

NEXTSTEP for Intel Processors

Title: ALR Evolution IV

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Product Vendor:

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Keywords: ALR, Evolution IV

Usage Commentary

The ALR Evolution IV provides proprietary ALR, EISA, and VESA Localbus expansion slots. These

expansion slots can be filled with either the ALR Tri-Combo card or other supported display adapters to provide a variety of grayscale or color video capabilities. The Tri-Combo card combines an ATI Mach-32 video chipset with an ALR cache memory card and NE2100 compatible Ethernet card. The ethernet capabilities of the ALR Tri-Combo are not currently supported under NEXTSTEP.

ALR Tri-Combo Video Support

Update 1 of the ATI display adapter device driver is provided in Release 3.2. This updated driver provides enhanced functionality for the ALR Tri-Combo's integrated video hardware. Anyone using Release 3.1 can get the updated driver from NeXTanswers via anonymous FTP (**ftp.next.com**) or electronic mail (**nextanswers@next.com**). Request document numbers 1341, "**1341_ATIDriver.pkg.compressed**," and 1340, "**1340_ATIDriverReadMe.rtf**."

Supported Video Modes

VRAM	8-bit Grayscale	16-bit Color
1MB	800 x 600 @ 60 or 72 Hz	800 x 600 @ 60 Hz
1MB	1024 x 768 @ 60, 72, or 76 Hz	
2MB	1120 x 832 @ 60 or 68 Hz	1024 x 768 @ 60 or 76 Hz
2MB	1280 x 1024 @ 60 Hz	1120 x 832 @ 60 or 68 Hz (1)

(1) 1120 x 832, 16-bit color is supported only by adapters with the Mach32 68800-6 or XL graphics controllers. If you see periodic video "noise" along the left or right side of the screen when you select this display mode, then the adapter almost certainly has the older Mach32 chip and therefore doesn't support 1120 x 832 color.

For more information on the ATI Mach-32 chipset, see NeXTanswer #1122, "**1122_ATI_Ultra_Pro.rtf**d."

Setup and Installation

If you're using an ALR Tri-Combo card, use System Setup to disable the integrated ethernet capabilities. To access the System Setup Screens, press <Ctrl><Alt><Esc> while the system startup screen is displayed. Then press the <Page Down> key to go to the fourth screen. Finally, set "Lan Enable" to "Disable." The Lan Enable setting is not configured from the EISA Configuration Utility (ECU).

The following ECU settings were recorded by NeXT from an ALR Evolution IV known to have successfully installed and run NEXTSTEP Releases 3.1 and 3.2 for Intel Processors. The system was running off of a SCSI hard disk with a DPT 2022 SCSI controller.

EISA Configuration Utility Setup

```

    System - Evolution IV/e System Board
        System Board Peripherals
        Embedded Hard Disk Controller..... Disabled
        Floppy Controller..... Enabled
        Parallel Port..... LPT1
        Serial Port 1..... COM1
        Serial Port 2..... COM2
        Embedded Mouse..... Enabled
            Floppy Disk Drives
            Disk A:.....3.5 Inch, 1.44 MB
            Disk B:..... Not Installed
                Hard Disk Drives
                Disk C:..... Not Installed
                Disk D:..... Not Installed
            Base Memory..... 640    KB
            Extended Memory..... 48128 KB
            Maximum Memory Limit..... No Limit
            Motherboard BIOS Shadow..... Enabled
            Video BIOS Shadow..... Disabled
            System Speed..... Fast
            AT Hard Disk Transfer Mode..... PIO
            AT Hard Disk Parameters..... Translate
            CPU Clock Speed..... 33 MHZ
            Display Monitor..... EGA/VGA
            Coprocessor..... 80287
DPT - DPT SCSI Host Adapter (PM2X22A/9X)
```

CONTROLLER PARAMETERS

WD1003 Boot Address..... Disabled
Interrupt Number..... 15 Edge
Floppy Disk Controller..... Disabled
SCSI BIOS ROM Address..... Enabled at C8000h
Host Bus Adapter SCSI ID..... 7

SCSI PARAMETERS

Maximum Transfer Rate..... 10MB/s *
External Cable Detection..... Enabled - 5MB/s
SCSI Termination..... Enabled
Command Queuing..... Enabled **
Command Timeout..... Disabled

CACHE PARAMETERS

Cache..... Read Caching (Write-Through)

Maximum Percent Dirty..... 50%
Maximum Percent Read-Ahead..... 30%
Read-Ahead..... Enabled
Long Record Caching..... Disabled
Caching Parameters..... Use Values Stored on Device

!DPTA410.CFG Version..... 006A

- * *To achieve 10MB/second transfer, you must have very good cabling and termination.*
- ** *Some SCSI devices don't implement Command Queuing correctly and require that you disable this feature.*
- *** *See the note in NeXTanswer #1457, "**1457_DPT_2022_EISA_SCSI_Controller**" in the "Known Problems" section about setting the cache to "Enabled (Write-Back)."*

For more information on the DPT 2022 SCSI Controller, see NeXTanswer #1457, "[1457_DPT_2022_EISA_SCSI_Controller](#)."

Known Problems:

Releases 3.2 and 3.1

- The mouse that ships with the ALR may cause the cursor to exhibit jerky behavior. Swapping the mouse for another brand of PS/2 mouse solves the problem.

Release 3.1

- When you install NEXTSTEP Release 3.1, the error "Floppy Controller Reset: Command Timeout" is reported. The computer continues to retry and to recalibrate the floppy disk drive for about ten minutes before giving up and skipping the floppy disk drive. Installation proceeds normally after this. To avoid the delay, eject the floppy disk manually after the computer displays the message "NeXT Mach 3.1" but before it registers the floppy disk drive controller `fc0`. This problem has been fixed in Release 3.2.
- When you use NEXTSTEP Release 3.1 on some Evolution IV computers, the clock jumps ahead about 22 minutes at random times. This problem hasn't been seen in Release 3.2.