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DEK01000 & DEK0550

Technical Reference And Service Guide

Pinnacle® Systems, Inc.
280 N. Bernardo Avenue
Mountain View, CA 94043

July 2004

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P/N 372100105
Rev. A

Preface

This manual is a technical reference for the Deko1000 and Deko550 workstations. A technical overview for the workstations are provided, as well as information on troubleshooting a workstation and replacing software and hardware components within a workstation.

This manual is intended for the person who sets up and uses the Deko1000 or Deko550 workstation, and the Pinnacle Systems Customer Support Engineer who provides technical support for the workstations over the phone.

Important: This manual references only newer Deko1000 and Deko550 systems that were shipped after July 2004 and includes the model numbers listed below:

- Model: 372101000 -- Deko1000 Single Channel System
- Model: 372101002 -- Deko1000 Dual Channel System
- Model: 325100550 -- Deko550 Single Channel System
- Model: 325100552 -- Deko550 Dual Channel System

If the model number of your Deko1000 or Deko550 system does not appear in the list above, please refer to the Quick Install document that was provided on the Application CD with the original shipment of your system.

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Deko1000 & Deko550 Technical Reference And Service Guide

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Revision A
1 July 2004
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Chapter 1: Introduction To Deko1000 and Deko550

Contents

This Chapter provides an introduction to the Deko1000 and Deko550 Workstation Technical Reference and Service Guide. A brief description of all of the Chapters and Appendices that can be found in this document is also described in this section.

This Chapter contains the following sections:

- Introduction
- Using This Manual

Introduction

The Deko1000 and Deko550 are broadcast graphics workstations for creating and displaying graphical elements and clips for live on-air productions. Both are based on both the Microsoft® Windows® 2000 operating system, and on Pinnacle® Systems proprietary Inflexion Engine technology. Windows 2000 provides the interconnections, serviceability and networking capabilities required to seamlessly integrate into the critical broadcast environment. The Inflexion Engine is an object-based broadcast quality video processing engine that is designed to support a wide range of broadcast functionality which includes clip recording and playback, real-time effects generation, and graphics display.

This document provides detailed technical information about the Deko1000 and Deko550 workstations. It is meant to be used for initial setup and installation as well as a reference guide for system maintenance and troubleshooting.

As with other Deko products, the Deko1000 and Deko550 can be configured to be in a Single Channel or Program-Preview configuration. Each Deko1000 and Deko550 workstation will be in one of these configurations, depending on how the workstation was ordered. Each one of these configuration types is described in "Chapter 2: Deko1000 and Deko550 System Overview."

Important: This manual references only newer Deko1000 and Deko550 systems that were shipped after July 2004 and includes the model numbers listed below:

- Model: 372101000 -- Deko1000 Single Channel System
- Model: 372101002 -- Deko1000 Dual Channel System
- Model: 325100550 -- Deko550 Single Channel System
- Model: 325100552 -- Deko550 Dual Channel System

If the model number of your Deko1000 or Deko550 system does not appear in the list above, please refer to the Quick Install document that was provided on the Application CD with the original shipment of your system

Using This Manual

Here is a quick overview of this manual's Chapters and Appendices

- **Chapter 1: Introduction To Deko1000 and Deko550** -- Provides an overview of this manual.
- **Chapter 2: Deko1000 and Deko550 System Overview** -- Provides a basic overview of the Deko1000 and Deko550 system. The various hardware and channel configurations a Deko workstation can have are detailed here.
- **Chapter 3: Installation And Set Up** -- Explains how to set up a Deko1000 or Deko550 workstation after it has been initially received. This includes installing the hard drives, attaching peripheral devices, testing the workstation, Deko1000 or Deko550 software setup, and control and network connections.
- **Chapter 4: Troubleshooting** -- This Chapter describes how to use the Inflexion I/O Diagnostic Utility, and the Deko Manifest Utility. These two software utilities are provided within the Deko550 workstation system software and Deko1000 workstation system software as a means to quickly and easily troubleshoot a workstation.

- **Chapter 5: System Maintenance** -- This Chapter details how to remove and replace various Deko1000 and Deko550 workstation components, and the methods for system recovery.
- **Appendix A: Pinnacle Systems Customer Support** -- Information about additional Deko resources, a troubleshooting questionnaire, and regional worldwide e-mail and internet contact information is included here.
- **Appendix B: Using Shaped and Unshaped Keying** -- An explanation about the methodology and differences between shaped and unshaped keying when combining video and key elements is given here.
- **Appendix C: Deko1000 and Deko550 Technical Specifications** -- Gives the technical specifications for the Deko1000 and Deko550. Specifications for the Deko1000 and Deko550 base configuration, ClipDeko option, and DekoObjex option can be found here.

Chapter 2: Deko1000 and Deko550 System Overview

Contents

This Chapter provides a basic overview of the Deko1000 and Deko550 system. The hardware configuration and various channel configurations for a typical Deko1000 or Deko550 workstation are discussed and also detailed via illustrations. The inputs and outputs on the front and back panel of the Deko1000 and Deko550 workstation are also described.

This Chapter contains the following sections:

- Hardware Configuration
- Channel Configurations
- Deko1000 and Deko550 Workstation Front Panel
- Deko1000 and Deko550 Workstation Back Panel

Hardware Configuration

Both the Deko1000 and Deko550 workstations are built with a high performance motherboard configuration that is driven by powerful plug-in cards that manage the video and graphics data that flows through the system.

The main Input/Output (I/O) module in the Deko550 system and Deko1000 system is Pinnacle's TARGA 3200 board. The TARGA 3200 board is an advanced real-time video and audio processing engine that manages all of the I/O and graphics functions in a Deko1000 or Deko550. Up to two TARGA 3200 cards are installed on a Deko1000 or Deko550 system.

Channel Configurations

As with other Deko products, the Deko1000 and Deko550 can be configured to be in a Single Channel or Program-Preview configuration. Each Deko1000 and Deko550 workstation will be in one of these configurations, depending on how the workstation was ordered. Each one of these configuration types is described below.

Single Channel Mode

In single channel mode, a single TARGA 3200 board is installed in a Deko1000 or Deko550 workstation. All I/O, clip processing, effects output, and keying performed by the Inflexion software is processed on a single TARGA 3200 board. An illustration that is representative of the signal flow for single channel mode processing is shown in Figure 2-1.

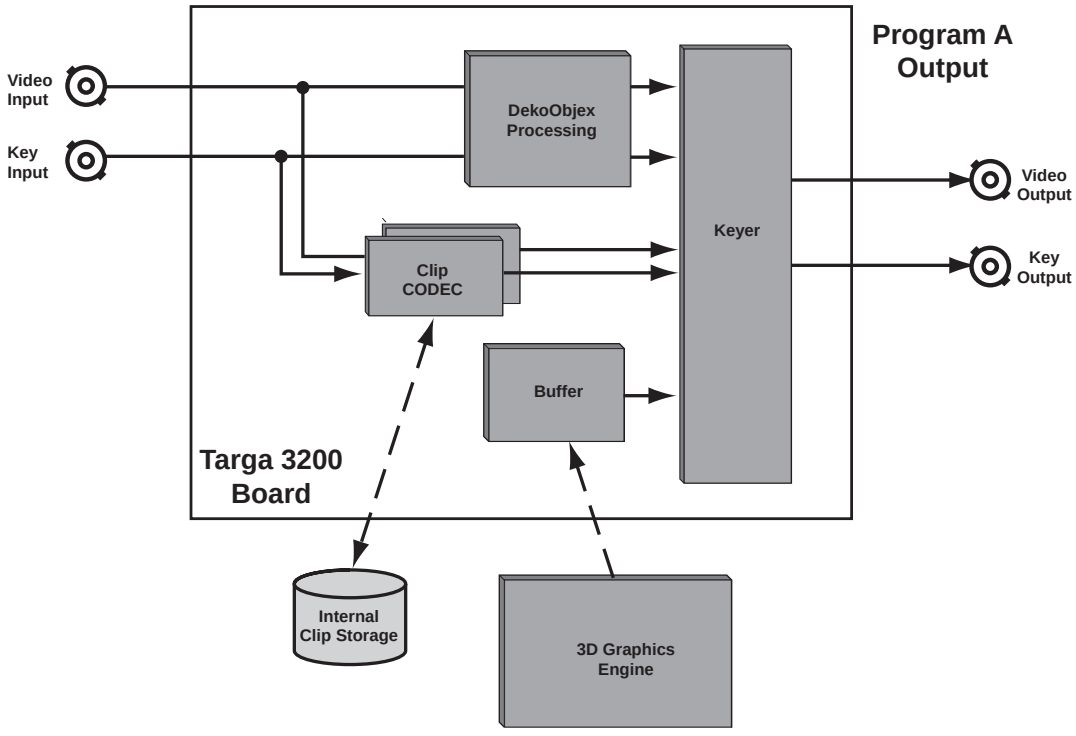


Figure 2-1: Single channel mode processing

Note: The Clip or DekoObjex options may or may not be installed on your system (depending on how the system was ordered.) The DekoObjex option is not available on the Deko550 system.

Program-Preview Mode

In Program-Preview mode, two TARGA 3200 boards are installed in a Deko1000 or Deko550 workstation. The first channel (i.e., TARGA board) operates exactly as in single channel mode. All I/O, clip processing, effects output, and keying performed by the Inflexion software is processed by the first TARGA 3200 board. The frame buffer of the second TARGA 3200 board is used to output the Program-Preview. This output is the static graphic that is displayed on the Preview window within the Deko1000 or Deko550 software program.

Important: No effects or clips can be output from the second TARGA 3200 board as Program-Preview.

An illustration that is representative of the signal flow for Program-Preview mode processing is shown in Figure 2-2.

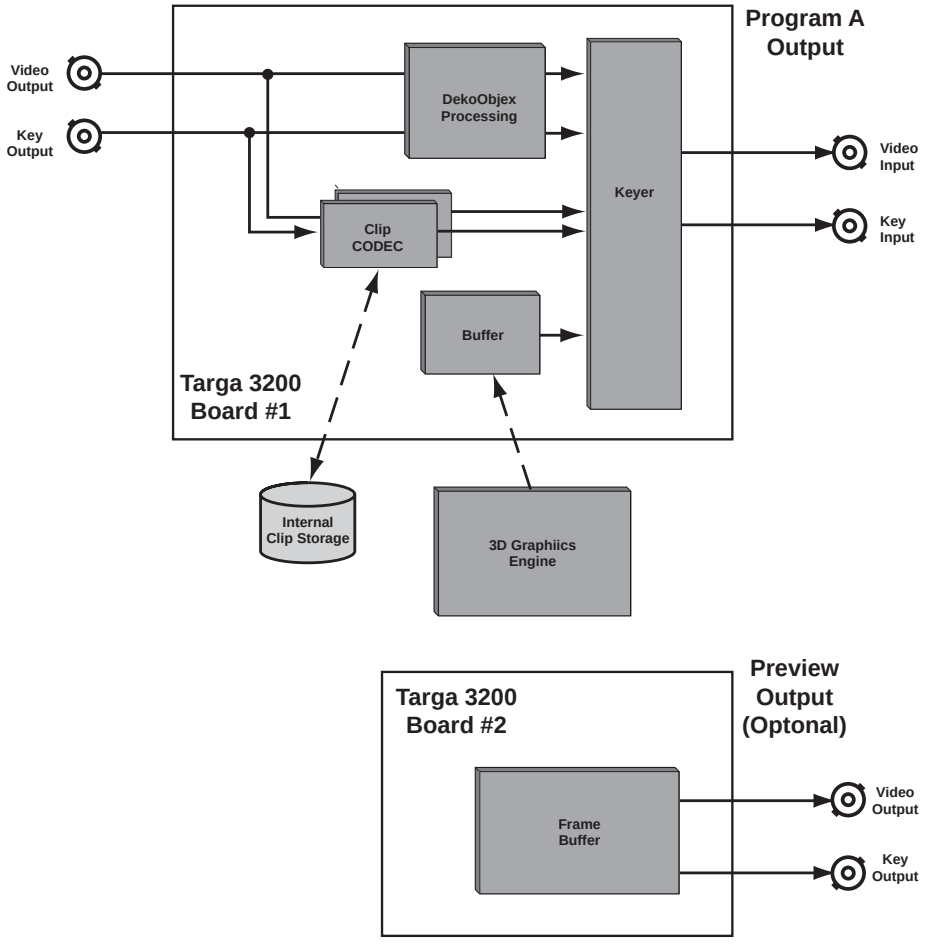


Figure 2-2: Program-Preview mode processing

Note: The Clip or DekoObjex options may or may not be installed on your system (depending on how the system was ordered.) The DekoObjex option is not available on the Deko550 system.

Workstation Front Panel

Figure 2-3 shows the front of the Deko1000 or Deko550 workstation with the front cover removed.

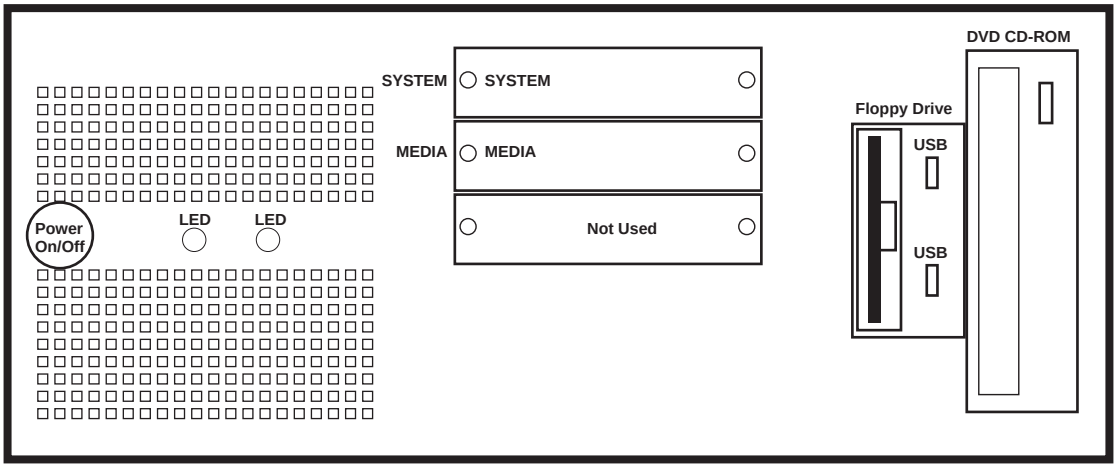


Figure 2-3: Front Panel of Deko1000 and Deko550 workstation (front panel cover removed)

The Deko1000 and Deko550 workstations contain a floppy disk drive and a DVD/CD-ROM drive. The right front panel has openings for inserting floppy disks and DVDs or CDs. To power on either machine, first turn on the Power Supply switches on the back of a unit, then press the Power On/Off button on the left side of the front panel. To power off either machine, first close all applications and shut down the Windows operating system. Then turn off the Power Supply switches on the back of the machine. When a machine is powered On, the power light stays lit. A green light flashes whenever the hard drive accesses data.

Workstation Back Panel

Figure 2-4 shows the back of the Deko1000 or Deko550 workstation.

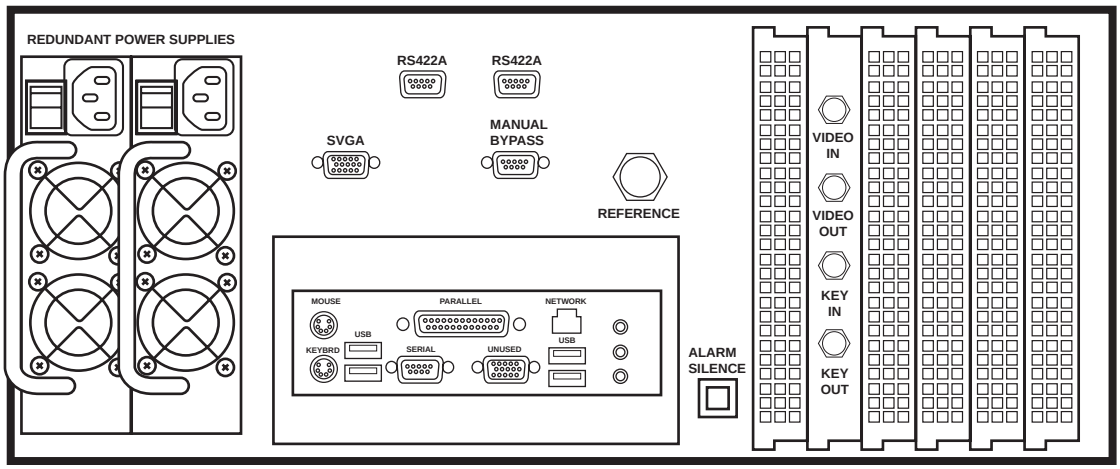


Figure 2-4: Back Panel of Deko1000 and Deko550 workstation

The Deko1000 and Deko550 workstation back panel (Figure 2-4) has a power supply on the left, and AGP and PCI card ventilation covers on the right. BNC connector plates for each TARGA 3200 board in the workstation also double as ventilation covers. The cables from the TARGA 3200 cards are fastened to the inside BNCs of the connector plates, which is labeled on the corresponding BNCs on the outside the connection plates for each connection.

Each Deko1000 and Deko550 workstation includes a pair of redundant hot-swappable Power Supplies. In the event that one of the Power Supplies fails, the other will automatically take over to assure continued operation of the workstation. A replacement Power Supply can be installed without disrupting operation.

> **Important:** Pinnacle Systems highly recommends that you purchase at least one spare Power Supply to use in the event of a Power Supply failure. Contact Pinnacle Systems Customer Support (refer to Appendix A) for ordering information.

Turn on the Power Supply switches before pressing the Power On/Off switch on the front panel. When the power supplies are running, the Power LED on each power supply is green. When a power supply is turned off or is not operational, the LED for that power supply is not lit. If a power supply is not operational and the Power On/Off switch on the front panel is turned On, an alarm will sound for the workstation. The workstation alarm can be turned off by pressing the Alarm Silence button. Instructions for replacing a power supply can be found in Chapter 5: System Maintenance.

The upper-middle part of the back panel contains the SVGA interface and the Genlock Reference Input, which is internally connected to the TARGA 3200 board(s).

The recessed lower-middle panel has connectors for a keyboard and mouse, four available USB ports, one parallel port, one serial ports, and one LAN connector.

> **Important:** A dongle which is necessary for the Deko1000 or Deko550 software program to run is installed on the parallel port. *Do not remove the dongle.*

Chapter 3: Installation And Setup

Contents

This Chapter describes how to set up a Deko1000 or Deko550 workstation after it has been initially received. Information on installing the hard drives, attaching peripheral devices, testing the workstation, Deko1000 and Deko550 hardware settings software setup, and GPI control and network connections.

This Chapter contains the following sections:

- Unpacking
- Deko1000 and Deko550 Workstation Initial Setup
- Deko1000 and Deko550 Hardware Settings Window
- Deko1000 and Deko550 GPI Input and GPI Output Connections
- Network Configuration

Unpacking

Please check to make sure that the following items have been included in the Deko1000 or Deko550 packages that were shipped:

-- Software CDs and DVDs

- Deko1000 or Deko550 Software CD
- Deko1000/ Deko550 Drive Image DVD
- Deko Fonts CD
- Instant CD/DVD Software CD
- Windows 2000 CD

These CD's are critical for the proper support of a Deko1000 or Deko550 system. Please put them in a safe location to insure timely support in the event that system maintenance is necessary. Misplacing any of these CD's may result in a delay in servicing your Deko1000 or Deko550 system.

-- Documents

- Deko User's Guide
- Deko1000 or Deko550 Release Notes
- Deko1000 or Deko550 Quick Install Guide
- Product Registration Card

Please read the Release Notes for important information about your new Deko1000 or Deko550 System. Also, take the time to fill out the Product Registration Card and return it to Pinnacle Systems. Your filling out and sending the registration card enables Pinnacle Systems to inform you of any important updates for your Deko1000 or Deko550 system.

-- Hardware Components

- Main Deko1000 or Deko550 Chassis
- System Drive (packed in separate box)
- Media Drive (packed in separate box)
- Deko1000 or Deko550 Front Panel Cover
- Standard Mouse
- Standard Keyboard
- Two AC Power Cords (USA)
- Two AC Power Cords (International)

Note: Only two of the supplied power cords will be necessary for the Deko1000 or Deko550 workstation. The type used is dependent on the type of power outlet used in the facility where the Deko1000 or Deko550 workstation will be located.

Deko1000 and Deko550 Workstation Initial Setup

Before installing the Deko1000 or Deko550 in your rack, the system should be put together, powered up, and tested via a diagnostic test that comes pre-installed on the system. The steps for initially setting up the workstation, powering it up, and testing it are as follows:

1. **Visually inspect the hardware components listed in the "Unpacking" section on the previous page to make sure that none of them were damaged during shipment**

   If you received a hardware component that was damaged, contact Pinnacle Systems Customer Support. Contact information can be found in Appendix A of this document.

2. **Insert the System hard drive and Media hard drive into their respective drive bays on the front panel of the Deko1000 or Deko550 workstation. Refer to Figure 3-1.**

   When placing a hard drive into its respective bay, align the drive so that it will properly slide into the drive bay. Then push the drive so that it completely slides into the bay. This will connect the drive to its connectors at the back of the bay. Use a screwdriver to completely tighten the two thumbscrews. To insure that the connection stays intact, tighten the thumbscrews as much as possible with the screwdriver.

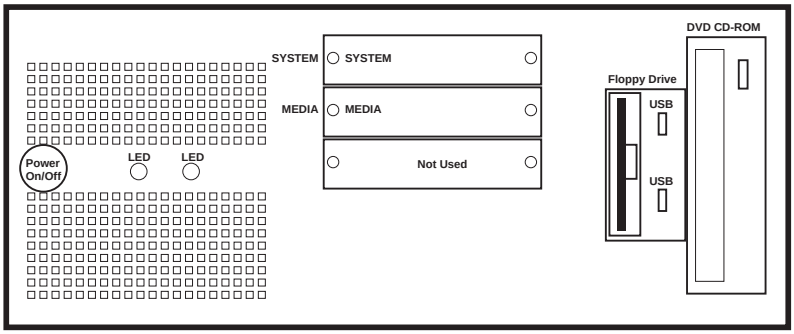


Figure 3-1: Front Panel of Deko1000 or Deko550 Workstation (front panel cover removed)

3. **Attach the mouse and keyboard to the back panel of the workstation.**

   The mouse and keyboard connections on the workstation are shown in Figure 3-2.

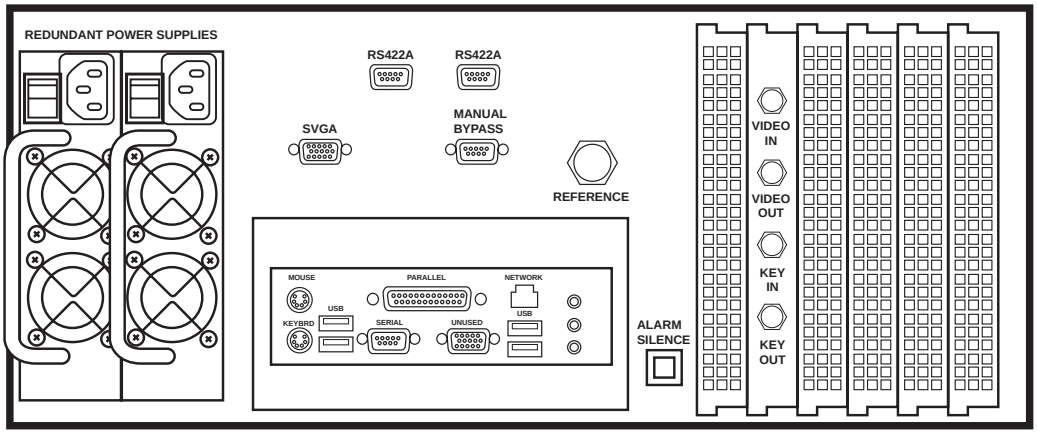


Figure 3-2: Back Panel of the Deko1000 or Deko550 Workstation

4. **Attach the front panel cover (supplied) to the front of the Deko1000 or Deko550 workstation.**

   The panel cover is the large plastic front panel cover that has the word Deko in red lettering.

5. **Connect a monitor (not supplied) to the Deko1000 or Deko550 workstation.**

   The monitor attaches to the SVGA connector on the back of the Deko1000 and Deko550 Workstation. Refer to Figure 3-2.

6. **Connect both AC Power Cords (supplied) the Deko1000 or Deko550 workstation.**

   The AC power cords connect to both Power Supplies located at the back of the workstation. Refer to Figure 3-2. Use the power cords appropriate for the electrical voltage range used by the electrical outlet.

7. **Turn on the monitor, and then power up the Deko1000 or Deko550 workstation.**

   The workstation is power up by first pushing the Power Supply switches where the AC Power Cords are connected to "On." Then push the On/Off button located on the front panel of the workstation to power up the workstation. When the operating system boots up, the Deko1000 or Deko550 background is displayed on the monitor.

