
Alladin

Installation Guide

Windows Version



Pinnacle Systems, Inc.

Alladin Installation Guide

P/N 102350-PCINSTALL • Rev. A • June 1995 • Printed in U.S.A.

Software Version I. I. • Windows™

The information contained in this Installation Guide is subject to change without notice or obligation.

Copyright

© 1994, 1995 PINNACLE SYSTEMS, INC.

Contents of this publication may not be reproduced in any form without the written permission of Pinnacle Systems, Inc. Reproduction or reverse engineering of copyrighted software is prohibited.

Warning

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Shielded cables must be used to ensure compliance with the FCC Class A limits.

Company Address

Pinnacle Systems Inc. • X70 West Maude Avenue • Sunnyvale, CA 94086

Telephone: (408) 720-9669

Fax: (408) 720-9674

Customer Service (U.S.): (408) 720-9669 Ext. 67

Customer Service (Europe): +44 1895 442-003

Customer Service Fax (U.S.): (408) 720-1183

Customer Service Fax (Europe): +44 1895 442-009

FaxBack: (408) 720-9165

BBS (U.S.): (408) 720-1186

BBS (Europe): +44 1895 441-898

Sales Literature: (800) 4 PINNACLE

Customer Support Internet (U.S.): pinnacle_support@mcimail.com

Customer Support Internet (Europe): pinnacleuk@mcimail.com

Contents

Introduction	1-1
Overview..	1-1
What Is Alladin	1-1
What You Will Need..	1-2
Setting Up Your Desktop Studio..	1-2
Required System Components	1-2
Optional System Components..	1-4
Setting Up Your PC..	1-5
Documentation Conventions..	1-6
Documentation Terms..	1-7
A Word About Windows..	1-7
Related Publications..	1-8
On-Line Help	1-8
FaxBack, TechFAX and BBS	1-9
Company Address and Phone Numbers..	1- 10
Quick Setup	2-1
In This Chapter..	2-1
System Inputs and Outputs..	2-1
Quick Setup Block Diagrams..	2-2
Quick Setup Procedure..	2-3
Hardware Installation..	2-3
Software Installation..	2-7
Running Alladin..	2-9
System Adjustments	2- 10
Installation	3-1
In This Chapter..	3-1
General System Information	3-2
Integrated Production System..	3-2
Alladin Chassis	3-3
Computer	3-3
Hardware Requirements..	3-3
Software Requirements	3-3
Input Sources	3-4
Alladin Output	3-4
Unpacking and Inspection..	3-5
Hardware Description	3-5

Internal Chassis Components.....	3-6
Site Preparation	3-7
Environmental Requirements.....	3-7
Location and Power Requirements	3-7
Hardware Installation	3-8
Signal Connection.....	3-8
Computer Configuration	3-11
Computer-Alladin Interconnection	3-12
Power On..	3-13
Software Description.....	3-13
Disk Care	3-13
Software Installation..	3-14
Running Alladin.....	3-15
System Setup and Interconnection	3-17
Selecting Y/C or Composite Video.....	3-18
Selecting Internal or External Reference	3-19
System Interconnection Diagrams..	3-20
Composite or Y/C System, External Sync.....	3-21
Drawing 1: Video and Reference Connections	3-21
Drawing 2: SCSI, GPI, Computer, RS-422 Connections	3-22
Composite or Y/C System, External Switcher..	3-23
Drawing 3: Video and Reference Connections	3-23
Drawing 4: SCSI, GPI, Computer, RS-422 Connections..	3-25
Remote Control	3-26
GPI Connection..	3-26
Connecting GPI Inputs	3-26
RS-422 Editor Port Connection	3-27
System Timing	3-28
Using Scroll Bars for Adjustment.....	3-29
Input Video Timing.....	3-30
External Key Input Timing.....	3-32
Input Video Adjustments to the DVE.....	3-33
DVE Blanking Adjustments	3-35
Output Video Timing.....	3-37
Setting the Preview / Key Jumper	3-39
Key Output Timing.....	3-40
Specifications	3-41
Connector Pinout Data	3-43

Component Option

4-1

In This Chapter.....	4-1
Product Description.....	4-2
Rear Chassis Connectors.....	4-3
Component Option Specifications	4-7
Installation.....	4-8
Factory-Installed Systems.....	4-8
Field Installation	4-9
Unpacking and Inspection	4-9
Installation Procedure	4-9

Power On.....	4- 12
Breakout Cables..	4- 13
Video Connections..	4-14
Component System, External Sync	4-15
Drawing 1: Video and Reference Connections	4- 15
Drawing 2: SCSI, GPI, Computer, RS-422 Connections.....	4- 16
Component System, External Switcher..	4- 17
Drawing 3: Video and Reference Connections	4- 17
Drawing 4: SCSI, GPI, Computer, RS-422 Connections.....	4-19
Video Adjustments..	4-20
Selecting YUV or RGB Format..	4-20
Component System Timing..	4-2 1
Input Video Timing	4-2 1
External Key Input Timing.....	4-2 1
Input Video Adjustments to the DVE..	4-22
DVE Blanking Adjustments	4-23
Output Video Timing.....	4-23
Key Output Timing..	4-24

Index

5-1

Introduction

Overview

This guide provides installation instructions for Pinnacle’s Alladin system and supports the **Windows**™ version of the product. The following chapters are included:

- Chapter 1, “**Introduction**” summarizes the guide and describes the tools needed to install the Alladin system.
- Chapter 2, “**Quick Setup**” provides a fast and efficient setup procedure for Alladin.
- Chapter 3, “**Installation**” provides system installation procedures for hardware, software and peripheral connections.
- Chapter 4, “**Component Option**” discusses installation procedures for the system’s Component Option.

NOTE

For complete Alladin operating instructions, please refer to the *Alladin User’s Guide*.

What Is Alladin

Alladin is a multi-function post production system that combines many powerful video and graphics applications in one product. Alladin is designed with an open architecture that provides a “core” set of production tools (or *functions*), yet allows you the creative flexibility to work with your favorite third party applications — to suit your precise production and design requirements.

Each core function is presented with a simple “point and shoot” interface that’s intuitive and easy to use. For operational simplicity, all Alladin core functions operate in the familiar **Windows** environment and obey all standard Windows conventions.

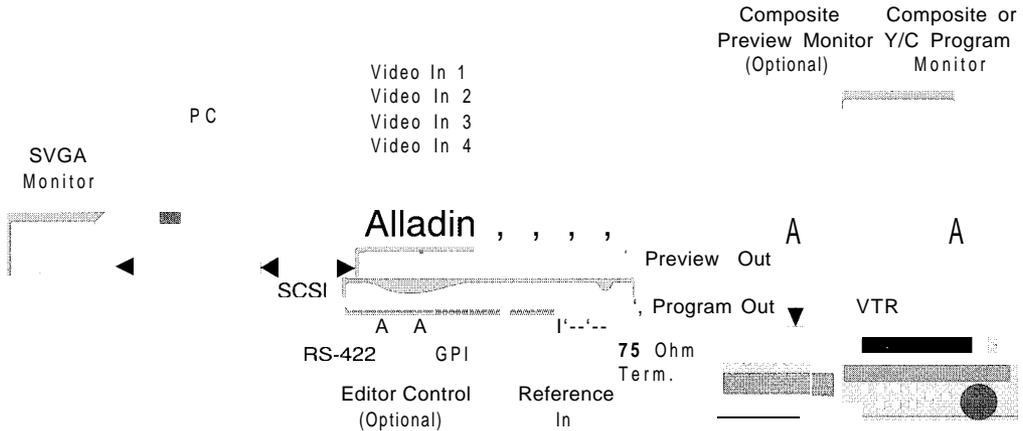
Working with live inputs, stills and graphics, Alladin allows you to build **transitions** and **effects** — from simple dissolves to spectacular page turns — with full control over each element of the transition.

What You Will Need

To use Alladin to its full capacity, you will need to set up your “desktop studio” with a variety of hardware and software components, many of which are required for proper system operation. The following two sections discuss Alladin’s hardware and software requirements.

Setting Up Your Desktop Studio

The illustration below shows a typical Alladin desktop configuration



Required System Components

The following items are required for proper operation.

System Electronics

- The Alladin Chassis
- A **PC** configured for operation with Alladin
- A **SCSI** interface card
- A **SCSI Cable** to interconnect the PC and Alladin

Video Input Sources

- In its standard configuration, Alladin supports the composite or Y/C video formats in the PAL or NTSC standard. With the **Component Option** installed, Alladin supports the component format (three YUV sources and one switchable YUV/RGB source are provided). In each configuration, the system provides inputs for up to four live video sources which can then be selected on buttons in the **Switcher Window**.

You can connect **VTRs** (Video Tape Recorders), **Cameras** or any other video source that generates a composite or Y/C signal. With the **Component Option** installed, any source that generates a YUV or RGB signal can be connected.

MOTE

In the standard configuration, you can not intermix Y/C and Composite sources. With the **Component Option** installed, you can *only* work with YUV and RGB sources. Refer to Chapter 4 for details on the **Component Option**.

External sources that are connected to inputs 1 through 4 must *be timed* to Alladin and must *all* use the same reference video source as Alladin. See **“Reference Signals”** below for details.

IMPORTANT

When VTRs (or other non gen-lockable video sources) are used as input sources, a **TBC** (Time Base Corrector) is required.

Reference Signals

- A **Reference** video signal *must* be connected to all video devices in your system. Typically, the reference signal is “looped” from device to device. The reference signal *must* be generated by one (and only one) **Sync Generator** either an external generator or Alladin itself.

Power

- A stable power source must be provided to all devices in the Desktop Studio. As a precaution, spread the load evenly and don't overload any one circuit breaker. Avoid power lines that are subject to noise and voltage spikes.

Monitoring

- Two monitors are required, but *not provided* by Pinnacle. A third monitor is optional.

An **SVGA Monitor** is required to view Alladin's menu. Typically, you can USC the monitor already connected to your computer but there are several prerequisites. See the **“Setting Up Your PC”** section for details.

A **Video Monitor** is required to view Alladin's program output. A standard composite or Y/C monitor (NTSC or PAL) can be used. If the **Component Option** is installed, a YUV component monitor can be used.

- As an option, a *composite Video Monitor* can be used to view Alladin's preview bus output.

Optional System Components

External control is optional (but highly recommended) for your Alladin Desktop Studio. Effects and transitions can be controlled manually from Alladin's **Switcher Window** or *automatically* from an editing system using **GPI** (General Purpose Interface) or **serial** (RS-422) commands:

- **RS-422 Serial Control** allows an editing system to “drive” Alladin as if it were a GVG-1 10™ compatible switcher. Alladin has a standard RS-422 input port for this purpose.
- **GPI Input Control** allows an editing system to “trigger” Alladin effects with simple play, stop, and cue commands. Alladin has a multi-pin GPI input port for this purpose.

Refer to your editing system's manual for information on the RS-422 and GPI control ports that it provides.

Refer to Chapter 3 for details on the following procedures:

- Alladin hardware and software description and installation
- Connecting GPI inputs
- Connecting RS-422 serial control

Refer to Chapter 1 in the *Alladin User's Guide* for the following information:

- Alladin User Interface
- System files and user files
- Imaging software
- System options

Setting Up Your PC

The following PC-specific items are *required* for proper Alladin operation.

- A DOS-based PC with a minimum 486 DX CPU
- MS-DOS@ version 5.0 or later
- Windows 3.1 or later
- A mouse or other “pointing” device
- 16 Megabytes (Megs) of RAM (Random Access Memory)
- A hard drive with a minimum 200 Megs of storage; The larger the hard drive, the more stills you can store.
- An SVGA video card (64,000 colors) capable of operating in **800 x 600** SVGA mode
- SCSI interface card and cable
- Any monitor capable of 800 x 600 SVGA

Alladin *automatically* checks your system for the correct hardware and software configuration upon bootup. Refer to the “**Running Alladin**” section in Chapter 2 for instructions.

NOTE

Refer to **TechFAX 108** for the latest technical information on PC hardware and software requirements.

Documentation Conventions

The following conventions are used throughout this guide:

- In the text, Keyboard buttons and rear chassis connectors are indicated in bold-faced **CAPITAL** letters. For example:

The **REFERENCE** connector is ...

In an operations procedure, “physical” keyboard buttons are preceded by the word “press.” For example:

Press the **ENTER** button to ...

- In the text, Windows and “Command Buttons” on screen are indicated in bold-faced upper and lower case text. For example:

The **Switcher Window** is used to ...

In an operations procedure, Command Buttons are preceded by the word “click.” For example:

Click the **G1** button to assign . . .

- In the text, when *two* keyboard buttons must be pressed to perform a function, the “+” symbol is used between button names. This symbol indicates that the first button is held down while the second button is pressed. For example, the label

ALT+T

instructs you to hold down **ALT** and then press **T**. These *combination* functions are often called keyboard “accelerators.”

- Primary paragraphs, at the start of major chapter sections, are listed in very large bold characters with a single line above:

Overview

- Secondary paragraphs, subsections within a primary paragraph, are listed in large bold characters:

Alladin Concepts

- Tertiary paragraphs, subsections within a secondary paragraph, are listed in bold italic characters:

The Timeline

Documentation Terms

The following terms are used throughout this guide:

- **“Operator,” “User,”** and **“Artist”** are terms that refer to the person who uses Alladin.
- **“System”** refers to the *entire* Alladin system and *all* of its applications — both “core” and “bundled.” **System** also refers to the Alladin Desktop Studio.
- **“Library”** and **“Database”** are used synonymously to describe Alladin’s database of stills, effects and graphics.
- **“Image,” “Picture,”** and **“Still”** are used synonymously to describe still pictures — created, touched-up or “captured.”
- An **“Effect”** is an image manipulation or combination of manipulations that are applied to an image. Any combination of image manipulations, no matter how simple or complex, can be assigned to a keyframe. Alladin allows you to create effects and save them to disk.
- A **“Keyframe”** is a point in time (in an Effect) where an action occurs. The action can be a transition or an image manipulation. A series of two or more keyframes defines an effect.
- A **“Source”** refers to a video signal that can be selected on the Switcher. Sources include external video inputs, stills and graphics.
- The terms **“Layer”** and **“Key”** are both used to describe the effect of electronically *cutting* one image into another.

A Word About Windows

Alladin operates in the **“Windows”** environment and obeys all standard Windows conventions. In this guide, it is assumed that you are comfortable with standard Windows-based procedures, such as selecting items from a **Combo Box**, using **Dialog Boxes**, using **Scroll Bars**, double-clicking items, clicking and dragging and navigating the menus using keyboard “accelerators.” These types of procedures will *not* be discussed (in full) in this guide.

If you are *not* familiar with Windows, refer to your **Windows User’s Guide**, or to one of the many third-party books written on the subject.

Related Publications

Use the following references for additional information:

- Refer to the *Alladin User's Guide* for a detailed description of all Alladin operating procedures.
- Refer to the *Alladin Paint User's Guide* for a detailed discussion of all **Alladin Paint** functions.
- Refer to the *Inscriber CG Reference Manual* for a detailed discussion of all character generator modes and features.
- Refer to the *CrystalGraphics Topas Professional User's Guide* for a discussion of all 3D modeling and animation functions.

On-Line Help

Alladin includes comprehensive on-line help files. There are two ways to access on-line help:

- Click **Help, Contents** in the Menu Bar
- Press **F1** on the keyboard.

FaxBack, TechFAX and BBS

As a vital part of our on-going customer support activities, Pinnacle Systems offers two important services:

- **FaxBack and TechFAX**

A FaxBack system is on-line and available for 24-hour technical support information. The system provides up-to-the-minute Alladin information, technical tips, troubleshooting procedures and important application notes. All **TechFAX** documents are updated on a regular basis.

To utilize the service, you *must* dial in from your fax machine. It is highly recommended that your initial request is the **TechFAX** catalog, document number 1. Then, follow the instructions to receive additional **TechFAX** documents.

- FaxBack (U.S.): (408) 720-9165

- **BBS**

Pinnacle's comprehensive BBS (Bulletin Board Service) is on-line and available for software support, technical questions and general user assistance. Use the following numbers to access the BBS:

- BBS (U.S.): (408) 720- 1186

- BBS (Europe): +44 1895 441-898

Company Address and Phone Numbers

Pinnacle Systems Inc.
870 West Maude Avenue
Sunnyvale, California 94086 USA

- **Telephone:** (408) 720-9669
- **Fax:** (408) 720-9674

- **Customer Service (U.S.):** (408) 720-9669 Ext. 67
- **Customer Service (Europe):** +44 1895 442-003
- **Customer Service Fax (U.S.):** (408) 720- 1183
- **Customer Service Fax (Europe):** +44 1895 442-009

- **FaxBack:** (408) 720-9 165

- **BBS (U.S.):** (408) 720- 1186
- **BBS (Europe):** +44 1895 441-898

- **Sales Literature:** (800) 4 PINNACLE
- **Customer Support Internet (U.S.):** [pinnacle-support @ mcimail.com](mailto:pinnacle-support@mcimail.com)
- **Customer Support Internet (Europe):** pinnacleuk@mcimail.com

Quick Setup

In This Chapter

This chapter outlines a fast and efficient Alladin setup procedure that's designed to get your system running quickly and accurately.

System Inputs and Outputs

Alladin accepts a variety of professional video formats:

- In the standard configuration, you can work in an all-composite mode or in an all-Y/C mode, but you can *not* intermix formats.
- With the **Component Option** installed, you can *only* work with YUV and RGB sources. Refer to Chapter 4 for a description of the option and complete installation procedures.

