AJA VIDEO

HD-NTV Installation Guide

Installation of the HD-NTV PCI Framestore card is covered by this document. (The new AJA KHD card is similar in design and function, but offers higher bandwidth for real-time streaming, and audio capability.)

Requirements

- PC running Windows NT 4.0 SP4 ,Windows 2000 or Windows XP
- Recommend at least 400 Mhz Processor and 128 Mbyte Ram.
- Photoshop 5.0 or above(for photoshop plug-ins)
- Administrator priveleges are required for driver installation
- The HD-NTV card is designed for 5.0 volt signaling PCI slots. However, this is dependent on the motherboard having both 5.0 Volt and 3.3 Volt power to the slot. Even though the PCI Specification requires that both are supplied, some motherboard manufacturers may neglect to provide 3.3 v power to a 5 v PCI slot. The card will not work in these slots.

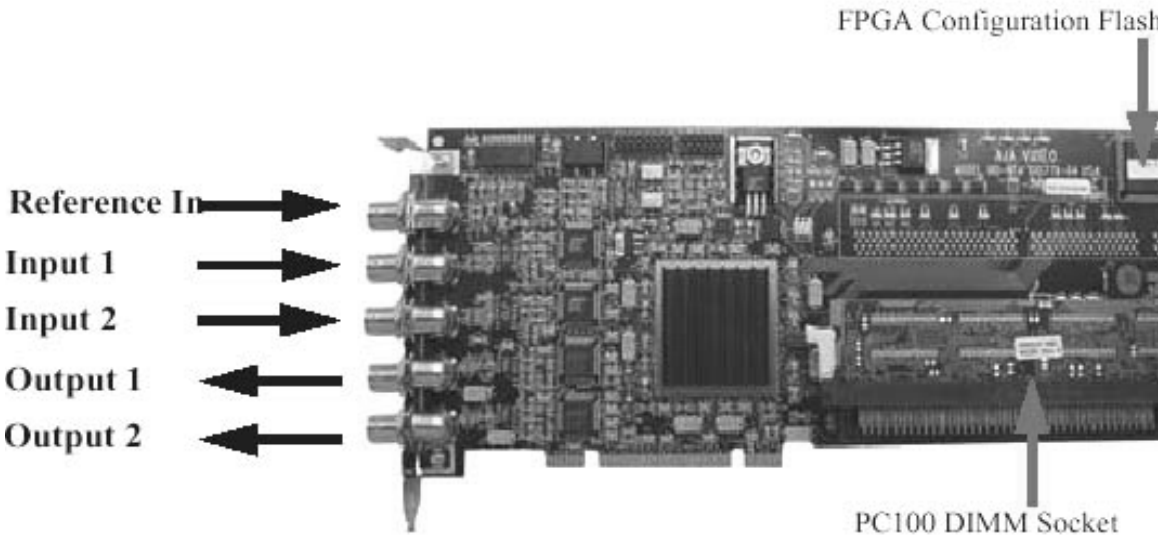
  The HD-NTV card will also work in a 3.3 Volt slot. However, in practice, motherboard manufacturers use 3.3 v signaling only for 66 MHz slots. The HD-NTV card will work in a 3.3 v, 66 MHz slot, but this will reduce the speed of the entire 66 MHz bus to 33 MHz.

Hardware Installation

Turn off the power to your computer (and unplug for safety) before inserting or removing the board. Failure to do so will damage the board. As always, take care to install the board using proper static precautions.

If, after installing the board and the required software, the card does not seem to work, see the “Troubleshooting” section, below.

FIGURE 1. HDNTV Board I/O



The 5 BNC's on the HD_NTV board has the following assignments starting from the top of the board.

1. Reference In.
2. Input 1.
3. Input 2.
4. Output 1.
5. Output 2.

Software Installation

The Installation CD contains a Setup program to guide you through installation of the Driver and Application programs. If you are running Windows 2000 or XP, the driver installation is handled separately, by the Found New Hardware Wizard or the Update Device Driver Wizard.

The software Setup program (HDNTV_Install.exe) will start automatically if you have the AutoPlay feature enabled. Otherwise, double-click on the HDNTV_Install.exe icon in the top-level directory of the Installation CD.

Each button in the installation dialog starts a separate installation program. Continue the installations until you have installed all the applications needed. The Driver and Control Panel are required for the board to function properly.