8. **Run the automatic mode of the Inflexion I/O Diagnostic Utility to insure that the TARGA card(s) are functioning on the workstation.**

   For each TARGA card to be tested, the SDI channels for that card must be set to loop back. This is done by taking two BNC cables (75 ohm) and connecting the Input/Output of each channel as shown in Figure 3-3. The TARGA card BNC connectors are located on the back panel of the workstation. The cable connection on the card for the test should be: Video Out to Video In, and Key Out to Key In. Refer to Figure 3-3.



Figure 3-3: Loop Back Connections on each SDI channel

Navigate the following path to the Inflexion Diagnostic software program within Windows:
Start menu >> Programs >> Deko1000 or Deko550 >> Diagnostic Tools
Then click the program "Inflexion I-O Diagnostic" to open it. Refer to Figure 3-4.

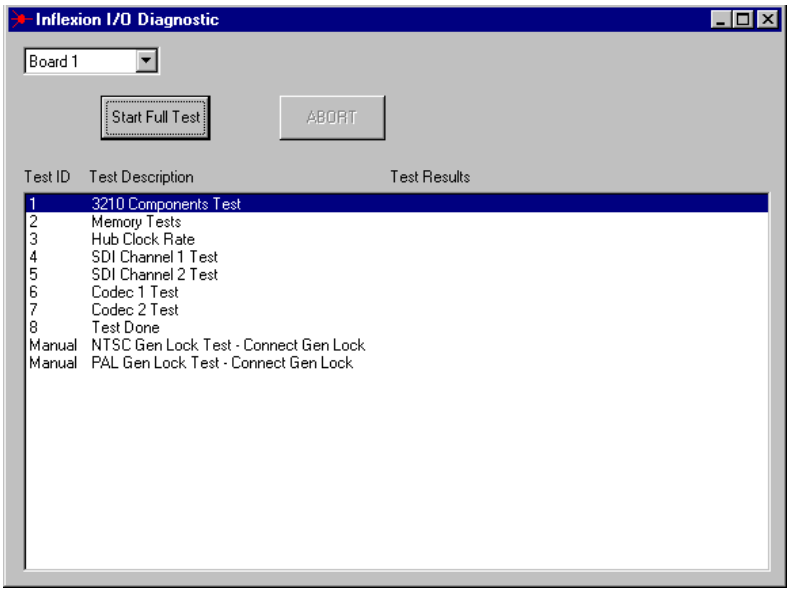


Figure 3-4: Inflexion Diagnostic Utility

Use the pull-down selection box on the upper left-hand side of the Inflexion I/O Diagnostic window to select the channel to be tested. If you are facing the back panel of the workstation and looking at the BNCs, then TARGA Board 1 would be the row of BNC's on the far left. Then click the "Start Full Test" button on the Inflexion I/O Diagnostic window to run the automatic mode of the test. If nothing fails on the test, the channel tested is fine.

> **Note:** For three channel workstations only, board 1 will be the row of BNCís on the far left, *board 3 will be the middle set*, and board 2 will be the row on the far right.

A more detailed explanation of the Inflexion Diagnostic Utility program can be found in "Chapter 4: Troubleshooting" of this manual.

9. **If the workstation is to be rack mounted or moved to another location, disconnect all of the components and rack mount the workstation chassis.**

   Each Deko1000 and Deko550 workstation chassis is designed so that industry standard rails can be connected for rack mounting purposes. Each workstation will fit on 19-inch standard instrument racks.

10. **Make any other connections to the workstation that are necessary for the working environment.**

    Other connections would include Genlock Reference, Video Input/Output BNCs, network cable, etc.

    > **Note:** The Audio connections (Speakers, Mic) on the back of the Deko1000 and Deko550 chassis (refer to Figure 3-2) are disabled at the factory and should not be used.

Repacking A Deko1000 Or Deko550 Workstation

When repacking your Deko1000 or Deko550 system for shipment, please be sure to first remove the System and Media drives and properly pack them with the system. This will protect the drives from damage during shipment.

Deko1000 and Deko550 Hardware Settings Window

The Hardware Settings window in Deko1000 and Deko550 provides a list of parameters that can be configured to customize the integration into your facility. To access the Hardware Settings dialog box, run the Deko1000 or Deko550 software application and select Options >> Hardware Settings within the Deko application. The window shown in Figure 3-5 will be displayed.

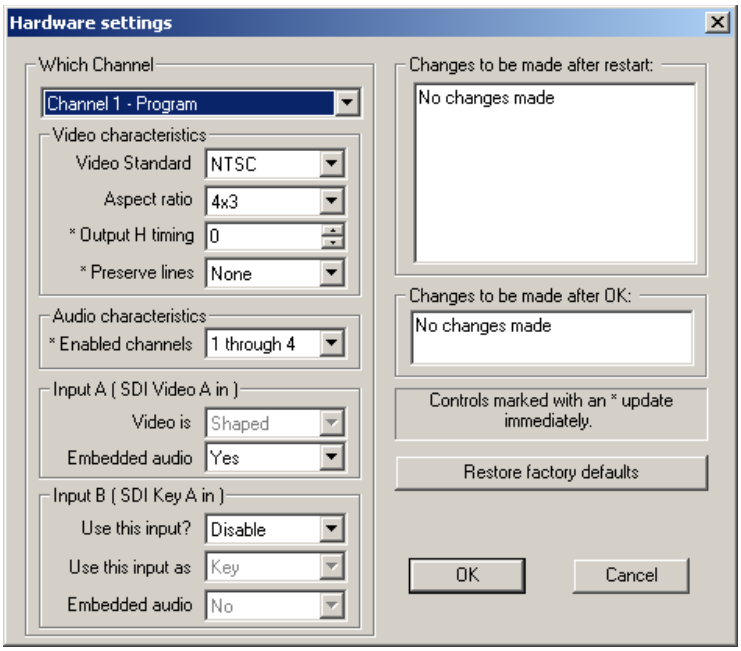


Figure 3-5: Deko1000 and Deko550 Hardware Settings Window

Which Channel -- The Deko1000 and Deko550 can be configured in either a Single Channel or Program-Preview configuration. Depending on how your system is configured, you will have the option of configuring each of these channels through the “Which Channel” drop down menu.

Video Characteristics_Video Standard -- Deko1000 and Deko550 can be configured to run in either NTSC or PAL video standards. Select the format from the “Video Standard” drop down menu.

Video Characteristics_Aspect Ratio -- Deko1000 and Deko550 can be configured to run in either 4x3 or 16:9 aspect ratios. This will control how the Deko application is laid out and how graphics are created. Select the format from the “Aspect Ratio” drop down menu.

Video Characteristics_Output H Timing -- The horizontal output timing of each Deko1000 and Deko550 channel can be adjusted in half pixel increments relative to the analog reference input (House Reference). The range of available adjustment is between -300 µsec and 300 µsec.

Video Characteristics_Perserve Lines -- When using a live video input as a background on your Deko1000 or Deko550 system, vertical interval data (such as Close Captioning and VITC) can be preserved and passed through to the video output. To use this feature, select the range of lines to preserve in the “Preserve Lines” drop down menu.

Important: Enable this option only when necessary, as using it will consume a portion of the total pixel processing power of the system.

Audio Characteristics_Enabled Channels -- Deko1000 and Deko550 support up to 4 channels of embedded audio for each Video and Key. These audio channels can be used for live pass-through, clip record, clip playback or sound effects insertion (refer to the Deko User's Guide for details on these features). The "Audio Characteristics" drop down menu allows you to control which embedded audio channels are used.

Input A (SDI Video A in)_Video Is -- This parameter provides configuration control for the Video input on each channel. When used with a corresponding live key input, "Video Is" sets whether the video signal is "shaped" or "unshaped." The terms "shaped" and "unshaped" refer to how a separate key signal is used in conjunction with an associated video (or fill) signal to represent a non-opaque shape. A video and key pair that has the key "pre-applied" (or pre-multiplied) to the video signal is considered shaped. A video and key pair that does not have the key "pre-applied" (or pre-multiplied) to the video signal is considered unshaped.

Note: Refer to "Appendix B: Using Shaped and Unshaped Keying" for detailed information on shaped and unshaped keying.

Input A (SDI Video A in)_Embedded Audio -- This parameter provides configuration control for the Video input on each channel. The Embedded Audio parameter controls whether or not embedded audio is to be used on the Video input channel. If "Yes" is selected, the audio channels selected in the "Audio Characteristics" menu will be used.

Input B (SDI Key A in)_Use This Input? -- This parameter provides configuration control for the Key input on each channel. The Key input on each channel must be disabled if it is not used or if there is no valid signal attached to the physical connector.

Note: Improper operation will result if this parameter is enabled without a valid input attached.

Input B (SDI Key A in)_Use This Input As -- This parameter provides configuration control for the Key input on each channel. When used with the DekoObjex feature, the Key input can be used as a second Video input for each channel.

Input B (SDI Key A in)_Embedded Audio -- This parameter provides configuration control for the Key input on each channel. The Embedded Audio parameter controls whether or not embedded audio is to be used on the Key (or second) input channel. If "Yes" is selected, the audio channels selected in the "Audio Characteristics" menu will be used.

The Deko application must be closed and reopened for most of the parameters changes to take effect. Controls marked with a * will take affect automatically without requiring a restart. The status windows on the right hand side of the window will provide an overview of any changes that were made.

Deko1000 and Deko550 GPI Input And Output Connections

GPI's (General Purpose Interface) can be used to interface Deko1000 and Deko550 with peripheral devices that are capable of sending and receiving GPI pulses. A GPI Input can be selected from the Deko Sequencer to trigger through a graphics sequence manually. A GPI Output can be set from a Deko macro command to trigger an external device. For details on how to use GPIs within the Deko application, refer to the "Deko User's Guide" provided with your system.

The RS-232 port on the back of your Deko1000 or Deko550 system can be repurposed to provide a single GPI input and output. The diagram in Figure 3-6 below shows the pin connections on the RS-232 port that are used as GPI's.

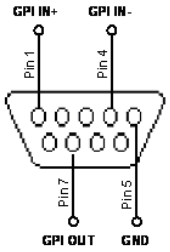


Figure 3-6: Deko1000 and Deko550 RS-232 Port Pinout

GPI Input

Pins 1 and 4 of the RS-232 connector can be used to detect a GPI from a standard contact closure (such as a GPI output from a switcher). Alternatively, a short pulse (minimum 10 milliseconds) on pin 1 will also trigger the GPI input on the Deko application.

GPI Output

Pin 7 on the RS-232 connector will pulse high (for approximately 100 milliseconds) when a GPI output command is issued from the Deko application. This can be used to trigger an external device that is expecting a pulse to trigger an event from the Deko.

For an external device that will not trigger from a short pulse, but requires a contact closure, the custom circuit illustrated in Figure 3-7 can be used. This circuit will convert the pulse on Pin 7 into a contact closure to properly trigger devices that expect a somewhat more traditional GPI (e.g., Pinnacle's Thunder Clip Server).

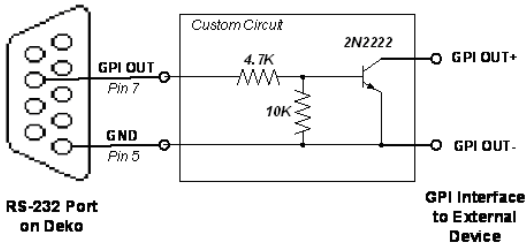


Figure 3-7: Custom Circuit for GPI Output

Note: If you require more RS-232 ports than are available on your Deko chassis, an external USB to RS-232 converter can be used. Refer to the "Using External Peripheral Devices with Pinnacle's Deko Products" Application Note for details on specific models. This and other Application Notes and White Papers can be found on Pinnacle's website at www.pinnaclesys.com

Network Configuration

Contact the IT System Administrator at the facility where the Deko1000 or Deko550 workstation is to be installed to obtain detailed information about how to configure your system for the Network.

The following guidelines are outlined for the IT department to use to protect your Deko1000 or Deko550 system from virus infection. While it is understood that all of these guidelines may not be practical, following them will provide the best level of protection against system infection.

1. NEVER share a folder or drive to “Everyone” with full-access.
2. ALWAYS assign a local Administrator password on every machine. Not assigning a local Administrator password can introduce a serious security risk.
3. Do not store files with a .exe extension in directories with write permissions.
4. If possible, keep all Pinnacle Live Production equipment on a separate network that is isolated from other machines in the facility.
5. Disallow Internet access on any Pinnacle Live Production machines that do not require it.
6. Do not install anti-virus software on any of the Pinnacle supplied hardware components that are used on-air.
7. Install and run anti-virus software on all PC components that are not used for on-air play out. This includes Pinnacle products such as DekoCast Authoring Station, PostDeko, DekoMOS Clients, Lightning Browse, and Thunder Browse.

   Note: Please refer to the “Virus Protection Recommendations for Pinnacle Systems Live Production Products” white paper for additional guidelines on how to protect your Deko system from virus infection. This and other White Paper and Application Notes can be found on Pinnacle’s website at www.pinnaclesys.com

Chapter 4: Troubleshooting

Contents

This Chapter describes how to use software utilities provided with each Deko1000 and Deko550 Workstation system software as a means to quickly and easily troubleshoot the workstation. Troubleshooting tips are also provided. Performing these procedures will help streamline the process of getting your Deko1000 or Deko550 Workstation up and running again.

This Chapter contains the following sections:

- Inflexion I/O Diagnostic Utility
- Deko Manifest Utility

Inflexion I/O Diagnostic Utility

The Inflexion Input/Output (I/O) Diagnostic software test utility provides a range of tests if you, or Pinnacle Systems Customer Support, suspect that there is a problem with the TARGA 3200 card(s) in a Deko1000 or Deko550 Workstation. The procedures described for performing the Inflexion I/O Diagnostic should be perform before contacting Customer Support. If a TARGA card is the problem, downtime is kept to a minimum since the problem is quickly identified.

Problems that may lead one to run the Inflexion I/O Diagnostic Utility are as follows:

- No picture being output from the workstation
- Video looks bad or rolls continuously (no genlock)
- Effects of clips stutter
- Video capture and playback not working
- Audio is scrambled

Modes Of Operation

The Inflexion I/O Diagnostic test can be used in two different modes: automatic or manual. The automatic testing runs a list of tests until either an error is detected, or until all the tests are successfully completed. In most instances, the automatic test mode is used. Manual testing allows you to select a test individually from the list of tests and run it. You can run each test individually by manual selection if directed to do so by Pinnacle Systems Customer Support.

Setup Before Testing

The setup procedures given below for automatic and manual test modes should be perform before running the Inflexion I/O Diagnostic test.

Setup for automatic test mode:

For each TARGA card to be tested, the SDI channels must be set for loop back. This is done by taking two BNC cables (75 ohm) and connecting a TARGA card that is to be tested to itself. The cable connection on the card should be: Video Out to Video In, and Key Out to Key In. Refer to Figure 4-1.



Figure 4-1: Loop Back Connections on a TARGA Card

Setup for manual test mode:

If the NTSC Genlock or PAL Genlock test is to be done, then an input black burst signal must be connected to the REF input connector on the back of the Deko1000 or Deko550 chassis. An input NTSC signal source must be used for the NTSC Genlock test. An input PAL signal source must be used for the PAL Genlock test.

If manual testing of the SDI channels is to be done, the SDI channel to be tested must be set for loop back. Refer to "Setup for automatic test mode" above and Figure 4-1. Channel 1 is Video Out (Out A) to Video In (In A). Channel 2 is Key Out (Out B) to Key In (In B).

Automatic Test Procedure

The following steps should be performed for automatic testing of TARGA card(s) within a Deko1000 or Deko550 Workstation by way of the Inflexion I/O Diagnostic Utility test:

1. **Turn on the Deko1000 or Deko550 Workstation.**

   Only the Windows OS should be running. If any other programs are running on the workstation, then you should exit out of those programs.

   Important: If your workstation is corrupted to the point where it will not boot up when turned on, contact Pinnacle Systems Technical Support. Contact information can be found in Appendix A.

2. **Start the Inflexion I/O Diagnostic software program.**

   Navigate the following path to the Inflexion Diagnostic software program:
   Start >> Programs >> Deko1000 or Deko550 >> Diagnostic Tools
   Then click the program "Inflexion I-O Diagnostic" to open it. A Window similar to that shown in Figure 4-2 should be displayed.

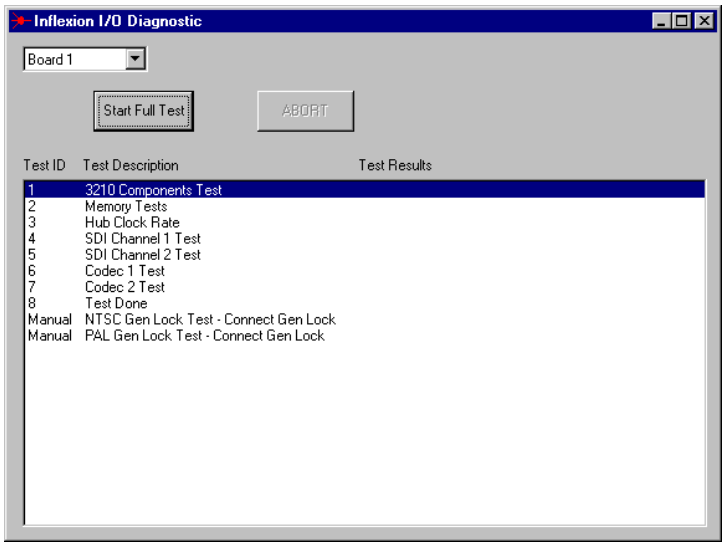


Figure 4-2: Initial start up screen of Inflexion I/O Diagnostic Test

Important: If the dialog shown in Figure 4-3 is displayed, then either the Deko program is also running, or some other program is running that interferes with the Inflexion I/O Diagnostic.

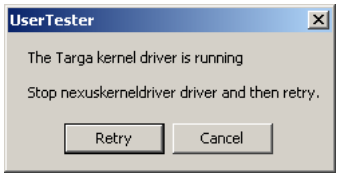


Figure 4-3: TARGA kernel driver interference dialog

Quit all other programs and restart the workstation. Repeat Step 2 so that only the Inflexion I/O Diagnostic program is running.

3. Select the channel that is to be tested.

Some workstations have more than one channel. There is a pull-down selection box on the upper left-hand side of the Inflexion I/O Diagnostic window. The default selection in the pull down is Board 1 (i.e., first channel). Refer to Figure 4-2. If more than one channel is in the workstation, click and hold the pull down and then select the board (i.e., channel) that is to be tested. The selection and identification of a board is as follows:

For workstations configured with 1 or 2 channels

- Board 1 -- This would be the first (or only) TARGA. This TARGA card is essentially the first channel. If you are facing the back panel of the workstation and looking into the TARGA card bay area, then Board 1 would be the TARGA card on the far left. If the workstation top is lifted off, a TARGA card would be seated right next to the Serial 422 card. (Refer to Figure 5-1 within the “Replacing Workstation Components” section of Chapter 5 for TARGA card locations.)
- Board 2 -- This would be the second TARGA card in workstations with more than one TARGA card installed. This TARGA card is essentially the second channel. If you are facing the back panel of the workstation and looking into the TARGA card bay area, then Board 2 would be the second TARGA card from the left. (Refer to Figure 5-1 within the “Replacing Workstation Components” section of Chapter 5 for TARGA card locations.)
- Board 3 -- This pull down selection is not used because workstations configured for two channels will have a maximum of 2 TARGA cards installed.
- Board 4 -- This pull-down selection is not used because workstations configured for two channels will have a maximum of 2 TARGA cards installed.

Important: Loop back must be set up on the TARGA card channel to be tested. Refer to the “Setup Before Testing” section above for automatic testing procedures.

4. Click the “Start Full Test” button on the Inflexion I/O Diagnostic window.

Brief descriptions of the tests are as follows:

- 3210 Components Test -- This test checks that the various components on the TARGA card are functioning in a normal manner.

Note: Depending on the model of the TARGA card in your system, the “3210” indication may appear as a different number.

- Memory Tests -- This test performs extensive memory testing on the TARGA card.
- Hub Clock Rate -- This is a test to check that the TARGA’s “clock” locks to the oscillator.
- SDI Channel Tests -- This test loops a signal out of the SDI portion of a channel and checks that the signal comes back into the card exactly the same.
- Codec Tests -- This test checks the encoding and decoding ability of a Codec by putting a fixed image through the Codec.

When the “Start Full Test” button is clicked, the automatic testing sequence for the channel (i.e., board) selected in the pull down will begin. The automatic test takes about 3 minutes to complete. An example of automatic testing in progress is shown in Figure 4-4.

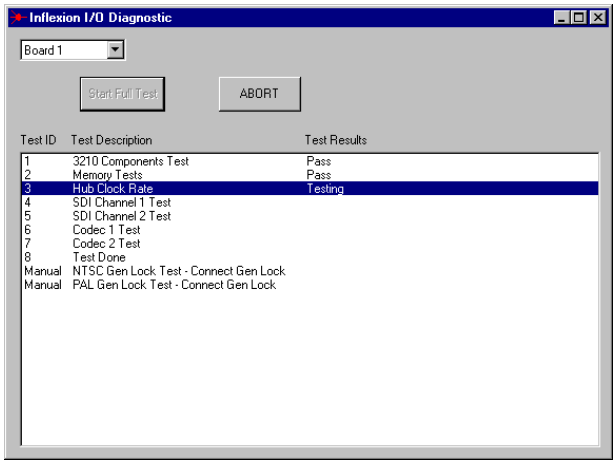


Figure 4-4: Inflexion I/O Diagnostic automatic test in progress

If all automatic tests pass:

If automatic testing completes successfully, a dialog stating that the tests are done and all test passed will be displayed. Click the “OK” button within the dialog. Refer to Figure 4-5.

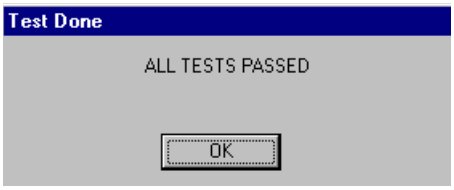


Figure 4-5: Dialog shown when all automatic tests pass

If there is more than one TARGA card in your workstation, repeat Steps 1-4 above for each TARGA card.

If an automatic test fails:

The automatic testing sequence will stop at the point that a test fails, and the dialog shown in Figure 4-6 will be displayed.

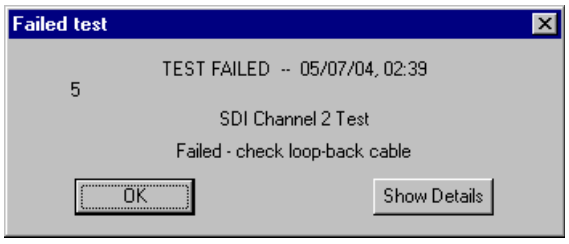


Figure 4-6: Dialog shown when an automatic test fails

Details about a test that fails can be viewed by clicking the “Show Details” button on the Failed Test dialog. If it was one of the SDI Channel tests that failed, check that the loop through cables

are connected properly to the TARGA card being tested. (Refer to the “Setup Before Testing” section above for automatic testing setup procedures.)

Perform the following steps if a test fails:

1. **After viewing the details, click “OK” on the dialog and repeat the automatic test.**

   Make sure that the TARGA card is properly seated, and loop through cables are secure and properly connected before repeating the automatic test sequence.

   Important: Power down the workstation before removing the cover to make sure that the TARGA card is properly seated in its PCI slot.

2. **If the test fails again, click “OK” on the Failed Test dialog and save results.**

   Results can be saved by right clicking on the blue title bar or red icon (upper left-hand corner) of the Inflexion I/O Diagnostic window and selecting “Save Results.” Refer to Figure 4-7.

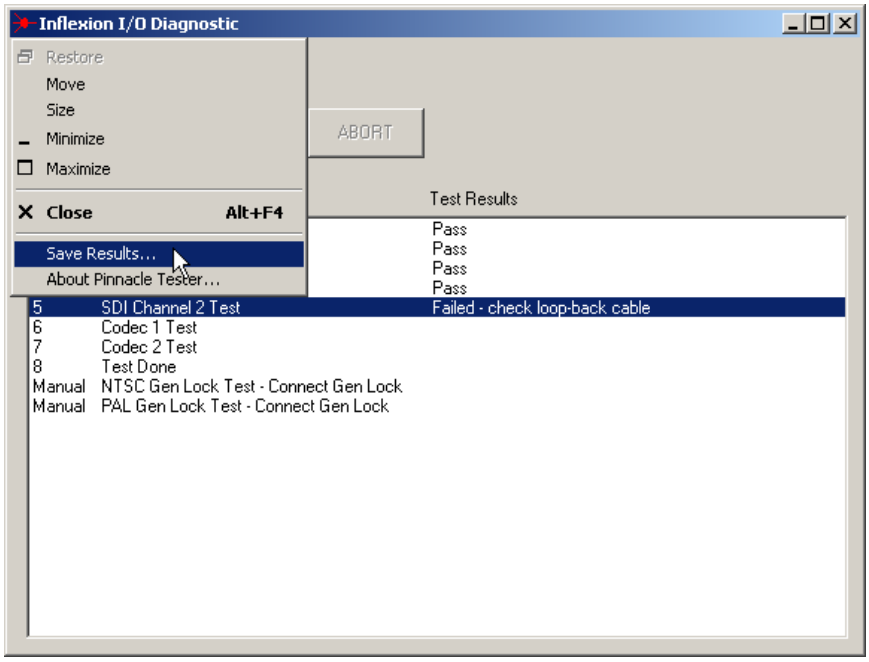


Figure 4-7: Selecting “Save Results” for Inflexion I/O Diagnostic window

When saved results is selected, the window shown in Figure 4-8 will be displayed.