The table below lists standard system inputs:

Inputs	Quantity	Note
Composite Video	4	All BNC connectors.
Y/C Video	4	All S-VIDEO 4 pin connectors.
Key In	1	BNC connector.
Reference In	1	BNC connector.

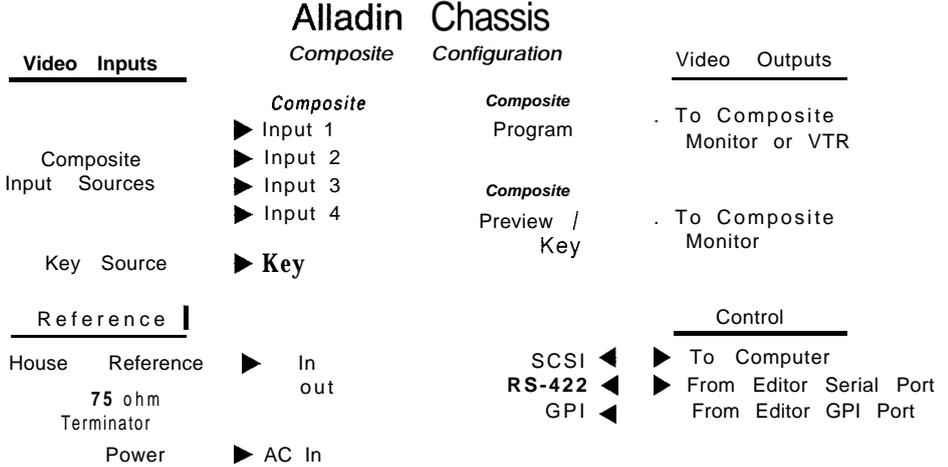
The table below lists standard system outputs:

Outputs	Quantity	Notes
Composite Program	1	BNC connector.
Y/C Program	1	S-VIDEO 4 pin connector.
Key Out / Preview Out	1	BNC connector. Switchable output.
Reference Out	1	BNC connector.

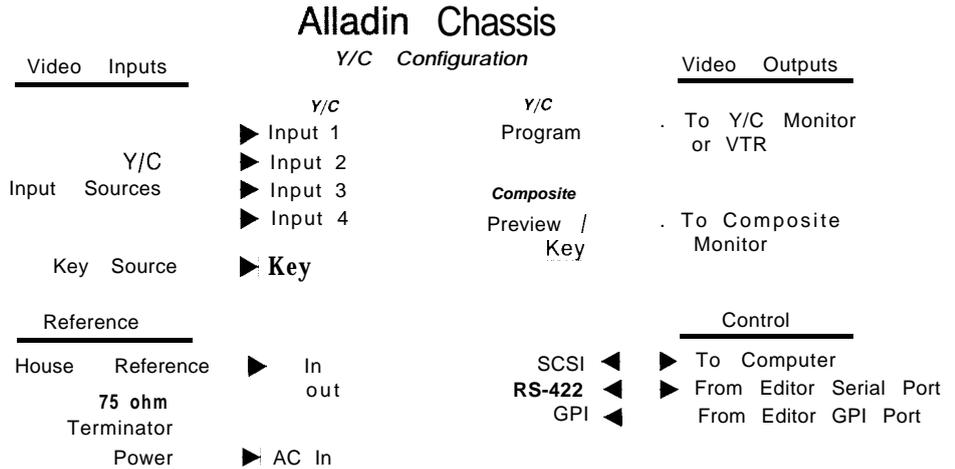
Quick Setup Block Diagrams

Two "Quick Setup" block diagrams of the system are provided below; one for a composite system, the other for a Y/C system. In each case, the appropriate rear-chassis connector names are listed. The only difference between the two diagrams is the *format* of the video inputs and outputs.

The following block diagram illustrates a composite configuration.



The following block diagram illustrates a Y/C configuration.



NOTE | You can not intermix Y/C and Composite sources.

Quick Setup Procedure

Quick Setup consists of three steps:

- Hardware installation
- Software installation
- Alladin system adjustments

IMPORTANT

When performing the “**Quick Setup**,” follow all anti-static precautions.

In the following procedures, refer to the previous block diagrams for connector names.

Hardware Installation

Use the following steps to install Alladin hardware:

1. Unpack the Alladin system and inspect all shipping cartons for signs of damage. Contact your dealer and the shipper *immediately* if you suspect that damage has occurred in transit.
2. Ensure that your computer meets the minimum requirements as outlined in the “**Setting Up Your PC**” section in Chapter 1. If it does not, take the necessary steps to bring your computer up to the required configuration.
3. Ensure that a **SCSI Interface Card** is properly installed in your PC. If not, refer to your computer’s installation and technical manuals for details.

NOTE

The SCSI software program “**Adaptec EZ-SCSI**” version 3.0 or higher *must* be installed using Adaptec’s **Windows** setup routines. If you have an earlier version of EZ-SCSI, Adaptec provides free upgrades.

4. Install the Alladin chassis with special attention to the following requirements.
 - **Environmental** — Avoid static-causing materials. Avoid temperature and humidity extremes.
 - **Power** — Ensure that your system is configured for the proper voltage. Avoid power lines that are subject to noise and voltage spikes.
 - **Location** — Install the chassis on your desktop or in an equipment rack, depending upon your studio layout.

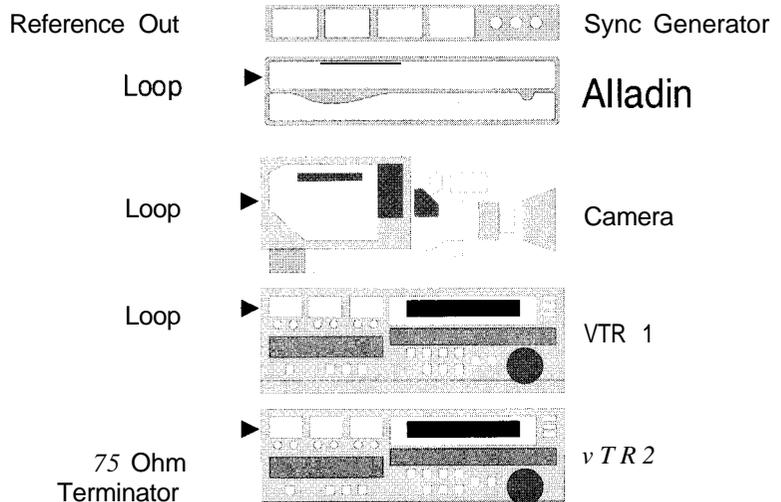
For **rack installations**, simply place Alladin on a standard rack shelf. Alladin requires 3.5 inches of vertical space. If possible, provide 1 RU (Rack Unit) of space *above* the unit. Do not obstruct the front air passage or block the rear fan.

For **desktop installations**, provide adequate space for all rear-chassis cable runs. On your desktop, provide sufficient space for Alladin, the computer monitor, the program video monitor, keyboard, mouse, and if desired a graphics tablet.

5. Determine if you wish to use **internal** or **external** reference and connect reference video *cables* as required:

- *External Reference*

When you use **External Reference**, a video source called a “**Master Sync Generator**” provides reference video to all *devices* in your system, including Alladin. The following diagram shows a simple system using **External Reference**:



NOTE

External Reference is selected in the **Video Hardware Dialog** (under **Setup** on the Menu Bar). Refer to the “**System Adjustments**” section.

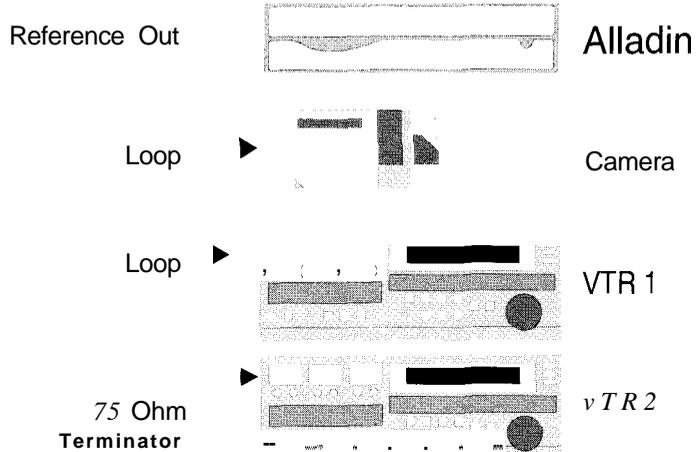
Connect reference video (from your sync generator) to the **REFERENCE IN** connector. Use the **REFERENCE OUT** connector to loop the signal to all other system devices.

If Alladin is the last device in the loop, terminate Alladin’s **REFERENCE OUT** with a 75Ω terminator.

- If Alladin is *not* the last device in the loop, locate the last device and terminate its **Reference Out** connector.

- **Internal Reference**

When you use **Internal Reference**, *Alladin* is the reference source. This configuration assumes that an external sync generator is not available. The diagram below shows a simple system using **Internal Reference**:



NOTE

Internal Reference is selected in the **Video Hardware Dialog** (under **Setup** on the Menu Bar). This procedure is covered in the “**System Adjustments**” section.

Connect Alladin’s **REFERENCE OUT** connector to all other devices in your system. Loop the reference signal through each device and terminate the *last device* in the loop with a 75Ω terminator. The **REFERENCE IN** connector is not used.

6. If you wish to operate in the Y/C format, connect Y/C inputs and outputs as follows. Refer to the “**Y/C Quick Setup Block Diagram**” at the beginning of this chapter.
 - Connect **Y/C** sources to the four **Y/C INPUT** connectors.
 - Connect the **Y/C OUTPUT** to a Y/C recorder, monitor or other Y/C device as required. If you connect to a recorder, ensure that you can monitor Alladin’s output.

All video inputs *must* originate from sources that are locked to the *same reference* as Alladin.

NOTE

Y/C mode is selected on Alladin’s **Video Hardware Dialog**. See the “**System Adjustments**” section for instructions.

7. If you wish to operate in composite format, connect composite inputs and outputs **as** follows. Refer to the “**Composite Quick Setup Block Diagram**” at the beginning of this chapter.
 - Connect composite input sources to the four **COMPOSITE INPUT** connectors.
 - Connect the **COMPOSITE OUTPUT** to a composite recorder, monitor or other composite device as required. If you connect to a recorder, ensure that you can monitor Alladin’s output.

All video inputs *must* originate from sources that are locked to the *same reference* as Alladin.

NOTE

Composite mode is selected on Alladin’s **Video Hardware Dialog**. See the “**System Adjustments**” section for instructions.

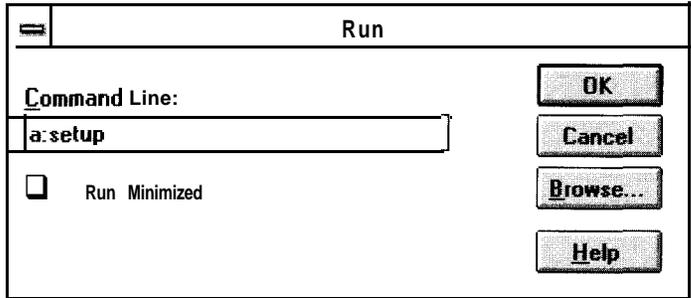
8. Using a SCSI cable, connect Alladin’s **SCSI PORT** to your computer’s SCSI port. If there are other SCSI devices in your system, Alladin must be the last *physical* device in the SCSI chain.
9. Connect the supplied power cable to Alladin’s **POWER** connector and turn on Alladin, your computer, all monitors and all recorders.
10. The following item is *optional*, but should be completed when you perform the *complete installation*:
 - If desired, connect GPI inputs and RS-422 serial control. Refer to Chapter 3 for information.

This completes the hardware installation portion of Quick Setup. Refer to Chapter 3 for additional information on all hardware connections.

Software Installation

Use the following steps to install Alladin and **Alladin Paint** software:

1. If **Windows** is not running on your PC, start Windows.
2. A set of program diskettes are provided with the Alladin system. Insert **Disk 1** in the floppy drive.
3. From the **Program Manager**, click **F**ile, then click **R**un.
4. In the “**Run**” dialog box, type **a:setup**, (where **a:** is the drive indicator).

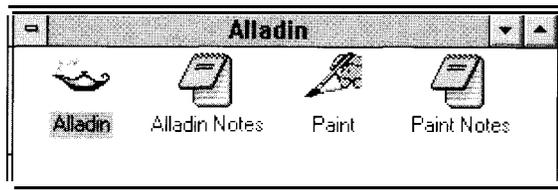


5. Click **OK**.
6. Follow the directions on screen to perform a complete Alladin installation on your computer's hard disk. Both the Alladin and **Alladin Paint** applications will be installed.

TIP

While the software is being installed on your computer's hard disk, take a moment and fill out your Alladin **Registration Card** — and be sure to send it in to **Pinnacle Systems**. Registered users will be informed of software updates and release availability.

At the conclusion of the software installation procedure, the **Alladin Group Window** is automatically created in the Windows **Program Manager**.



7. When the software installation is complete, be sure to read the **“Release Notes”** for timely information about the release. An Icon is automatically provided for this file.

NOTE

If the installation process does *not* complete for some reason, be sure to read the file **release.txt** located on installation disk 1.

8. Run Alladin as outlined in the section **“Running Alladin.”**
9. To install **Inscriber CG** and **CrystalGraphics Topas**, follow the installation instructions provided with each application.

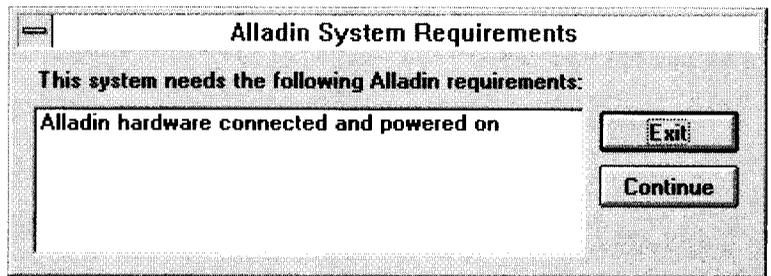
This completes the software installation portion of Quick Setup. Refer to Chapter 3 for additional information on system software.

Running Alladin

Use the following steps to run Alladin:

1. Check the following “system” items:
 - The Alladin system is on.
 - You have rebooted your computer since Alladin was connected and powered on. This ensures that the computer recognizes the presence of Alladin.
 - Windows is running.
2. Open the **Program Manager** (if it’s not already open) by double-clicking the Program Manager icon.
3. Open or activate the **Alladin Group Window**.
4. Double-click the **Alladin Icon** to start the application.

When Alladin starts, it *automatically* checks for the correct system configuration. If any requirement is not met, the **System Requirements Dialog** appears.



If this dialog appears, take the appropriate action(s) to fix the items listed in the box. Click **Exit** to cancel boot-up or **Continue** to enter the Alladin program. If the dialog claims that Alladin is not connected, see step #1 above.

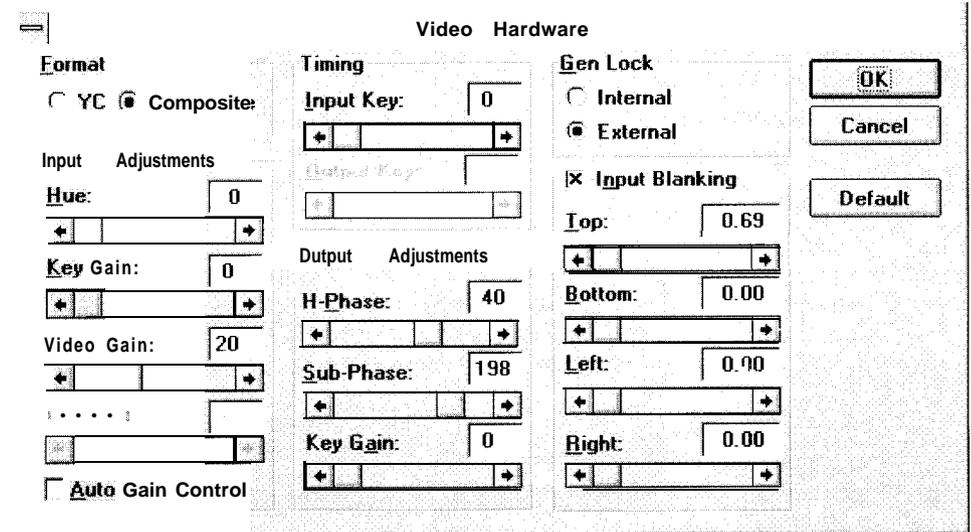
System Adjustments

To complete the **Quick Setup**, two important selections must be made:

- Reference
- Format

Use the following steps to adjust the Alladin system:

1. In the Alladin Window, click **Setup** in the **Menu Bar**.
2. Click **Video Hardware...** to display the **Video Hardware Dialog**.



3. To select the reference, use the **Gen Lock** block:
 - **Click the internal** button to select **Internal Reference**.
 - Click the **External** button to select **External Reference**.
4. To select input and output format, use the **Format** block. The mode you select determines the active inputs and outputs:
 - For Y/C format, click the **YC** button. The four Y/C inputs and the Y/C output are activated. The four Composite inputs and the composite output are deactivated.
 - For **Composite** format, click the **Composite** button. The four composite inputs and the composite output are activated. Y/C inputs and the Y/C output are deactivated.

This completes the system adjustment procedure. Alladin is now ready for operation. Refer to Chapter 3 for detailed information on all installation and video timing procedures.

Installation

In This Chapter

This chapter provides comprehensive instructions for installing your Alladin system. The following sections are included.

