Entry Number:
Title: **The Adaptec 1542C and 1540C ISA SCSI Cards**
Entry Date: **28 April 1993**

Product Vendor: **Adaptec Inc.**
Vendor Contact Information:

Hardware Platform: **Intel Processor Family**
Reported in Software Version: **NEXTSTEP Release 3.1**
Keywords: **Adaptec, SCSI, 1542, 1540**

Usage Commentary:

The Adaptec 1542C provides a standard SCSI interface for NEXTSTEP for Intel Processors. The card requires minimal setup and has proven to be reliable.

The   driver for the Adaptec1542C also supports the Adaptec 1540C which provides identical SCSI functionality without an integrated floppy controller. NEXTSTEP Release 3.1 does not officially support the floppy controller on the   Adaptec1542C, so the lack of this feature on the Adaptec 1540C is a minor concern for NEXTSTEP users.

Setup and Installation:

You must follow two separate setup procedures with the Adaptec 1542C. First, the card contains a block of switches labeled sw1 to sw8 along the top edge of the card. Follow the instructions provided with the card to set the switches to the following. This is done prior to actually plugging the card into the computer system.

```
Switch Block Settings:
sw1: off (software control termination)
```

```
sw2 to sw4: off (I/O Port 330)
sw5: on (disable integrated floppy controller)
sw6 to sw8: (BIOS Address DC00)
```

Second, refer to the Adaptec AHA-1540C/1542C Installation Guide, section 4 for instruction on "Running the Configuration Software."   It is usually accomplished by typing CNTL-A when prompted by the card's firmware early in the boot process. Alternatively the configuration software may be accessed by running the DOS program "`debug`" and entering "`g=dc00:8`" at the "`-`" prompt.

```
Software Settings
Port Address: 330
Host Adapter Interrupt (IRQ) Channel: 11
Host Adapter DMA Channel: 5
Host Adapter SCSI ID: 7

SCSI Parity Checking: Enabled
DMA Transfer Rate: 5 MB/sec *
Host Adapter SCSI Termination: Enabled **


SCSI Device Configuration
Enable Sync Negotiation: no for all devices ***
Enable Disconnection: yes for all devices ****
Send Start Unit Command: no for all devices

Host Adapter BIOS (Configuration Utility Reserves BIOS Space): Enabled
System Boot (INT 19h) Controlled by Host Adapter BIOS: Enabled
Extended BIOS Translation for DOS Drives > 1 GByte: Disabled
Support Removable Disks Under BIOS as Fixed Disks: Disabled
Dynamically Scan SCSI Bus for BIOS Devices: Disabled
BIOS Support for More Than 2 Drives (MS-DOS(R) 5.0 and above): Disabled
Immediate Return On Seek Command: Enabled
```

*   This is the default setting. If the cables attached to the card are of low signal quality (e.g. too long), lower the transfer rate to 3.3 MB per second.   Conversely, one can increase the transfer rate to boost performance.   We recommend using either the default or lowest transfer rate during trouble shooting.

**   If the card is not at the end of the cable chain, this should be "Disabled" instead.

***   If your device (most high performance SCSI peripherals do) support synchronous transfer, you may enable it to boost performance.   We recommend disabling this feature during trouble shooting.

****   This is the default value. Some devices do not implement the disconnection protocol correctly. Disable for all devices if you suspect problems.

Known Problems:

·   NEXTSTEP does not officially support the floppy controller integrated into the 1542C. Use the floppy controller integrated into your system's motherboard or purchase a separate floppy controller to complete software installation.

·   Some users have reported problems during the installation process if the CD-ROM drive's SCSI ID is set to zero. The error message will be "rootdev 608." Changing the SCSI ID has frequently fixed the problem. Setting the CD-ROM drive's SCSI ID to six has fixed the problem when nothing else seemed to work.

·   Improper SCSI termination can cause strange, unreproducable errors. For maximum reliability be certain that the first and last devices on the SCSI bus are terminated. For more information on this topic see entry number **#1109**.

·   When installing NEXTSTEP Release 3.1 onto IDE hard disk drives the CD-ROM drive's SCSI ID number should be zero.