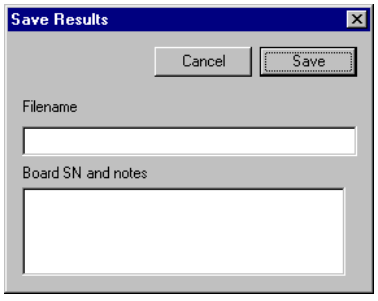


Figure 4-8: Save Results Window

3. **Type a Filename in the Filename area and a brief description of the problem.**

   When typing a filename for the Save Results file, make sure to use an extension such as .txt (an example would be: testfailed.txt as a filename). If you know thew TARGA card's serial number, include when typing a brief description of the problem.

   Important: When typing a brief description of the problem do no use the <Enter> key on your keyboard. The <Enter> key will cause the Save Results window to unexpectedly close.

4. **Click the "Save" button.**

   The Save Results file will be saved in the same folder where the Inflexion I-O Diagnostic test is located on the Deko1000 or Deko550 Workstation. Pinnacle Systems Technical Support may request that you send this file to them. An example of a saved Test Results file is shown in Figure 4-9.

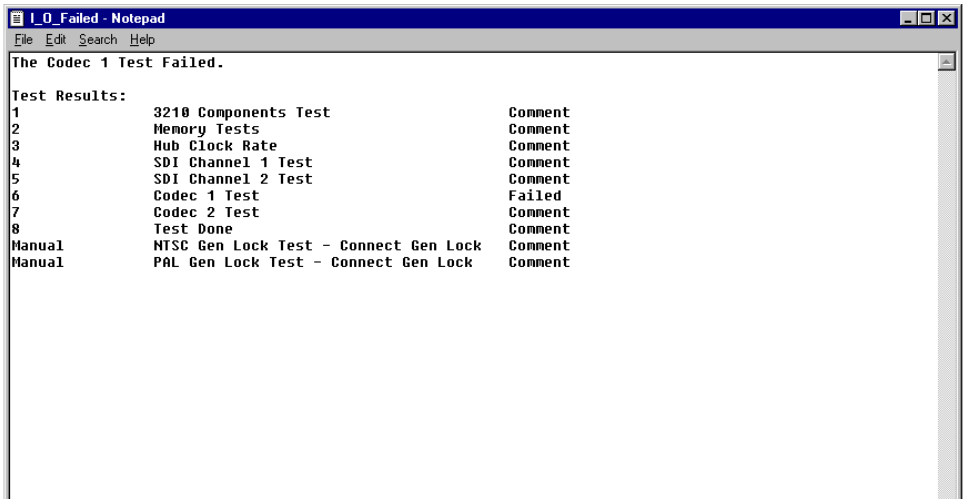


Figure 4-9: Example of a saved Test Results file

5. **Contact Pinnacle Systems Technical Support.**

   Pinnacle Systems Technical Support will provide you instructions on the procedure to obtain a replacement TARGA card. Contact information can be found in "Appendix A: Pinnacle Systems Technical Support."

Manual Test Procedure

The following steps should be performed for manual testing of TARGA card(s) within a Deko1000 or Deko550 Workstation by way of the Inflexion I/O Diagnostic Utility test:

1. **Turn on the Deko1000 or Deko550 Workstation.**

   Only the Windows OS should be running. If any other programs are running on the workstation, then you should exit out of those programs.

   Important: If your workstation is corrupted to the point where it will not boot up when turned on, contact Pinnacle Systems Technical Support. Contact information can be found in Appendix A.

2. Start the Inflexion I/O Diagnostic software program.

Navigate the following path to the Inflexion Diagnostic software program:
Start >> Programs >> Deko1000 or Deko550 >> Diagnostic Tools
Then click the program “Inflexion I-O Diagnostic” to open it. A window similar to that shown in Figure 4-10 should be displayed.

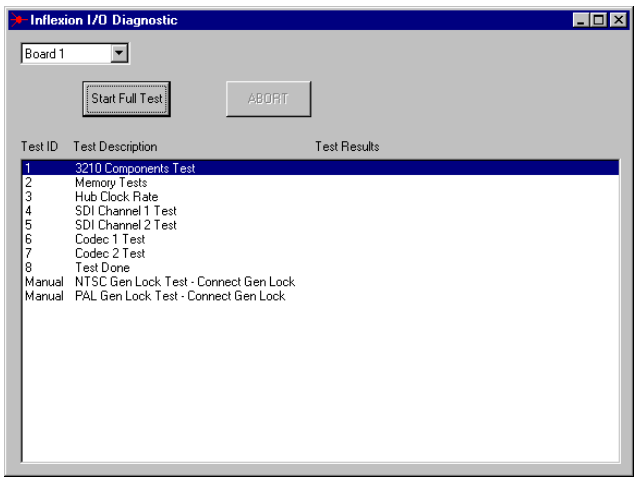


Figure 4-10: Initial start up screen of Inflexion I/O Diagnostic Test

Important: If the dialog shown in Figure 4-11 is displayed, then either the Deko program is also running, or some other program is running that interferes with the Inflexion I/O Diagnostic.

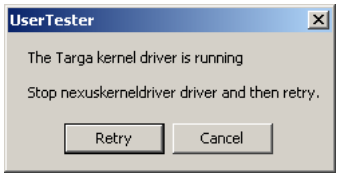


Figure 4-11: TARGA kernel driver interference dialog

Quit all other programs and restart the workstation. Repeat Step 2 so that only the Inflexion I/O Diagnostic program is running.

3. Select the channel that is to be tested.

Some workstations have more than one channel. There is a pull-down selection box on the upper left-hand side of the Inflexion I/O Diagnostic window. The default selection in the pull down is Board 1 (i.e., first channel). Refer to Figure 4-10. If more than one channel is in the workstation, click and hold the pull down and then select the board (i.e., channel) that is to be tested. The selection and identification of a board is as follows:

For workstations configured with 1 or 2 channels

- Board 1 -- This would be the first (or only) TARGA. This TARGA card is essentially the first channel. If you are facing the back panel of the workstation and looking into the TARGA card bay area, then Board 1 would be the TARGA card on the far left. If the workstation top is lifted off, a TARGA card would be seated right next to the Serial 422 card. (Refer to Figure 5-1 within the “Replacing Workstation Components” section of Chapter 5 for TARGA card locations.)

- Board 2 -- This would be the second TARGA card in workstations with more than one TARGA card installed. This TARGA card is essentially the second channel. If you are facing the back panel of the workstation and looking into the TARGA card bay area, then Board 2 would be the second TARGA card from the left. (Refer to Figure 5-1 within the "Replacing Workstation Components" section of Chapter 5 for TARGA card locations.)
- Board 3 -- This pull-down selection is not used because workstations configured for two channels will have a maximum of 2 TARGA cards installed.
- Board 4 -- This pull-down selection is not used because workstations configured for two channels will have a maximum of 2 TARGA cards installed.

4. Double click the test name that is to be run.

A single test can be performed by left-double clicking the name of the test. An example of the manual testing window is shown in Figure 4-12.

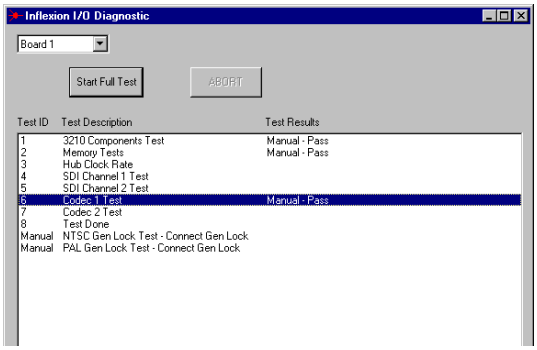


Figure 4-12: Inflexion I/O Diagnostic manual testing window

Brief descriptions of the tests are as follows:

- 3210 Components Test -- This test checks that the various components on the TARGA card are functioning in a normal manner.

Note: Depending on the model of the TARGA card in your system, the "3210" indication may appear as a different number.

- Memory Tests -- This test performs extensive memory testing on the TARGA card.
- Hub Clock Rate -- This is a test to check that the TARGA's "clock" locks to the oscillator.
- SDI Channel Tests -- This test loops a signal out of the SDI portion of a channel and checks that the signal comes back into the card exactly the same.

  Important: Loop back must be set up on the TARGA card to be tested. Refer to the "Setup Before Testing" section above.
- Codec Tests -- This test checks the encoding and decoding ability of a Codec by putting a fixed image through the Codec.
- Genlock Tests -- The NTSC and the PAL genlock tests both use a black burst or composite signal as input source to Reference (REF) on the TARGA card. Either test locks the TARGA's output to the reference, and then tests to check if it is really locked to the reference output. The test then checks that unlocking can occur.

  Important: An input black burst or composite input signal must be connected to the REF 1 connector on the back panel of the workstation if a genlock test is to be done. The input signal format (i.e., NTSC or PAL) must match the format listed in the test name description.

If manual tests pass:

When a manual test is done, a Pass/Fail message will be displayed in a column to the right of the test name. Refer to Figure 4-12. If the manual test(s) you needed to run passes, and there is more than one TARGA card in the workstation, repeat Steps 1-4 above for each TARGA card.

If a manual tests fails:

When a manual test is done, a Pass/Fail message will be displayed in a column to the right of the test name. Details about a test that fails can be viewed by clicking on the test name with a single left mouse click which will highlight the test name and test result. Once highlighted, right double click on the highlighted name for a dialog detailing the failure. If it was one of the SDI Channel tests that failed, check that the loop through cables are connected properly to the TARGA card being tested. If a genlock tests failed, check the signal input on the Reference. (Refer to the "Setup Before Testing" section above for manual testing setup procedures.)

Perform the following steps if a test fails

1. **Repeat the manual test.**

   Make sure that the TARGA card is properly seated, and loop through cables are secure and properly connected before repeating the manual test.

   Important: Power down the workstation before removing the cover to make sure that the TARGA card is properly seated in its PCI slot.

2. **If the test fails again, save the results.**

   Results can be saved by right clicking on the blue title bar or red icon (upper left-hand corner) of the Inflexion I/O Diagnostic window and selecting "Save Results." Refer to Figure 4-13.

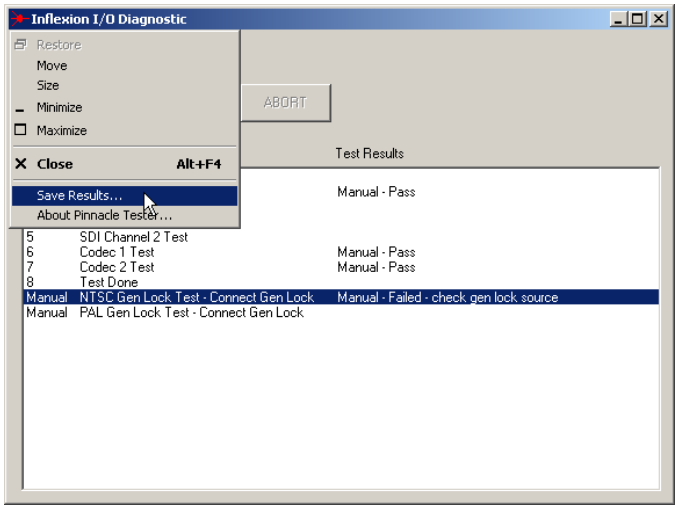


Figure 4-13: Selecting "Save Results" for a manual test failure

When saved results is selected, the window shown in Figure 4-14 will be displayed.

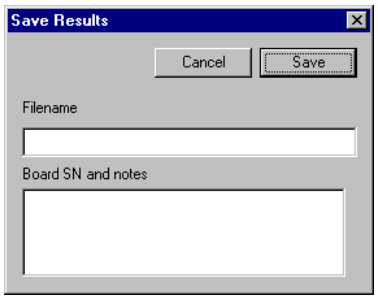


Figure 4-14: Save Results Window

3. Type a Filename in the Filename area and a brief description of the problem.

When typing a filename for the Save Results file, make sure to use an extension such as .txt (an example would be: testfailed.txt as a filename). If you know thew TARGA card's serial number, include when typing a brief description of the problem.

Important: When typing a brief description of the problem do no use the <Enter> key on your keyboard. The <Enter> key will cause the Save Results window to unexpectedly close.

4. Click the "Save" button.

The Save Results file will be saved in the same folder where the Inflexion I-O Diagnostic test is located on the Deko1000 or Deko550 Workstation. Pinnacle Systems Technical Support may request that you send this file to them. An example of a saved Test Results file is shown in Figure 4-15.

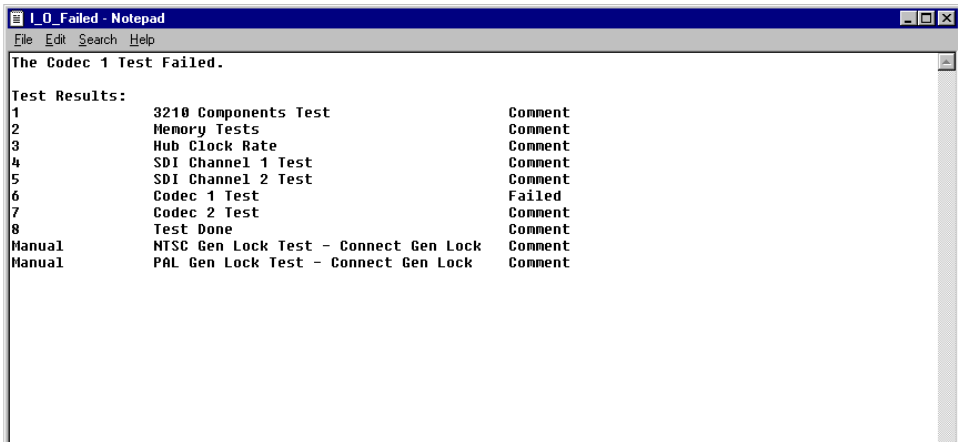


Figure 4-15: Example of a saved Test Results file

5. Contact Pinnacle Systems Technical Support.

Pinnacle Systems Technical Support will provide you instructions on the procedure to obtain a replacement TARGA card. Contact information can be found in "Appendix A: Pinnacle Systems Technical Support."

Deko Manifest Utility

The Deko Manifest test provides a view of the of software components within the Deko workstation. This test compares the registered software components with the official record of a software release and looks for mismatches. This is useful in identifying workstation software components that may have become corrupt, or software that may be incompatible with Deko1000 or Deko550 software. This test is also useful in identifying configuration problems that may have occurred in a Deko workstation.

Important: *This is a test that should only be used with Pinnacle Systems Customer Support supervision*. Customer Support personnel will be able to properly analyze the results of this test, and then determine the steps necessary to solve the problem being experienced with the workstation.

Deko Manifest Test Procedure

The following steps should be followed to performed the Deko Manifest Utility test:

1. **Turn on the Deko1000 or Deko550 Workstation.**

   Only the Windows OS should be running. If any other programs are running on the workstation, then you should exit out of those programs.

   Important: If your workstation is corrupted to the point where it will not boot up when turned on, contact Pinnacle Systems Technical Support. Contact information can be found in Appendix A.

2. **Start the Deko Manifest Utility software program.**

   Navigate the following path to the Deko Manifest software program:
   Start >> Programs >> Deko1000 or Deko550 >> Diagnostic Tools
   Then click the program “DekoManifestUtility” to open it. A Window similar to that shown in Figure 4-16 should be displayed.

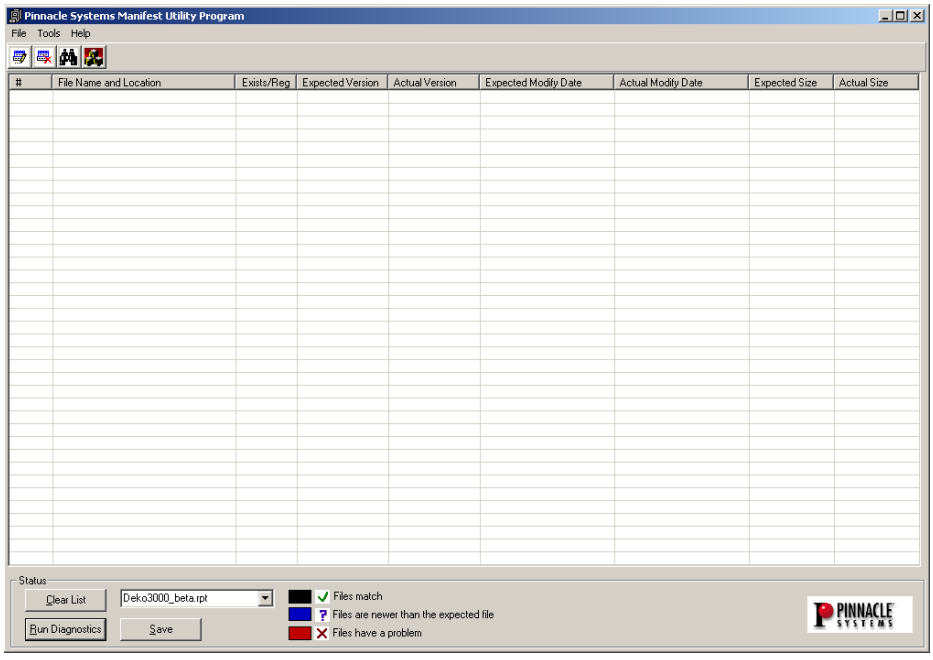


Figure 4-16: Initial start-up screen of Manifest Utility Test

3. Select the set of software components that are to be tested.

From the pull down on the bottom part of the Manifest Utility start-up screen, select the set of software components that are to be selected. Refer to Figure 4-17. The choices are "Deko1000 or Deko550" and "Inflexion_Manifest."

- Deko1000 or Deko550 -- This choice will compare the Deko1000 or Deko550 software programs on the workstation being tested to the official record of the Pinnacle Systems release for the Deko1000 or Deko550 software.
- Inflexion_Manifest -- This choice will compare the Inflexion software programs on the workstation being tested to the official record of the Pinnacle Systems release for the Inflexion software.

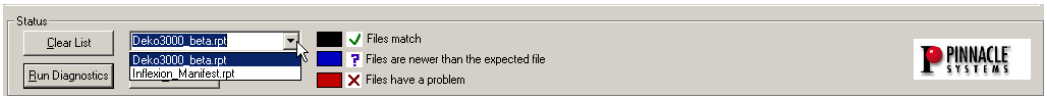


Figure 4-17: Software components selection for Manifest Utility test

4. Click the "Run Diagnostics" button on the Manifest Utility program window.

Clicking the "Run Diagnostics program will cause the comparison test for the selected workstation components to be made. For the Deko1000 or Deko550 components, a window similar to that shown in Figure 4-18 will be displayed.

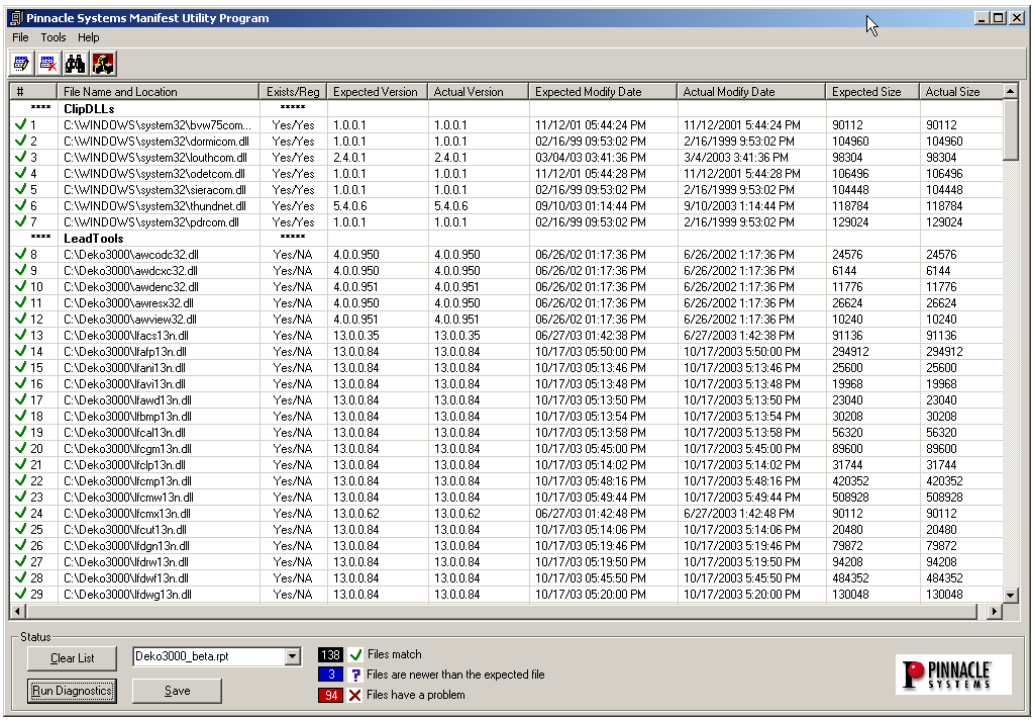


Figure 4-18: Example results from Manifest Utility program

A window similar to that shown in Figure 4-18 will be displayed if the test is run for the Inflexion software components.

5. Save the results of the test.

Pinnacle Systems Customer Support will either ask to be sent a copy of the file, or go over the results of the test with you over the phone. Therefore save the results of the test by clicking the "Save" button on the Manifest Utility program window to capture the window and save the results. When the "Save" button is clicked, a "Save File As..." window similar to that shown in Figure 4-19 will be displayed.

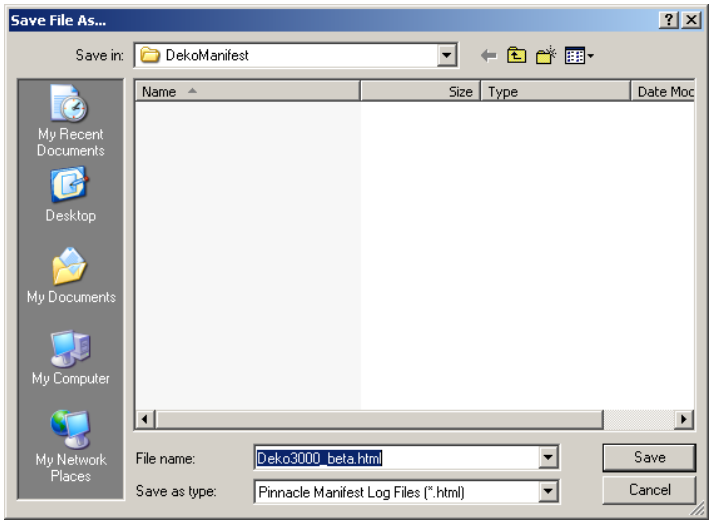


Figure 4-19: Example File Save As Window

From the "Save in" pull down at the top upper left of the File Save As window, select the location that the result of the Deko Manifest test will be saved. Refer to Figure 4-20.

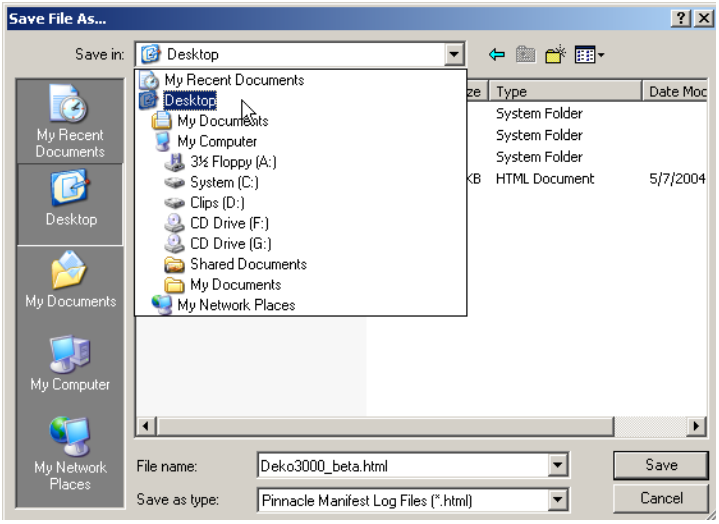


Figure 4-20: Selecting saved location for test results

The file will be saved as an Internet Explorer.html file in the location that you indicated.

6. **Click the "Clear List" button to test the other set of software components listed in the Deko Manifest screen pull-down list.**

   Click on the "Clear List" button to refresh the Manifest Utility window so that it looks similar to what is shown in Figure 4-21.