- The “**General System Information**” section describes Alladin and discusses how you create a Desktop Studio using Alladin as the central system element. Information is also provided on the equipment you must supply.
- The “**Unpacking and Inspection**” section lists the standard and optional components and provides unpacking steps.
- The “**Hardware Description**” section outlines Alladin hardware including chassis and circuit board functions.
- The “**Hardware Installation**” section details steps for site installation, power and Alladin’s Input/Output connections.
- The “**Software Description**” section explains the disks you receive and their function. There is also important information on the care and handling of floppy disks.
- The “**Software Installation**” section explains how to install Alladin’s software into your computer.
- The “**System Setup and Interconnection**” section lists various configurations for using Alladin to create a Desktop Studio. Composite and Y/C configurations are shown.
- The “**Remote Control**” section provides information for connecting and using Alladin’s RS-422 and GPI ports.
- The “**Timing and Adjustment**” section provides instructions for key input and output timing, output video timing, blanking adjustments, and input video adjustments.
- The “**Specifications**” section lists power and mechanical specifications and provides connector pinout data.

General System Information

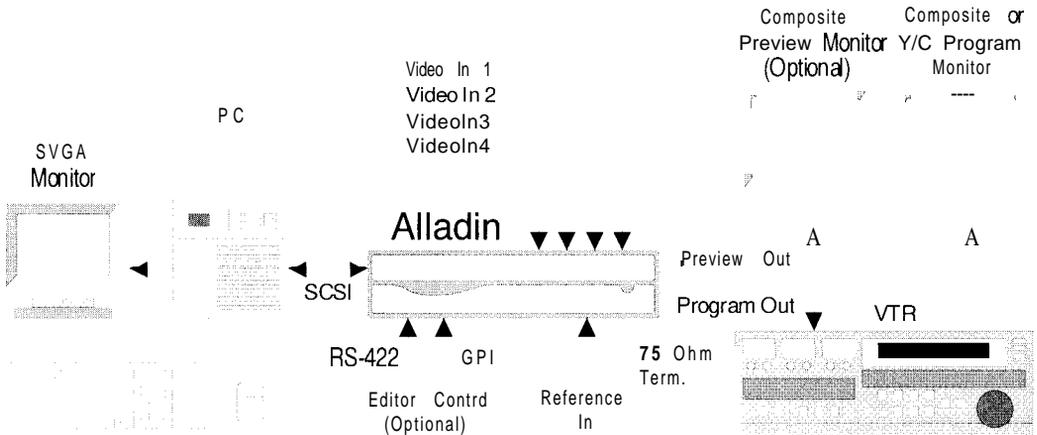
Alladin is an integrated production system that is the central element of a Desktop Studio. Alladin utilizes the following system components.

- An **IBM compatible** 486 DX PC running MS Windows™ provides the operational user interface and system control.
- The Alladin Chassis provides the video input/output and control interface with the other Desktop Studio elements. The chassis supplies all system video signal processing.

Integrated Production System

To complete your system, you will need to add additional equipment for distribution, monitoring, and to provide live video sources. You will also need a VTR to *record* the results of your productions.

A typical Alladin Desktop Studio configuration is shown below.



Note the following important points regarding the system shown above.

- TBCs (Time Base Correctors) may be required for some VTRs.
- All live input sources must be *timed* to Alladin.
- You can not intermix Y/C and Composite inputs or outputs. Only one set of inputs and outputs is active at a time.
- Alladin can be controlled from an external edit controller.

These points are explained in detail in the sections that follow. Refer to Chapter 4 for complete information about the “**Component Option.**”

Alladin Chassis

The central element of the system is the Alladin Chassis. All video input and key sources connect to the Alladin chassis where signal processing and image manipulation occurs.

With your purchase, you received the Alladin Chassis and Alladin system software. You are required to supply all other components of your Desktop Studio.

Computer

The Alladin Chassis connects to your computer via a SCSI cable. The computer runs Alladin system software (as well as all third-party software) and provides the operational interface.

The computer *must* have the following minimum hardware and software configuration.

Hardware Requirements

- IBM compatible 486 DX or Pentium Personal Computer
- 16 MBytes of RAM
- 200 MByte Hard Disk, *minimum*. This hard drive stores the Alladin operating system, special effects, graphics and stills. The larger the drive, the greater the image storage capacity.
- 3.5 inch 1.44 MByte Floppy Disk Drive
- MS compatible Serial or Bus mouse
- SVGA video card (64,000 colors) capable of operating in 800 x 600 SVGA mode.
- Any monitor capable of 800 x 600 SVGA.
- SCSI adapter card or equivalent.

Software Requirements

- MS DOS version 5.0 or later
- MS Windows version 3.1

NOTE

Refer to **TechFAX 108** for the latest technical information on PC hardware and software requirements.

Input Sources

In its standard configuration, Alladin provides eight external inputs — four composite and four Y/C. Even though there are eight inputs, you can only work with *four* inputs at a time, either in an all-composite or all-Y/C environment. A software “switch” in Alladin’s **Video Hardware Dialog** changes operations between Composite and Y/C formats.

You *can* connect different input formats but you *can* only work in one *format* at a time. You can not intermix formats through the system electronics. Alladin does *not* transcode between input formats. Refer to Chapter 4 for complete information about the “**Component Option.**”

IMPORTANT

Any composite or Y/C video source can be used as an Alladin input provided that it is *synchronous*.

The system illustrated at the beginning of this section includes four input sources, each of which *must* be synchronous. This means that *one* central **Sync Generator** provides a stable reference to *all* devices in your Desktop Studio. Typically, the reference signal is looped (or daisy-chained) from device to device. Without a stable and *common* reference, input sources are not synchronous.

IMPORTANT

When using Vidcotape Recorders as Alladin inputs, you *must* ensure that their outputs are timebase corrected.

In brief, a **Timebase Corrector** (TBC) stabilizes a tape recorder’s playback video signal. When an unstabilized signal leaves the tape recorder, it can have small variations in timing both through the video lines and the frame itself due to fluctuations in the video playback head and the tape speed. If this is a *composite* color signal, the variations can cause color flicker. A TBC corrects these errors and with composite signals restores the correct relationship between horizontal and subcarrier rates. Any VTR that you use in your system must have an *internal* TBC or utilize an *external* TBC that is connected to the VTR’s output.

Alladin Output

Alladin’s video output is typically routed to a Monitor *and* Vidcotape Recorder. This configuration allows you to record the effects you create using Alladin’s internal Switcher, Effects Timeline and Still Store. In certain configurations, Alladin’s output can also be routed to an external video switcher.

Unpacking and Inspection

When you receive your Alladin system, inspect the shipping cartons for signs of physical damage. Contact your dealer and the shipper *immediately* if you suspect any damage has occurred during shipping. Check the contents of each box to be sure that all parts are included. If any items are missing, contact your dealer immediately.

After unpacking all equipment, please save the packing materials for future shipping convenience.

Hardware Description

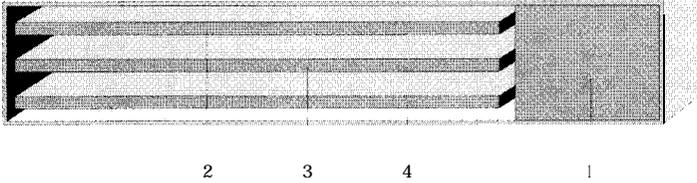
The Alladin Chassis is 3.5 inches high (2 RU), 17 inches wide and 18 inches deep.



The Chassis is a free-standing unit that can sit on your desktop or be placed in an equipment rack. All video and control connections are located on the rear of the Chassis. Refer to the **“Hardware Installation”** section for details.

Internal Chassis Components

The figure below illustrates the internal layout of the Chassis.



1) Power Supply

Alladin includes a standard 200 watt computer power supply that is cooled by a fan located at the rear of the chassis. Air flows through the opening in the front panel to the rear fan. The front panel LED lights when system power is on.

2) I/O Board

The **I/O BOARD** handles all analog video processing. All video **Input** and **Output** connections are located on the rear of this board. The **I/O BOARD** also generates the internal video clock, provides input video selection, A/D (analog to digital) and D/A (digital to analog) conversion and output “drivers.”

The **I/O BOARD** includes three LEDs. The green LED indicates that the system is properly gen-locked. The two red LEDs indicate that + 12 and - 12 volt power is properly connected. All three LEDs must be on for proper operation.

3) PIX Board

The **PIX BOARD** contains three external control connectors.

- The **SCSI Interface Connector (25 pin “D”)** is used for communication with the computer.
- The **RS-422 Connector (9 pin “D”)** is used for control from an external Edit Controller.
- The **GPI Connector (25 pin “D”)** provides four GPI inputs.

The **PIX BOARD** also provides the signal processing for the switcher mix/effects and the Still Store video frame buffers.

4) TRAG Board

The **TRAG BOARD** has no external connections. This board provides the real-time processing that produces the video manipulation for Alladin’s Digital Video Effects (**DVE**).

Site Preparation

When preparing to install your Alladin system, attention should be given to **Environmental, Power and Location** requirements.

Environmental Requirements

Alladin is designed to operate in normal comfortable “room temperature” conditions. Care must also be taken to avoid temperature and humidity extremes.

Location and Power Requirements

The following table lists power requirements for the Alladin Chassis.

Parameter	Specification
System voltage (NTSC and PAL)	110/220V auto-sensing, 50/60 Hz
Power consumption	<200 Watts

When connecting Alladin, care must be taken to avoid power lines that are subject to noise and voltage spikes. Do *not* install the system on a power circuit that is common to such equipment as air conditioners and refrigeration units. An AC noise filter and surge protector are recommended if unstable power conditions are encountered.

The Alladin chassis may be installed on your desktop or in an equipment rack, depending upon your studio’s layout.

- For **desktop installations**, provide adequate space for all rear-chassis cable runs, the computer monitor, the “program” video monitor, keyboard, mouse, and (if desired) a graphics tablet.
- For **rack installations**, simply place Alladin on a standard rack shelf. Note that Alladin requires 3.5 inches of vertical space. If possible, provide 1 RU (Rack Unit) of space *above* the unit. To provide optimum air flow, do not obstruct the front air passage or block the rear fan.

Hardware Installation

This section describes rear-chassis signal connection.

IMPORTANT

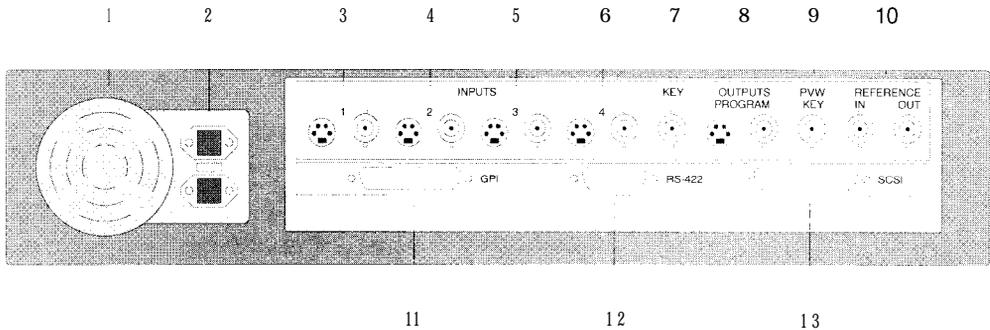
When performing the following installation procedure, always observe these important safety and handling precautions.

- Follow anti-static precautions.
- If you need to handle the internal chassis mechanism, ground yourself to the chassis first.
- If you need to handle the internal boards, hold the boards from the edges — do not touch the chips.

Signal Connection

This section provides a list of Alladin rear-chassis connectors and descriptions of their functions. Connect all required input and output signals as outlined below.

The illustration below shows Alladin's back panel.



In the following list of connector descriptions, the numbers in parentheses refer to the circled items above.

1) Fan

The **FAN cools** the chassis and draws in air from the front vent. Do not obstruct the front air vent, or block the rear chassis fan

2) Power

Connector: AC

The **AC Line cord** connects here to provide power. The module includes a switched AC outlet, and a voltage selector.

3, 4, 5, 6) Input Groups 1, 2, 3 and 4

- **Channel 1, 2, 3 and 4 Y/C Inputs**

Connectors: S-VIDEO 4 pin

The **CHANNEL 1, 2, 3 and 4 Y/C INPUTS** correspond to switcher inputs 1, 2, 3 and 4 respectively. Connect your first, second, third and fourth Y/C signals here.

- **Channel 1, 2, 3 and 4 Composite Inputs**

Connectors: BNC

The **CHANNEL 1, 2, 3 and 4 COMPOSITE INPUTS** (75 Ω terminated) correspond to switcher inputs 1, 2, 3 and 4 respectively. Connect your first, second, third and fourth Composite signals here.

NOTE

On Alladin's switcher, "**Black**" is an *internal* source that has no *NTSC setup*. Source **Black** on the Program bus is fixed at blanking level. **Input 1** is the first button to the right of **Black**.

7) Key In

Connector: BNC

The **KEY IN** connector (75 Ω terminated) provides an input for an external key. This signal is typically supplied by external devices such as character generators and graphics systems that provide both "key" and "fill" video signals. When the external (linear) key is enabled in Alladin's **Switcher Window**, the signal cuts a hole that can be filled by a Layer Bus source.

8) Output Group

- **Y/C output**

Connector: S-VIDEO 4 pin

The **Y/C OUTPUT** connector supplies Alladin's output in the Y/C format. Depending upon your system configuration connect the Y/C output to the desired destination such as an S-Video monitor, an S-Video VTR or a Y/C switcher.

- **Composite Video Output**

Connector: BNC

The **COMPOSITE VIDEO OUTPUT** connector supplies Alladin's output in composite format. Depending upon **your** configuration, connect this output to the desired destination such as a composite monitor, VTR or switcher.

9) Preview Out / Key Out

Connector: BNC

The **PREVIEW OUT / KEY OUT** connector is *switchable* using an internal jumper.

- When switched to **Preview Out** (and when connected to a composite video monitor), the output permits the user to preview each of the **four** input video sources.
- When switched to **Key Out**, the output supplies an alpha key signal (luminance only) which is generated by Alladin's Layer A and B buses. In a downstream switcher, you can use this signal to key video from Alladin's Layer A and B buses over a background.

The default setting of the internal jumper is **Preview Out**. If you want to switch to the **Key Out** position, see the “**Setting the Preview / Key Jumper**” section for instructions.

Connect **Preview Out** to a composite monitor or **Key Out** to a downstream switcher's external key input as required.

10) Reference Group

· Reference In

Connector: BNC

The **REFERENCE IN** connector is used for connecting a reference signal (such as **Black Burst**) that is supplied from your sync generator. The sync generator must feed the same reference to all *devices* in your desktop studio.

· Reference Out

Connector: BNC

The **REFERENCE OUT** connector has three functions.

- If you are using reference from an external sync generator, the **REFERENCE OUT** connector loops reference to other devices in your system.
- If you are using reference from an external sync generator and Alladin is the *last device* in the reference loop, terminate the **REFERENCE OUT** connector with a 75 Ω terminator plug.
- If you wish to use Alladin as the master sync *source* (when **Gen Lock** is set to **Internal** in the **Video Hardware Dialog**), use the **REFERENCE OUT** connector to supply **Black Burst** to other device's reference inputs.

11) GPI Port

Connector: 25 pin D

The **GPI PORT** provides connections for four GPI inputs. Refer to the “**Remote Control**” section for GPI connection instructions.

12) RS-422 Port

Connector: 9 pin D

The **RS-422 PORT** is used to connect Alladin to an external edit controller. Alladin can emulate a VTR or a GVG-110 switcher. See the “**Remote Control**” section for instructions.

13) SCSI Port

Connector: 25 pin D

Alladin’s **SCSI PORT** connects to the SCSI port on your computer. See the “**Computer-Alladin Interconnection**” section for SCSI connection instructions.

Please note:

- Switcher inputs 1 through 4 can be *named*. In the *Alladin User’s Guide*, refer to the “**Naming Switcher Inputs**” section in Chapter 2 for details.
- Input and output format is selected in the **Video Hardware Dialog**. Although Alladin provides eight inputs (four composite and four Y/C), you can only work with *four* at a time. See the “**Selecting Y/C or Composite Video**” section for instructions on switching formats.

When you switch *input* formats, you also enable the corresponding *output* connector. For example, when Y/C inputs are enabled, the Y/C output is also enabled. The composite inputs and output are disabled.

Refer to Chapter 4 for details on the **Component Option**.

Computer Configuration

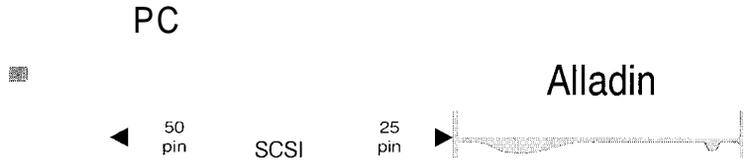
Your computer should be configured with the basic hardware and software requirements as outlined above.

If you need to install the **SCSI Interface Card**, follow the instructions for expansion card installation as outlined in your computer’s installation manual.

Note that the Alladin chassis is configured as device number 5 (five) on the SCSI bus. Do not use this device number on any other SCSI devices in your system.

Computer-Alladin Interconnection

The illustration below shows the Computer-to-Alladin interconnection via SCSI cable. Use this diagram for reference in the following procedure.



1. Ensure that the **SCSI Interface Card** is properly installed in your PC. If not, refer to your computer's installation manual

NOTE

The SCSI software program "**Adaptec EZ-SCSI**" version 3.0 or higher *must* be installed using Adaptec's **Windows** setup routines. If you have an earlier version of EZ-SCSI, Adaptec provides free upgrades.