HD-NTV Install Dialog



Driver Installation

This CD supports drivers for Windows NT, 2000, and XP. The driver version referenced here is Version 2.2. Only the Driver and ControlPanel are mandatory for the board to work.

- **about the Windows NT Driver**

The board(s) may be installed before or after the driver is installed.

There is no need to re-start the computer until all driver and software installations are performed.

- **Windows NT Driver Installation Procedure**

  To install the NT Driver from the Install dialog, click the “Install Windows NT 4.0 Driver” button. This will bring up Winzip Self-Extractor. Follow the Installation Instructions given by WinZip.

- **about the Windows Plug-and-Play (2000, XP) Driver**

  The HD-NTV cards are Plug-and-Play compatible, and the driver installation will begin automatically the first time the computer is started with the board installed.

  If you are upgrading from a previous version of HD-NTV software, please see the “Windows 2000 Driver Upgrade” section, below.

- **Windows Plug-and-Play Driver Installation Procedure**

  After the board is installed in the computer and the computer is re-booted, Windows will detect the board and start the “Found New Hardware Wizard”. These instructions will guide you through the wizard.

FIGURE 2. Windows 2000 Driver Installation - Found New Hardware Wizard



FIGURE 3.

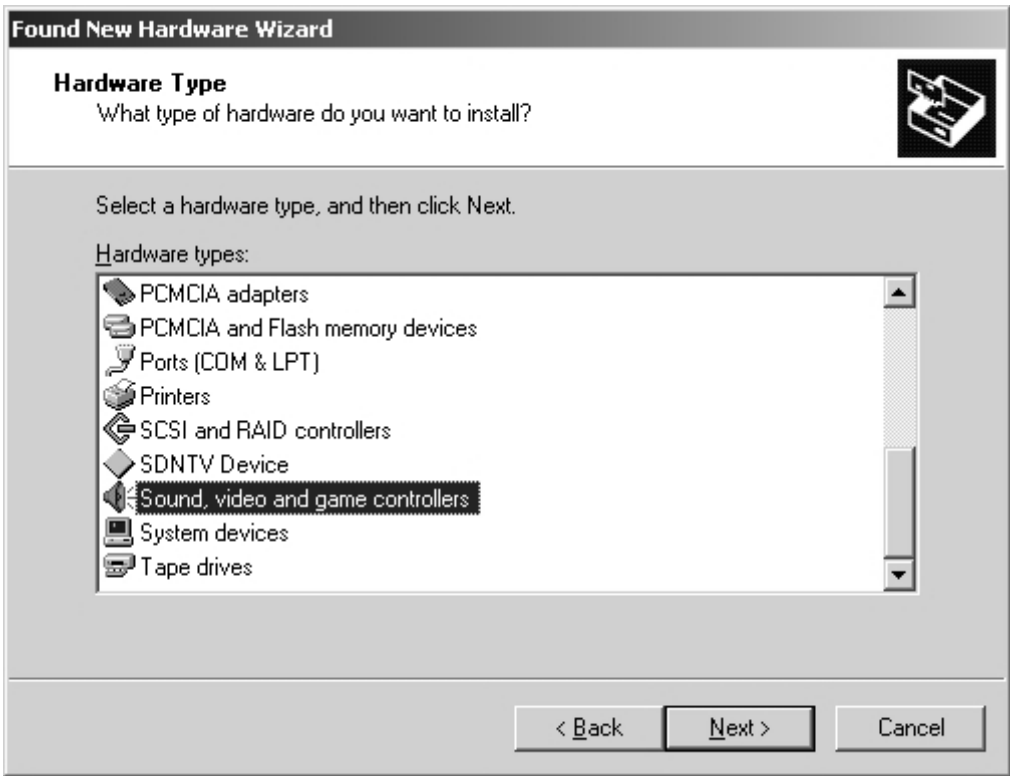
In the “Install Hardware Device Drivers” dialog, select “Display a list of the known drivers for this device so that I can choose a specific driver”.

