 3  
Port Address: 8 bytes at 0x530  
IRQ level: 9

Other Drivers:  
PS/2-style keyboard  
Floppy Disk Drive  
On-board serial ports  
IDE disk controller  
On-board parallel port

## Known Problems

### Release 3.2:

- Compaq ships their disks with a master boot program which allows you to access the setup program. NEXTSTEP Installation will overwrite this program with a boot program which allows you to choose whether to boot into DOS or NEXTSTEP. Unfortunately, this means that you will not be able to easily access the setup program. NeXT strongly recommends that you use the setup program to create a setup utility diskette before installing NEXTSTEP.
- The Logitech mice shipped with these systems are incompatible with NEXTSTEP 3.2. Problems you may experience are the pointer moving by itself, jerky mouse response, or complete failure of the mouse. You will need to purchase a serial mouse or other PS/2 mouse for full mouse support. See NeXTanswer 1360\_Mouse\_Support for information on how to select a supported mouse.
- Support for the on-board graphics capabilities of this system is provided by an updated QVision driver. This driver

is available from NeXTanswers as 1591\_QVisionDriver.pkg.compressed. A ReadMe file is available as NeXTanswer 1590\_QVisionDriver.ReadMe.

Since Certification by NeXT, Compaq has changed the RAMDAC used on their QVision boards. This causes new systems to fail to work with the current driver. QVision boards with the AT&T RAMDAC will cause the following error messages:

```
Display0: unknown adapter; unknown DAC.  
Display: Failed to match modes. Using default mode  
Display0: Sorry, cannot use requested display mode.
```

Until an updated version of the QVision driver is available, you will only be able to use default VGA mode with the on-board QVision graphics adapters. See NeXTanswers and the Hardware Compatibility Guide for information about new versions of the QVision driver.

This system does not support SoftPC in full-screen mode.

You should set the parallel port to be configured as LPT2 in the setup program. This will configure the parallel port at an address that NEXTSTEP is expecting.

Sounds are not recorded or played back properly at 11KHz, and 16bit sounds sometimes break up on playback. This is a known problem with the Windows Sound System driver.

The Compaq Deskpro by default only recognizes 16 MB of RAM. Compaq does not provide any straightforward way to make more than 16 MB of RAM addressable by NEXTSTEP; the information provided by the Compaq BIOS is not the true amount of RAM available. The only known workaround to this problem under NEXTSTEP 3.2 is to edit a configuration file in NEXTSTEP.

To get NEXTSTEP to recognize more than 16MB of memory on this system, you need to edit the file **/usr/Devices/System.config/Instance0.table**. You can use Edit or another text editor to modify this file. Be very careful! If you make a mistake here, it may render your system unbootable; see NeXTanswer 1381\_booting\_from\_CD-ROM for information on how to boot from the CD-ROM if you do experience problems.

Your Instance0.table should look something like this:



```
"Version" = "3.30";  
"Kernel Flags" = "";  
"Kernel" = "mach_kernel";  
"Boot Graphics" = "Yes";  
"Language" = "English";  
"Active Drivers" = "PS2Mouse Wingle EtherExpress16 Beep";  
"Instance" = "0";  
"Boot Drivers" = "Adaptec1542B SerialPorts Floppy PS2Keyboard EISABus";  
"Install Mode" = "No";  
"APM" = "Yes";
```

You should change the bold line above reading "Kernel Flags" = "" (note: it is not bold in the Instance0.table file, nor should you make it bold; this is a plain text file and should remain so) to:

```
"Kernel Flags" = "maxmem=XXXX"
```

Here XXXX is the amount of RAM in kilobytes installed in the system. One megabyte of RAM is equal to 1024 kilobytes. Once you've changed the file, reboot; all of your RAM should now be accessible to NEXTSTEP. You can check this by bringing up the Info Panel in Workspace and checking the amount of RAM listed for the system.

### See Also:

- 1108\_Adaptec\_1542C\_and\_Adaptec\_1540C\_SCSI\_Adapters
- 1206\_Intel\_Ether\_Express\_Ethernet\_Adapter
- 1360\_Mouse\_Support
- 1381\_booting\_from\_CD-ROM
- 1471\_Microsoft\_Windows\_Sound\_System
- 1590\_QVisionDriver.ReadMe