2. Using the proper SCSI cable, plug the cable's 50-pin connector into the SCSI connector on the rear of your PC's SCSI board.
3. Plug the SCSI cable's 25-pin "D" connector into the 25-pin "D" SCSI connector on the rear of the Alladin Chassis. If there are more SCSI devices in your system, Alladin must be the last *physical* device in the SCSI "chain."

Power On

Once all video and control cables are connected to Alladin and the SCSI cable is connected to your computer, your system may be powered on. Turn on the Alladin Chassis first, then your computer followed by monitors and VTRs. For power down, any sequence may be used.

NOTE

The Alladin Chassis <i>must</i> be on when your computer boots, otherwise the computer will not recognize that Alladin is connected.
--

Software Description

Alladin comes with software that you install in your computer. Alladin's system software runs in the **Windows** environment and Windows *must* be installed in your PC (and running properly) before you can access and use Alladin.

One "set" of 3.5 inch high density floppy disks are provided. These disks contain the Alladin system software, pre-created graphics and icons and the tutorials.

Alladin's easy software installation program allows you to perform a *complete* installation or a *custom* installation in which you can selectively load system modules (as listed above). Refer to the "**Software Installation**" section for instructions. Once the Alladin software package is installed, the Alladin system runs from your computer's hard disk.

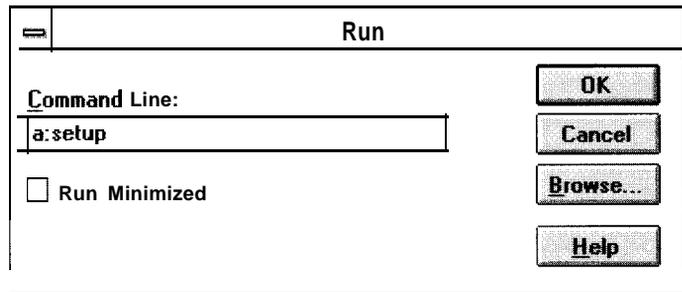
Disk Care

All supplied disks are standard 3.5 inch double-sided, high-density computer floppy diskettes. Use only high density (1.44 MByte) diskettes with your Alladin system. Floppy diskettes must be handled with care and properly stored to avoid damage and loss of data.

Software Installation

Once Alladin hardware is properly installed, you can proceed with software installation. Use the following steps to install Alladin and **Alladin Paint** software.

1. If Windows is not running on your PC, start Windows.
2. A set of program diskettes are provided with the Alladin system. Insert **Disk 1** in the floppy drive.
3. From the **Program Manager**, click **File**, then click **Run**
4. In the **Run Dialog**, type **a:setup** (where **a:** is the drive indicator).

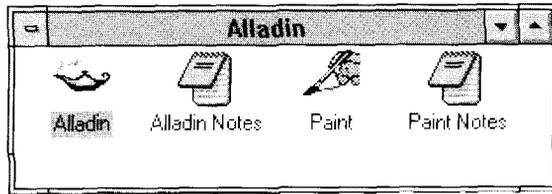


5. Click **OK**.
6. Follow the directions on screen to perform a complete Alladin installation. All necessary directories, files and group windows will be created by the setup program. Both the Alladin and **Alladin Paint** applications will be installed.

TIP

While the software is being installed on your computer's hard disk, take a moment and fill out your Alladin **Registration Card** and be sure to send it in to Pinnacle. Registered users will be informed of software updates and release availability.

At the conclusion of the software installation procedure, the Alladin “group window” is automatically created in the Windows **Program Manager**. As shown below, this window includes icons for Alladin and Alladin Paint.



7. When the installation is complete, be sure to read the “**Release Notes**” for information about the release. In the **Program Manager**, an Icon is automatically provided for this file.

NOTE

If the installation process does not complete for some reason, be sure to read the file **release.txt** located on installation disk 1.

8. Run Alladin as outlined in the section “**Running Alladin.**”

Running Alladin

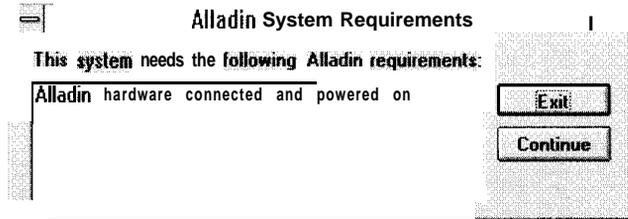
Use the following steps to run Alladin.

1. Check the following “system” items.
 - The Alladin system is on.
 - You have rebooted your computer since Alladin was connected and powered on. This ensures that the computer recognizes the presence of Alladin.
 - Windows is running.
2. Open the **Program Manager** by double-clicking the Program Manager icon. You can also press **CTRL + ESC** and select the Program Manager from the task list.
3. Open or activate the **Alladin Group Window**. If it is minimized, double-click the **Alladin Group Icon** to open the group window. If the window is already open, click to activate.
4. In the **Alladin Group Window**, run the Alladin application by double-clicking the Alladin icon.

TIP

If desired, you can run Alladin *automatically* each time you start Windows. Simply add the Alladin application to the “Startup” group in the Program Manager. Refer to your **Windows** manual for details.

When the program starts, it checks your system for the correct configuration. If any **requirement is not** met, the **System Requirements Dialog** appears.



If this dialog appears, take the appropriate action(s) to fix the items listed in the **box**. Press **Exit** to cancel boot-up or **Continue** to enter the Alladin software. If the dialog claims that Alladin is not connected, see Step 1 above.

NOTE

You *can* run the Alladin software without the Alladin chassis by clicking **Continue**. However, the **Paint, Inscriber CG** and **Topas** applications will *not* run without the Alladin chassis connected properly and powered on.

System Setup and Interconnection

Once software is properly installed and the Alladin program is running, you can proceed with setup and interconnection. System setup consists of setting the video standard and the reference or “synchronization” mode. Both procedures are performed in the **Video Hardware Dialog**.

- **Video Standard**

Depending on your Desktop Studio configuration, you can set Alladin to operate in the Composite or Y/C format. Whichever format you select, the corresponding set of rear chassis *inputs and outputs* are activated and the other set arc deactivated. See Chapter 4 for information about the “**Component Option**.”

- **System Reference Source**

Reference can be connected in one of two configurations.

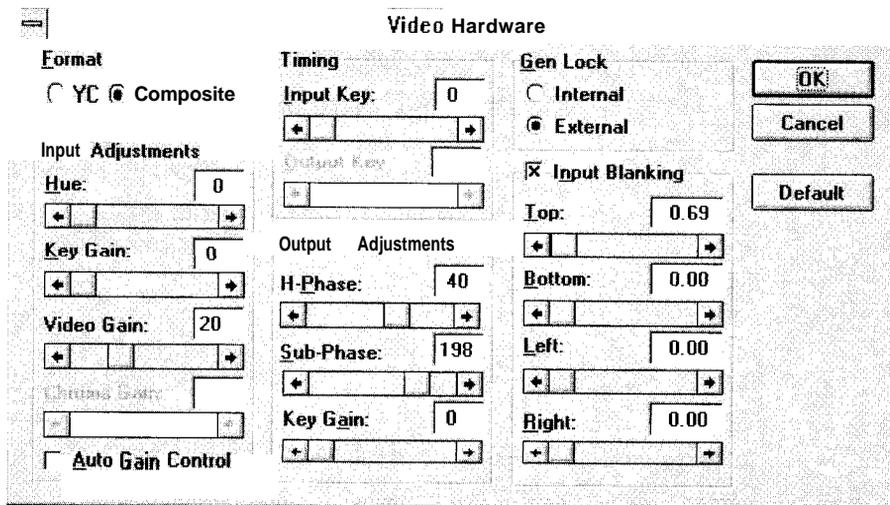
External Reference

The typical video “system” uses a **Black Burst** signal from a central sync generator as the reference to *all equipment* in the system *including* Alladin.

Internal Reference

If a sync generator is not available, you can use Alladin’s internal **Sync Generator** as the system reference. In this mode, Alladin’s **REFERENCE OUTPUT** connector supplies the **Black Burst** signal that you must route to the **Reference Inputs** of all other video sources in your system.

The setup procedures that follow use the **Video Hardware Dialog**.



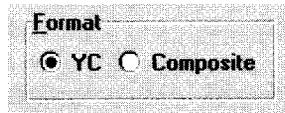
Note the following rules regarding the **Video Hardware Dialog**. Keep them in mind as you proceed with system setup.

- Depending upon your selection, some values and adjustments may be “grayed” out. These items are temporarily disabled.
- Changes made in the **Video Hardware Dialog** are *only* saved when you click **OK**. If you click **Cancel**, you exit without saving changes and the system reverts to previous values.
- Press **Default** to return to factory default settings for *all* values in the **Video Hardware Dialog**. Remember also that these default settings are not saved until **OK** is clicked.

Selecting Y/C or Composite Video

Selection of composite or Y/C format is performed in the **Video Hardware Dialog**. Use the following steps to select video format

1. With the Alladin application running, click **Setup** in the Menu Bar to display the **Setup Menu**.
2. Click **V**ideo Hardware... to display the **Video Hardware Dialog**.
3. The block in the top left corner is the **Format** block.



The mode you select determines the active inputs and outputs.

- For **Y/C Video** format, click **YC**. The four Y/C inputs and the Y/C output are activated. The composite inputs and composite output are deactivated.
 - For **Composite Video** format, click **Composite**. The four composite inputs and the composite output are activated. The Y/C inputs and Y/C output are deactivated.
4. Click **OK** to close the window and accept the new format selection. The change occurs immediately.

Selecting Internal or External Reference

Alladin can operate with either an *internal* or *external* reference signal. The method of “system” reference connection is different for each.

- **External Reference**

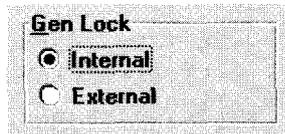
When using an external sync generator, connect **Black Burst** from the generator’s output to Alladin’s **REFERENCE IN** connector. Use the **REFERENCE OUT** connector to loop reference to other devices in your system. If Alladin is the last device in the reference “daisy chain,” terminate the **REFERENCE OUT** connector with a 7.5 Ω terminator.

- **Internal Reference**

If you *do not* have an external sync generator, you can use Alladin’s internal sync generator as the system reference source. When Alladin is set to *Internal Reference*, the **REFERENCE OUT** connector is the distribution point for Alladin’s internal **Black Burst**. Loop this signal through all other devices in your system and *do not* use the **REFERENCE IN** connector.

Use the following steps to select internal or external reference.

1. In the Menu Bar, click **Setup, Video Hardware...** to display the **Video Hardware Dialog**.
2. The block in the top right corner is the **Gen Lock** block.



Select the active desired reference.

- For **Internal Reference**, click **Internal**.
 - For **External Reference**, click **External**.
3. Click **OK** to close the window and accept the new reference selection. The change occurs immediately.

System Interconnection Diagrams

Alladin operates in either the Composite or Y/C format using either an internal or external sync source. This section provides comprehensive wiring diagrams for two typical Alladin applications.

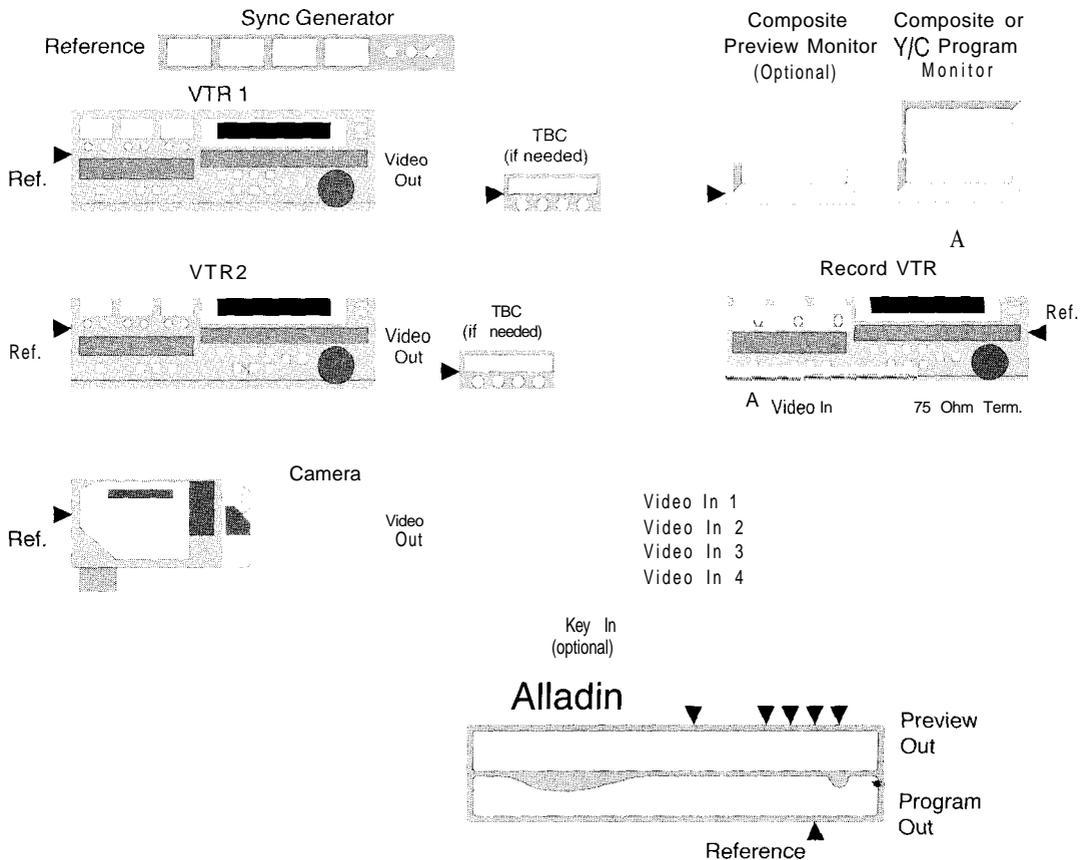
- The first set of drawings illustrate a Composite or Y/C Alladin system using an external sync generator. This system represents Alladin's typical use in a self-contained Desktop Studio.
 - Drawing 1 illustrates video and reference connections.
 - Drawing 2 illustrates SCSI, GPI, computer, and RS-422 editor connections.
- The second set of drawings illustrate a Composite or Y/C Alladin system configured with an external switcher. This shows Alladin as part of a larger production configuration.
 - Drawing 3 illustrates video and reference connections.
 - Drawing 4 illustrates SCSI, GPI, computer, and RS-422 editor connections.

Refer to Chapter 4 for information about system interconnection with the “**Component Option**” installed.

Composite or Y/C System, External Sync

Drawings 1 and 2 illustrate a “standalone” composite or Y/C Alladin system that uses an external sync generator.

Drawing 1: Video and Reference Connections

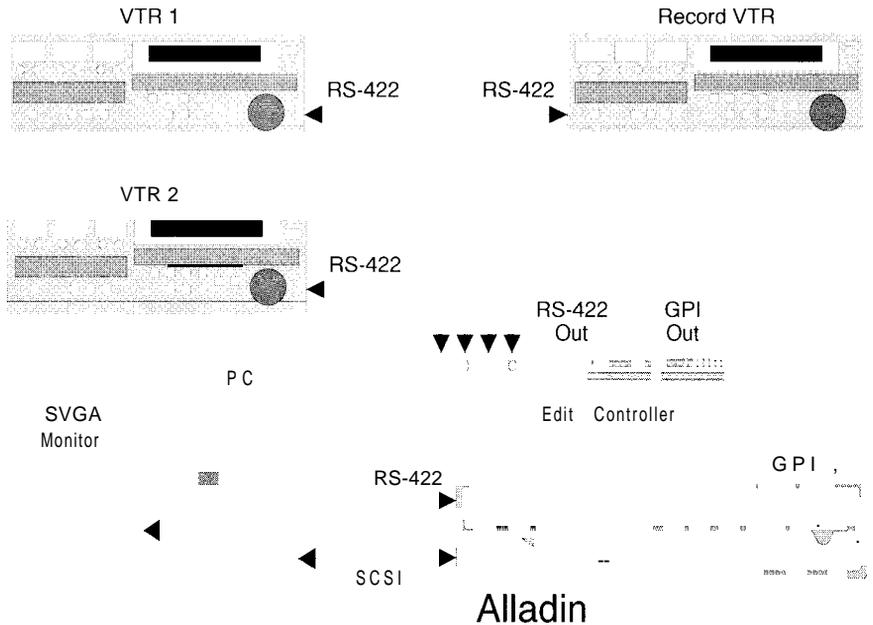


Please note the following points regarding the system shown above.

- The figure includes an *external* sync generator. If you *do not* have a sync generator, you can use Alladin as the reference. Be sure to select **Internal Reference** on the **Video Hardware Dialog** and **loop** sync to all devices. Refer to the “**Selecting Internal or External Reference**” section for instructions.
- Regardless of the reference method used, the *last* device in your reference loop must be terminated with a 75 Ohm terminator.
- For composite operation, route source inputs into Alladin’s four BNC input connectors. Use the BNC Program output connector for Alladin’s composite output.

- For Y/C operation, route your source inputs **into** Alladin's four S-Video input connectors. Use the S-Video Program output connector for Alladin's Y/C output.
- External TBCs are not required if your VTRs already include internal TBCs.
- Alladin's **Preview Output** is *composite* video format even if Y/C mode is selected.
- The **Key Input** to Alladin is an optional connection.

