

NEXTSTEP for Intel Processors

Title: Bus Logic BT-747 SCSI Controller

Entry Number: 1118

Last Updated: <<Date June 17, 1997>>

Product Vendor:

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Keywords: Bus Logic, 747, SCSI, EISA

Overview:

The Bus Logic BT-747 line of SCSI controllers provides a bus-mastering EISA SCSI interface for NEXTSTEP for Intel Processors.

Release 3.2 and 3.3

The BT-747C requires the Bus Logic SCSI driver, now available from NeXTanswers via anonymous FTP (<ftp.next.com>) or email (nextanswers@next.com). Request NeXTanswers documents 1685_BusLogicSCSIDriver.pkg.compressed and 1686_BusLogicSCSIDriver.ReadMe.rtf. This driver ships with the NEXTSTEP Release 3.3 User CD package.

While other models in the BT-747 line have been used successfully with the Bus Logic SCSI driver by our customers, the driver was written specifically for the BT-747C, and this

is the only model tested by NeXT. If your card is a different model and does not work with the Bus Logic SCSI driver, use the Adaptec 154x SCSI driver instead. This driver is available in two versions: the original version on the NEXTSTEP Release 3.2 CD, and Update 1, available on NeXTanswers as documents 1521_Adaptec154xDriver.pkg.compressed and 1520_Adaptec154xDriver.ReadMe.rtf, or for Release 3.3 in the Release 3.3 User package. The update provides enhanced functionality and bug fixes. If you are using either version of the Adaptec driver, see the note about firmware restrictions under "Known Problems" below. If you are installing a system with the update, request document 1541_Installation_Requiring_Adaptec_Driver_Update.rtf as well.

Release 3.1

The only driver which supports the BT-747 line under NEXTSTEP Release 3.1 is the Adaptec 154x driver which ships on the NEXTSTEP CD. See the note about firmware restrictions under "Known Problems" below.

Setup and Installation:

If you plan to use the BT-747 with a pre-installed system, first obtain the Bus Logic SCSI driver, then install and configure the driver according to the instructions in its ReadMe file.

You can use the default driver settings.

If you are installing a system with the BT-747, you will need to use the Bus Logic SCSI driver as a loadable boot driver. This requires a NEXTSTEP-formatted floppy with the plain driver, BusLogicSCSIDriver.config, in the /usr/Devices folder. You can create such a floppy yourself if you have access to a working NEXTSTEP system, or obtain one from NeXT Technical Support.

Remove jumper **W8** to disable the BT-747's integrated floppy controller.

A working system with a Bus Logic BT-747 SCSI controller at NeXT had the following settings:

Board Specification

BT-747S/BT-747D ASSY 1002012-01 Rev A1

BIOS version 4.50

Firmware version 3.31

EISA Configuration Utility Setup

BusLogic 32 Bit Bus Master EISA-to-SCSI Host Adapter (v1.90)

BusLogic Host Adapter Configuration

Host I/O Port Address	330h -default
Host Interrupt Request	INT11 Edge -default
Host Bios (16KBytes) Address	0D8000h*
ISA DMA Channel Emulation	DMA Channel 5 -default
EISA Bus Burst Cycles	Enable

SCSI Configuration

Host Adapter SCSI ID	ID = 7 -default
SCSI Parity	Enable -default
Disk Drive Capacity	Disk < 1 GB -default **
Adapter Initiate Sync Negotiation	Enable
Maximum Sync Data Rate Allowed	10 MBytes/sec - FAST

SCSI ***

Floppy Subsystem	Disable Floppy -default
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* *This address may need to be modified to avoid conflict with other resources.*

** *Modify accordingly.*

*** *Reduce to 5MB/sec if cables attached to the card are of low signal quality (e.g. too long) or for SCSI troubleshooting purposes.*

If the BT-747 is at the end of the SCSI bus, be sure to terminate it. See the manual provided with the Bus Logic BT-747 to find out how to actively terminate it.

Known Problems:

Releases 3.1, 3.2, and 3.3:

- While the integrated floppy controller on the BT-747 may work, it is not officially supported under NEXTSTEP Releases 3.1 and 3.2.
- You may need to cold boot some computers to successfully reset the Bus Logic card. The problem has been observed when NEXTSTEP attempts to configure the device drivers during the boot process. (To cold boot your computer, shut it down normally, turn the power off, wait three seconds, then turn the power on.)
- 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 NeXTanswers document 1109_SCSI_Setup.

Releases 3.1, 3.2

- If you are using the Adaptec 154x SCSI driver because you are using NEXTSTEP Release 3.1 or because the Bus Logic SCSI driver does not support your card, you will need to change your Bus Logic BIOS and firmware to the following versions:
BIOS: 4.50
firmware: 3.31
Bus Logic technical support will assist you with this.

Release 3.3

- For NEXTSTEP Release 3.3, no specific firmware version is required. NeXT successfully tested firmware version 3.37.

See NeXTanswers document 1771_BusLogic_family_Driver_Overview.rtf

See also:

1109_SCSI_Setup

1362_Bus_Logic_BT-54x_SCSI_Adapter.rtf

1520_Adaptec154xDriver.ReadMe.rtf

1521_Adaptec154xDriver.pkg.compressed
1541_Installation_Requiring_Adaptec_Driver_Update.rtf
1547_Bus_Logic_BT-445_SCSI_Adapter.rtf
1685_BusLogicSCSIDriver.pkg.compressed
1686_BusLogicSCSIDriver.ReadMe.rtf
1771_BusLogic_family_Driver_Overview.rtf