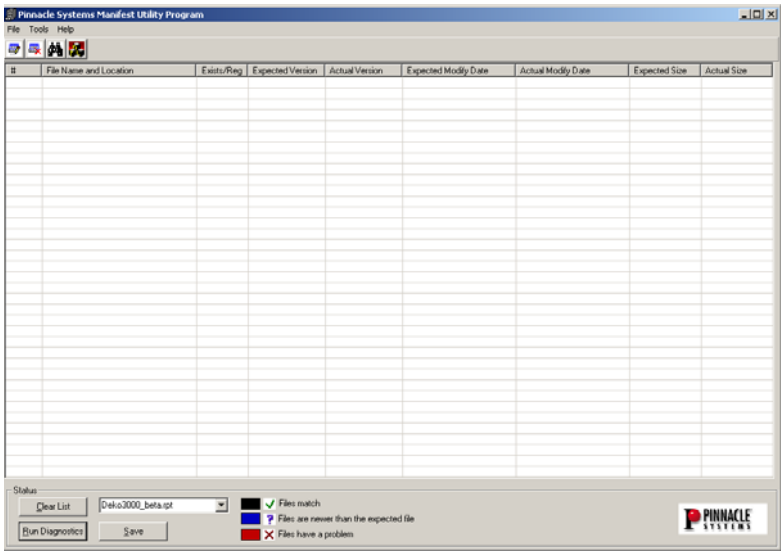


Figure 4-21: Manifest Utility window refreshed with "Clear List" button

7. **Select the other set of software components listed in the Deko Manifest screen pull-down list.**

   From the pull down on the bottom part of the Manifest Utility start-up screen, select the other set of software components (i.e., the one not previously tested). Refer to Figure 4-17. Your choice will either be "Deko1000 or Deko550" and Inflexion_Manifest.

8. **Perform Steps 4 and 5 listed above to complete testing.**

   Once the second set of file components file has been tested and saved, Deko Manifest Utility testing is completed. Follow the instructions given to you by Pinnacle Systems Customer Support in order to get the saved files to them.

Interpreting Deko Manifest Test Results

The Deko Manifest Utility test compares the registered software components on the workstation being tested with the official record of a software release. Files that match are indicated with a green check mark and normal black text. Files that are newer on the workstation than what the official release record shows are indicated with a blue "?" and blue text. Files that have a problem are indicated with a red "x" and red text. Refer to Figure 4-22.

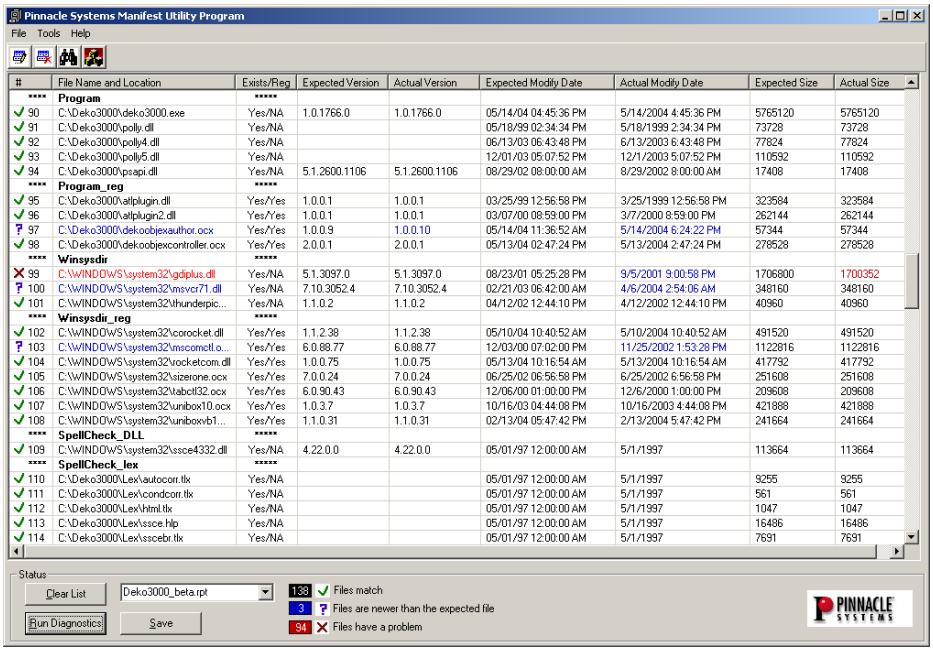


Figure 4-22: Example Deko Manifest results with possible problems

Important: *It does not necessarily mean that the Deko1000 or Deko550 workstation being tested is malfunctioning just because the results of a Deko Manifest test my have blue or red files indicated. In fact, some workstations are suppose to have files indicated this way. This is why it is absolutely imperative that a Pinnacle Systems Customer Support representative interprets the test results and recommends to you how to proceed. This is also why the Internet Explorer .html file of the Deko Manifest results saved in the procedures above must be sent to Customer Support. Contact information can be found in "Appendix A: Pinnacle Systems Technical Support."*

Chapter 5: System Maintenance

Contents

This Chapter describes how to remove and replace components diagnosed to have failed in the Deko1000 or Deko550 Workstation. System recovery procedures are also given for cases when the entire Deko1000 or Deko550 operating system must be replace on or restored onto a Deko1000 or Deko550 workstation. Please note that Deko1000 and Deko550 Workstation components should only be replaced if you are directed to so by a Pinnacle Customer Support representative.

This Chapter contains the following sections:

- Replacing Workstation Components
- System Recovery Procedures
- Configuring A New “System” Hard Drive
- Configuring A New “Media” Hard Drive

Replacing Workstation Components

Only the components inside of a Deko1000 or Deko550 Workstation that are listed below are considered user replaceable by non-Pinnacle Systems personnel:

- TARGA Cards
- SVGA Card
- Hard Drives
- Power Supply
- Fan
- DVD/CD Drive And Floppy Drive

The physical location of each component listed above for a Deko1000 or Deko550 Workstation is shown in Figure 5-1.

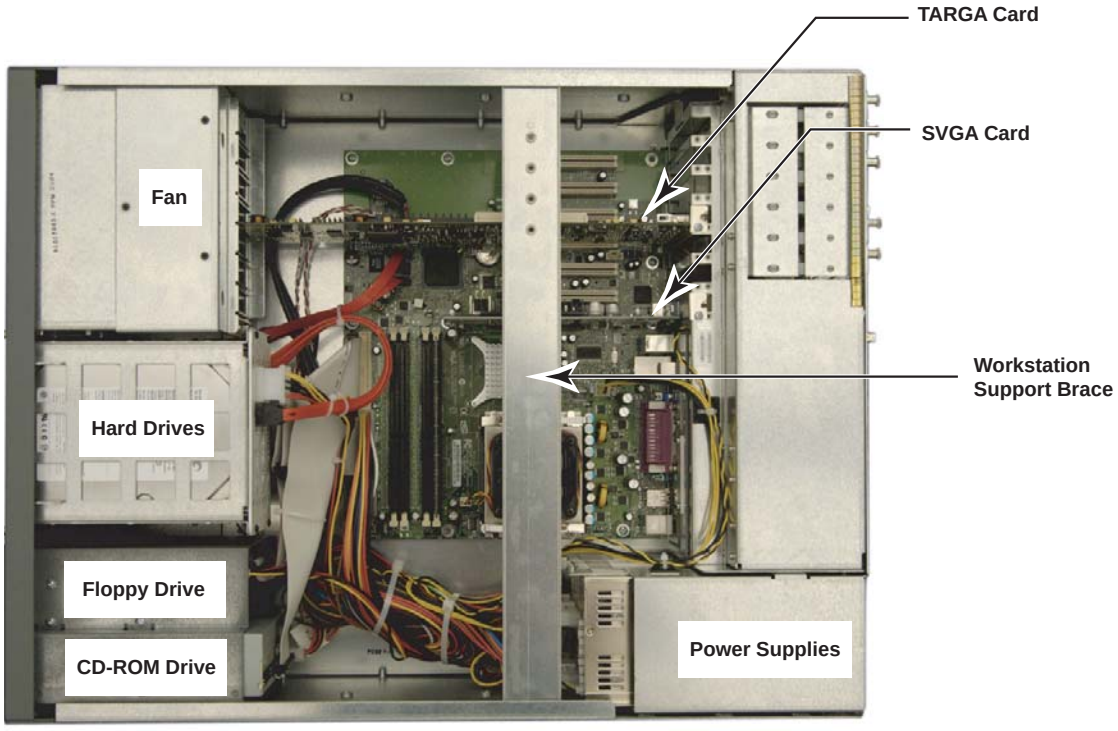


Figure 5-1: Replaceable components within a Deko1000 or Deko550 Workstation

Any components not listed above that needs to be replaced within a Deko1000 or Deko550 Workstation should only be replaced by a qualified Pinnacle Systems service engineer.

Replacing A TARGA Card

Important: Remove a TARGA card only if directed to do so by a Pinnacle Systems Customer Support representative.

There may be up to two TARGA cards within a Deko1000 or Deko550 Workstation. If a TARGA card needs to be replaced, the Inflexion I/O Diagnostic application (refer to Chapter 4: Troubleshooting) would have identified the one that needs to be replaced. For systems with more than one TARGA card, the first TARGA card will be seated in the slot closest to the SVGA card. Refer to Figure 5-1 for TARGA card locations, and Figure 5-2 for TARGA card identification.

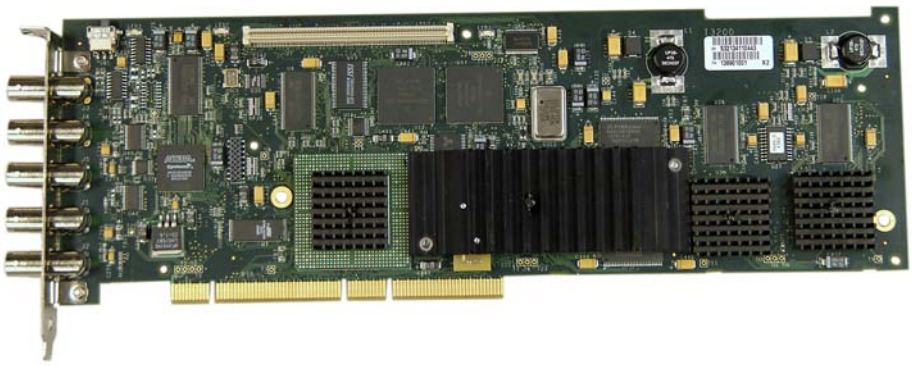


Figure 5-2: TARGA Card

1. **Shut down the computer and turn off the monitor.**

   Shut down the computer by going to the Start menu and selecting Shut Down (Start menu >> Shut Down). Turn off the monitor after you are sure the computer has powered down.

   Important: Do not attempt to open the computer while the computer is turned on. If you think the computer is in sleep mode press the power button in front of the computer to wake it, and then shut down the computer.

2. **Remove all cables from the back of the computer, and let the computer cool down.**

   Unplugging the power cord and cables helps to ensure that no power is running on the motherboard, which reduces the risk of damage to your equipment. Wait 5 minutes to allow the computer's internal components to cool.

3. **Discharge static electricity that you may have on your clothes or body.**

   Use the Anti-Static Wrist Strap that is provided with your new TARGA card. Also, touch the metal part of the power supply to discharge any static electric charge that you might be carrying.

4. **Remove the top cover from the computer.**

   Use a Phillips-head (+) screwdriver to remove the screws attaching the top cover to the computer. Then remove the cover from the computer.

5. **Remove the BNC I/O Connection Plate for the TARGA card at the rear of the computer.**

   Disconnect all of the BNC cables connected to the front of the BNC I/O Connection Plate. Then unscrew the two spring screws that hold the plate in place. Pry the plate from the back of the computer. Note that internal BNC cables run from the back of the plate to the TARGA card. Refer to Figure 5-3.

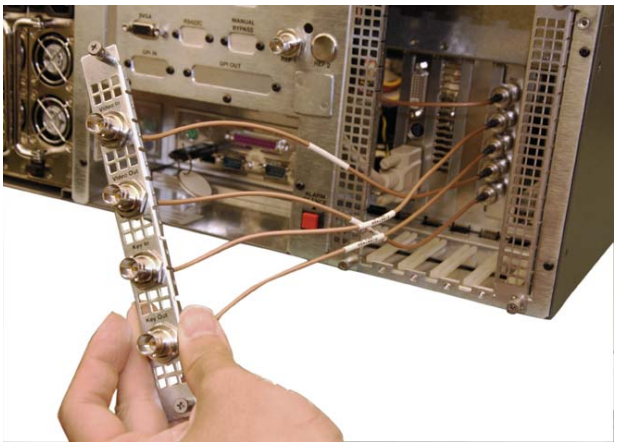


Figure 5-3: BNC I/O Connection Plate with internal BNC cables to TARGA Card

6. **Remove all of the internal BNC cables from the BNC connectors on the TARGA card.**

   Each BNC cable "grip" must be turned counter-clockwise to loosen. Once loosened, a BNC can be pulled from the TARGA's BNC connector. Remove all of the BNC cables from the TARGA card (including the REF BNC cable if it is used), and set aside the BNC I/O Connection Plate.

7. **Remove the Fan Cover.**

   Refer to Figure 5-4. Unscrew the 3 retaining screws on top of the fan housing that holds the fan's cover in place. Then remove the fan cover and put it aside.

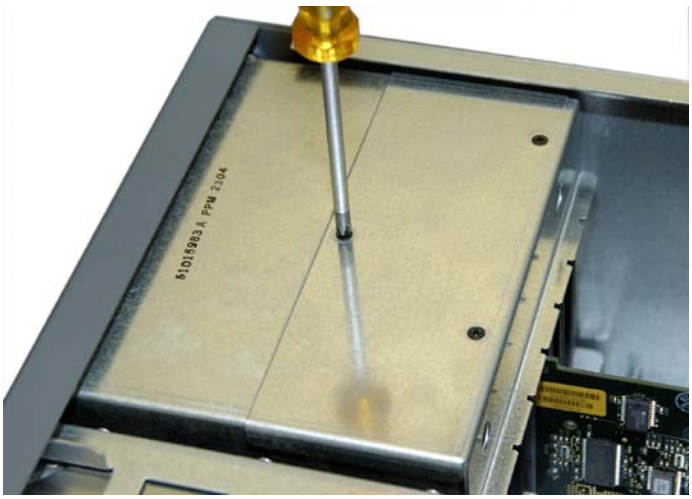


Figure 5-4: Fan Cover Retaining Screws

8. **Remove the Workstation Support Brace.**

   The Workstation Support Brace lies across the workstation just above the TARGA card(s) and other workstation cards. Refer to Figure 5-1. There are two screws on each end of the brace that must be unscrewed so that the support brace can be removed from the workstation.

9. **Remove retaining screw and pull the TARGA card from the PCI slot.**

   Unscrew the retaining screw that secures the TARGA card's bracket in place. Save the screw because it will be used with the new card. Firmly lift the TARGA card from its slot by pulling upwards while using a gentle lengthwise rocking motion, and set the card aside.

10. **Remove the new TARGA card from its antistatic bag.**

    Make sure you are grounded via the antistatic wrist strap. Handle the card by its edges and by its metal bracket, and avoid touching the connector pins on the bottom of the card. If a black handle is connected to the TARGA card, remove the handle so that the TARGA looks similar to that shown in Figure 5-2.

11. **Insert the new TARGA card into the expansion slot.**

    Note: The same expansion slot that the damaged card was pulled from should be used.

    With the bracket toward the open access port, align the connector on the bottom of the card directly over the slot. Then push down and gently rock the card lengthwise until the card is firmly seated. When pushed into the slot the TARGA card may catch as if it were in place, so gently continue to exert pressure until it "seats" again. The gold slot connectors on the card are barely visible when the card is completely installed.

    Important: Don't over force the card. If there is hard resistance, remove the card and try again.

12. **Secure the TARGA card's bracket with retaining screw.**

    Use the card retaining screw that was removed earlier to secure the TARGA card's bracket in place.

13. **Attach the REF 1 internal BNC cable to the REF BNC connector on the TARGA card.**

    Refer to Figure 5-5. Push the BNC cable grip onto the card's BNC connector. The BNC cable grip should then be turned clockwise to lock it onto the card's BNC connector.

    Note: All REF BNC's are the same.

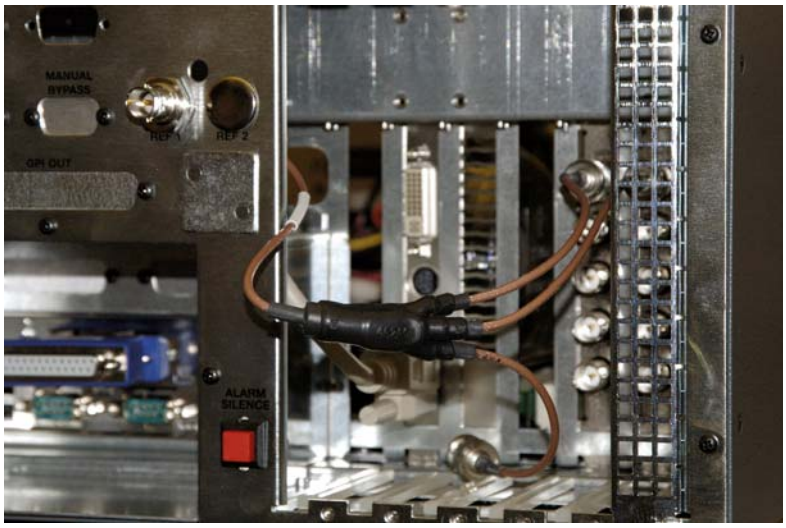


Figure 5-5: REF 1 internal cable connected to TARGA card

14. Attach the internal BNC I/O Connection Plate cables to the TARGA card.

When attaching the internal BNC cables from the I/O Connection Plate to the TARGA card, make sure to match the cable labels on the I/O Connection plate to the labels on the TARGA card's bracket for each internal BNC cable. Refer to Figure 5-3. The connections should be made as follows:

- REF 1 to TARGA REF)
- VIDEO IN to TARGA IN A
- VIDEO OUT to TARGA OUT A
- KEY IN to TARGA IN B
- KEY OUT to TARGA OUT B

Note: All REF BNC's are the same.

15. Attach the BNC I/O Connection Plate and connect the external BNC cables to it.

Push the I/O Connection Plate back into place on the computer's frame, and tighten the two spring screws on the plate to fasten it into place. Then connect all of the external BNC cables to the front of the BNC I/O Connection Plate.

16. Attach the Fan Cover and Workstation Support Brace.

Place the Fan Cover on top of the fan housing and screw the cover back into place with the three cover screws previously removed. Put the Workstation Support Brace back in place just above the TARGA card(s) and other cards. Refer to Figure 5-1. Screw the brace into place at both ends with its previously removed screws.

17. Attach all other cables and power up the computer.

Connect power cord, monitor cable, and any other communication cables that you removed previously, and then power up the computer.

18. If necessary, set the termination switch on the TARGA Card.

The termination switch on the TARGA card is located near the top edge of the card close to the card's retainer bracket. Refer to Figure 5-6.

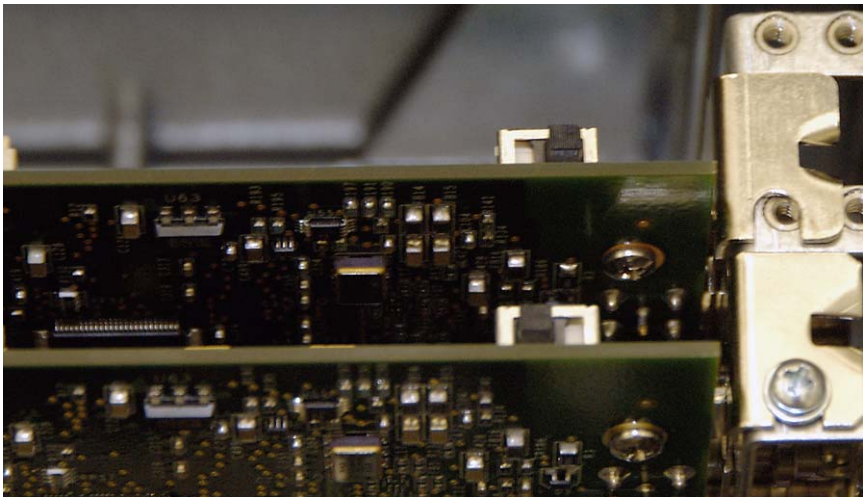


Figure 5-6: Termination switch on two TARGA cards

Some systems require the termination switch on the TARGA card to be on, others off. Termination is activated On if the switch is set away from the retainer bracket so that the switch's green LED light is lit (i.e., on).

Note: If you're not sure if your systems requires termination on or off, check the switch position of the damaged card you removed. Set the switch on the newly installed replacement card to be the same.

19. Run the Inflexion I/O Diagnostic Test to ensure the new card is functional.

The Inflexion I/O Diagnostic Test application should be used to check the functionality of the newly installed TARGA card. For systems with more than one TARGA card, the first TARGA card (TARGA Board 1) is seated in PCI Slot 3 (which is the third PCI slot from the SVGA card). If there is a second TARGA card, then it will be in Slot 4. Refer to Figure 5-1 for TARGA card locations. Refer to "Chapter 4: Troubleshooting" for instructions on locating and using the Inflexion Diagnostic Test software program.

Important: If the newly installed TARGA card fails when tested, check all of the connections and retest. If the card fails again, contact Pinnacle Customer Support. Refer to Appendix A for contact information.

20. Place the computer's cover back on the computer.

Use a Phillips-head (+) screwdriver to reattach the screws securing the top cover to the computer.

21. Return the damaged TARGA Card to Pinnacle Systems.

Place the damaged TARGA card into the antistatic bag that the replacement card was pulled from, and send the damaged card to Pinnacle Systems per the instructions given by Pinnacle Support.

Replacing The SVGA Card

Important: Remove a SVGA card only if directed to do so by a Pinnacle Systems Customer Support representative.

The SVGA card is installed in the AGP slot on the motherboard. The AGP slot is brown in color; the PCI slots are ivory in color. Refer to Figure 5-1 for the SVGA card location, and Figure 5-7 for SVGA card identification.



Figure 5-7: SVGA Card

Note: The workstation SVGA card may differ slightly from what is shown in Figure 5-7.

1. **Shut down the computer and turn off the monitor.**

   Shut down the computer by going to the Start menu and selecting Shut Down (Start menu >> Shut Down). Turn off the monitor after you are sure the computer has powered down.

   Important: Do not attempt to open the computer while the computer is turned on. If you think the computer is in sleep mode press the power button in front of the computer to wake it, and then shut down the computer.

2. **Remove all cables from the back of the computer, and let the computer cool down.**

   Unplugging the power cord and cables helps to ensure that no power is running on the motherboard, which reduces the risk of damage to your equipment. Be sure to disconnect the monitor's VGA cable (Figure 5-8).



Figure 5-8: Monitor cable connected to SVGA card.

3. **Discharge static electricity that you may have on your clothes or body.**

   Use the Anti-Static Wrist Strap that is provided with your Deko1000 or Deko550 Workstation. Also, touch the metal part of the power supply to discharge any static electric charge that you might be carrying.

4. **Remove the top cover from the computer.**

   Use a Phillips-head (+) screwdriver to remove the screws attaching the top cover to the computer. Then remove the cover from the computer.

5. **Remove the Workstation Support Brace.**

   The Workstation Support Brace lies across the workstation just above the TARGA card(s) and other workstation cards. Refer to Figure 5-1. There are two screws on each end of the brace that must be unscrewed so that the brace can be removed from the workstation.

6. **Remove SVGA card's retaining screws and pull the card from the AGP slot.**

   Unscrew the retaining screws that secures the SVGA card's bracket in place. Save the screws because they will be used with the new card. Firmly lift the SVGA card from its slot by pulling upwards while using a gentle lengthwise rocking motion.

   Note: If there is a tie wrap binding the wiring, you may have to remove (i.e., cut) the tie wrap.

7. **Remove the new SVGA card from its antistatic bag.**

   Make sure you are grounded via the antistatic wrist strap. Handle the card by its edges and by its metal bracket, and avoid touching the connector pins on the bottom of the card.

8. **Insert the new SVGA card into the AGP slot.**

   With the bracket toward the open access port, align the connector on the bottom of the card directly over the slot. Then push down and gently rock the card lengthwise until the card is firmly seated.

   Important: Don't over force the card. If there is hard resistance, remove the card and try again.

9. **Attach the Workstation Support Brace.**

   Put the Workstation Support Brace back in place just above the TARGA card(s) and other cards. Refer to Figure 5-1. Screw the brace into place at both ends with its previously removed screws.

10. **Attach all other cables to the computer.**

    Connect power cord, SVGA monitor cable, and any other communication cables that you previously removed.

11. **Turn on the monitor and power up the computer**

    You should see video displayed on the VGA monitor.

    Important: If video is not displayed on the VGA monitor, check all of the connections. If is still not displayed, contact Pinnacle Customer Support. Refer to Appendix A for contact information.