Drawing 2: SCSI, GPI, Computer, RS-422 Connections



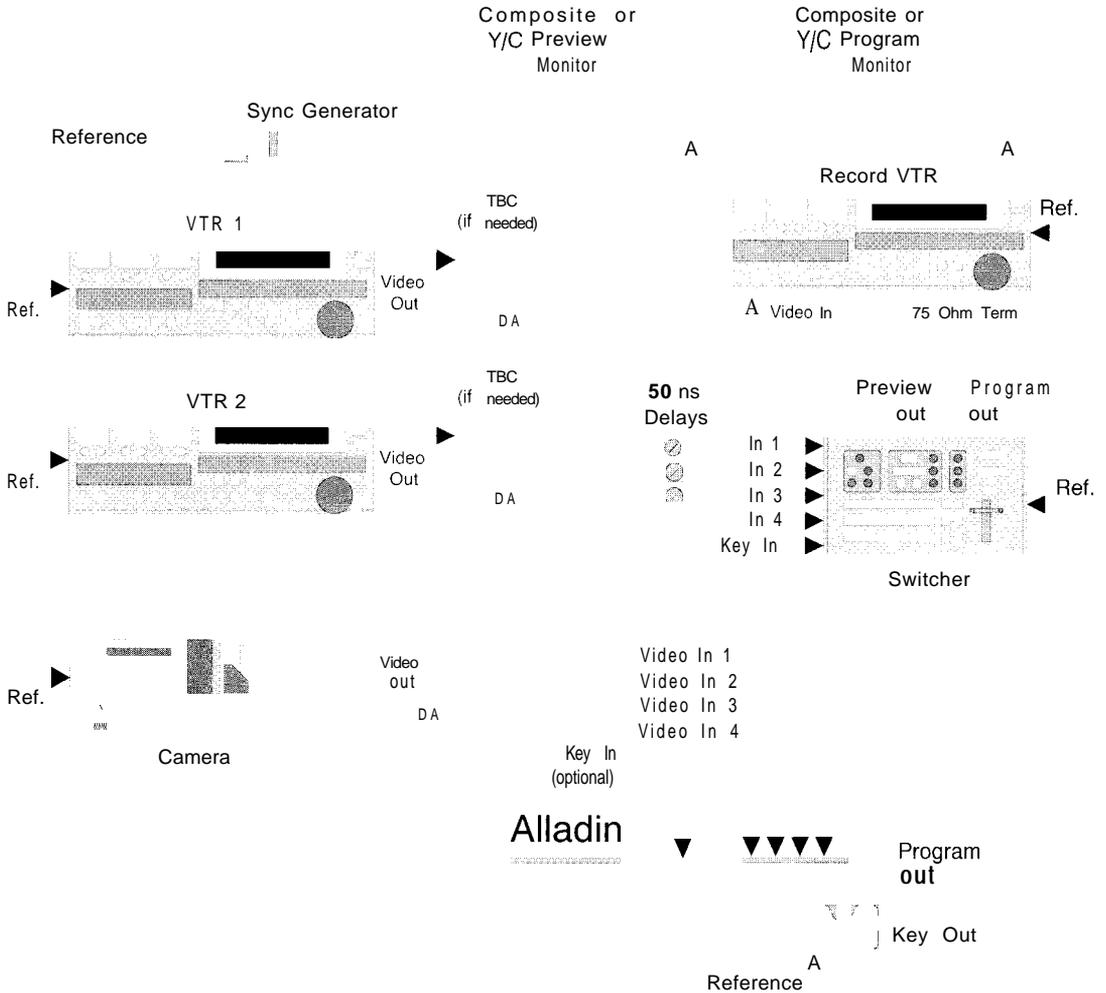
Please note the following points regarding the system shown above.

- The system shown above is an **A/B Roll** editing configuration with three VTRs — two source and one record.
- RS-422 control lines from your editing system must be connected to each VTR and to Alladin.
- GPI lines can also be connected from the editor to Alladin.
- In the figure above, an external “standalone” editor is shown. However, an editing system that runs on your computer in the Windows environment could also be used. Only *one* editing system can be connected to Alladin at a time.

Composite or Y/C System, External Switcher

Drawings 3 and 4 illustrate a composite or Y/C Alladin system configured with an external switcher.

Drawing 3: Video and Reference Connections



Note the following points regarding the Alladin system shown above.

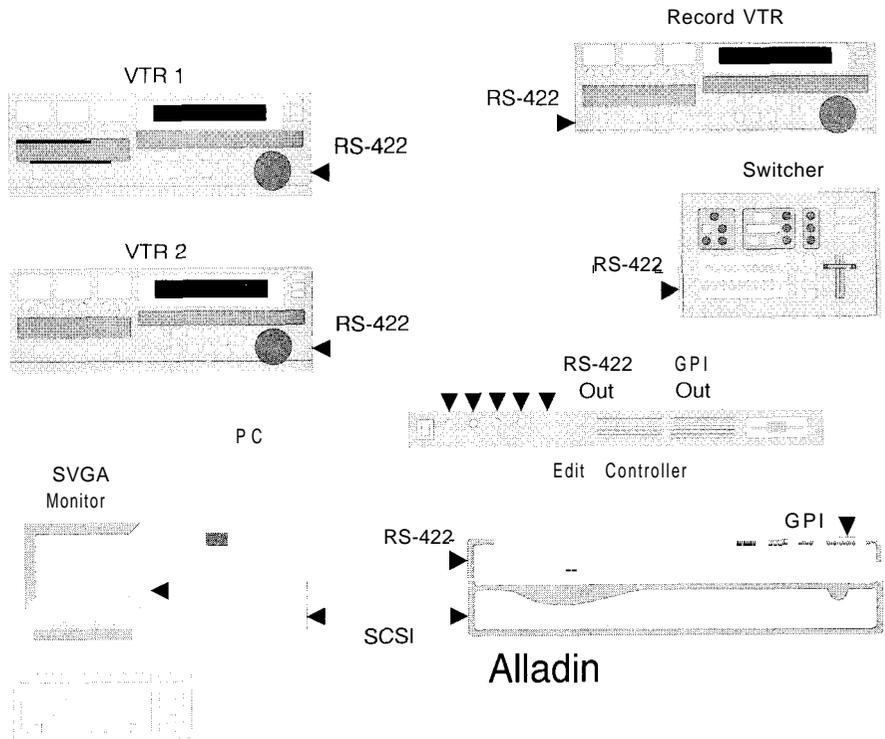
- The figure includes *an external* sync generator. If you *do not* have a sync generator, you can use Alladin as the reference. Select **Internal Reference** on the **Video Hardware Dialog** and loop sync to all devices including the switcher. See “**Selecting Internal or External Reference**” section for instructions.
- Regardless of the reference method used, the *lust device* in your reference loop must be terminated with a 75 Ohm terminator.

- For composite operation, route source inputs into Alladin's four BNC input connectors. Use the BNC Program output connector for Alladin's composite output. Be sure to use a composite video switcher.
- For Y/C operation, route your source inputs into Alladin's four S-Video input connectors. Use the S-Video Program output connector for Alladin's Y/C output. Be sure to use a Y/C format video switcher.
- External TBCs are not needed if your VTRs already include internal TBCs.
- In this configuration, Alladin's **Preview Output** is switched to **Key Output** to provide a key signal to the video switcher. Refer to the "**Setting the Preview / Key Jumper**" section for instructions. In this case, the **Preview Output** signal is *not available* from Alladin, but a Preview Output line from a video switcher is a *standard* switcher output.
- The **Key Input** to Alladin is an optional connection.
- The term "DA" means **Distribution Amplifier**. DAs may not be needed if your TBCs or VTRs have two or more outputs.
- The figure above shows **50 ns Delays** on three direct switcher inputs. Because Alladin's program bus output is delayed relative to its input by 50 ns (nanoseconds), these delays are *required*.

Direct signals must be delayed by 50 ns in order to properly match them with signals that pass through Alladin.

Refer to the "**Output Video Timing**" section for additional important information regarding delay.

Drawing 4: SCSI, GPI, Computer, RS-422 Connections



Note the following points regarding the Alladin system shown above.

- The system shown above is an A/B Roll editing configuration with three VTRs — two source and one record.
- RS-422 control lines from your editing system must be connected to each VTR, the switcher and Alladin.
- GPI lines can also be connected from the editor to Alladin.
- In the figure above, an external “standalone” editor is shown. However, an editing system that runs on your computer in the Windows environment could also be used. Only *one* editing system can be connected to Alladin at a time.

Remote Control

There are two ways of externally controlling Alladin.

- **GPI Control**

GPI (*General Purpose Interface*) control is a method by which electronic “pulses” are used to trigger system functions. Alladin’s rear-chassis **GPI** connector includes pins for four GPI inputs. When an external device is connected to these inputs, pulses issued by the device can trigger Alladin’s timeline. Refer to the “**GPI Connection**” section for connection instructions.

- **RS-422 Control**

RS-422 control is a method by which serial communication commands, typically from an external Edit Controller, are used to control Alladin. RS-422 control can be set to emulate a GVG switcher or a VTR. Refer to the “**RS-422 Editor Port Connection**” section for connection instructions.

External control is enabled in the **Remote Control Window**. In the *Alladin* User’s **Guide**, refer to Chapter 5, “**Edit Control**” for complete operating instructions.

GPI Connection

This section provides instructions for connecting GPI inputs. Alladin’s **GPI** connector includes pins for four *assignable* GPI inputs. The four GPI input “ports” can be programmed to control specific functions when a pulse is received from an external device (such as an edit controller).

Refer to the technical manual for your specific external devices for instructions on connecting *their GPI* lines.

Connecting GPI Inputs

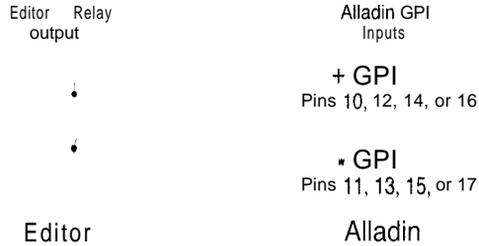
The table below lists GPI input port specifications.

Parameter	Specification
Isolation	>2KV
Minimum turn-on	2.8V @ 10mA
Maximum input voltage	20V
Minimum Pulse Width	2 mS

NOTE

GPI *output* ports are not activated in Alladin.

To connect GPI input lines, you need to build a custom cable that connects the output of the controlling device to the desired input ports on Alladin's GPI connector. The figure below illustrates a GPI interface circuit that typically is the best choice for use with Edit Controllers.

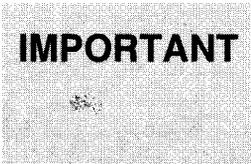


Using the *input* pinout information listed in the “**Connector Pinout Data**” section and the circuit data from the figure above, connect GPI input lines as required from external devices to Alladin.

RS-422 Editor Port Connection

Alladin can emulate two types of remote control protocol: a **Sony Serial VTR**, or a **GVG** (Grass Valley Group) **Model 100 Switcher**. The protocol that **you** select (in the **Remote Control Window**) determines how Alladin operates when remote commands are received.

The figure below shows the connection from an external Edit Controller to Alladin's Chassis using a standard RS-422 9 pin “D” connector cable.



While Alladin has one RS-422 port, edit controllers have many. Some have ports that are *dedicated* to switcher or VTR control while others have ports that can be *configured* via software. Refer to your edit controller's manual for instructions on assigning communications ports.

Dedicated Switcher Port,
Dedicated VTR Port,
or Assignable Port

RS-422

RS-422

Editor

Alladin

- Using the figure above as a guide, connect an RS-422 line from your Edit Controller to Alladin. Be sure to use the correct editor port for the type of emulation desired (Switcher or VTR) and be sure to configure the editor port properly.

System Timing

This section provides instructions for timing Alladin when it is used in *two different* system configurations.

- **Standalone Configuration Timing**

When Alladin is used as a standalone system, the following four procedures may be used.

1. Input Video Timing
2. External Key Input Timing (only when using an input key)
3. Input Video Adjustments to the DVE
4. DVE Blanking Adjustments

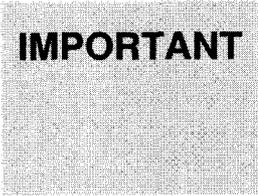
- **Downstream Switcher Configuration Timing**

When Alladin is connected to a downstream switcher, the following seven procedures may be used.

1. Input Video Timing
2. External Key Input Timing (only when using an input key)
3. Input Video Adjustments to the DVE
4. DVE Blanking Adjustments
5. Key Output Timing
6. Output Video Timing
7. Setting the Preview / Key Jumper

For clarification, each procedure is labeled with the Alladin configuration to which it applies, and where applicable, the number of each pertinent **TechFAX** is listed. Brief instructions are provided for using scroll bars to adjust values.

Refer to the “**FaxBack, TechFAX and BBS**” section in Chapter 1 of the *Alladin User’s Guide* for details on receiving **TechFAX** documents.

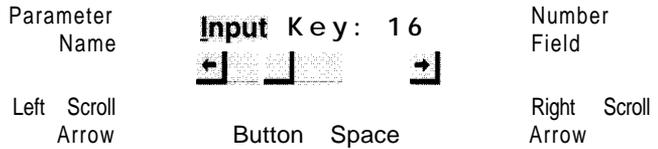


IMPORTANT

Inadvertent adjustments to input, output and key parameters without the proper test equipment may result in poor system video performance. If you make an adjustment error in the **Video Hardware Dialog**, click **Cancel** to exit without saving changes and revert to previous values. **You** can also click **Default** to return to the factory default settings.

Using Scroll Bars for Adjustment

Many of the adjustment procedures in the **Video Hardware Dialog** use **Scroll Bars** to adjust values. A typical **Scroll Bar** is shown below.



The following standard conventions for **Scroll Bars** apply.

- The parameter name is printed above the Scroll Bar.
- Click and drag the button for coarse adjustment
- Click the left and right scroll arrows for single-step adjustment.
- Click the space in-between the arrows and the button to adjust by 10 units (with each click).
- Click the number field, enter a value and press **ENTER** to accept a value and **close** the **Video Hardware Dialog**.
- Click the number field, enter a value and press **TAB** to accept the value and advance to the next number field in the window.

NOTE

In the **Video Hardware Dialog**, values shown in the number fields are *relative*. They *do not* equate to numbers and levels displayed on video test equipment such as a **Waveform Monitor** and **Vectorscope**. Use the numbers for *reference only* as you set up and adjust Alladin.

Input Video Timing

Application:

- **Standalone Configurations**
- **Downstream Switcher Configurations**

As with any video switcher, external input sources such as VTRs and cameras must be “timed” into the Alladin to ensure proper operation. This **Input Video Timing** procedure adjusts the *external device’s* horizontal and subcarrier phase to match Alladin, but Alladin itself is *not adjusted*.

- If you have a **Waveform Monitor** and **Vectorscope** in your system, use these devices to monitor Alladin’s output during the procedure. This is the *recommended* method for setting input level and phase.
- If you *do not* have a **Waveform Monitor** and **Vectorscope**, you must rely on your “visual” matching skills as you watch Alladin’s output on a video monitor.

NOTE

Refer to **TechFAX 120** for details on video setup and timing, and **TechFAX 121** for information on the **Component Option**.

Use the following steps to time external sources into Alladin.

1. Insert a color bar tape in **VTR 1** or record a new color bar tape using Alladin’s color bar graphic. (This graphic is called **cb100_75**.)
2. Select **VTR 1** on Alladin’s **Layer A** and play back **VTR 1’s** color bar tape.
3. While watching the video monitor, adjust **VTR 1’s** TBC **Chroma Phase**, **Video Level** and **Chroma Level** controls for a proper picture. If you do not have a **Waveform Monitor** and **Vectorscope**, you may wish to use the TBC’s “auto” settings.
4. Select **VTR 1** on **Program** and **VTR 1** on **Layer A**.
5. In Layer A’s **Key Type Box**, select **Full Key**. Directly below, click **Use DVE**.
6. Click the **Keyframe icon** to select the **Keyframes Window**. Double click the **Crop Icon** and crop the top of the image down to the middle of the screen (**Top: 0.000**). This step splits the image between Alladin’s analog bus (Program) and the digital layer (DVE).

7. On **VTR 1's** TBC, make the following adjustments.
 - Adjust **VTR 1's Horizontal Phase** control **until** the vertical lines of the two color bar signals match.
 - Adjust **VTR 1's Subcarrier Phase** control until the colors of the two signals match.
8. Repeat steps 1 through 7 for each VTR in your system. Be sure to select the same VTR on both **Program** and **Layer A**, and adjust the VTR's **Horizontal Phase** and **Subcarrier Phase** as described in step 7.

At the end of the procedure, all input sources should match each other and should also be in-phase with Alladin's DVE. The sources are *also* timed to each other.

NOTE

If one of your external sources is a camera, use the camera's internal color bar signal as the output, and select the camera **on Program** and **Layer A**. Adjust the camera's **Horizontal** and **Subcarrier Phase** to match the colors.

NOTE

If your Alladin is connected to a downstream switcher, after you perform the **Output Video Timing** procedure you may need to repeat the **Input Video Timing** procedure to fine tune input levels and phase.

External Key Input Timing

Application:

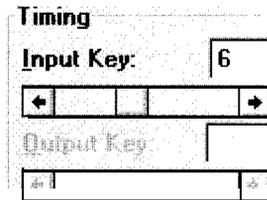
- **Standalone Configurations**
- **Downstream Switcher Configurations**

This procedure applies *only* if you are using an external key input. Alladin allows you to key using an external linear key (alpha) input. This signal typically originates from a graphics system or character generator that provides separate “key” and “fill” signals. When a **Linear Key** is selected (on Alladin’s **Layer A** or **Layer B** bus), the alpha signal cuts a hole that can be filled by *any source* on the corresponding Layer.