FIGURE 4. Windows 2000 Driver Installation - Install Hardware Device Drivers



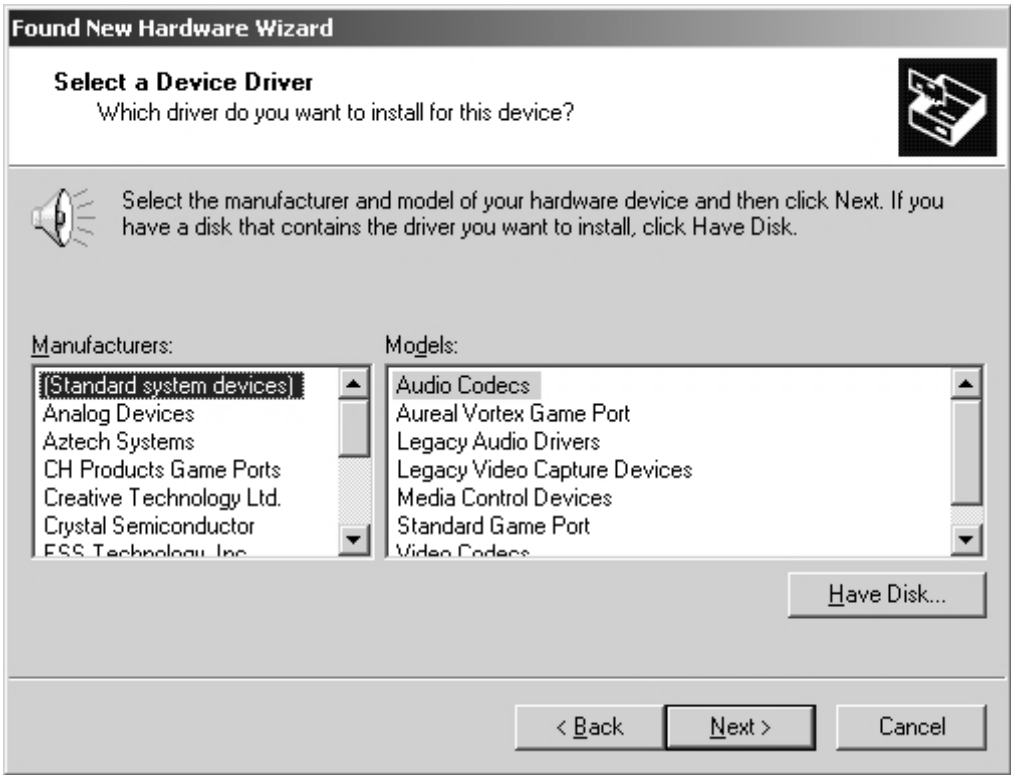
In the “Hardware Type” dialog, select “Sound, video and game controllers”.

FIGURE 5. Windows 2000 Driver Installation - Hardware Type



In the “Select a Device Driver” dialog, select “Have Disk...”. Select “E:\Win2K Driver” (where E: is the letter of your CD-ROM drive) as the location.

FIGURE 6. Windows 2000 Driver Installation - Select a Device Driverd



Windows Plug-and-Play (2000, XP) Driver Upgrade - from driver version 1.4

If you are not installing an HD-NTV card, but merely upgrading software from a 1.4 version driver, there are differences in the new “hdntv.inf” which may cause the Device Manager some confusion. Before proceeding to the driver upgrade section below (Windows Plug-and-Play Driver Upgrade - from driver version 2.0 or later), you should first un-install the 1.4 driver (using the Device Manager), and use RegEdit to delete any references to HDNTV in the Registry. Otherwise, the Device Manager may continue to recognize the HD-NTV card as an “Unknown” type device, and will refuse to install the driver for a “Sound, video, and game controller” device (which the new hdntv.inf specifies).

Windows Plug-and-Play (2000, XP) Driver Upgrade - from driver version 2.0 or later