12. **Place the computer's cover back on the computer.**

    Use a Phillips-head (+) screwdriver to reattach the screws securing the top cover to the computer.

13. **Return the damaged SVGA Card to Pinnacle Systems.**

    Place the damaged SVGA card into the antistatic bag that the replacement card was pulled from, and send the damaged card to Pinnacle Systems per the instructions given by Pinnacle Support.

Replacing A Hard Drive

Important: Remove a Hard Drive only if directed to do so by a Pinnacle Systems Customer Support representative.

The Hard Drives are accessed from the front panel of a Deko1000 or Deko550 Workstation if it becomes necessary to install a replacement. Refer to Figure 5-9.



Figure 5-9: Workstation Front Panel (with panel cover removed)

Refer to Figure 5-10 for Hard Drive identification.



Figure 5-10: Deko1000 and Deko550 Workstation Hard Drive

1. **Shut down the computer and turn off the monitor.**

   Shut down the computer by going to the Start menu and selecting Shut Down (Start menu >> Shut Down). Turn off the monitor after you are sure the computer has powered down.

   Important: Do not attempt to open the computer while the computer is turned on. If you think the computer is in sleep mode press the power button in front of the computer to wake it, and then shut down the computer.

2. **Discharge static electricity that you may have on your clothes or body.**

   Use the Anti-Static Wrist Strap that is provided with your Deko1000 or Deko550 Workstation. Also, touch the metal part of the power supply to discharge any static electric charge that you might be carrying.

3. **Loosen the captive thumbscrews of the damaged drive.**

   Use a screwdriver if necessary to completely loosen the two thumbscrews. The screws are "captive" meaning that they can be loosened but not removed from the front bay panel.

4. **Pull the Hard Drive out from its drive bay.**

   Grab the two thumbscrews and pull to slide the Hard Drive out from the drive bay. Refer to Figure 5-11.



Figure 5-11: Hard drive out from drive bay.

Continue to pull on the Hard Drive until it is completely removed from its drive bay. Refer to Figure 5-12. Set the damaged Hard Drive aside.

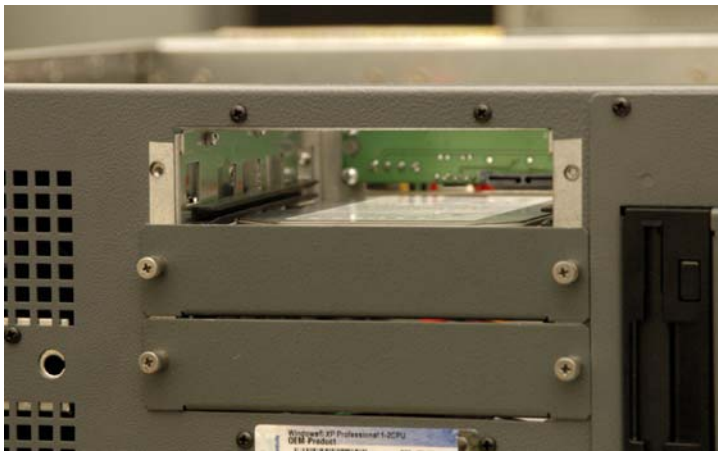


Figure 5-12: View of empty hard drive bay

5. **Remove the new Hard Drive from its antistatic bag.**

   Make sure you are grounded via the antistatic wrist strap. Handle the new Hard Drive as much as possible by its front bay panel.

6. **Push the new Hard Drive all the way into the drive bay.**

   Align the Hard Drive so that it will properly slide into the drive bay, and then push the Hard Drive so that it completely slides into the drive bay. This will connect the Hard Drive to its connectors at the back of the bay. Refer to Figure 5-12. The Hard Drive's front bay panel should be flush with the front panel of the Deko1000 or Deko550 Workstation.

7. **Tighten the captive thumbscrews of the new drive.**

   Use a screwdriver if necessary to completely tighten the two thumbscrews.

8. **Turn on the monitor and power up the computer**

   You should see video displayed on the VGA monitor.

   Important: If an "Operating system not found" message is displayed on the monitor, the captive thumbscrews for the new drive may not be tighten enough. Use a screwdriver to tighten the screws as much as possible, and then power down and power up the workstation.

   Important: If video is not displayed on the VGA monitor, check all of the connections. If is still not displayed, contact Pinnacle Customer Support. Refer to Appendix A for contact information.

9. **Place backup files from damaged hard drive onto the new hard drive.**

   Refer to "System Recovery Procedures" in this Chapter for information on placing the files backed up from the damaged Hard Drive onto the new Hard Drive just installed.

   Important: If there is no backup of the damaged Hard Drive, contact Pinnacle Customer Support. Refer to Appendix A for contact information.

10. **Return the damaged Hard Drive to Pinnacle Systems.**

    Place the damaged Hard Drive into the antistatic bag that the replacement drive was pulled from, and send the damaged drive to Pinnacle Systems per the instructions given by Pinnacle Support.

Replacing A Power Supply

Important: Remove a Power Supply only if directed to do so by a Pinnacle Systems Customer Support representative.

Both the Deko1000 and Deko550 Workstation uses a dual Power Supply configuration. The redundancy with the power supplies is so that if one Power Supply should fail the other will keep the workstation from abruptly powering down. When a Deko1000 or Deko550 Workstation Power Supply unit starts to malfunction, the LED on the unit will dim and eventually turn off. A Workstation Power Supply unit is shown in Figure 5-13.



Figure 5-13: Power Supply

The Power Supplies are accessed from the back of a Deko1000 or Deko550 Workstation if it becomes necessary to install a replacement. A Power Supply can be replaced "hot." That is, a Power Supply can be replaced while the Deko1000 or Deko550 is powered up (i.e., turned on and running).

1. **Switch damaged Power Supply to off position and unplug it.**

   Make sure the switch of the Power Supply to be removed is in the off (i.e., "O") position, and its power cord is removed. Refer to Figure 5-14.



Figure 5-14: Power Supply ready to be removed.

2. **Release locking latch and pull the Power Supply from the Deko1000 or Deko550 Workstation.**

   Slide the locking latch (see Figure 5-14) switch up to release the lock. Then grab the Power Supply unit's handle and pull the Power Supply straight out from the workstation. Refer to Figure 5-15. Set the damaged unit aside.



Figure 5-15: Hard drive out from drive bay

3. **Remove the new Power Supply from its antistatic bag.**

   Handle the new Power Supply with care.

4. **Push the new Power Supply all the way into the drive bay.**

   Align the Power Supply so that it will properly slide into its bay, slide the locking latch up, and then push the Power Supply so that it completely slides into the bay. This will connect the Power Supply to its connectors at the back of the bay. Make sure the locking latch slides down to lock the Power Supply into place.

5. **Plug in power cord and switch Power Supply to On.**

   When the Power Supply is switched to the On (i.e., "I") position, its LED should light.

   Important: If the LED on the unit does not light, check both ends of the unit's power cord and also make sure the workstation is turned on as well. If the LED still does not light and you are sure the unit is receiving power and the workstation is on, contact Pinnacle Customer Support. Refer to Appendix A for contact information.

6. **Return the damaged Power Supply to Pinnacle Systems.**

   Place the damaged Power Supply into the antistatic bag that the replacement unit was pulled from, and send the damaged unit to Pinnacle Systems per the instructions given by Pinnacle Support.

Replacing The Fan

Important: Remove the Fan in a Deko1000 or Deko550 Workstation only if directed to do so by a Pinnacle Systems Customer Support representative.

The Fan assembly is located at the front of a Deko1000 or Deko550 Workstation next to the Hard Drives (opposite side from DVD/CD and Floppy drive). Specifically, the Fan assembly is located directly in front of the TARGA card(s). The primary function of the Fan is to help regulate the temperature of the TARGA card(s). Refer to Figure 5-1 for the Fan assembly location, and Figure 5-16 for Fan identification.



Figure 5-16: Deko1000 and Deko550 Workstation Fan

1. **Shut down the computer and turn off the monitor.**

   Shut down the computer by going to the Start menu and selecting Shut Down (Start menu >> Shut Down). Turn off the monitor after you are sure the computer has powered down.

   Important: Do not attempt to open the computer while the computer is turned on. If you think the computer is in sleep mode press the power button in front of the computer to wake it, and then shut down the computer.

2. **Remove all cables from the back of the computer, and let the computer cool down.**

   Unplugging the power cord and cables helps to ensure that no power is running on the motherboard, which reduces the risk of damage to your equipment. Wait 5 minutes to allow the computer's internal components to cool.

3. **Discharge static electricity that you may have on your clothes or body.**

   Use the Anti-Static Wrist Strap that is provided with your Deko1000 or Deko550 Workstation. Also, touch the metal part of the power supply to discharge any static electric charge that you might be carrying.

4. **Remove the top cover from the computer.**

   Use a Phillips-head (+) screwdriver to remove the screws attaching the top cover to the computer. Then remove the cover from the computer.

5. **Remove the Workstation Support Brace, Fan Cover, and TARGA card(s).**

   Because the TARGA card(s) block the Fan Box screw access holes for the Fan, the TARGA card(s) must be removed from their slot(s). The Workstation Support Brace and Fan Cover must be removed as well. Refer to the "Replacing A TARGA Card" section previously discussed in this Chapter for instructions on removing the Workstation Support Brace, Fan Cover, and TARGA card(s).

6. Disconnect the Fan's power connector.

Disconnect the Fan's power connector. Refer to Figure 5-17. If there is a tie binding the Fan's power connector wiring to other wiring in the workstation, cut the tie and remove it. The wiring and connector for the Fan will come out of the workstation with the Fan when the Fan is lifted from the Fan Box.

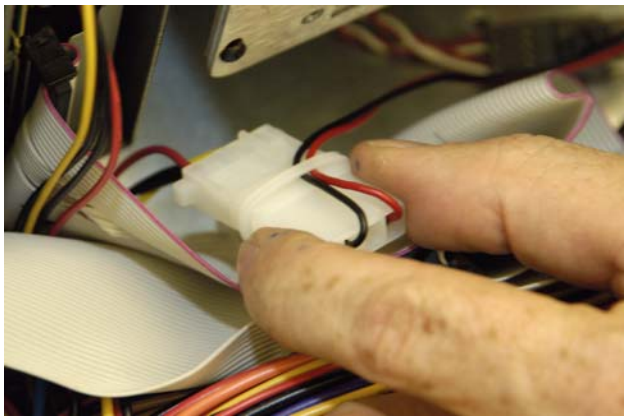


Figure 5-17: Workstation Fan Connector

7. Remove the 4 screws that secure the Fan within the Fan Box.

There are access holes in the Fan Box that provide access to the fan retaining screws. Refer to Figure 5-18. Use a screw driver to loosen or remove each screw so that the Fan can be lifted out the top of the Fan Box.

Note: A magnetic screwdriver may be needed to more easily remove the fan screws.

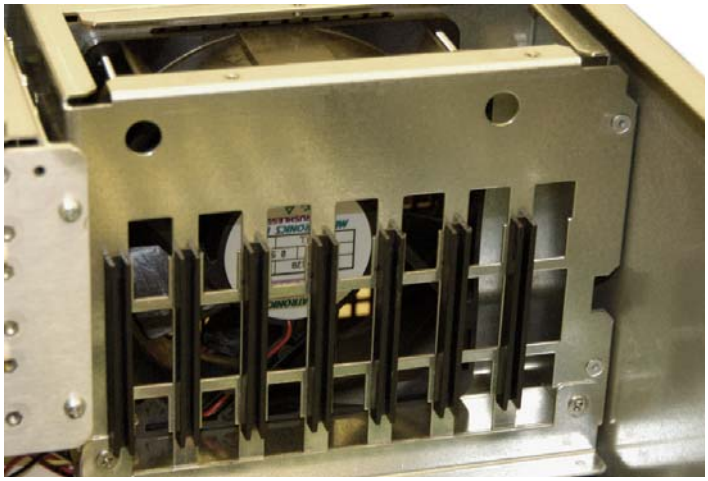


Figure 5-18: Access Holes To Fan Retaining Screws

8. Lift the Fan out of the workstation Fan Box.

Once the 4 screws are no longer securing the fan in place, the fan can be lifted straight out from the top of the Fan Box. There is an opening inside the Fan Box from which the Fan's wiring and power connector can be pulled through in order to completely remove the Fan from the workstation.

9. Insert the new Fan's power connector and wiring into the workstation.

Place the new Fan's wiring and power connector into the Fan Box and snake it through the opening at the bottom of the box so that both are inside of the workstation chassis.

10. Insert new Fan into the workstation Fan Box and secure in place.

Place the new Fan into the Fan Box and secure it in place with the 4 screws that were previously removed. Refer to Figure 5-18. A magnetic screwdriver or turning the workstation up on its end may be necessary in order to align the screws to the screw holes.

11. Connect the Fan's power connector.

Connect the Fan's power connector so that power will be supplied to the Fan when the workstation is powered up

12. Reinsert the TARGA cards into their slots, and reconnect their BNC cables.

Refer to "Replacing A TARGA Card" section previously discussed in this Chapter.

13. Attach the Fan Cover and Workstation Support Brace.

Place the Fan Cover on top of the fan housing and screw the cover back into place with the three cover screws previously removed. Put the Workstation Support Brace back in place just above the TARGA card(s) and other cards. Refer to Figure 5-1. Screw the brace into place at both ends with its previously removed screws.

14. Attach all other cables to the computer.

Connect power cord and any other communication cables that you previously removed from the Deko1000 or Deko550 Workstation.

15. Turn on the monitor and power up the computer

You should see video displayed on the VGA monitor, and the new Fan should be working.

Important: If video is not displayed on the VGA monitor or if the new Fan is not working, then check all of the connections. If video is still not displayed or if the Fan still is not working, then contact Pinnacle Customer Support. Refer to Appendix A for contact information.

16. Place the computer's cover back on the computer.

Use a Phillips-head (+) screwdriver to reattach the screws securing the top cover to the computer.

17. Return the damaged Fan to Pinnacle Systems.

Send the damaged Fan to Pinnacle Systems per the instructions given by Pinnacle Support.

Replacing The DVD/CD Drive And/Or Floppy Drive

Important: Remove the DVD/CD Drive or Floppy Drive only if directed to do so by a Pinnacle Systems Customer Support representative.

The DVD/CD and Floppy Drive assembly is located at the front of a Deko1000 or Deko550 Workstation next to the Hard Drives (opposite side from Fan). Refer to Figure 5-1 for the DVD/CD and Floppy Drive assembly location, and Figure 5-19 for DVD/CD and Floppy Drive assembly identification.



Figure 5-19: DVD/CD and Floppy Drive Assembly

1. **Shut down the computer and turn off the monitor.**

   Shut down the computer by going to the Start menu and selecting Shut Down (Start menu >> Shut Down). Turn off the monitor after you are sure the computer has powered down.

   Important: Do not attempt to open the computer while the computer is turned on. If you think the computer is in sleep mode press the power button in front of the computer to wake it, and then shut down the computer.

2. **Remove all cables from the back of the computer, and let the computer cool down.**

   Unplugging the power cord and cables helps to ensure that no power is running on the motherboard, which reduces the risk of damage to your equipment. Wait 5 minutes to allow the computer's internal components to cool.

3. **Discharge static electricity that you may have on your clothes or body.**

   Use the Anti-Static Wrist Strap that is provided with your Deko1000 or Deko550 Workstation. Also, touch the metal part of the power supply to discharge any static electric charge that you might be carrying.

4. **Remove the top cover from the computer.**

   Use a Phillips-head (+) screwdriver to remove the screws attaching the top cover to the computer. Then remove the cover from the computer.

5. **Disconnect the 2 thick-wired USB connectors on motherboard that come from the DVD/CD and Floppy Drive assembly.**

   Grasp each connector for the two USB wires and pull each from the motherboard. Refer to Figure 5-20.

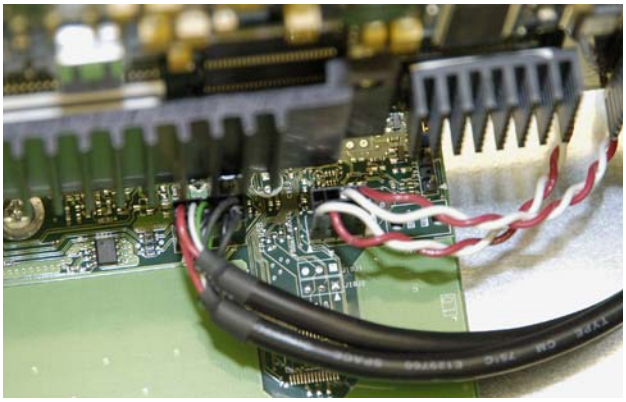


Figure 5-20: Dual-wired USB connector on motherboard

6. **Disconnect the power connector and ribbon cable from back of the DVD/CD Drive.**

   Pull the longer motherboard ribbon connector and then the power connector from the back of the DVD/CD Drive. Refer to Figure 5-21.



Figure 5-21: Motherboard ribbon and power cables connected to DVD/CD and Floppy Drive

7. **Disconnect the power connector and ribbon cable from back of the Floppy Drive.**

   Pull the other (i.e., shorter) motherboard ribbon connector and then the power connector from the back of the Floppy Drive. Refer to Figure 5-21.

8. **Remove the 4 screws from front panel that secures the DVD/CD Floppy Assembly.**

   There is one front panel screw at each edge DVD /D Floppy assembly (for a total of 4 screws) that holds the assembly to the front panel of the workstation. Remove these 4 screws and set them aside.

9. Push the DVD/CD Floppy Assembly from the back to slide it out of the workstation.

Push the assembly from its back, and then grab its front to slide it out of the workstation. Take care that the dual-wire USB cable does not snag or pull other connected wires loose when the assembly is being removed. Refer to Figure 5-22.



Figure 5-22: Removal of DVD/CD and Floppy Drive

10. If the DVD/CD Drive is to be replaced, remove the screws securing the DVD/CD Drive in the DVD/CD Floppy housing assembly.

There are 2 screws on the top side of the housing and 2 screws on the bottom side of the housing that keeps the DVD/CD Drive in place. Refer to Figure 5-23. Remove the screws.

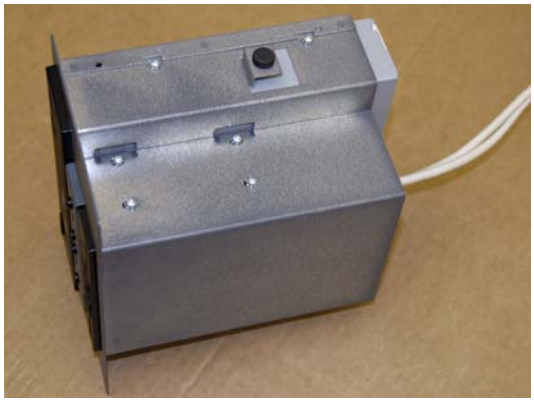


Figure 5-23: Bottom of DVD/CD Floppy housing assembly

11. If the Floppy Drive is to be replaced, remove the screws securing the Floppy Drive in the DVD/CD Floppy housing assembly.

There are 4 screws on the top of the housing and 4 screws on the bottom of the housing that keeps the Floppy Drive in place. Refer to Figure 5-23. Remove the screws.

12. Remove the malfunctioning drive from the housing assembly, and replace with the new DVD/CD or Floppy drive.

Once the malfunctioning DVD/CD or Floppy drive's securing screws have been removed from the housing assembly, the drive can simply be pushed out of the front of the housing

assembly. The new replacement drive can then be pushed into the front of the assembly until it is in place. Refer to Figure 5-24.



Figure 5-24: Inserting DVD/CD Floppy housing assembly back into workstation

13. **Put the screws that were removed back into the housing assembly.**

    Align the screw holes, and secure the new drive to the housing assembly with the screws that were previously removed.

14. **Connect the power connector and ribbon cable into the back of the Floppy Drive.**

    Connect the shorter motherboard ribbon connector and then the power connector to the back of the Floppy Drive. Refer to Figure 5-21.

15. **Connect the power connector and ribbon cable to the back of the DVD/CD Drive.**

    Connect the longer motherboard ribbon connector and then the power connector to the back of the DVD/CD Drive. Refer to Figure 5-21.

16. **Connect the 2 thick-wired USB connectors to the motherboard that come from the DVD/CD and Floppy Drive assembly.**

    Dress the two USB wires under the TARGA board(s). Then connect each connector to the pins shown in Figure 25.

    Important: The red wires go toward the TARGA PCI slots and the rear panel. The black wires are toward the fan. Refer to Figure 5-25.

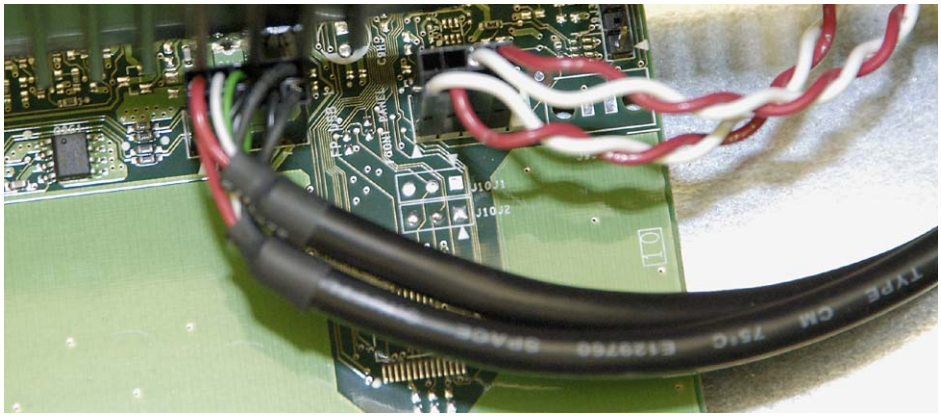


Figure 5-25: Dual-wired USB connector on motherboard

17. Attach all other cables to the computer.

Connect power cord and any other communication cables that you previously removed from the Deko1000 or Deko550 Workstation.

18. Power up the computer

You should see video displayed on the VGA monitor.

Important: If the DVD/CD or Floppy Drive LED light comes on and stays on, then the drive's ribbon cable has been connected upside down. If such is the case, shut down the workstation and reattach the offending ribbon cable. If video is not displayed on the VGA monitor, then check all of the connections. If video is still not displayed, then contact Pinnacle Customer Support. Refer to Appendix A for contact information.

19. Place the computer's cover back on the computer.

Use a Phillips-head (+) screwdriver to reattach the screws securing the top cover to the computer.

20. Return the damaged DVD/CD Drive or Floppy Drive to Pinnacle Systems.

Send the damaged DVD/CD Drive or Floppy Drive to Pinnacle Systems per the instructions given by Pinnacle Support.

System Recovery Procedures

There may be instances when something happens and the Deko1000 or Deko550 operating system (OS) software (or Deko program software) gets so corrupted that the quickest and easiest fix is to wipe out the OS and then restore it onto the workstation. There may be other instances where a Pinnacle Systems Customer Support representative instructs you to replace the Deko1000 or Deko550 OS and Deko program software. In instances such as these, replacing the Deko1000 or Deko550 system and program software restores the workstation to the state it was in when it was initially shipped.

Note: The Deko1000 or Deko550 program software must always be re-installed on the workstation after the OS has been restored.

Important: Because of instances such as the ones pointed out above, Pinnacle Systems always recommends that you periodically back up your system and media (clip) drives.

Follow one of the criteria below that describes your situation:

-- If you have a Deko1000 or Deko550 “Drive Image Restore DVD” and a Deko1000 or Deko550 “Software CD” (both ship with Deko1000 or Deko550 workstations) stored in a place where you can find them per the instructions given in “Chapter 2: Installation And Setup,” then proceed to the section “You Have The Software Disks supplied By Pinnacle Systems” below. You will be able to completely restore your workstation in about 20 minutes.

-- If you don’t have the Deko1000 or Deko550 “Drive Image Restore DVD,” but you do have the Deko1000 or Deko550 Software CD, then proceed to the section called “Recreating A Deko1000 or Deko550 Drive Image Restore DVD” below. Pinnacle Systems has provided a way for you to create the “Drive Image Restore DVD” that is needed from the Deko1000 or Deko550 Workstation.

-- If you can’t find the Deko1000 or Deko550 “Software CD,” then contact Pinnacle Systems Customer Support to obtain the software. Contact information for Pinnacle Systems Customer Support can be found in “Appendix A: Pinnacle Systems Customer Support.”

Important: If your system can’t boot back or if you have misplaced your Drive Image Restore DVD, then contact Pinnacle Systems Customer Support.

You Have The Software Disks Supplied By Pinnacle Systems

Perform the following steps to restore a Deko1000 or Deko550 OS:

Important: This process will permanently delete all of the material on your C: Drive. Be sure to back up all important material on your C: Drive before proceeding with this process.

1. **Enter the BIOS setup of the workstation.**

   If the workstation has been turned off, power it up. Enter the BIOS program by rebooting the workstation, and then at the beginning of the start-up procedure press and momentarily hold down the <F2> key on the keyboard. This is done when you see the words “Press <F2> for Setup” on the monitor, or when you see the three keyboard “Lock” LEDs (top right-hand corner of the keyboard) flash on the keyboard.