If you are using an external linear key in this manner, you *may* need to adjust input key timing so that the key “cutter” exactly matches the “fill” video associated with it. If key and fill do not match, you would typically see a black edge on the left or right side of the keyed image.

Use the following steps to adjust input key timing.

1. Ensure that an external key is connected to Alladin’s **KEY IN** connector. Ensure that the “fill” signal (typically from the same external source) is connected to an Alladin video input.
2. In the **Switcher Window**, select a background on the **Program Bus**. A flat field or gray background is preferable for timing.
3. On **Layer A**, click the input for the fill (from the external device).
4. In the **Key Type Box** for **Layer A**, select **Linear Key**. Note the appearance of the image. If there is a black edge on the left or right side of the keyed image, adjust key timing as follows.
5. Click **Setup** in the Menu Bar.
6. Click **V**ideo **H**ardware...
7. The block in the top center of the window is the **Timing** block



Adjust the **Input Key** scroll bar until the key “hole” precisely matches the key “fill” with no black edges visible.

8. When adjustment is complete, click **OK**.

Input Video Adjustments to the DVE

Application:

- **Standalone Configurations**
- **Downstream Switcher Configurations**

This section provides instructions for adjusting input video levels to Alladin's DVE. The procedure allows you to match Alladin's digital layer (DVE) to the analog bus (Program). These adjustments set levels for all sources as a block — *individual* source adjustments are not provided.

NOTE

Refer to **TechFAX 120** for details on video setup and timing, and **TechFAX 121** for information on the **Component Option**.

Depending upon the *video format* of your system (composite or Y/C), different adjustments are provided. The **Input Adjustments** block (in the **Video Hardware Dialog**) *changes* according to the selected format.

- When **Composite** is selected you can adjust:

Hue (NTSC only)

Key Gain

Video Gain

Note that when **Auto Gain Control** is on, **Video Gain** and **Chroma Gain** are automatically set by the system (and are grayed out in the block).

- When Y/C is selected you can adjust:

- **Hue** (NTSC only)

Key Gain

Y Gain

- **Chroma Gain**

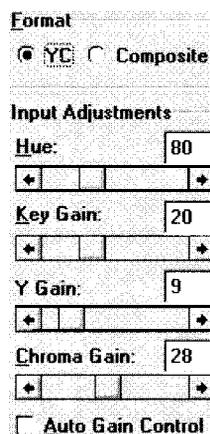
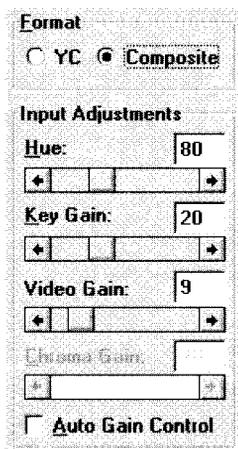
When **Auto Gain Control** is on, **Y Gain** and **Chroma Gain** levels are automatically set by the system (and are grayed out in the block).

NOTE

Auto Gain Control "enabled" will generally *not* give as good a result as you can achieve manually.

If you need to adjust input levels to the DVE, use the following steps.

1. Type **CTRL + N** to clear all keyframes and start a new effect.
2. Play back a color bar tape and select that **source** on **Program** and on **Layer A**. In the **Key Type Box**, select **Full Key** and click **Use DVE** in the check box below.
3. Monitor Alladin output on a **Waveform Monitor** and **Vector-scope**. If you do *not* have these video test instruments, you must rely on your “visual” matching skills.
4. Click the **Keyframe Icon** to select the **Keyframes Window**. Double click the **Crop Icon** and crop the **Top** of the image down to the middle of the screen. This step splits the image between the analog bus (Program) and the digital layer (DVE).
5. Click **Setup, Video Hardware...**
6. The block in the bottom left area of the window is the **Input Adjustments** block. Depending upon your system’s format, different parameters are provided.



Adjust the parameters as required. If desired, you can enable **Auto Gain Control** for *automatic* control of gain and chroma.

NOTE

When adjusting **Video Gain** or **Y Gain**, look at the white bar in the color bar signal and match the two bars. Look at the *colored* bars to adjust **Chroma Gain**.

7. When complete, click **OK** to accept the input video adjustments and close the **Video Hardware Dialog**.

DVE Blanking Adjustments

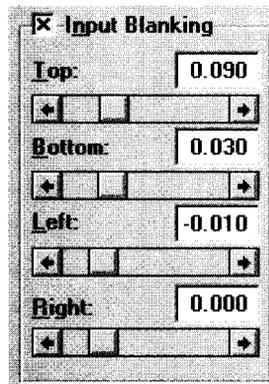
Application:

- **Standalone Configurations**
- **Downstream Switcher Configurations**

This section provides instructions for adjusting input blanking to the DVE. Occasionally, input video sources do not have standard blanking widths. This can result in a visible black line along a picture edge when that picture is keyed (through Alladin's DVE) on Layer A or B. Alladin allows you to adjust (crop) the blanking width to compensate.

Use the following steps to adjust Alladin's input blanking.

1. In the Menu Bar, click **File, New** to clear all keyframes and start a new effect.
2. In the **Switcher Window**, select a background image on the **Program** bus. A flat field or gray background is preferable.
3. On **Layer A**, select the image you wish to adjust.
4. Click **Use DVE** for the active Layer.
5. In the **Tool Bar**, click the **Keyframe Icon** to select the **Keyframes Window**.
6. Double-click the **Border Icon** and ensure that "softness" is set to 0 (zero).
7. Double-click the **Target Icon**. While watching Alladin's video output, adjust the **Z** value to reduce the size of the image. Note the appearance of the keyed image. If there are any black edges, adjust blanking as follows.
8. In the Menu Bar, click **Setup, Video Hardware...** to show the **Video Hardware Dialog**.
9. The block in the bottom right area is the **Input Blanking** block.



Click the **input Blanking** check box to enable blanking adjustments on the four picture edges. The values in the **Input Blanking** block change from gray to “active.”

If the button is *not* clicked, values are grayed out and all numeric settings remain but blanking adjustments are ignored.

10. Using the appropriate scroll bars, adjust blanking for the top, bottom, left and right edges of the picture.
11. When adjustment is complete, click **OK**.

NOTE

When the **Input Blanking** check box is clicked, blanking is adjusted for *all* Alladin inputs. If you wish to return to *normal* blanking conditions, be sure to click the **Input Blanking** check box again to disable the function. In this condition, remember that settings are remembered but blanking adjustments are not applied.

Output Video Timing

Application:

Downstream Switcher Configurations

When Alladin is used in a downstream switcher configuration, this procedure allows you to time Alladin's output to the *input* of the downstream switcher. The process guarantees that Alladin's video is in *time* with other sources feeding the switcher.

NOTE

If **you have** selected **Internal** Gen Lock or if you are using Alladin in a “**Standalone**” configuration, output adjustments should be left in their *factory default mode* and timing adjustments should be made at the video sources. Refer to the “**Input Video Timing**” section for details.

IMPORTANT

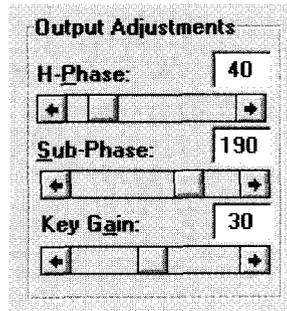
When **using** Alladin with a downstream switcher, you must account for the 50 nanosecond throughput delay in Alladin's Program bus. All sources that are connected to both Alladin's inputs and the switcher inputs must *be* delayed to the *downstream switcher* inputs by 50 ns plus total cable lengths. (Do not delay the inputs to Alladin.) This guarantees that these direct sources are delayed in their arrival at the *downstream switcher* by an amount equal to Alladin's internal delay. Variable delay-lines are recommended, although fixed lengths of coaxial cable can be used. A 32.5 foot length of coax will provide a 50 ns delay.

In the “**Composite or Y/C System, External Switcher**” section, refer to **Drawing 3: Video and Reference Connections** for an illustration of the proper delay configuration.

Use the following steps to adjust Alladin's output timing.

1. If you are using a **Downstream Switcher**, ensure that Alladin's **Key Output** is connected to the downstream switcher's external key input.
Ensure that Alladin's **Video Output** is connected to one of the downstream switcher's video inputs.
2. Monitor Alladin or switcher output on a **Waveform Monitor** and **Vectorscope** and ensure that both are locked to reference.
3. On Alladin's **Layer A** bus, select **VTR 1** and play back **VTR 1's** color bar tape. Click **Use DVE**, and use “position” to move the color bars down half way (Y: -3.000).

4. On the downstream video switcher, set up a linear key that places Alladin (foreground) over the *same source* taken direct into the switcher (background).
5. On Alladin, click **Setup, Video Hardware...**
6. The block at the bottom is the **Output Adjustments** block.



Adjust the three output parameters in the **Output Adjustments** block as required.

- Adjust **Sub-Phase** to match Alladin's subcarrier phase to the switcher.
 - Adjust **H-Phase** to match Alladin's horizontal phase to the switcher.
 - Adjust **Key Gain** to set the desired key amplitude of Alladin's key output.
7. When adjustment is complete, click **OK**.

NOTE

After you perform this procedure you may need to repeat the **Input Video Timing** procedure to fine tune input levels and phase.

Refer to the "**Key Output Timing**" section for instructions on matching key and fill video signals.

Setting the Preview / Key Jumper

Application:

- **Downstream Switcher Configurations**

Alladin's **PREVIEW OUT / KEY OUT** connector is *switchable* using an internal jumper on the **I/O BOARD**. When the jumper is set to **Preview Out**, the output permits you to preview each of the four input video sources. When switched to **Key Out**, the output supplies an alpha key signal for use in a downstream switcher.

The default setting of the jumper is **Preview**. If you wish to switch the jumper to the **Key Out** position (or back to the **Preview** position), use the following steps.

1. Turn off the Alladin Chassis.
2. Disconnect the power cable from the rear of the chassis.
3. Remove the six screws from the rear of the chassis and set them aside for later re-assembly.
4. Remove the chassis cover by sliding it towards the back and then pulling it up. This action exposes the top **I/O BOARD**.
5. Towards the rear of the **I/O BOARD**, locate **Jumper 3** near the **Preview Out / Key Out** connector.
6. Change the jumper as required.
 - To configure for **Key Out**, connect pins **1** and **2**.
 - To configure for **Preview Out**, connect pins **2** and **3**.
7. Replace the top cover and the six rear-panel screws.
8. Re-connect the power cable.

Key Output Timing

Application:

- **Downstream Switcher Configurations**

If you are using Alladin's **Key Output** signal to key video from **Layer A and B** over a downstream switcher background, you *may* need to adjust Alladin's key output timing such that the key "hole" exactly matches the associated "fill" video.

NOTE

This procedure must be done *after* you have performed the "**Output Video Timing**" steps.

Remember that the **PREVIEW OUT / KEY OUT** connector is *switchable* using an internal jumper (the factory setting is **Preview**). When set to **Key Out**, the output supplies an alpha signal generated by Alladin's Layer A and B buses. Refer to the "**Setting the Preview / Key Jumper**" section for instructions on switching the jumper.

Use the following steps to adjust key output timing.

1. Ensure that Alladin's **Key Output** is connected to the downstream switcher's external key input and the output is properly configured (via the internal jumper).
Ensure that Alladin's **Video Output** is connected to one of the downstream switcher's video inputs.
2. In Alladin's **Switcher Window**, select the image on **Layer A** that you want to key (typically a DVE manipulation).
3. On the downstream switcher, select a background. A flat field or gray background is preferable for timing purposes.
4. On the downstream switcher, enable the external key using Alladin's key and fill (Program) signals. Note the appearance of the keyed image. If there is a black edge on the left or right side of the keyed image, adjust Alladin's output key timing as follows.
5. In the Menu Bar, click **Setup, Video Hardware...** to display the **Video Hardware Dialog**.
6. The block in the top center area is the **Timing** block. Adjust the **Output Key** scroll bar until the key hole precisely matches the key "fill" with no black edges.
7. When adjustment is complete, click **OK**.

Specifications

This section provides Alladin technical specifications.

System Format

NTSC: Y/C (S-Video); 525 60Hz, or

PAL: Y/C (S-Video); 625 50Hz

System Inputs

- Video Inputs:
 - 4 Composite: BNC 75 Ohm terminated
 - 4 Y/C (S-Video): 4-pin Din
 - 4 Component (RGB / Y, R-Y, B-Y): optional

Note: A common format must be used for inputs and outputs.

- Key Inputs:
 - 1 Composite: BNC 75 Ohm terminated

System Outputs

- All 1V peak-to-peak when 75 Ohm terminated
 - 1 Composite Program output
 - 1 Y/C (S-Video) Program output: 4-pin Din
 - 1 RGB / Y, R-Y, B-Y Program output: optional
 - 1 monochrome (Y) Preview output: optional

Note: Source **Black** on the Program bus is fixed at blanking level and does not include NTSC set-up.

Key/Preview Output

- 1V peak-to-peak when 75 Ohm terminated
- 1 composite Preview output

Note: The Preview Output can be switched to provide a key output in composite and Y/C systems. In optional component systems, monochrome (Y) preview output is always available.

External Reference Operation

- 1V peak-to-peak black burst or composite video
- High impedance loop through

Internal Reference

- 1V peak-to-peak composite video output when 75 Ohm terminated

System Chassis Control Interfaces

SCSI: 25 pin female D-Type connector

RS-422 Serial: 9 pin female D-Type connector

GPI: 25 pin male D-Type connector

Power Requirements

120V 60 Hz 5 Amps

Switchable to: 220V 50Hz 3 Amps

Utility outlet rating: 120V 1.0 Amp, 220V 0.5 Amp

Power Consumption

Less than 200 Watts

Dimensions

17" W x 18" D x 3.5" H

(43.18 cm x 45.72 cm x 8.89 cm)

Weight

20.75 lbs

(9.43 Kg)

Technical Performance

Frequency response: 0.5db to 5.0 MHz

Differential gain: +/- 1.8 %

Differential phase: < 1°

K factor (2T pulse): 0.5%

Signal to noise: 55db (weighted)

Output timing adjustment

Horizontal timing range: -1.3 μSec to + 1.5 μSec

Subcarrier phase range -360°

Propagation delay

50 ns nominal fixed delay through Program bus

1 frame fixed delay through effects layers A and B (DVE)

Connector Pinout Data

The following table provides pinout information for the SCSI connector.

Pin	Signal	Pin	Signal
1	REQ	14	GND
2	MSG	15	C/D
3	I/O	16	GND
4	RST	17	ATN
5	ACK	18	GND
6	BSY	19	SEL
7	GND	20	DP
8	D 0	21	D1
9	GND	22	D2
10	D3	23	D4
11	D5	24	GND
12	D6	25	TERM
13	D7		

The following table provides pinout information for the **GPI** connector.

Pin	Signal	Pin	Signal
1	Chassis ground	14	+ GPI Input 3 (+5v)
2	Reserved	15	GPI Input 3 (Ground)
3	Reserved	16	+ GPI Input 4 (+5v)
4	Reserved	17	- GPI Input 4 (Ground)
5	Reserved	18	+ GPI Output 1
6	+12v	19	GPI Output 1
7	Signal Ground	20	+ GPI Output 2
8	+5v	21	- GPI Output 2
9	Reserved	22	+ GPI Output 3
10	+ GPI Input 1 (+5v)	23	GPI Output 3
11	- GPI Input 1 (Ground)	24	+ GPI Output 4
12	+ GPI Input 2 (+5v)	25	- GPI Output 4
13	GPI Input 2 (Ground)		

NOTE

GPI *output* ports are not activated in Alladin.

The table below provides pinout information for the RS-422 connector.

Pin	Signal	Pin	Signal
1	Chassis Ground	6	Signal ground
2	- Transmit data	7	+ Transmit data
3	+ Receive data	8	- Receive data
4	Signal ground	9	Signal ground
5	Reserved		

Component Option

In This Chapter

This chapter provides a product description and installation procedures for the **Component Option** to Pinnacle's Alladin. The following sections are included.

- The **“Product Description”** section describes the **Component Option** including all rear chassis connectors and specifications.
- The **“Installation”** section provides installation procedures and details on the supplied breakout cables.
- The **“Video Connections”** section provides detailed system configuration diagrams.
- The **“Video Adjustments”** section includes steps for adjusting inputs and selecting YUV or RGB format (on input 4).

Product Description

The **Component Option** is a single board option that provides inputs for up to four live component video sources. These sources can be selected in the **Switcher Window** and used throughout the entire system. The **Component Option** is available in both 525 and 625 standards.

The **Component Option** provides the following system capabilities.

- Three (3) YUV Component inputs
- One (1) switchable YUV/RGB Component input
- One (1) YUV Component output
- One (1) Key input (on the Input 1 connector)
- One (1) Key output (on the Program Output connector)
- One (1) Sync input (on the Input 4 connector). Refer to the **“Rear Chassis Connectors”** section for important details on the use of the Sync input.
- One (1) monochrome Preview output
- One (1) Reference Gen Lock loop-through

Five (5) component breakout cables are also provided with the option. No special software installation is required as the system “auto-detects” the component board once installed.

The component input/output capability as described above completely replaces the system’s composite and YC input/output capability. Although input 4 is switchable between YUV and RGB formats, the output format is YUV only. Composite and YC formats can *not* be used simultaneously with the **Component Option**.