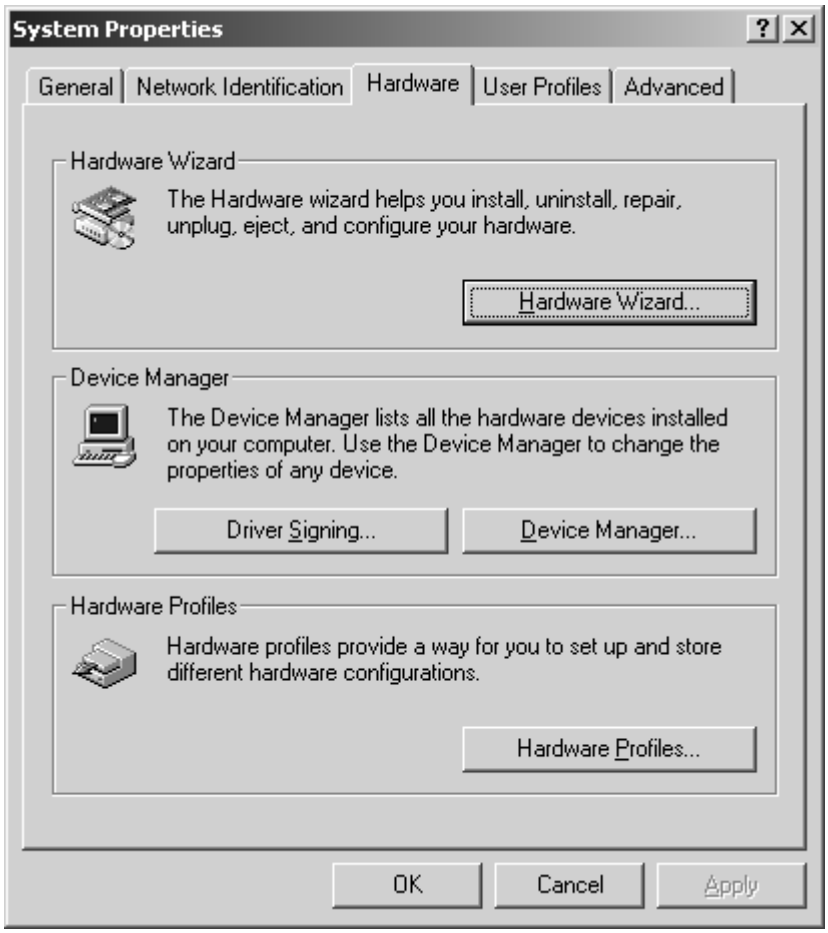
If you are not installing an HD-NTV card, but merely upgrading (or re-installing) software in a Windows 2000 or XP system, you can use the "Update Device Driver Wizard", following the same instructions as the Found New Hardware Wizard. To bring up the "Update Device Driver Wizard": From the System Properties dialog, Hardware

property page, select "Device Manager". In the Device Manager, double-click on the "HDNTV Serial Digital Framestore". In the "Driver" property-page, select "Update Driver..."

Detailed instructions are outlined below.