2. **Insert the "Drive Image Restore DVD" into the DVD/CD-ROM drive.**
3. **From within the BIOS display, check that the boot order for the drives is as follows:**

Boot Menu

Silent Boot [Disabled]

Intel(R) Rapid BIOS Boot [Enabled]

PXE Boot to LAN [Disabled]

USB Boot [Disabled]

Boot Device Priority

1st Boot Device [1st Floppy Drive]

2nd Boot Device [3M-TEAC DV-W58G]

3rd Boot Device [PM-ST380013AS]

Hard Disk Drives Submenu

1st Drive [PM-ST380013AS]

2nd Boot Device [SM-ST3160023AS]

Use the arrow keys to get to the Boot menu. If it is necessary to correct the order of the drives, change the order of the drives per the instructions given on the screen. When you're done, be sure to Save and Exit the BIOS program.

4. **Reboot the workstation (it may automatically reboot coming out of the BIOS).**

   You will see a prompt "Restoring will overwrite your system partition. Are you sure?

   Important: This process will permanently delete all of the material on your C: Drive. Be sure to back up all important material on your C: Drive before proceeding with this process.

   Select "Yes." The Drive Image Restore program will take approximately 6 minutes to complete. After the program has finished, the root directory for Drive A (shown as A:\>) will be displayed.

5. **Remove the "Drive Image Restore DVD" from the DVD drive and reboot the workstation.**

   A welcome screen will appear after the reboot.

6. **A prompt will be displayed stating "The Product ID You Entered Is Not Valid."**

   Click "OK" until the prompt is no longer displayed.

7. **Enter the 25 characters that make up the product key number for the workstation.**

   The alpha-numeric characters that make the product key can be found on the front panel of the workstation. If the Deko1000 or Deko550 front panel cover is on the front of the workstation, remove the panel cover. The product key sticker is glued onto the front panel of the workstation. Type the product key onto the boxes displayed on the screen, then click "Next." A screen prompting for the name of the computer should appear.

8. **Enter a name for the computer and click "Next."**

   Only the characters A-Z, the numbers 0-9, and hyphens can be used. If the workstation is connected to a network, then name given to the machine (and the description if one is given) will appear on the network. When "Ok" is clicked, the Administrator password screen will appear.

9. **Select the Network Settings for the workstation.**

   The choices are "Typical Settings" and Custom Settings." For most situations, the "Typical Settings" selection will fulfill most needs. Contact your System Administration if you're not sure which to choose for the workstation.

10. **Do not enter an Administrator password. Click "Next."**

    A screen asking for the name of the workstation users will appear.

11. **Select the "Workstation Computer Domain" for the workstation and click "Next."**

    Contact your System Administration if you're not sure if the workstation is to be part of a domain. After "Next" is clicked, the software will load and the system will reboot.

12. **Click "Next" on the initial screen of the Network Identification Wizard program.**

    The "Network Identification Wizard" program automatically launches after the system reboots. After next is clicked a "Users Of This Computer" screen will appear.

13. **Click "Next" on the "Users Of This Computer" screen.**

    Use the default settings. Do not type in a password for the password field.

14. **Click "Finish" to complete the software restore.**

    The Deko1000 or Deko550 background screen will appear. The operating system has been restored on the workstation, but will need to be configured. Refer to "Configuring A Restored OS" below.

Configuring A Restored Deko1000 or Deko550 OS

The steps for configuring a restored Deko1000 or Deko550 OS are as follows:

1. **For now, click "Cancel" to each "Found New Hardware Wizards" pop-up window.**

   The pop ups will occur a number of times for the workstation.

2. **If necessary, change the desktop to a resolution of 1024x768 with 32-bit color.**

   This is done by navigating the following path: Right click on desktop >> Properties >>Settings tab Clicking the Settings tab will then show a window similar to that shown in Figure 5-26.

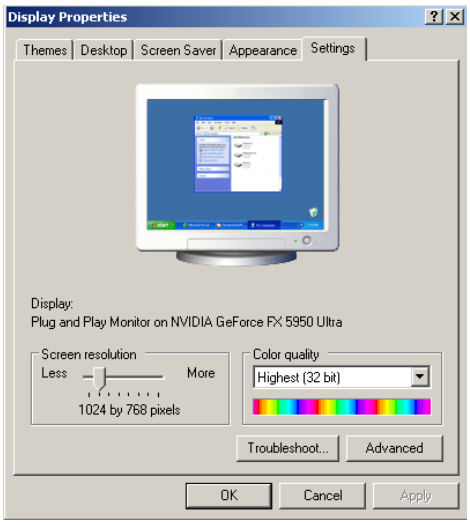


Figure 5-26: Display Properties window

Use the slider to adjust the screen resolution and bit depth to 1024x768 with 32-bit color. Then click “Ok” and then “Yes” to keep the new resolution and color depth.

3. Change the DVD/CD-ROM Drive and Hard Drives’ letter designations.

The designations for the drives should be changed as follows:

-- Drive Disk 0 System partition should have a designation of (C:)

-- Drive Disk 0 Graphics partition should have a designation of (D:)

-- Drive Disk 1 Clips partition should have a designation of (E:)

-- Drive DVD/CD-ROM 0 should have a designation of (F:)

Check the hard drive letter designations by right clicking on “My Computer” and select “Manage.” A window similar to that in Figure 5-27 will be displayed.

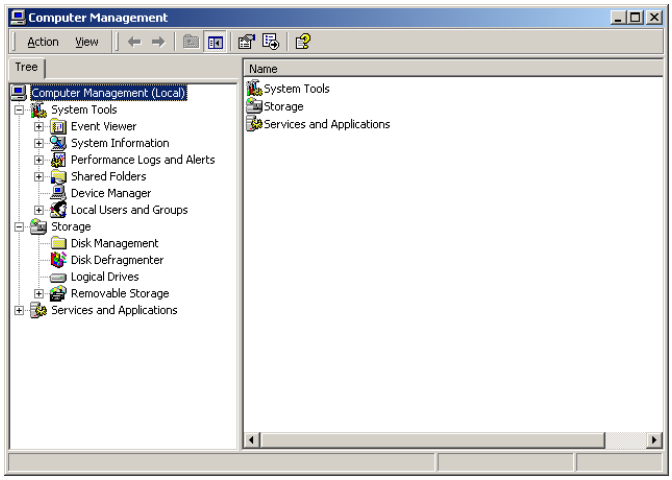


Figure 5-27: Initial Computer Management Window

In the left pane (see Figure 5-27) click the “Disk Management.” A screen similar to that shown in Figure 5-28 will be displayed. If necessary, expand the window’s size.

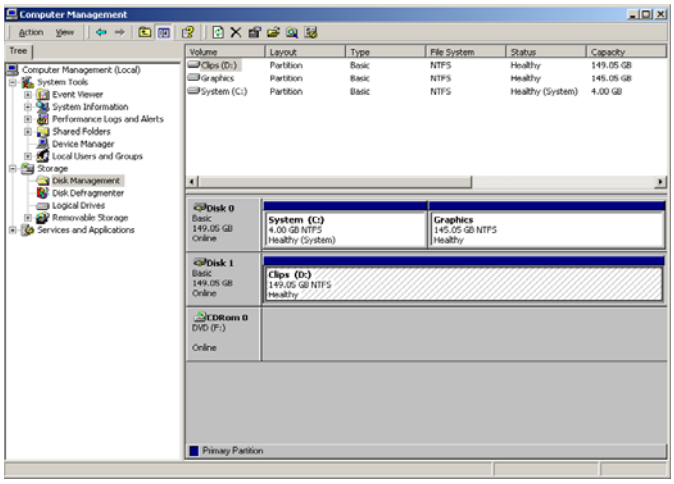


Figure 5-28: Computer Management window with Disk Management selected.

If the drive letter designations are as follows, go to Step 5:

-- Drive Disk 0 System equals (C:)

-- Drive Disk 0 Graphics equals (D:)

-- Drive Disk 1 Clips equals (E:)

-- Drive DVD/CD-ROM 0 equals (F:)

If the designation letters do not match what is listed above, an example of the procedure for changing drive letters is as follows:

Right click on the drive word Clips (D:) and select “Change Drive Letters and Paths...” from the pop-up window. Refer to Figure 5-29.

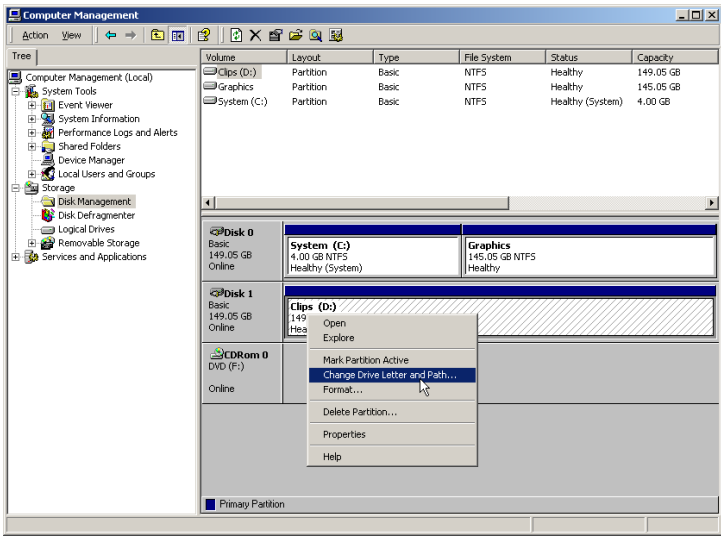


Figure 5-29: Change Drive Letters and Paths being selected

Select “Edit...” from the “Change Drive Letters and Paths... window.” Refer to Figure 5-30.

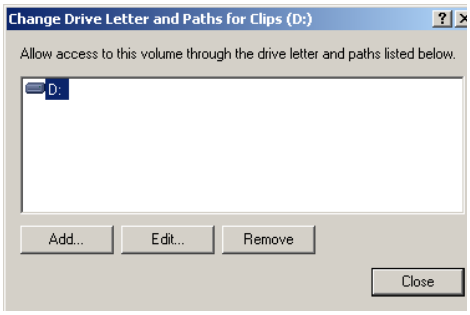


Figure 5-30: Change Drive Letters and Paths window

From the pull down select “H” as the new drive designation to be assigned to Clips and then click “Ok.” Refer to Figure 5-31.

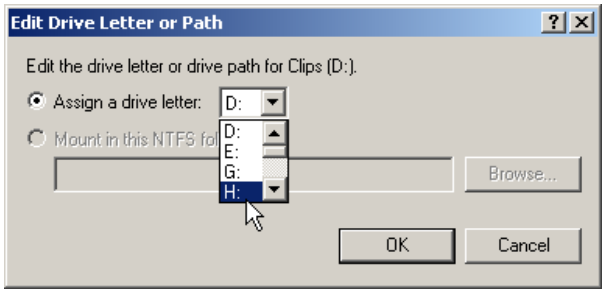


Figure 5-31: H designation selected for Clips Drive

Select “Yes” to confirm that the drive designation is to be assigned. Refer to Figure 5-32.

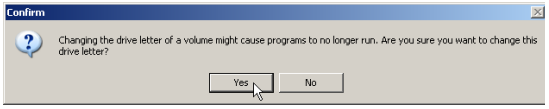


Figure 5-32: Confirmation of drive designation

Right click on the partition word Graphics (E:) and select “Change Drive Letters and Paths...” from the pop-up window. Refer to Figure 5-33.

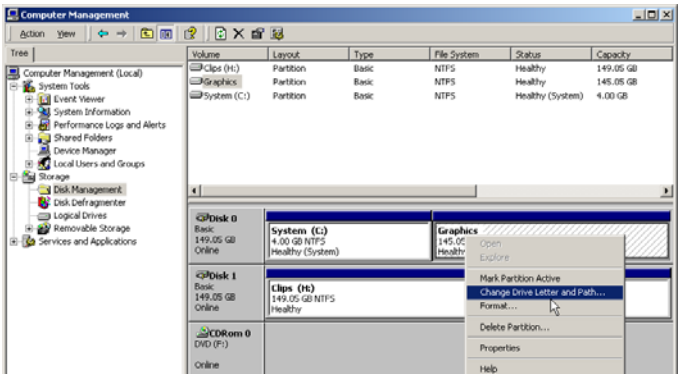


Figure 5-33: Change Drive Letters and Paths being selected

Select “Change...” from the “Change Drive Letters and Paths... window.” Refer to Figure 5-34.

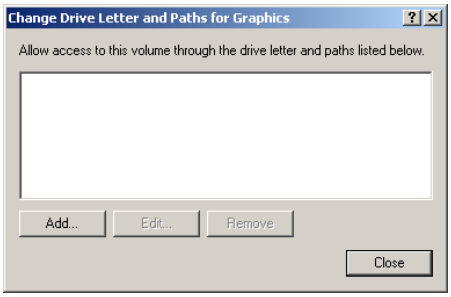


Figure 5-34: Change Drive Letters and Paths window

From the pull down select “D” as the new drive designation to be assigned to Graphics and then click “Ok.” Refer to Figure 5-35.

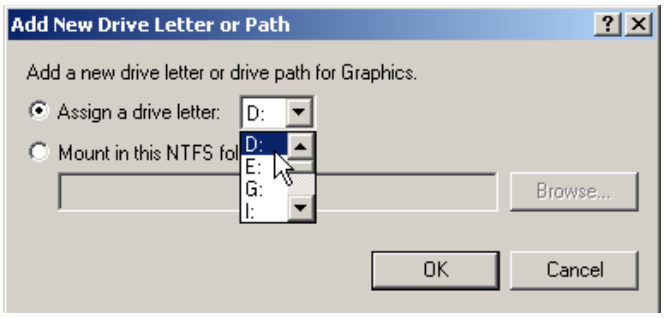


Figure 5-35: D designation selected for Graphics

Select “Yes” to confirm that the drive designation is to be assigned. Refer to Figure 5-36.

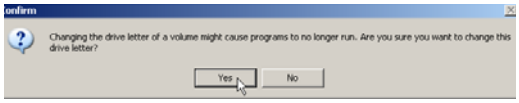


Figure 5-36: Confirmation of drive designation

Right click on the partition word Clips (H:) and select “Change Drive Letters and Paths...” from the pop-up window. Refer to Figure 5-37.

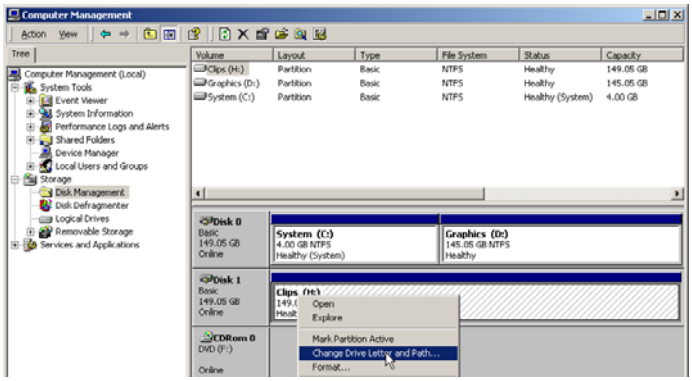


Figure 5-37: Change Drive Letters and Paths being selected

Select “Edit...” from the “Change Drive Letters and Paths... window.” Refer to Figure 5-38.

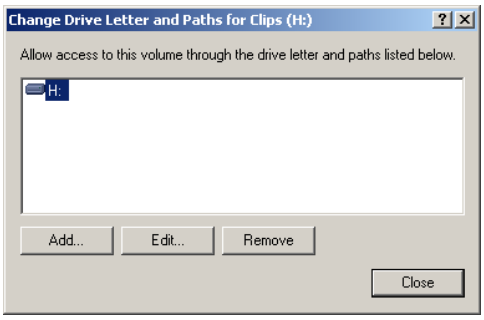


Figure 5-38: Change Drive Letters and Paths window

From the pull down select “E” as the new drive designation to be assigned to Clips and then click “Ok.” Refer to Figure 5-39.

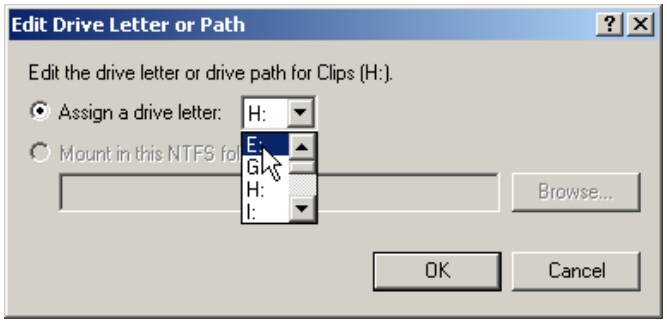


Figure 5-39: E designation selected for Clips Drive

Select “Yes” to confirm that the drive designation is to be assigned. Refer to Figure 5-40.

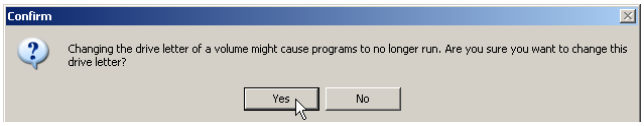


Figure 5-40: Confirmation of drive designation

Repeat the process for any remaining partitions that need to be changed. Make sure the partition designations are the same as those shown in Figure 5-41 below.

Important: When completed, your designations should match those shown in Figure 5-41.

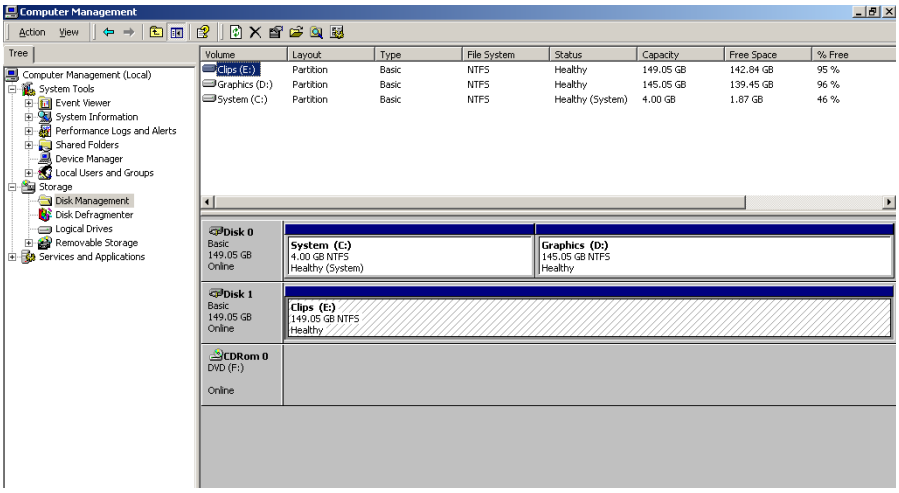


Figure 5-41: The correct drive designations for a Deko1000 or Deko550 workstation

Important: Disk 0 and Disk 1 should show as "Basic" and not "Dynamic." Refer to Figure 5-41. If one or the other shows as "Dynamic," then right click the disk icon and choose "Convert To Basic."

4. **Configuration for Deko1000 or Deko550 OS is Complete.**

   Close the Computer Management window. The last part of the process is to install the Deko1000 or Deko550 program software. Refer to the "Installing The Deko1000 or Deko550 Software" section below.

Installing The Deko1000 or Deko550 Software

The steps for installing the Deko1000 or Deko550 program software are as follows:

1. **Insert the Deko1000 or Deko550 Software CD into DVD/CD-ROM drive.**

   The software program should auto start. If it does not auto start, browse the CD and click on the "Setup.exe" file. Click "Next" for the screen that appears.

2. **Accept the license agreement.**

   Click to check the "Yes, I accept" radio button and then click "Next." The product key confirmation screen will appear.

3. **Choose the "Custom Installation."**

   The installation screens that are displayed are for the most part self-explanatory. Three of the screens though should be answered as follows:

   -- If a FAK (Fast Action Keyboard) is connected to the workstation, check the FAK box.

   -- Click "Yes" to the "Install the Pinnacle Systems DV25 Software Only Codec" question.

   -- Reboot the machine when the choice is given to do so.

4. **After rebooting, the "Log On To Windows" dialog may be displayed.**

   If the word Deko is not shown as the user name, type in the word Deko and click "Ok.".

Recreating A Deko1000 or Deko550 Drive Image Restore DVD

Note: The Drive Image Restore DVD created in this process will only restore the operating system and supporting utilities for the Deko1000 or Deko550. The actual Deko1000 or Deko550 program is installed from the Deko Software CD.

Pinnacle Systems has provided a way that you can create a Deko1000 or Deko550 “Drive Image Restore DVD” in case the one originally sent with a Deko1000 or Deko550 workstation can’t be found. To do this, you will need a blank DVD of one of the following formats:

- DVD +R
- DVD +RW

Important: The DVD/CD-ROM drive on the Deko1000 or Deko550 workstation will not properly burn a DVD that has a format of -R or -RW.

Perform the following steps to recreate a Deko 300 Drive Image Restore DVD:

1. **Power up the workstation and insert a blank DVD into the DVD/CD-ROM drive.**

   If necessary, close the Drive F window if it is displayed since nothing is on the DVD at this time.

2. **Start the software program named “Instant CD+DVD” on the workstation.**

   Navigate the following path to the Instant CD+DVD software program:
   Start >> Programs >>Instant CD+DVD
   Then click the program file “Instant CD+DVD” to open it. A window similar to that shown in Figure 5-42 should be displayed.



Figure 5-42: Initial start up window of Instant CD+DVD

3. **Click “Data Disk.” Refer to Figure 5-42.**

   Once Data Disk is clicked a New project window will be displayed similar to that shown in Figure 5-43 with a New Project window displayed.

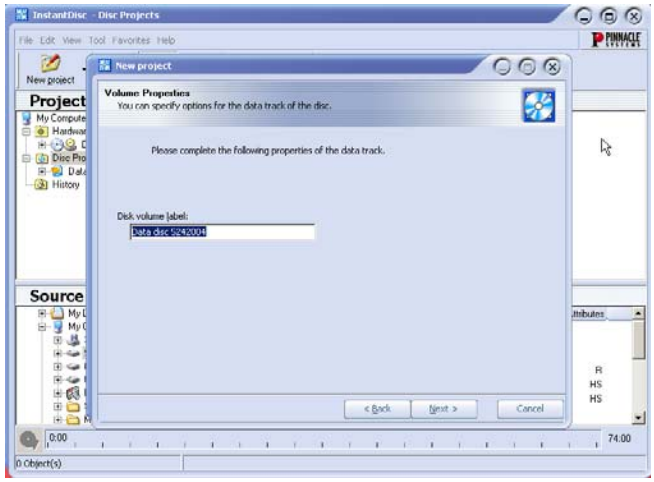


Figure 5-43: New Project Dialog

4. **Click "Cancel" for the New Project dialog.**

   Click the "Cancel" button. Refer to Figure 5-43.

5. **Click the "New Project" menu icon.**

   A "New Disc Project" window similar to that shown in Figure 5-44 will be displayed.

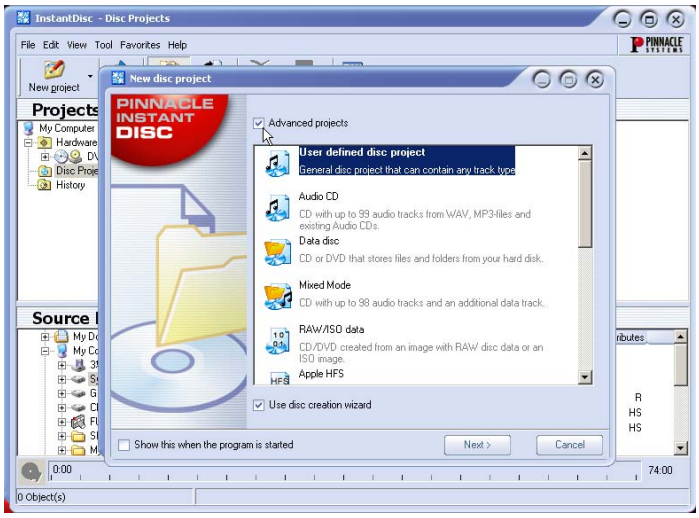


Figure 5-44: New Disc Project window

6. **Click the "Advanced Projects" box.**

   Click to check mark the "Advanced Projects" box. Refer to Figure 5-44.

7. **Select "Raw / ISO Data."**

Click to highlight "Raw/ISO data" and then click "Next." Refer to Figure 5-45.

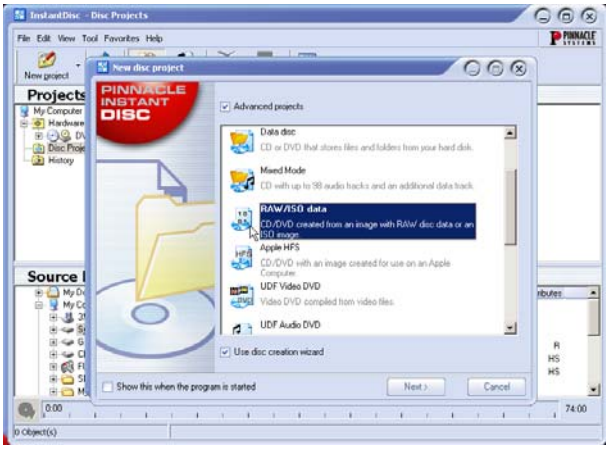


Figure 5-45: Raw/ISO Data selected

8. **Browse to the Track1.iso file on Drive E (Clips drive) within the System Restore folder.**

   Once you have browsed to the Track1.iso file click "Next." Refer to Figure 5-46.