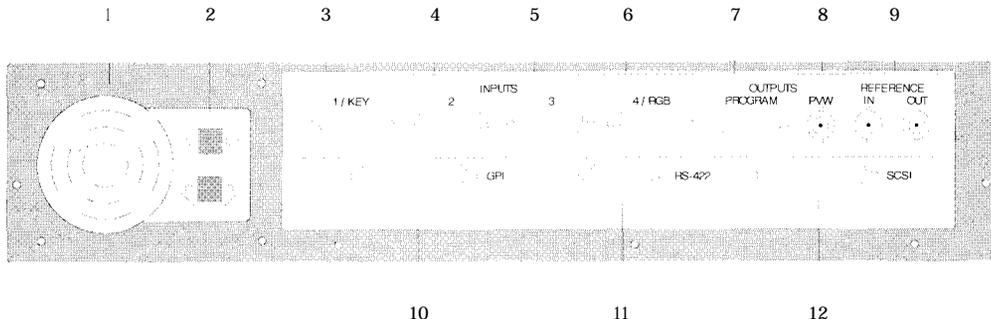
When using the **Component Option**, all system operations are standard. The two differences are in the system’s **Video Hardware Window**,

- A new button allows you to switch input 4 between YUV and RGB formats.
- New adjustments for component video inputs are provided.

Refer to the **“Video Adjustments”** section for instructions.

Rear Chassis Connectors

This section describes the **Component Option's** rear-chassis signal connectors and serves as a reference guide for connecting input and output signals. The illustration below shows Alladin's back panel with the **Component Option** installed.



In the following list of rear-chassis connector, the numbers in parentheses refer to the circled items above. For proper operation in a component environment, connect all required input and output signals as outlined below.

1) **Fan**

The **FAN** cools the chassis and draws in air from the front vent. Do not obstruct the front air vent, or block the rear chassis fan.

2) **Power**

Connector: AC

The **AC** Line cord connects here to provide power. The module includes a switched AC outlet and a voltage selector.

3) **YUV Input 1, Key Input**

Connector: (Chassis) 9 pin D

(Breakout Cable) 4 x BNC to 9 pin D

- **YUV INPUT 1** corresponds to switcher input 1. Connect your first component YUV signal here using the breakout cable's **Green, Red** and **Blue** BNC connectors. These correspond to Y, R-Y (U) and B-Y (V), respectively.
- The **KEY INPUT** port (75 Ω terminated) is located on the breakout cable's **Black** BNC connector. This connector provides an input for an external key. When the external (linear) key is enabled in the **Switcher Window**, the signal cuts a hole that can be filled by any Layer Bus source.

See the “**Installation**” section for details on the breakout cable.

NOTE

- On Alladin's switcher, "**Black**" is an *internal* source. **Input 1** is the first button to the right of **Black**.
- The 9 pin D connectors for inputs 1, 4 and Program Output allow you to connect two signals (using the Breakout cables).

4) YUV Input 2

Connector: (Chassis) 9 pin D

(Breakout Cable) 4 x BNC to 9 pin D

YUV INPUT 2 corresponds to switcher input 2. Connect your second component YUV signal here, using the breakout cable's **Green, Red** and **Blue** BNC connectors. See the "**Installation**" section for details on the breakout cable.

5) YUV Input 3

Connector: (Chassis) 9 pin D

(Breakout Cable) 4 x BNC to 9 pin D

YUV INPUT 3 corresponds to switcher input 3. Connect your third component YUV signal here, using the breakout cable's **Green, Red** and **Blue** BNC connectors.

6) YUV/RGB Input 4, Sync Input

Connector: (Chassis) 9 pin D

(Breakout Cable) 4 x BNC to 9 pin D

- **YUV/RGB INPUT 4** corresponds to switcher input 4. Connect your fourth YUV or RGB signal here, using the breakout cable's **Green, Red** and **Blue** BNC connectors.

This input is *switchable* via software. See the "**Video Adjustments**" section for instructions.

- The **SYNC INPUT** port is located on the breakout cable's **Black** BNC connector. This port is active *only* when the RGB input is enabled in software.

NOTE

If your input RGB signal has sync on green, do not connect a sync input to this port. If your input RGB signal *does not* have sync on green, a sync input must be provided. The sync signal range can be between 0.5V and 2.0V p-p when terminated in 75Ω.

7) YUV Program Output, Key Output

Connector: (Chassis) 9 pin D

(Breakout Cable) 4 x BNC to 9 pin D

- The **YUV PROGRAM OUTPUT** connector supplies output in YUV format *only*. Depending upon your system configuration, connect the output to the desired destination such as a component monitor, VTR or switcher.
- The **KEY OUTPUT** port is located on the breakout cable's **Black** BNC connector. This port supplies a key (luminance only) which is generated by Alladin's Layer A and B buses. In a downstream switcher, **USE** this signal to key video from Alladin's layers over a background. Connect the output to a downstream switcher's external key input as required.

See the "Installation" section for details on the breakout cable.

8) Preview Out

Connector: BNC

The **PREVIEW OUT** connector provides a composite monochrome output signal. When connected to a composite video monitor, the output permits the user to preview each of the four component input video sources.

9) Reference Gen Lock Loop-Through

Reference In

Connector: BNC

The **REFERENCE IN** connector is used for connecting a reference signal (such as **Black Burst**) that is supplied from your sync generator. The sync generator must feed the same reference to all *devices* in your desktop studio.

Reference Out

Connector: BNC

The **REFERENCE OUT** connector has three functions.

- If you are using reference from an external generator, the **Reference Out** connector loops reference to other devices.
- If you are using reference from an external sync generator and Alladin is the *last device* in the loop, terminate the **REFERENCE OUT** connector with a 75 Ω terminator.
- If you wish to **USE** Alladin as the master sync *source* (when **Gen Lock** is set to **Internal** in the **Video Hardware Window**), use the **REFERENCE OUT** connector to supply Alladin's **Black Burst** to other device's reference inputs.

Refer to Chapter 3 for additional information on reference.

10) **GPI Port**

Connector: 25 pin D

The **GPI PORT** provides connections for four GPI inputs. In Chapter 3, refer to the “**Remote Control**” and “**Connector Pinout Data**” sections for more information.

11) **RS-422 Port**

Connector: 9 pin D

The **RS-422 PORT** may be used to connect Alladin to an external edit controller. In Chapter 3, refer to the “**Remote Control**” section for RS-422 port connection instructions.

12) **SCSI Port**

Connector: 25 pin D

Alladin’s **SCSI PORT** connects to the SCSI port on your PC. See the “**Hardware Installation**” section in Chapter 3 for SCSI connection instructions.

Component Option Specifications

This section provides video specifications for the **Component Option**. Power, mechanical and control specifications are identical to those of the standard Composite/YC Alladin system.

System Format

Y, R-Y, B-Y; 525 60Hz, or

Y, R-Y, B-Y; 625 50Hz

System Inputs (all inputs are 75Ω terminated)

4 component Y, R-Y, B-Y inputs (Input 4 switchable to RGB)

1 Key input (on input 1 connector), 1 volt peak-to-peak

1 Sync input (on input 4 connector) in RGB mode only

System Outputs (All 1 V peak-to-peak when 75Ω terminated)

1 component Y, R-Y, B-Y Program output

1 monochrome Preview output

1 Key output (on Program Output connector)

External Reference Operation

1V peak-to-peak black burst or monochrome video

High impedance loop through. Must be terminated externally

Internal Reference

1V peak-to-peak composite output when 75 Ohm terminated

Technical Performance

Frequency response: 0.5db to 5.0 MHz

Differential gain: ± 1.8%

Differential phase: < 2°

K factor (2T pulse): 1%

Signal to noise:

55db (unweighted)

61db (unified weighting)

Output timing adjustment

Horizontal timing range: ± 1 μSec

Propagation delay

1 frame on Layer Buses A and B (DVE)

50 ns nominal fixed delay through Program bus

Installation

This section provides hardware installation, system configuration, and setup procedures for the Alladin **Component Option**. The following topics are discussed.

- Factory-Installed Systems
- Field Installation
- Breakout Cables

For complete information on installing the Alladin system itself, refer to Chapter 3.

Factory-Installed Systems

For Alladin systems delivered with a factory-installed **Component Option**, hardware installation of the component board itself is not required. However, please use the following table to verify that all items *specific* to the **Component Option** are included. If any item is missing, contact your dealer immediately.

The table below lists the items provided with a factory-installed **Component Option**.

Item	Quantity	Note
Component Breakout Cable	5	6-8 foot length
Component Option Manual	1	

Use the following reference sections for additional information.

- Refer to the **“Breakout Cables”** section for information on the supplied (9-pin D to BNC) breakout cables.
- Refer to the **“Video Connections”** section for guidelines on connecting component sources in a system.
- Refer to the **“Video Adjustments”** section for instructions on switching component formats.
- Refer to Chapter 3 for Alladin installation procedures.

Field Installation

This section provides field installation instructions for the Alladin **Component Option**. If your **Component Option** is *already* installed, please skip ahead to the “**Breakout Cables**” section for information on the supplied (9-pin D to BNC) breakout cables.

Unpacking and Inspection

When you receive your **Component Option** kit, inspect the shipping cartons for signs of physical damage. Contact your dealer and the shipper *immediately* if you suspect that any damage has occurred during shipping. Check the contents of each box and verify that all items are included. If any item is missing, contact your dealer immediately.

The table below lists the items provided for a field installation of the **Component Option**.

Item	Quantity	Note
Component Board	1	Includes rear-chassis panel and connectors
Standoff	1	
Component Breakout Cable	5	6-8 foot length
Component Option Manual	1	

After unpacking and inspecting all supplied equipment, please save the packing materials for future shipping convenience.

Installation Procedure

IMPORTANT

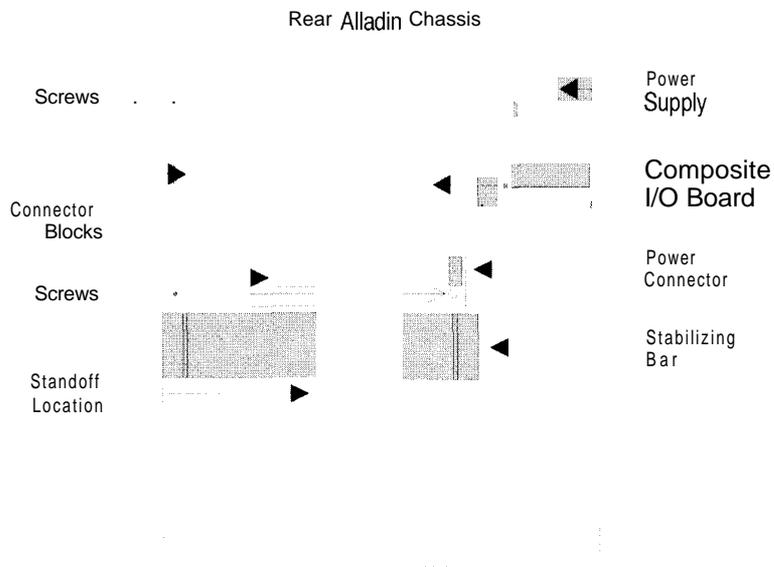
When performing the installation, observe the following important safety and handling precautions.

- Follow anti-static precautions.
If you need to handle the internal chassis mechanism, ground yourself to the chassis immediately prior.
- If you need to handle the internal boards, hold the boards from the edges — do not touch the chips.

Use the following steps to install the Alladin **Component Option**.

1. Turn off the Alladin Chassis.
2. Disconnect the power cable and all control and video cables from the rear of the chassis.

3. Remove the six screws from the rear of the chassis and set them aside for later re-assembly.
4. Remove the chassis cover by sliding it towards the back and then pulling it up. This action exposes the top **COMPOSITE I/O BOARD**.
5. On the **COMPOSITE I/O BOARD**, carefully remove the power connector as indicated in the figure below.

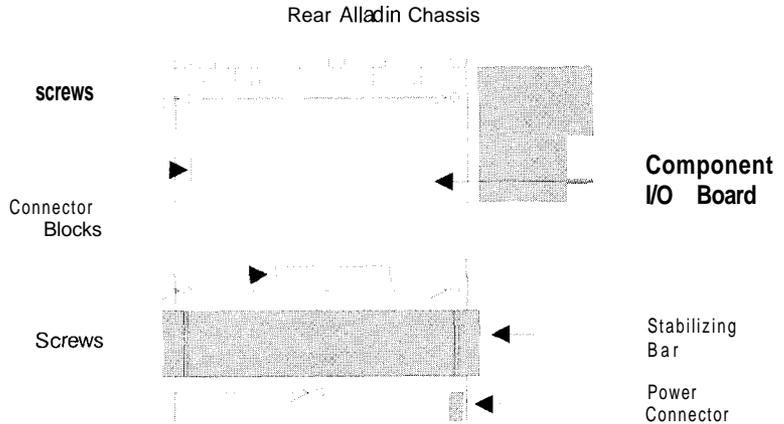


6. Remove the four screws at the locations indicated in the figure above and set them aside for later re-assembly.
7. Remove the **COMPOSITE I/O BOARD** by gently pulling up on the sides of the board's two connector blocks. Lift the board completely out of the chassis and lay it on a flat surface that is clean and protected from static.
8. Carefully unpack the **COMPONENT I/O BOARD**, and orient it such that the electronic components are facing up and the connectors (and hackplate) point towards the rear of the Alladin chassis.

NOTE

You may wish to store the **COMPOSITE I/O BOARD** in the Component Board's anti-static bag and shipping box for safe storage.

9. Remove the screw from the supplied “standoff” and set it aside. Insert the standoff at the location indicated in the figure above and gently tighten it down.
10. Slide the **COMPONENT I/O BOARD** under the stabilizing bar and carefully align its connectors with those on the **PIX BOARD** directly underneath. Note that the Component Board is approximately 40% *longer* than the Composite Board.



11. With the connectors on the two boards aligned, push down on the Component Board's connectors to seat the board.
12. Insert the 5 screws at the locations indicated in the figure above and gently tighten them to secure the board.
13. Re-attach the power connector (that you removed in step 5) on the new Component Board at the location indicated in the figure above. Be sure that this connector is the one with the Black, Blue, Yellow orange and Red wires.
14. Replace the top cover and the six rear-panel screws.
15. Re-connect the power cable and reference video, and turn the system on.

16. To verify that the board is properly connected, remove Alladin's front cover and look through the air holes. You should see three LEDs illuminated on the Component Board — one green and two red. These three indicate proper power and reference connections.

If you do not see three illuminated LEDs, disconnect power and reference, open the chassis and re-check the connections which you performed in the above installation procedure.

17. With proper connection verified, proceed with video and control cable installation. Use the following sections as required.
 - Refer to the “**Rear Chassis Connectors**” section for descriptions of all I/O ports on the Component Board.
 - Refer to the “**Breakout Cables**” section for complete details on the breakout cable.
 - Refer to “**Video Connections**” section for examples of systems which utilize component sources.
 - Refer to the “**Video Adjustments**” section for instructions on switching component formats.

With the **Component Option** installed, there are no special software installation procedures required as the system “auto-detects” the component board.

NOTE

The 4-position DIP switch on the **Component Board** is factory set. To guarantee proper operations, do not change any of the switch settings.

Power On

With all power, control and video cables properly connected, remember to turn on the Alladin Chassis first, then your PC, followed by monitors and VTRs. For power down, any sequence of devices may be used.

NOTE

The Alladin Chassis *must* be on when your computer boots otherwise the computer will not recognize that Alladin is connected.

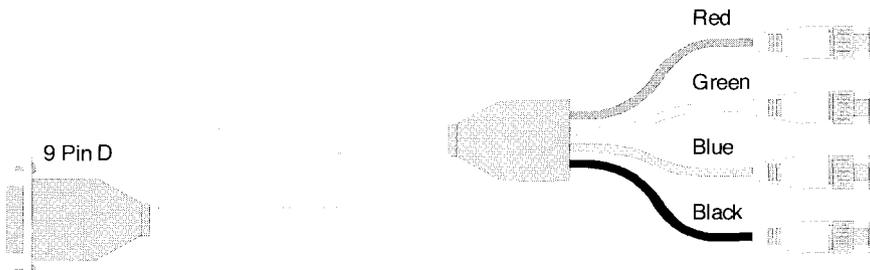
Breakout Cables

MOTE

This section applies to both factory-installed and field-installed **Component Options**.

Five (5) **Breakout Cables** are provided with the **Component Option**. Each includes one “9 pin D” connector on one end and four color-coded BNC cables on the other.

The figure below illustrates a breakout cable.



Use the following table as a guideline for connecting component sources with the breakout cables.

The color ...	is used for . . .	on . . .
Green	Y	All inputs
	G	Input 4, RGB mode only
Red	R-Y	All inputs
	R	Input 4, RGB mode only
Blue	B-Y	All inputs
	B	Input 4, RGB mode only
Black	Key Input	Input 1
	Sync Input	Input 4, RGB mode only
	Key Output	Program Output

Video Connections

With the **Component Option** installed, Alladin can operate using either an internal or external sync source (identical to Alladin's capabilities in the Composite and Y/C formats). This section provides comprehensive component wiring diagrams for two typical Alladin applications.

- The first set of drawings illustrate a component system using an external sync generator. This system represents Alladin's typical use in a self-contained Desktop Studio.

