Installing the Prerelease Version 1 of the Sound Blaster 16 Audio Adapter Device Driver for NEXTSTEP Release 3.2 for Intel Processors

These instructions show you how to install the Sound Blaster 16 audio adapter device driver on an Intel-based computer running NEXTSTEP™ Release 3.2. The driver is distributed in an Installer package file named **SoundBlaster16Driver.pkg**.

This updated device driver supports the Sound Blaster 16 audio adapter, which provides digital sampling and playback at up to 44.1 KHz in stereo. The Sound Blaster 16 also features true 16-bit stereo, selectable sampling rates, automatic dynamic filtering, and support for 8-bit recording and playback.

The Sound Blaster 16 requires two DMA channels, one IRQ level, and a port address.   One 8-bit DMA channel is used for 8-bit transfers, and one 16-bit channel is used for 16-bit transfers.   The Sound Blaster 16 can use the following settings:

I/O Port Addresses (in hex), Interrupts, and DMA channels

I/O Ports: 0x220, 0x240, 0x260, 0x280

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Interrupts:   5, 7, 10
8-bit DMA:  0, 1, 3
16-bit DMA:        5, 6, 7
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Please refer to hardware reference section of the manual that comes with the card.   This manual contains other hardware information which you should read before using the adapter.

Warnings: Some DOS software running under DOS/Windows assume that the Sound Blaster 16 audio adapter is using DMA channel 1, IRQ 7, and port address 0x220.   If you change the 8-bit DMA channel or default port address, you may not be able to use the Sound Blaster 16 with your DOS or Windows software.

Because of a driver kit bug, in NEXTSTEP 3.2, the Sound Blaster 16 audio adapter does not function correctly in computers with ISA slots. After booting NEXTSTEP, you may playback or record 16-bit data, but your first choice sets the mode permanently until you reboot. This bug will be fixed in a future release of NEXTSTEP.

Due to MIDI port conflicts (port 0x300 or 0x330), you cannot use the Sound Blaster 16 audio adapter at the same time that you use an EtherExpress network adapter (which uses port 0x300) and also an

Adaptec SCSI adapter (which uses port 0x330). If you use the Sound Blaster 16 adapter, you may use either an EtherExpress network adapter or an Adaptec SCSI adapter, but not both.

Installing the Device Driver

1. If you received the **SoundBlaster16Driver.pkg** file via NeXTmail™ or another electronic source, place a copy of the file in a location where you can access it when you log in as **root**.
2. Log in as **root**.
   Only the superuser, **root**, can install the device driver. If you're not sure how to log in as **root**, see your system administrator.
3. If you received the **SoundBlaster16Driver.pkg** file on a floppy disk, insert the disk in the floppy disk drive and choose Check for Disks from the Workspace Manager™ application's Disk menu. When the disk icon appears in the File Viewer, double-click it to open it.
4. Double-click the **SoundBlaster16Driver.pkg** file.
5. Click the Install button in the Installer package window. When the panel asks you to confirm that you want to install software for Intel-based computers, click Install.
6. When the installation is complete, choose Quit from the Installer menu.

7. Start up the Configure application by double-clicking **Configure.app** (it's in **/NextAdmin**).
8. Click the Audio icon at the top of Configure's Summary window. If "Sound Blaster 16" is in the list of devices at the top of Configure's Audio Devices window, choose Quit from the Configure menu and skip to step 13.
9. If another kind of audio adapter is in the list at the top of Configure's Audio Devices window, select its name in the list and click Remove. Then click Add, and in the Add Audio Devices panel that opens, select "Sound Blaster 16" in the list and click Add.
10. Select the DMA, IRQ, and Port settings.
Note: Choosing a new DMA setting unsets one of the two previous DMA settings, but you have no way to control which.   Keep choosing until you see the right combination.   To change the port address, do not use the increment button (+); instead double-click the current value, type the new value, and press Return.
11. Click Done then click Save.
12. Choose Quit from Configure's menu.
13. If you had created a copy of the **SoundBlaster16Driver.pkg** file in step 1, drag the copy to the recycler.
14. Choose Log Out from the Workspace menu and then click the Restart button in the login window.

Note: You must restart your computer after installing and configuring the device driver.

The next time you start up your computer, it will use the new driver.

For information about logging in and out, the Workspace Manager application, and the Installer application, see the NEXTSTEP *User's Guide*. For information about the Configure application, see *Installing and Configuring NEXTSTEP Release 3.2 for Intel Processors*.   For information concerning compatibility issues and bugs, refer to NeXTanswers™.

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SoundBlaster16Driver.ReadMe.rtf, Update1, 09-24-94