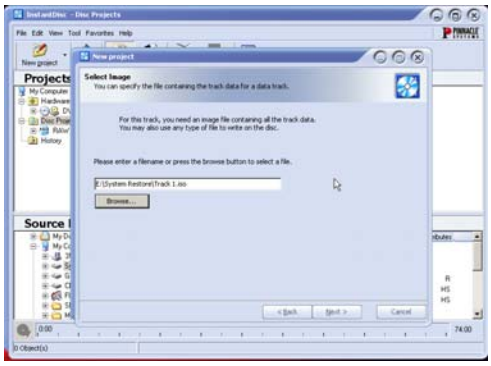


Figure 5-46: Browsing to Track1.iso file

9. **Select "Close This Wizard" and click "Finished."**

   Refer to Figure 5-47.

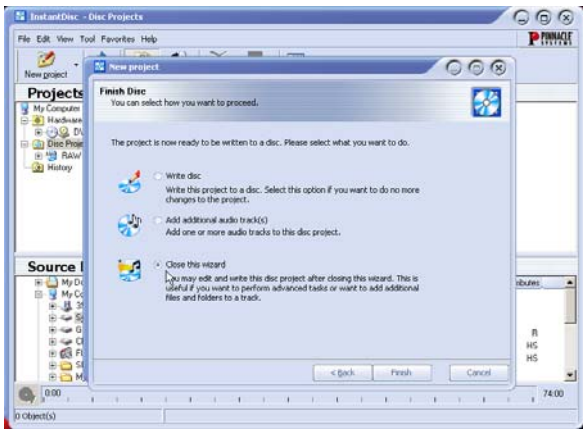


Figure 5-47: Close This Wizard selected

10. Click to highlight the word "Raw," and then click "Properties" in the icon menu.

Raw is a file name under "Disc Projects" in the Projects Pane. Refer to Figure 5-48.

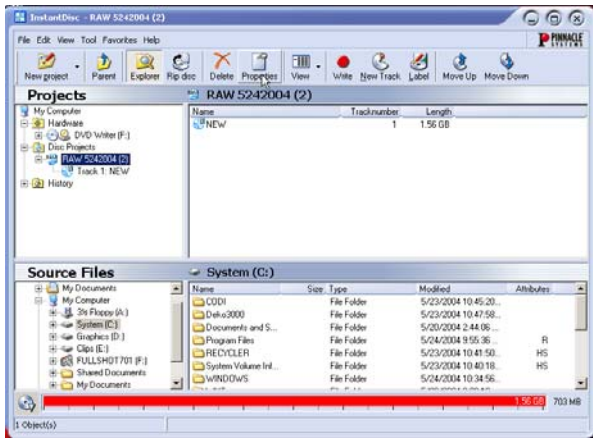


Figure 5-48: Clicking Raw file within Disc Projects subdirectory

Once the "Properties" menu icon is clicked, a window showing of the "Properties Of Raw" will be displayed. Refer to Figure 5-49.

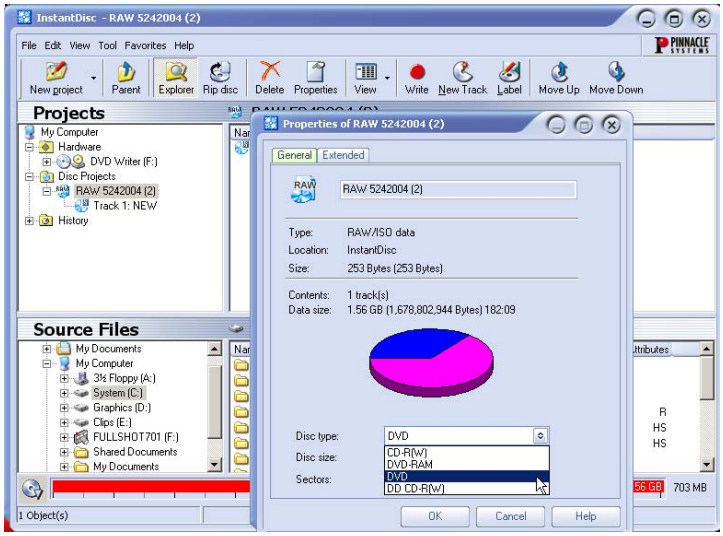


Figure 5-49: Properties Of Raw window displayed

11. From the pull down for "Disk Type" select "DVD."

Select DVD as the Disc Type that is in the DVD/CD-ROM drive, and then click "Ok." Refer to Figure 5-49.

12. Click "Write" in the icon menu.

Refer to Figure 5-50. "Write" in the icon menu is represented by a red ball.

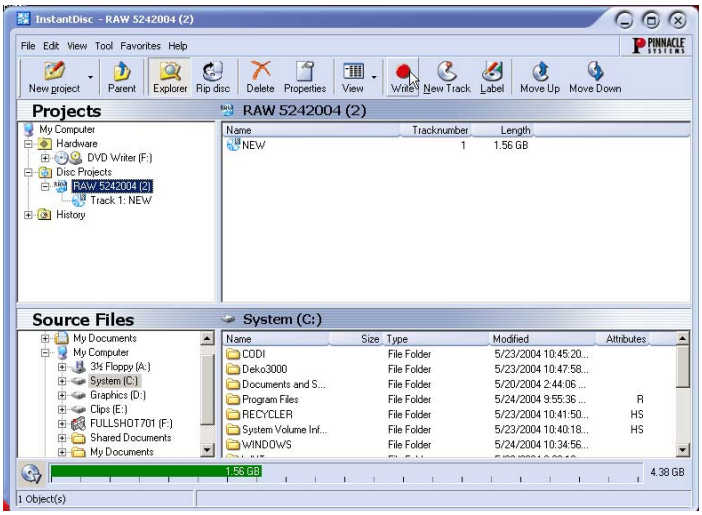


Figure 5-50: Clicking Write in the icon menus

When “Write” in the icon menu is clicked a “write Disc Project” window will be displayed. Refer to Figure 5-51. The drive image of the Deko1000 or Deko550 operating system is now ready to be copied to the DVD.

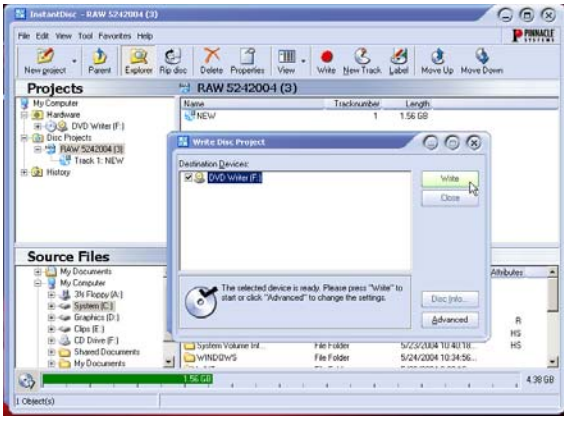


Figure 5-51: Write Disc Project window displayed

13. Click the “Write” button in the “Write Disk Project” dialog.

Click the “Write” button to begin writing the Deko1000 or Deko550 operating system to the DVD. Refer to Figure 5-51.

Once the “Write” button is click, a window indicating the progress of the data being written onto the DVD will be displayed. Refer to Figure 5-52.

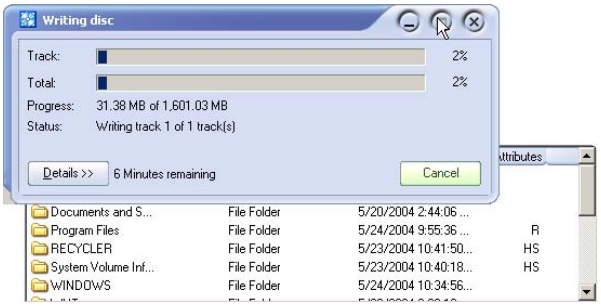


Figure 5-52: Progress indication of data being written to DVD

14. When "Writing Successfully Finished" (Figure 5-53) is displayed, the DVD can be removed.

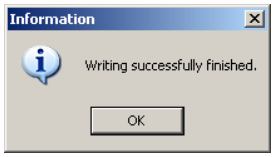


Figure 5-53: Successful creation of Deko1000 or Deko550 Drive Image Restore DVD

15. Quit the Instant CD+DVD software program.

The Deko1000 or Deko550 "Drive Image Restore DVD" you just created can now be used to restore the Deko1000 or Deko550 operating system. Refer to the section "You Have The Software DVDs Supplied By Pinnacle Systems" above for instructions on restoring the Deko1000 or Deko550 operating system and restoring the Deko software program.

Configuring A New “System” Hard Drive

If for whatever reason your “System” hard drive needed to be replaced, and you have receive a new “System” hard drive from Pinnacle Systems Customer Support, the new “System” hard drive will need to be configured. Perform the following steps to configure a new “System” hard drive received from Pinnacle:

Important: Remove the “Media” hard drive before proceeding with this procedure to keep from inadvertently over writing the content of the drive.

1. **Insert the new replacement “System” hard drive into the workstation.**

   Refer to the “Deko1000 And Deko550 Workstation Initial Setup” section in “Chapter 3: Installation And Setup.”

2. **Enter the BIOS setup of the workstation.**

   If the workstation has been turned off, power it up. Enter the BIOS program by rebooting the workstation, and then at the beginning of the start-up procedure press and momentarily hold down the <F2> key on the keyboard. This is done when you see the words “Press <F2> for Setup” on the monitor, or when you see the three keyboard “Lock” LEDs (top right-hand corner of the keyboard) flash on the keyboard.

3. **Insert the “Drive Image Restore DVD” into the DVD/CD-ROM drive.**

4. **From within the BIOS display, check that the boot order for the drives is as follows:**

   Boot Menu

   Silent Boot [Disabled]

   Intel(R) Rapid BIOS Boot [Enabled]

   PXE Boot to LAN [Disabled]

   USB Boot [Disabled]

   Boot Device Priority

   1st Boot Device [1st Floppy Drive]

   2nd Boot Device [3M-TEAC DV-W58G]

   3rd Boot Device [PM-ST380013AS]

   Hard Disk Drives Submenu

   1st Drive [PM-ST380013AS]

   2nd Boot Device [SM-ST3160023AS]

   Use the arrow keys to get to the Boot menu. If it is necessary to correct the order of the drives, change the order of the drives per the instructions given on the screen. When you’re done, be sure to Save and Exit the BIOS program.

5. **Reboot the workstation (it may automatically reboot coming out of the BIOS).**

   You will see a prompt “Restoring will overwrite your system partition. Are you sure?

   Select “Yes.” The Drive Image Restore program will take approximately 6 minutes to complete. After the program has finished, the root directory for Drive A (shown as A:\>) will be displayed.

6. **Remove the “Drive Image Restore DVD” from the DVD drive and reboot the workstation.**

   A welcome screen will appear after the reboot.

7. **A prompt will be displayed stating “The Product ID You Entered Is Not Valid.”**

   Click “OK” until the prompt is no longer displayed.

8. **Enter the 25 characters that make up the product key number for the workstation.**

   The alpha-numeric characters that make the product key can be found on the front panel of the workstation. If the Deko1000 or Deko550 front panel cover is on the front of the workstation, remove the panel cover. The product key sticker is glued onto the front panel of the workstation. Type the product key onto the boxes displayed on the screen, then click “Next.” A screen prompting for the name of the computer should appear.

9. **Enter a name for the computer and click “Next.”**

   Only the characters A-Z, the numbers 0-9, and hyphens can be used. If the workstation is connected to a network, then name given to the machine (and the description if one is given) will appear on the network. When “Ok” is clicked, the Administrator password screen will appear.

10. **Select the Network Settings for the workstation.**

    The choices are “Typical Settings” and Custom Settings.” For most situations, the “Typical Settings” selection will fulfill most needs. Contact your System Administration if you’re not sure which to choose for the workstation.

11. **Do not enter an Administrator password. Click “Next.”**

    A screen asking for the name of the workstation users will appear.

12. **Select the “Workstation Computer Domain” for the workstation and click “Next.”**

    Contact your System Administration if you’re not sure if the workstation is to be part of a domain. After “Next” is clicked, the software will load and the system will reboot.

13. **Click “Next” on the initial screen of the Network Identification Wizard program.**

    The “Network Identification Wizard” program automatically launches after the system reboots. After next is clicked a “Users Of This Computer” screen will appear.

14. **Click “Next” on the “Users Of This Computer” screen.**

    Use the default settings. Do not type in a password for the password field.

15. **Click “Finish” to complete the software restore.**

    The Deko1000 or Deko550 background screen will appear.

16. **For now, click “Cancel” to each “Found New Hardware Wizards” pop-up window.**

    The pop ups will occur a number of times for the workstation.

17. **If necessary, change the desktop to a resolution of 1024x768 with 32-bit color.**

    This is done by navigating the following path: Right click on desktop >> Properties >>Settings tab Clicking the Settings tab will then show a window similar to that shown in Figure 5-54.

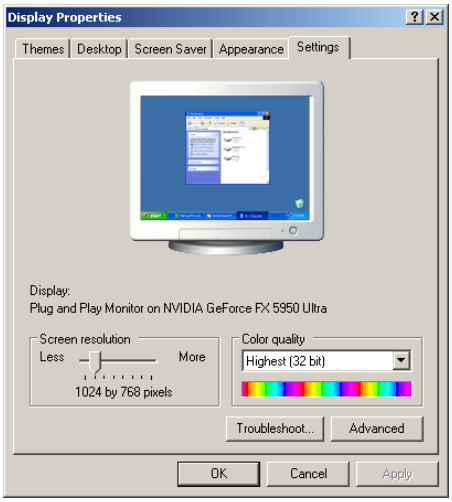


Figure 5-54: Display Properties window

Use the slider to adjust the screen resolution and bit depth to 1024x768 with 32-bit color. Then click “Ok” and then “Yes” to keep the new resolution and color depth.

18. **Right click on “My Computer” and select “Manage.”**

    A window similar to that in Figure 5-55 will be displayed. Click on “Disk Management” which is on the left-hand side of the window.

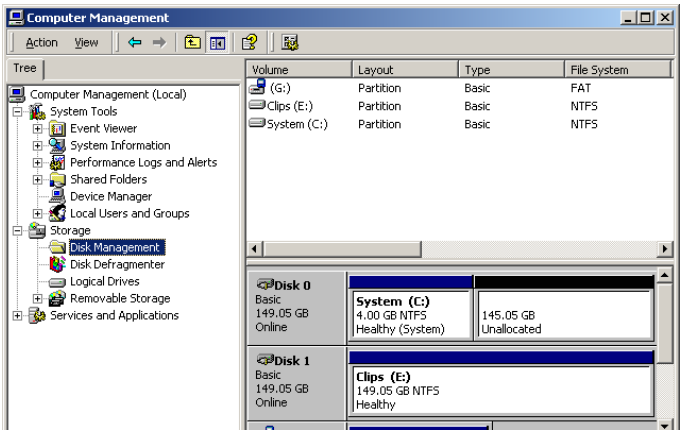


Figure 5-55: Computer Management Window

19. Right click on the unallocated black area for Disk 0 and select "Create Partition."

Refer to Figure 5-56.

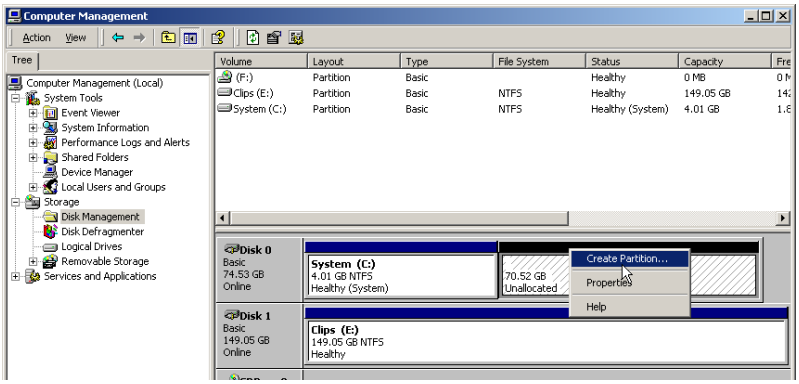


Figure 5-56: Select "Create Partition" for Drive 1.

20. The "Create Partition Wizard" will appear. Click "Next."

Refer to Figure 5-57.

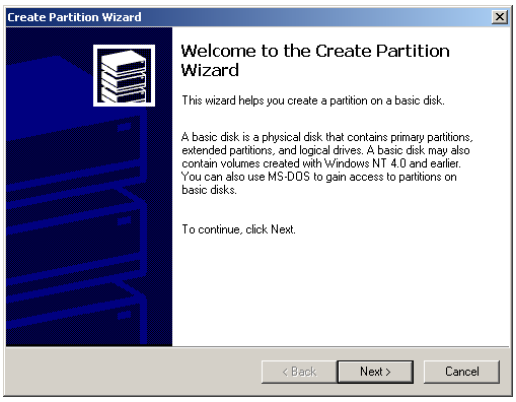


Figure 5-57: Partition Wizard Window

21. Select "Primary" as the partition type and click "Next."

Refer to Figure 5-58.

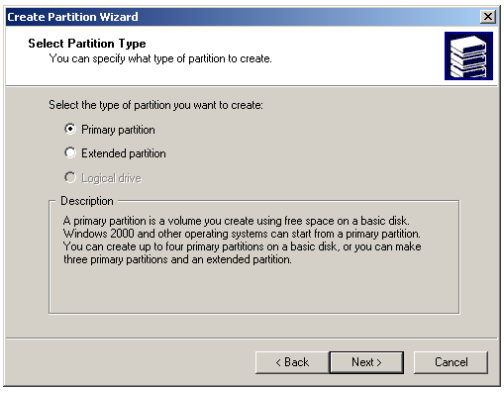


Figure 5-58: Select Primary as the type

22. Use the maximum disk space for the partition size. Click "Next."

Refer to Figure 5-59.

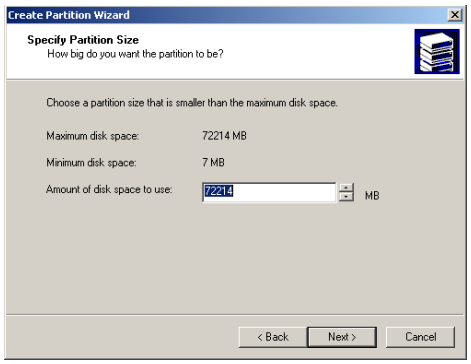


Figure 5-59: Maximum disk size selected

23. Assign "D" as the drive letter. Click "Next."

Refer to Figure 5-60.

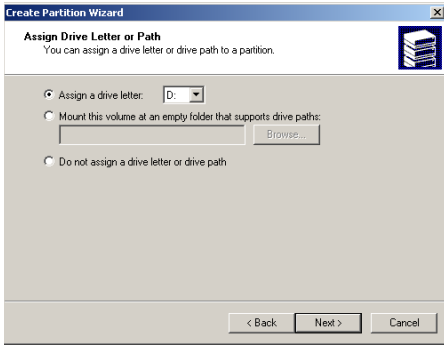


Figure 5-60: Drive letter designation

24. The "Volume label" name must be Graphics, and the box for "Perform a Quick Format" must be check marked.

Make sure you spell the word Graphics correctly. If any other name is used here, the drive will not work. Refer to Figure 5-61. Click the "Perform a Quick Format" box to place a check mark there. Click "Next" to continue.

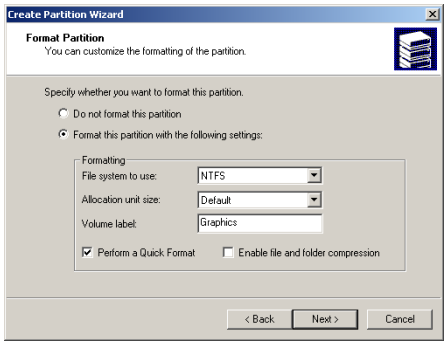


Figure 5-61: Partition format designations

25. Click “Finished.”

Refer to Figure 5-59.

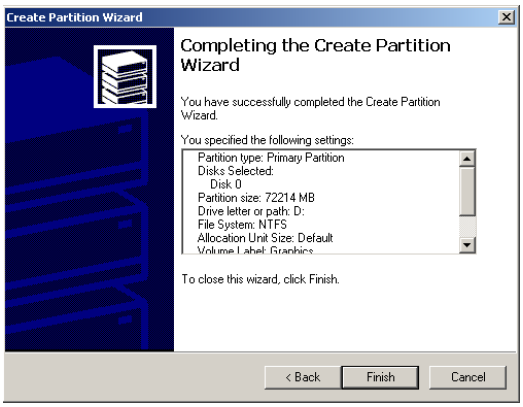


Figure 5-62: Successful completion Of Create Partition Wizard

The drive will format. When formatting is complete, the drive partitioning for the workstation should look as shown in Figure 5-63.

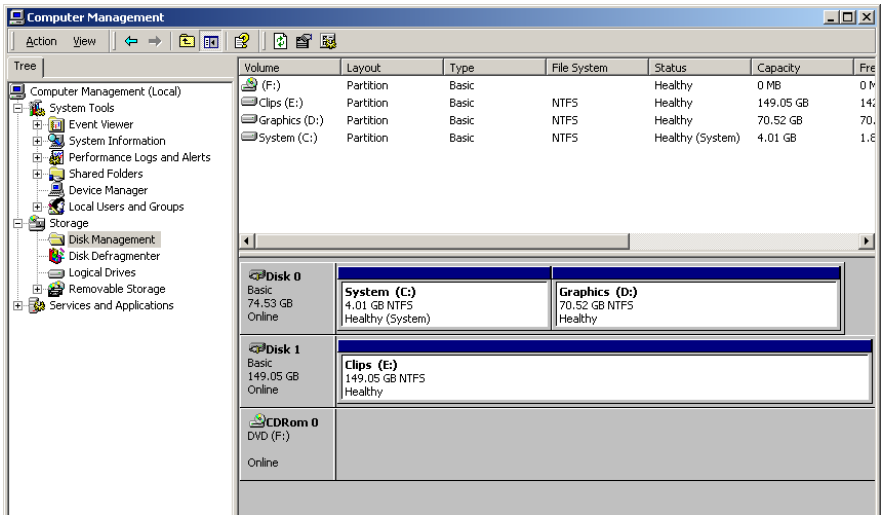


Figure 5-63: Successful formatting of drive

26. Place any material you previously backed up from your old “System” (Graphics D:) hard drive to the new “System” (Graphics D:) hard drive.

Configuring A New “Media” Hard Drive

If for whatever reason your “Media” hard drive needed to be replaced, and you have receive a new “Media” hard drive from Pinnacle Systems Customer Support, the new “Media” hard drive will need to be configured. Perform the following steps to configure a new “Media” hard drive received from Pinnacle:

Important: Remove the “System” hard drive before proceeding with this procedure to keep from inadvertently over writing the content of the drive.

1. **Insert the new replacement “Media” hard drive into the workstation.**

   Refer to the “Deko1000 And Deko550 Workstation Initial Setup” section in “Chapter 3: Installation And Setup.”

2. **Enter the BIOS setup of the workstation.**

   If the workstation has been turned off, power it up. Enter the BIOS program by rebooting the workstation, and then at the beginning of the start-up procedure press and momentarily hold down the <F2> key on the keyboard. This is done when you see the words “Press <F2> for Setup” on the monitor, or when you see the three keyboard “Lock” LEDs (top right-hand corner of the keyboard) flash on the keyboard.

3. **Insert the “Drive Image Restore DVD” into the DVD/CD-ROM drive.**

4. **From within the BIOS display, check that the boot order for the drives is as follows:**

   Boot Menu

   Silent Boot [Disabled]

   Intel(R) Rapid BIOS Boot [Enabled]

   PXE Boot to LAN [Disabled]

   USB Boot [Disabled]

   Boot Device Priority

   1st Boot Device [1st Floppy Drive]

   2nd Boot Device [3M-TEAC DV-W58G]

   3rd Boot Device [PM-ST380013AS]

   Hard Disk Drives Submenu

   1st Drive [PM-ST380013AS]

   2nd Boot Device [SM-ST3160023AS]

   Use the arrow keys to get to the Boot menu. If it is necessary to correct the order of the drives, change the order of the drives per the instructions given on the screen. When you’re done, be sure to Save and Exit the BIOS program.

5. **Reboot the workstation (it may automatically reboot coming out of the BIOS).**

   You will see a prompt “Restoring will overwrite your system partition. Are you sure?

   Select “Yes.” The Drive Image Restore program will take approximately 6 minutes to complete. After the program has finished, the root directory for Drive A (shown as A:\>) will be displayed.