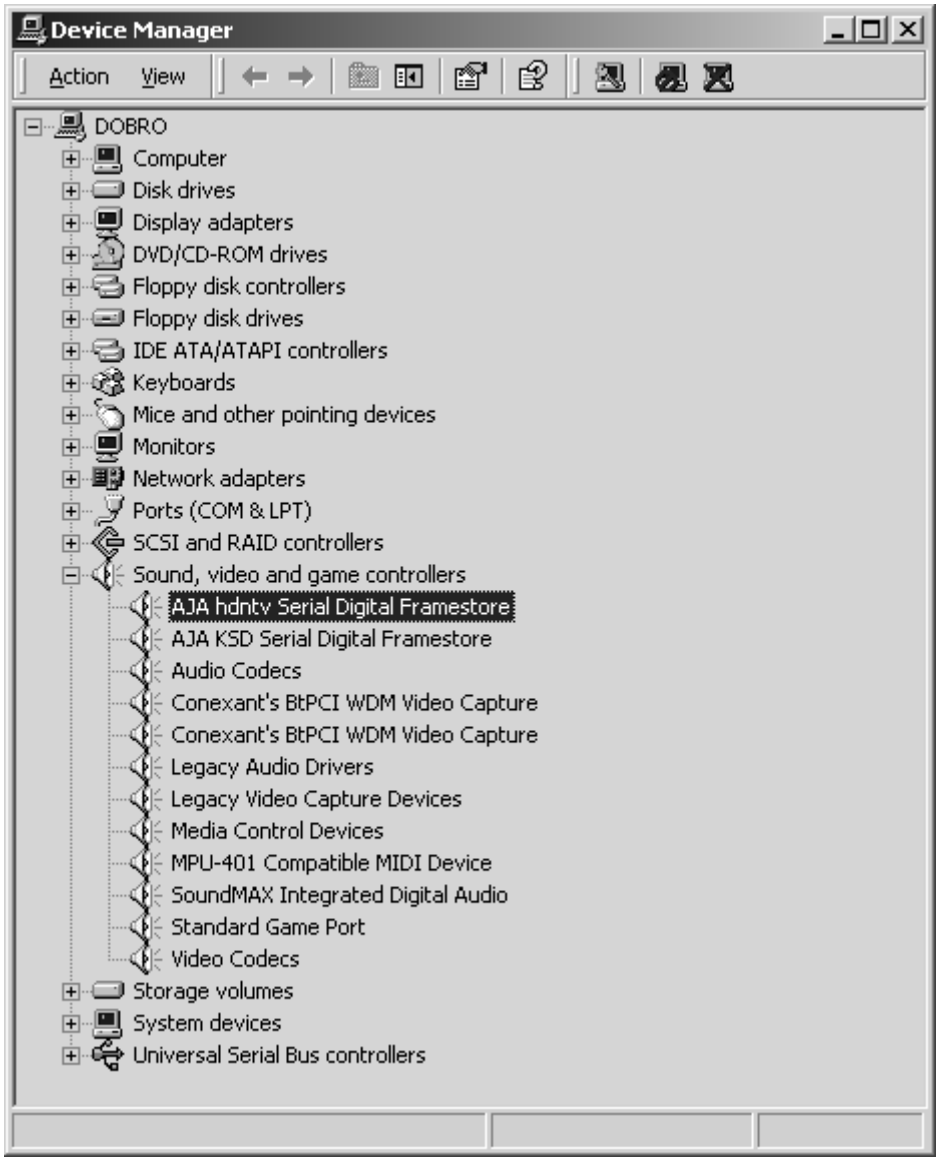
Bring up the ‘System’ Control Panel (Start menu / Settings / Control Panel / System). Choose ‘Device Manger’ from the System Properties dialog.

FIGURE 7. Windows 2000 Driver Update - System Properties



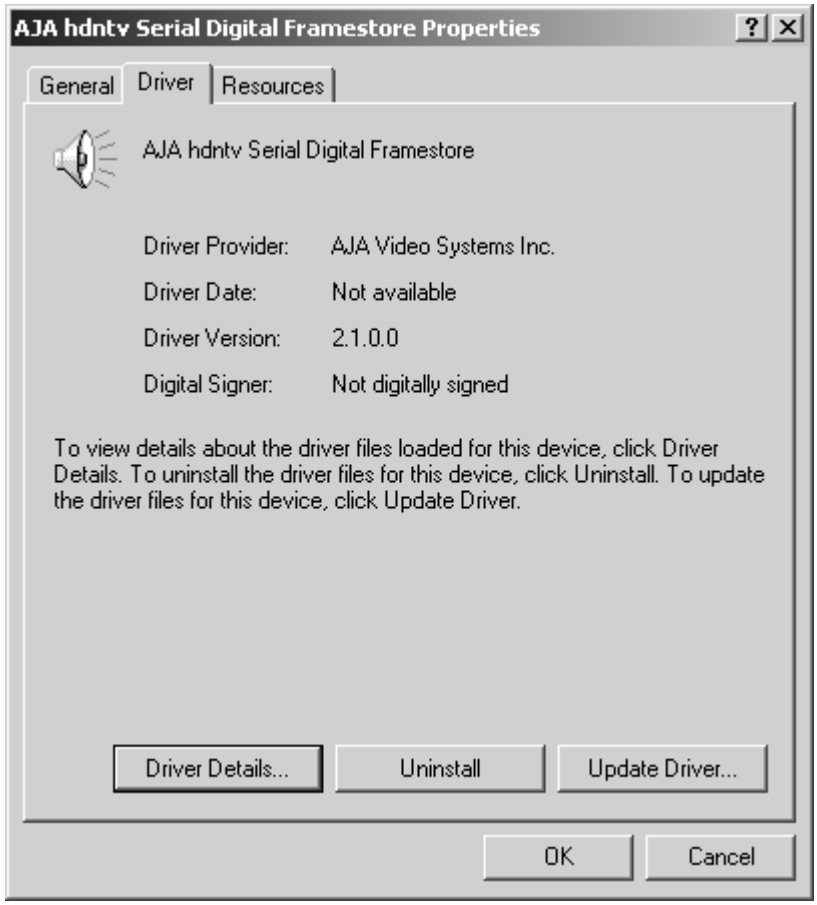
In the Device Manager, double-click on the “AJA HDNTV Serial Digital Framestore” icon, or select the “AJA HDNTV Serial Digital Framestore” icon and choose “Properties” from the “Action” menu.

