NEXTSTEP for Intel Processors

Title: Adaptec 1742A and 1740A EISA SCSI Adapters
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paste.tiff ¬Usage Commentary:
Release 3.2

The Adaptec1742A and1740A SCSI controllers provide NEXTSTEP Release 3.2 compatible EISA to SCSI interfaces when run in standard mode with the Adaptec1542B driver that is shipped with NEXTSTEP. Both controllers provide identical SCSI functionality; the only difference between the two cards is that the1742A features an integrated floppy controller while the 1740A does not. However, the 1742A's integrated floppy controller is not officially supported by NEXTSTEP.

Setup and Installation:

If you are using an Adaptec1742A, disable the floppy controller by removing the right most jumper from jumper block J6 in the lower left corner of the board.

If the Adaptec card is not the first or last device on your SCSI chain, remove the three terminating resistor packs located just below the internal SCSI connector.

The Adaptec1742A and1740A provide power for their own SCSI termination. The adapters can also provide termination power on the TERMPWR line for terminators on other devices. If the devices terminating the bus can reliably provide their own termination power, then remove the termination power supply jumper.

Use the EISA Configuration Utility (ECU) to set the following values.   (Note that these are all default settings except for "Initiate Synch Negotiation.")

ECU Settings

```
Adaptec 32-bit SCSI Host Adapter (without floppy)

Host Adapter Interface Mode: IRQ 11, Standard Mode
Standard Mode Resource Selection
    I/O Port Definition: I/O Port 330H (Standard Mode)
    DMA Channel Definition: DMA 5 (Standard Mode)
Host Adapter BIOS: BIOS Base Address CC000H
Floppy Controller: Not Present *
```

```
Host Adapter SCSI ID: Device Id 7
SCSI Bus Reset at Power-on: Enable SCSI bus reset
SCSI Device Configuration
    Enable Parity Checking: yes
    Initiate Synch Negotiation: no **
    Enable Disconnection: yes
```

*   *If this option reads "Enabled" in your ECU, it means that you have not removed the floppy enable jumper.   The floppy cannot be disabled through software.   In order to disable the floppy controller, you will need to power down, remove the jumper as described above, and relaunch the ECU.*

**   *NeXT recommends disabling the initiation of synchronous negotiation.   This is the conservative approach since some devices have problems with this process.*

The Adaptec 1740A and 1742A should work correctly if you use the following default settings in Configure:

```
DMA Channel: 5
Port Address: 0x330
IRQ Level: 11
```

You can use a different IRQ level if it is necessary to prevent conflicts in your system.   Remember, unless the Configure and ECU settings for IRQ level are identical, your system will panic during the boot process. Additionally, if you do change the IRQ from the NEXTSTEP default and experience problems that require you to boot "`config=Default`", you will have to reconfigure the Adaptec 1742 with the ECU back to IRQ 11 before NEXTSTEP will recognize it and successfully boot.

Adaptec 1740A and 1742A cards must have the boot SCSI disk set to SCSI ID 0.

Known Problems:

Release 3.2

· While the floppy controller integrated into the 1742A may work, it is not officially supported by NEXTSTEP.   If possible, use the floppy controller integrated into your system's motherboard or use a separate floppy controller.

· Improper SCSI termination can cause strange, unreproducible 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 Intel Configuration entry number 1109, "SCSI Setup."

· Since the 1740A and 1742A in standard mode are compatible with Adaptec's 1542 and 1540 line of SCSI controllers, they may encounter certain hardware conflicts peculiar to these cards. If you are having difficulty getting your card to work with your configuration, see the "Known Problems" section of entry 1108, "Adaptec 1542C and Adaptec 1542C SCSI Cards."

· The "Enhanced Mode" which is configured with the ECU on the1740A and1742A is not supported under NEXTSTEP.