6. **Remove the “Drive Image Restore DVD” from the DVD drive and reboot the workstation.**

   A welcome screen will appear after the reboot.

7. **A prompt will be displayed stating “The Product ID You Entered Is Not Valid.”**

   Click “OK” until the prompt is no longer displayed.

8. **Enter the 25 characters that make up the product key number for the workstation.**

   The alpha-numeric characters that make the product key can be found on the front panel of the workstation. If the Deko1000 or Deko550 front panel cover is on the front of the workstation, remove the panel cover. The product key sticker is glued onto the front panel of the workstation. Type the product key onto the boxes displayed on the screen, then click “Next.” A screen prompting for the name of the computer should appear.

9. **Enter a name for the computer and click “Next.”**

   Only the characters A-Z, the numbers 0-9, and hyphens can be used. If the workstation is connected to a network, then name given to the machine (and the description if one is given) will appear on the network. When “Ok” is clicked, the Administrator password screen will appear.

10. **Select the Network Settings for the workstation.**

    The choices are “Typical Settings” and Custom Settings.” For most situations, the “Typical Settings” selection will fulfill most needs. Contact your System Administration if you’re not sure which to choose for the workstation.

11. **Do not enter an Administrator password. Click “Next.”**

    A screen asking for the name of the workstation users will appear.

12. **Select the “Workstation Computer Domain” for the workstation and click “Next.”**

    Contact your System Administration if you’re not sure if the workstation is to be part of a domain. After “Next” is clicked, the software will load and the system will reboot.

13. **Click “Next” on the initial screen of the Network Identification Wizard program.**

    The “Network Identification Wizard” program automatically launches after the system reboots. After next is clicked a “Users Of This Computer” screen will appear.

14. **Click “Next” on the “Users Of This Computer” screen.**

    Use the default settings. Do not type in a password for the password field.

15. **Click “Finish” to complete the software restore.**

    The Deko1000 or Deko550 background screen will appear.

16. **For now, click “Cancel” to each “Found New Hardware Wizards” pop-up window.**

    The pop ups will occur a number of times for the workstation.

17. **If necessary, change the desktop to a resolution of 1024x768 with 32-bit color.**

    This is done by navigating the following path: Right click on desktop >> Properties >>Settings tab Clicking the Settings tab will then show a window similar to that shown in Figure 5-64.

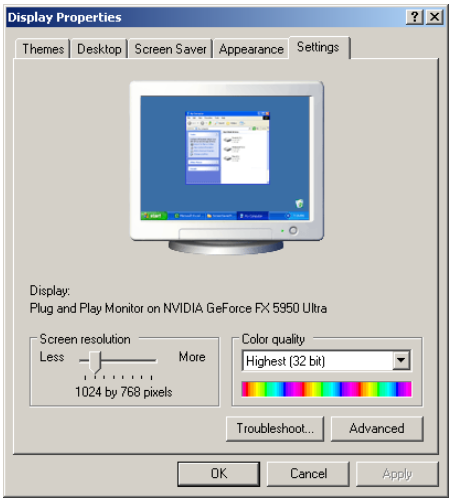


Figure 5-64: Display Properties window

Use the slider to adjust the screen resolution and bit depth to 1024x768 with 32-bit color. Then click “Ok” and then “Yes” to keep the new resolution and color depth.

18. **Right clicking on “My Computer” and select “Manage.”**

    A window similar to that in Figure 5-65 will be displayed.

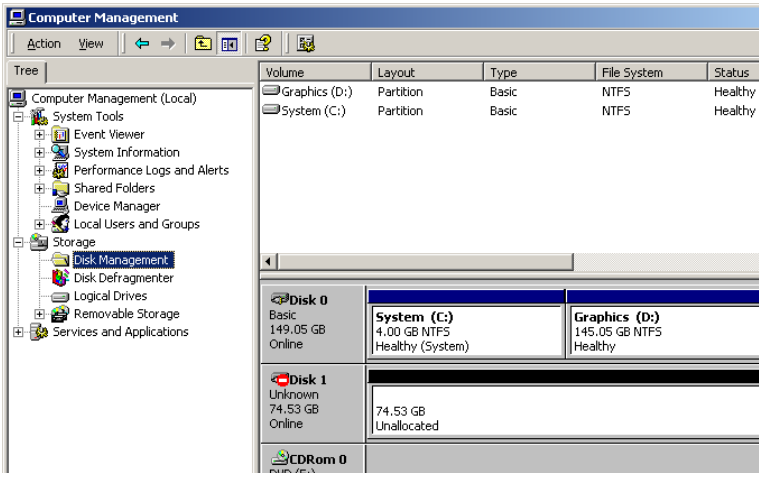


Figure 5-65: Computer Management Window

19. **Right click on the unallocated black area for Disk 1 and select "Write Signature."**

    Refer to Figure 5-66.

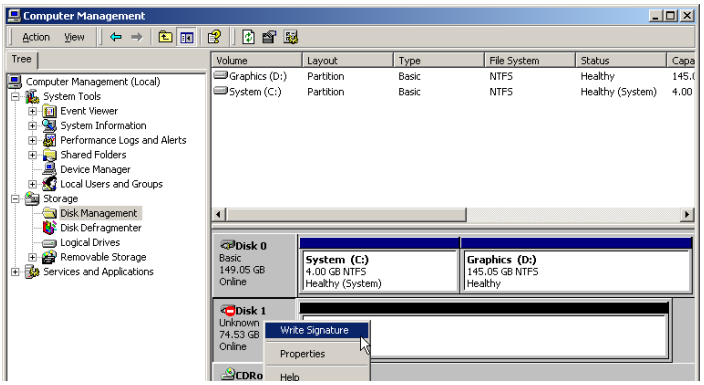


Figure 5-66: Select "Write Signature" for Drive 1.

20. **Check that Disk 1 is check marked for a signature to be written.**

    Click the "Disk 1" box to place a check mark there. Click "Next" to continue.

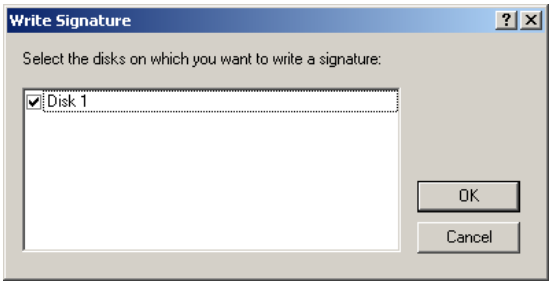


Figure 5-67: Partition format designations

21. **Right click on the unallocated black area for Disk 1 and select "Create Partition."**

    Refer to Figure 5-68.

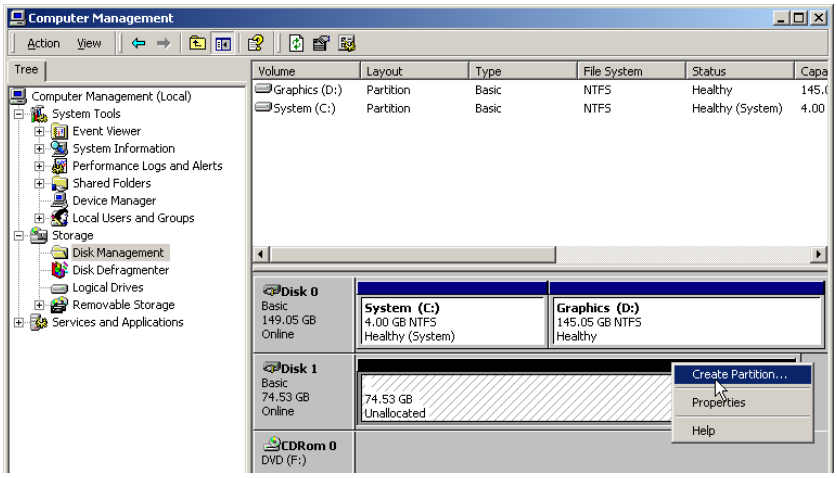


Figure 5-68: Select "Create Partition" for Drive 1.

22. The "Create Partition Wizard" will appear. Click "Next."

Refer to Figure 5-69.

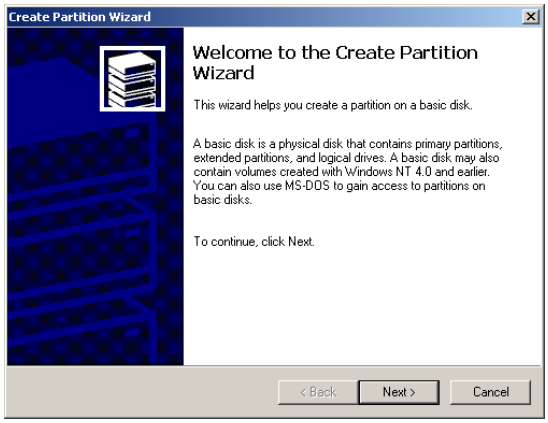


Figure 5-69: Partition Wizard Window

23. Select "Primary" as the partition type and click "Next."

Refer to Figure 5-70.

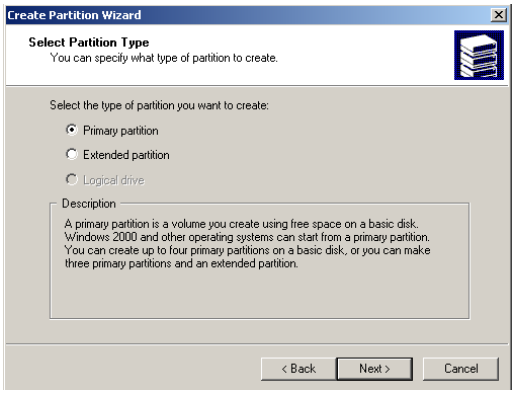


Figure 5-70: Select Primary as the type

24. Use the maximum disk space for the partition size. Click "Next."

Refer to Figure 5-71.

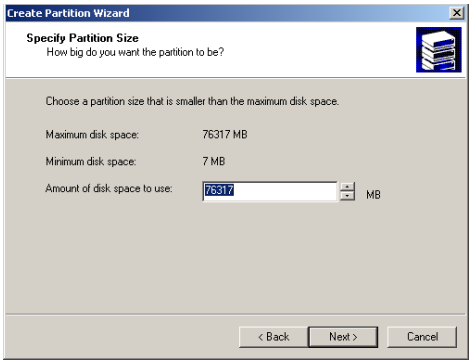


Figure 5-71: Maximum disk size selected

25. Assign “E” as the drive letter. Click “Next.”

Refer to Figure 5-72.

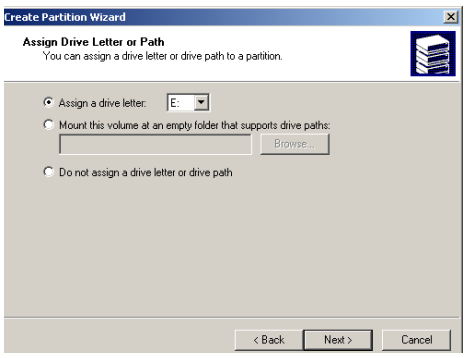


Figure 5-72: Drive letter designation

26. The “Volume label” name must be Clips, and the box for “Perform a Quick Format” must be check marked.

Make sure you spell the word Clips correctly. If any other name is used here, the drive will not work. Refer to Figure 5-73. Click the “Perform a Quick Format” box to place a check mark there. Click “Next” to continue.

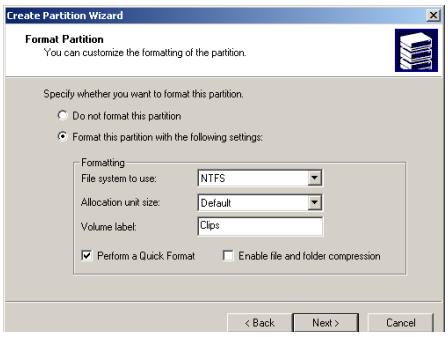


Figure 5-73: Partition format designations

27. Click “Finished.”

Refer to Figure 5-74.

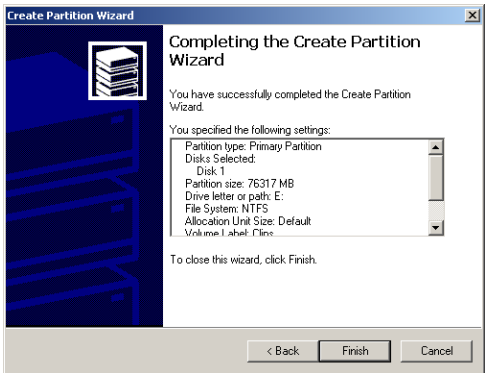


Figure 5-74: Successful completion Of Create Partition Wizard

The drive will format. When formatting is complete, the drive partitioning for the workstation should look as shown in Figure 5-75.

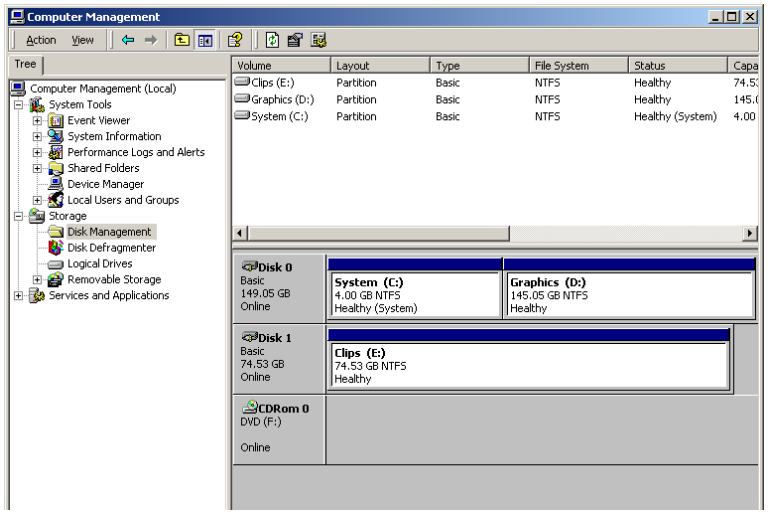


Figure 5-75: Successful formatting of drive

28. Place any material you previously backed up from your old "Media" (Clips E:) hard drive to the new "Media" (Clips E:) hard drive.

Appendix A: Pinnacle Systems Customer Support

About Deko Support

Additional resources are available online. FAQs, public web boards, and late-breaking documentation are posted at the Pinnacle Systems web site for Deko products. Use the following link address:
http://www.pinnaclesys.com/support

Answers to all of the problems you encounter may not be found here, but what is there can help stimulate new thoughts and ideas about the source of the problem.

Troubleshooting Questionnaire

Before contacting Pinnacle Systems Customer Support, please complete the Troubleshooting Questionnaire below and have the answers ready before you contact us.

1. What is the product model and software version number?
2. Can you reproduce the problem consistently or is the problem intermittent?
3. What version of the operating system are you using?
4. When did the problem start? Has the product ever worked? What was the last thing changed or added to the system?
5. What is the exact wording of any error messages you have received?
6. Are you using the product as it was intended or recommended to be used?
7. Does the issue disappear if you boot the system with all third-party devices removed?
8. What have you done to try to resolve the issue yourself?

Once you know the answers to the questions listed above, you should contact Pinnacle Systems Customer Support for additional help.

Contacting Pinnacle Systems

Request support from Pinnacle Systems via E-mail or the web. Please be sure to include your name, phone number, and the serial number of the Deko1000 or Deko550 workstation with your request. The appropriate member of the Pinnacle Systems support team will respond to your request. Support by region is as follows:

Important: Please keep this manual at a place where it can readily be found. When you are contacted by Pinnacle Systems Customer Support, you made need this document for troubleshooting and maintenance of your system while on the phone with the Support Engineer.

Broadcast Support Americas and Canada

E-mail: broadcast-support@pinnaclesys.com

Web Support: http://www.pinnaclesys.com/support/contact

Broadcast Support Europe

E-mail: broadcast-support-uk@pinnaclesys.com

Web Support: http://www.pinnaclesys.com/support/contact

Broadcast Support South Asia

E-mail: pacrim-support@pinnaclesys.com

Web Support: http://www.pinnaclesys.com/support/contact

Supports Regions: Taiwan, India, Pakistan, Bangladesh, Sri Lanka, Australia, New Zealand, Thailand, Viet Nam, Philippines, Brunei, Singapore, Malaysia, Indonesia

Broadcast Support Beijing

E-mail: broadcast-support-cn@pinnaclesys.com

Web Support: http://www.pinnaclesys.com/support/contact

Supports Regions: China, Hong Kong, Korea

Broadcast Support Japan

E-mail broadcast@pinnaclesys.co.jp

Web Support: www.pinnaclesys.co.jp

Upgrade Information on the Internet

For the latest information on Pinnacle Systems products, visit the Pinnacle Systems web site at: http://www.pinnaclesys.com/support

Appendix B: Using Shaped And Unshaped Keying

About Shaped And Unshaped Keying

Working with multiple sources in a video production environment requires a mixing operation to properly combine independent Video + Key elements. This operation is normally found in graphics systems, character generators, DVE's (Digital Video Effects) and switchers that are used for On-Air broadcasts. Traditionally, two different methods of keying have been used in this environment: "Shaped" and "Unshaped" Keying. These two methods cannot be used interchangeably and can sometimes lead to confusion and improper operation.

Shaped vs. Unshaped Compositing

In the broadcast environment, video and key signals are normally transported on two separate signals. The terms "Shaped" and "Unshaped" refer to how a separate key signal is used in conjunction with an associated video (or fill) signal to represent a non-opaque source.

Shaped

"Shaped" refers to a video and key pair that has the key "pre-applied" (or pre-multiplied) to the video signal. This is most apparent on objects with a soft, semi-transparent border as shown in Figures B-1 and B-2.

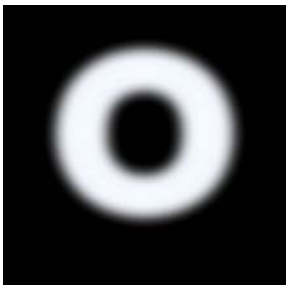


Figure B-1: Shaped Video Signal

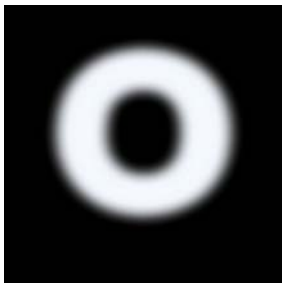


Figure B-2: Key Signal

In this example, the letter "O" has a soft border that is apparent on both the video and key signals. Once this graphic is keyed, the background image shows through the semi-transparent border as shown in Figure B-3.



Figure B-3: Keyed Result

Unshaped

"Unshaped" refers to a video and key pair that does not have the key "pre-applied" to the video. In this case, all transparency is represented by the key signal. The graphics in Figures B-4 and B-5 show the same example in the unshaped environment.

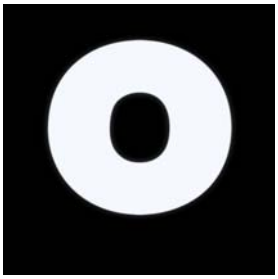


Figure B-4: Unshaped Video Signal

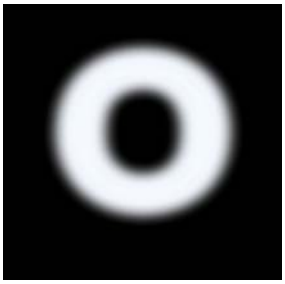


Figure B-5: Key Signal

Once this graphic is keyed, the background image shows through the semi-transparent border just as in the shaped case. Refer to Figure B-6.



Figure B-6: Keyed Result

Mathematical Equations

A keyer or switcher that combines two keyed sources must take into account their formats (shaped or unshaped). Two distinct mathematical functions are used depending on the format of the keyed inputs. For the mathematically inclined, the equations are provided below.

Unshaped Keying uses the following equations for mixing two Video + Key sources:

$$K_{out} = K_{foreground} + K_{background} * (1 - K_{foreground})$$

$$V_{out} = V_{foreground} * K_X + V_{background} * (1 - K_X)$$

where $K_X = (K_{foreground} - K_{foreground} * K_{background}) / K_{out}$

Shaped Keying uses the following equations for mixing two Video + Key sources.:

$$K_{out} = K_{foreground} + K_{background} * (1 - K_{foreground})$$

$$V_{out} = V_{foreground} + V_{background} * (1 - K_{foreground})$$

While the Key equation is the same in both cases, it is clear that the Video equation is much simpler for Shaped Keying than for Unshaped. Having the Key pre-applied to the Video greatly reduces the computations required produce the combined result. It is for this reason that shaped keying has become standard in the world of graphics and multi-layer composting.

Comparison Matrix

Due to the simplified nature of working with multiple layers, graphics systems have relied on Shaped keying for all compositing functions. Conversely, live DVE systems have traditionally used unshaped keying as applying effects to full screen video is easier in this domain.

The comparison matrix below summarizes some of the main differences between working in the shaped and unshaped domain:

	Shaped	Unshaped
Keying Process	Additive (Simple)	Multiplicative (More Complex)
Preview	Previewing video properly displays transparency properties.	Previewing video does not display transparency properties. (No soft borders).
Standardization	Most Graphics, Compositing, and computer based systems use shaped keying processes.	
Production Switches	Most modern switchers support shaped keying. *However, some older analog switchers only support unshaped keying.*	Most switchers support unshaped keying.

Appendix C: Deko550 and 1000 Technical Specifications

Technical Specifications*

The specifications for the Deko1000 and Deko550 Workstation are divided into three sections within this Appendix:

- Deko1000 and Deko550 Base Configuration
- ClipDeko Option
- DekoObjex Option

Deko1000 and Deko550 Base Configuration

Supported Video Standards
-- NTSC and PAL Video Standards
-- 4:3 Aspect Ratio
-- 16:9 Aspect Ratio

Video I/O
-- SDI and Key Input per Channel (SMPTE 259M Compliant)
-- Automatic Retiming of Synchronous Inputs
-- SDI and Key Output per Channel (SMPTE 259M Compliant)
-- Horizontal Output Timing Adjustment (-300 µsec to 300 µsec, half pixel increments)
-- Standard 8 Bit, 4:2:2:4 Sampling
-- Preserves VBI Data in Lines 10-21

Audio I/O
-- Four Channels Audio Input (Embedded in SDI Video Inputs)
-- Eight Channels Audio Output (Embedded in SDI Video Inputs)
-- Standard 16 Bit, 48 KHz Sampling

Reference
-- Analog Color Black (75 ohm terminated)

Downstream Keyer
-- 8 Bit Video Resolution
-- 4 Frame Processing Delay through Box

Automation Protocols (Optional)
-- III (i.e., **Infinite I**ntelligent **I**nterface)
-- PEGS (**P**rogrammed options, **E**-MEM recall, **G**PI events, Dubner **S**trings)
-- E-MEM (**E**vent **Mem**ory)
-- Single GPI Input (Configurable through RS-232 port)

* All specifications subject to change without notice

Platform

-- 3.0 GHz Pentium IV (or faster)
-- Windows 2000 Professional Operating System
-- 512 MByte System RAM
-- 100 BaseT Ethernet Interface
-- Single RS-232 Serial Port
-- Dual USB 2.0 Port (Front Mounted)
-- Dual USB 2.0 Ports (Rear Mounted)
-- 3.5 Inch Floppy Drive
-- CD/DVD+R/+RW Writer/Reader

Chassis Dimensions

-- 4RU Rack Mount Chassis
-- 19-inch x 22-inch x 7-inch (48.26 cm x 55.88 cm x 17.78 cm)

Power Supply

-- Dual Redundant Hot-Swappable Power Supplies
-- 110/220 Volt 60/50 Hz (Auto-sensing)
-- AC Line Current = 6 A
-- 350 Watt Maximum Output

ClipDeko Option

Audio I/O

-- Four Channels of Audio for Clip Capture
(Embedded in SDI Video Inputs)
-- Eight Channels of Audio for Clip Playback
(Embedded in SDI Video Outputs)
-- Standard 16 Bit, 48 KHz Sampling

Clip Capture Support

-- MPEG2 I-Frame 4:2:2 Sampling
Variable Bit Rate 15-50 MBit), .MXF File Format
-- DV25 Standard Compression Format (.DV File Format)

Clip Playback Support

-- MPEG2 I-Frame 4:2:2 Sampling
Variable Bit Rate (15-50 MBit), .MXF File Format
-- DV25 Standard Compression Format (.DV File Format)
-- DV25 Standard Compression Format (.AVI File Format)

Clip Processing

-- Up to 100 MBit Total Clip Bandwidth
-- 2D Size and Position of Clip Layer
-- 3 point Looping Clip Playback Capability

DekoObjex Option

Note: The DekoObjex option is not available on the Deko550 system.

DekoObjex Processing	-- 32 Bit 4:4:4:4 RGBA Processing
	-- Up to 5 Screen Pixel Coverage Processing Power
Live Video Processing	-- Independent 2D DVE for Two Video Inputs
	-- 4 Frame Processing Delay through Box
Audio Processing	-- 24 Track Audio Mixer with Router

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