FIGURE 8. Windows 2000 Driver Update - Device Manager



In the “AJA HDNTV Serial Digital Framestore Properties” dialog, select the “Driver” tab and click “Update Driver...”. From there, follow the same instructions given in the **Windows Plug-and-Play Driver Installation section** above**.**

Windows 2000 Driver Update - HDNTV Properties



Software Application Installation

- **HD-NTV Control Panel**

If you have an older version of the Control Panel installed, do not install the new one until you have removed the old one. See the "Software Upgrade Only" section, below.

The Control Panel is a Windows tray application that is started during login. When it is running, a 'color bars' icon appears in the corner of the taskbar. Left- or right-clicking on the icon brings up a menu of choices, including online help. The Control Panel can be used to setup the board, capture images, export images and test patterns, and do rudimentary video processing such as mixing,simple wiping, and keying. The Control-Panel should always be run before any other HD-NTV software, because it initializes the board.

To install the Control Panel from the Install dialog, click the Install Control Panel button. This will bring up an InstallShield Wizard. Follow the Installation Instructions given by the Wizard.

The installation procedure will enable the Control Panel to start-up during login by adding the ControlPanel *.exe* file to the Startup folder (in Start menu / Programs / Startup). If the install procedure is done by a user with Administrator privileges on the PC, the ControlPanel will be placed in the "All Users" Startup folder. If the installation is done under an account *without* Administrator privileges, the Control Panel will appear

only in that user's Startup folder. If other users also want to operate the card, they will need to add the ControlPanel to their own Startup folder (or to the "All Users" Startup folder).

- **Photoshop Plug-ins**

  If you aren't using Photoshop, you don't need to install the plug-ins.

  Click on the Install Photoshop Plugins button in the Install dialog. Follow Installation Instructions. Operational instructions for the plug-ins are provided in the HDNTVExportPlugin.pdf and HDNTVImportPlugin.pdf files on the installation CD.

  If you have any problems with this installation, the plugins are included on the floppy. You can just copy the plug-ins to the the Photoshop Plug-ins directory. Also, the plug-ins work with Adobe PhotoDeluxe.

- **Reboot**

  There is normally no need to reboot after the above installations are complete. If you haven't installed your board yet, shut down the computer and place the HD-NTV board(s) into the PC. When the PC is rebooted, the Board will be operational.

Software Upgrade Only

Do not install new ControlPanel software while the old ControlPanel is running. Exit any running instance of the Control Panel (by Left- or Right-clicking on the Control Panel icon in the system tray, and selecting "Exit" from the pop-up menu).

You must also un-install the existing Control Panel application (using Windows' "Add/Remove Programs" facility), befire installing the new one. (*If you don't uninstall the old ControlPanel, the installation will appear to work, but you will actually be running the OLD ControlPanel.*)

Troubleshooting

You can determine that the hdntv.sys driver hasn't loaded correctly by looking in the event viewer. Also, the ControlPanel will dim the dialog choices if it cannot communicate with the driver.

Some Windows systems don't allocate enough resources for frame memory PCI cards. If you have installed the board, driver, and ControlPanel, and rebooted and the board doesn't seem to work, most often you need to tweek the registry because the system hadn't allocated enough Page Table Entries for the driver to load correctly.

Before changing the Registry, take the usual precautions (backup the Registry, etc.). You will need to modify

HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Session Manager\Memory Management\SystemPages

It is usually 0 (which signifies that a default value is used). Usually a number like 40000 decimal is sufficient. Each Board needs about 16700 SystemPages. You will need to reboot after changing this setting.

If the board still doesn't work after adjusting the Page Table Entry allocation, consider whether the board is plugged into a compatible PCI slot. (See the 'Requirements" section, above.) Check to see if there are two different types of PCI slots on your motherboard (32-bit / 64-bit), and try it in the other type. Some motherboards may supply both 5.0 v and 3.3 v power to some slots, but not to others!