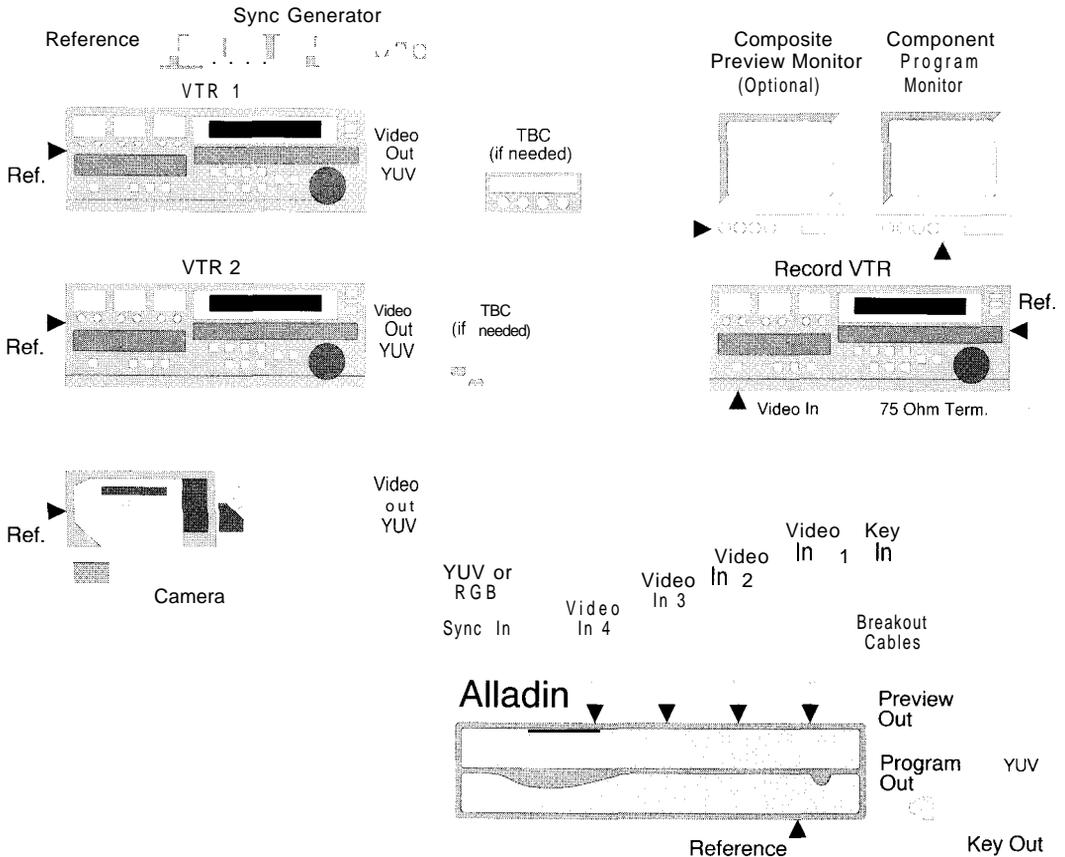
Drawing 1 illustrates video and reference connections.

- Drawing 2 illustrates SCSI, GPI, computer, and RS-422 editor connections.
- The second set of drawings illustrate a component system configured with an external switcher. This shows Alladin as part of a larger production configuration.
 - Drawing 3 illustrates video and reference connections.
 - Drawing 4 illustrates SCSI, GPI, computer, and RS-422 editor connections.

Component System, External Sync

Drawings 1 and 2 illustrate a “Standalone” component Alladin system that uses an external sync generator.

Drawing 1: Video and Reference Connections

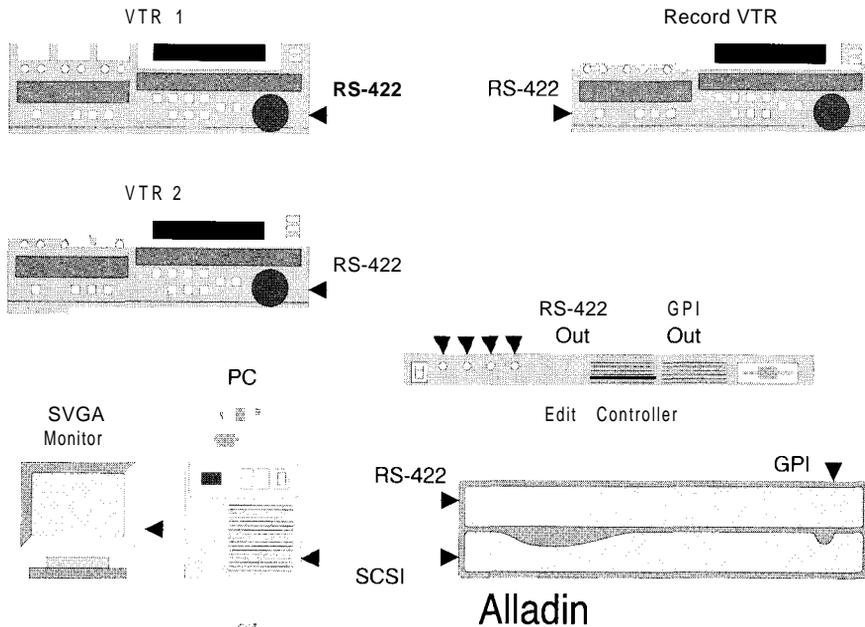


Note the following points regarding the system shown above.

- The figure includes an *external* sync generator. If you *do not* have a sync generator, you can use Alladin as the reference. Select **Internal Reference** in the **Video Hardware Window** and loop sync to all devices. In Chapter 3, see the “**Selecting Internal or External Reference**” section for instructions.
- Regardless of which method of reference you use, the *last device* in your reference loop must be terminated with a 75 Ohm terminator.
- For component operation, route source inputs into Alladin’s four component input connectors using the supplied breakout cables.

- To use an RGB source, route the source to input 4 and change the connector's input format in the **Video Hardware Window**,
- External TBCs are not needed if your VTRs already include internal TBCs.
- With the **Component Option** installed, Alladin's **Preview Output** is *composite monochrome* video format.
- The **Key Input** is an optional connection.

Drawing 2: SCSI, GPI, Computer, RS-422 Connections



Please note the following points regarding the system shown above.

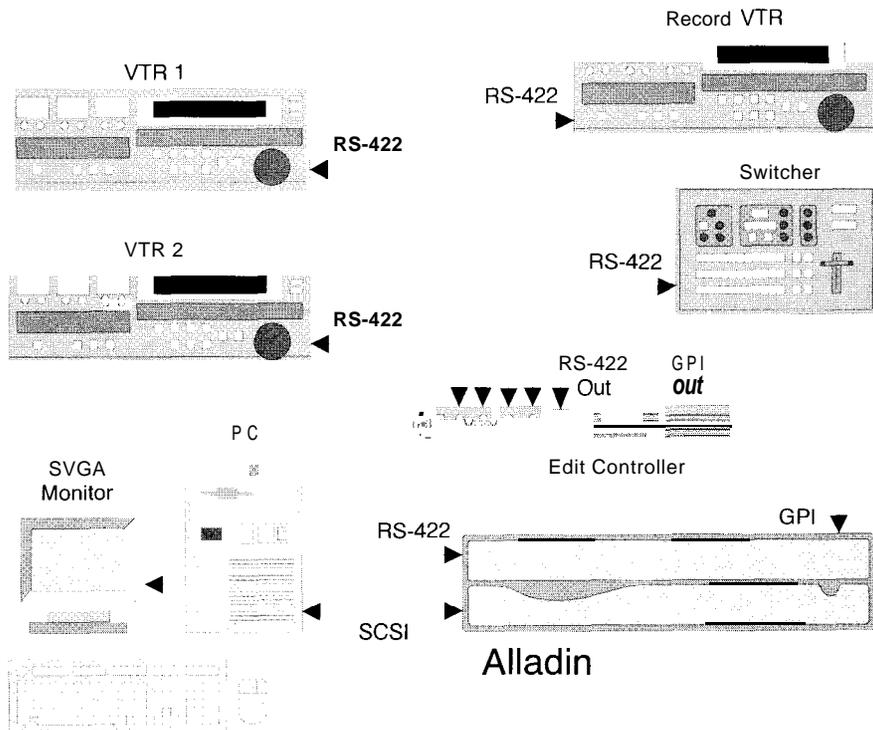
- The system shown above is an **A/B Roll** editing configuration with three VTRs — two source and one record.
- RS-422 control lines from your editing system must be connected to each VTR and to Alladin.
- GPI lines can also be connected from the editor to Alladin. In Chapter 3, refer to the **“Remote Control”** section.
- In the figure above, an external “standalone” editor is shown. However, an editing system that runs on your computer in the Windows environment could also be used. Only *one* editing system can be connected to Alladin at a time.

- Regardless of the reference method used, the *last device* in your reference loop must be terminated with a 7.5 Ohm terminator.
- For component operation, route source inputs to Alladin's four component input connectors using the supplied breakout cables. Be sure to use a component video switcher.
- To use an RGB source, route the source to input 4 and change the connector's input format in the **Video Hardware Window**. Refer to the "**Video Adjustments**" section for instructions.
- External TBCs are not needed if your VTRs already include internal TBCs.
- In this configuration, Alladin's **Key Output** provides a key signal to the video switcher.
- The **Key Input** is an optional connection.
- The term "DA" means **Distribution Amplifier**. Component DAs may not be needed if your TBCs or VTRs have two or more outputs.
- The figure above shows **50 ns Delays** on three direct switcher inputs. Because Alladin's program bus output is delayed relative to its input by 50 ns (nanoseconds), these delays are *required*.

Direct signals must be delayed by 50 ns in order to properly match them with signals that pass through Alladin.

Refer to the "**Output Video Timing**" section for additional important information regarding delay.

Drawing 4: SCSI, GPI, Computer, RS-422 Connections



Note the following points regarding the Alladin system shown above.

- The system shown above is an **A/B Roll** editing configuration with three VTRs — two source and one record.
- RS-422 control lines from your editing system must be connected to each VTR, the switcher and Alladin.
- GPI lines can also be connected from the editor to Alladin. In Chapter 3, refer to the “**Remote Control**” section for GPI connection instructions.
- In the figure above, an external “standalone” editor is shown. However, an editing system that runs on your computer in the Windows environment could also be used. Only *one* editing system can be connected to Alladin at a time.

Video Adjustments

This section provides instructions for the following procedures.

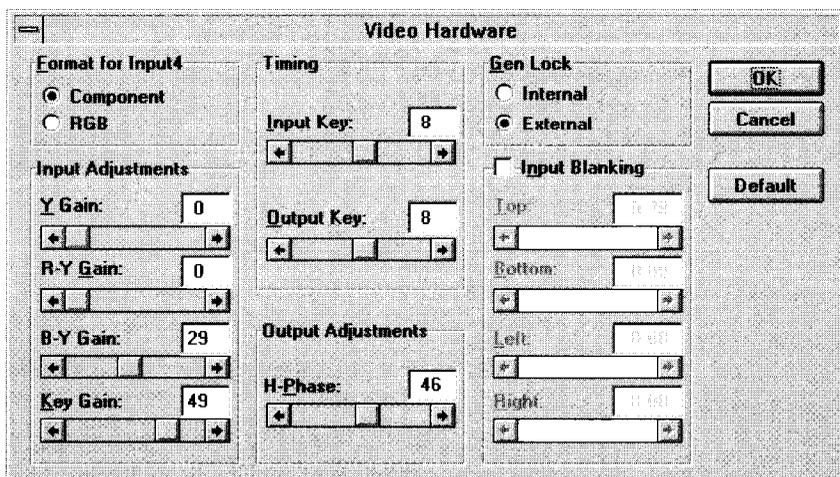
- Selecting YUV or RGB component format (on Alladin input 4)
- Component System Timing and Adjustment

Selecting YUV or RGB Format

With the **Component Option** installed, you can switch the component format of input 4 using the **Video Hardware Window**. This is the only Alladin window that exhibits a different set of functions in component format – all other system operations are standard.

Use the following steps to select YUV or RGB format for input 4.

1. In the Menu Bar, click **Setup, Video Hardware...** to display the **Video Hardware Window**.



2. The block in the top left corner is the **Format** block for input 4.
 - To select **Component** format (YUV) for input 4, click **Component**.
 - To select **RGB** format for input 4, click **RGB**.
3. Click **OK** to close the window and accept the new format selection. The change occurs immediately.

Component System Timing

This section provides instructions for timing Alladin in the component environment. The following topics are discussed.

- Input Video Timing
- External Key Input Timing
- Input Video Adjustments to the DVE
- DVE Blanking Adjustments
- Key Output Timing
- Output Video Timing

Where applicable, the number of each pertinent **TechFAX** document is listed. Refer to the “**FaxBack, TechFAX and BBS**” section in Chapter 1 for details on receiving **TechFAX** documents.

IMPORTANT

Inadvertent adjustments to input, output and key parameters without the proper test equipment may result in poor system video performance. If you make an adjustment error in the **Video Hardware Window**, click **Cancel** to exit without saving changes and revert to previous values. You can also click **Default** to return to the factory default settings.

Input Video Timing

For standalone Alladin configurations and those using downstream switchers, input timing procedures for a component Alladin system are similar to those outlined in the “**Input Timing**” section in Chapter 3. In the procedure, note that the step detailing subcarrier adjustments at the external source does *not apply* to component systems.

NOTE

Refer to **TechFAX 120** for additional information on video setup and timing procedures.

External Key Input Timing

Timing procedures for the external key input are identical to those outlined in the “**External Key Input Timing**” section in Chapter 3. This procedure applies *only* if you are using an external key input.

Input Video Adjustments to the DVE

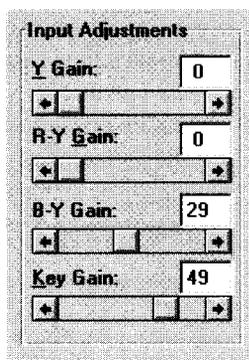
This section provides instructions for adjusting input levels to Alladin's DVE. The procedure allows you to match Alladin's digital layer (DVE) to the analog bus (Program). These adjustments set levels for all sources as a block — *individual* source adjustments are not provided.

NOTE

Refer to **TechFAX 120** for additional information on input video adjustment procedures.

If you need to adjust input levels to the DVE, use the following steps.

1. Type **CTRL + N** to clear all keyframes and start a new effect.
2. Play back a color bar tape and select that source on **Program** and on **Layer A**. In the **Key Type Box**, select **Full Key** and click **Use DVE** in the check box below.
3. Monitor Alladin output on a **Waveform Monitor** and **Vectorscope**. If you *do not* have these video test instruments, you must rely on your "visual" matching skills.
4. Click the **Keyframe Icon** to select the **Keyframes Window**. Double click the **Crop Icon** and crop the **Top** of the image down to the middle of the screen. This step splits the image between the analog bus (Program) and the digital layer (DVE).
5. Click **Setup, Video Hardware...**
6. The block in the bottom left area of the window is the **Input Adjustments** block.



Adjust individual input parameters as required.

7. When complete, click **OK** to accept the input video adjustments and close the **Video Hardware Window**.

DVE Blanking Adjustments

For standalone Alladin configurations and those using downstream switchers, blanking adjustment procedures for a component Alladin system are identical to those outlined in the “**Blanking Adjustments**” section in Chapter 3.

Output Video Timing

For standalone Alladin configurations and those using downstream switchers, output timing is required when Alladin’s video output is connected to the *input* of a downstream switcher. This process guarantees that Alladin’s video is *synchronous* with other sources feeding the switcher.

NOTE

When **Internal** Gen Lock is selected, output adjustments are grayed out. In this situation, make timing adjustments at the video sources.

IMPORTANT

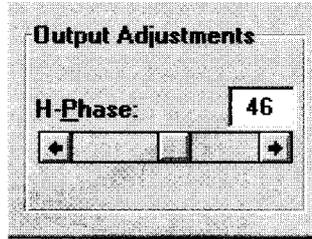
When using Alladin with a downstream switcher, you must account for the 50 nanosecond delay in Alladin’s Program bus. All sources that are connected to both Alladin’s inputs and the switcher inputs must be delayed to the *downstream switcher* inputs by 50 ns plus total cable lengths. (Do not delay the inputs to Alladin.) This guarantees that these direct sources are delayed in their arrival at the *downstream switcher* by an amount equal to Alladin’s internal delay. Variable delay-lines are recommended, although fixed lengths of coaxial cable can be used. A 32.5 foot length of coax will provide a 50 ns delay.

In the “**Component System, External Switcher**” section, refer to **Drawing 3: Video and Reference Connections** for an illustration of the proper delay configuration.

Use the following steps to adjust Alladin’s output timing.

1. Ensure that Alladin’s **Key Output** is connected to the downstream switcher’s external key input. Ensure that Alladin’s **Video Output** is connected to one of the downstream switcher’s video inputs.
2. Monitor Alladin or switcher output on a **Waveform Monitor** and **Vectorscope** and ensure that both are locked to reference.

3. In the Menu Bar, click **Setup, Video Hardware...** to display the **Video Hardware Window**.
4. The block in the bottom center of the window is the **Output Adjustments** block.



Adjust the **H-Phase** scroll bar to match Alladin's horizontal phase to the switcher.

Note that there are no **Sub-Phase** or **Key Gain** output adjustments with the component option installed.

5. When adjustment is complete, click **OK**.

NOTE

After you perform this procedure you may need to repeat the **Input Video Timing** procedure to fine tune input levels and phase.

Key Output Timing

For Alladin configurations using downstream switchers, output key timing procedures are identical to those outlined in the "**Key Output Timing**" section in Chapter 3.

Index

3

3-D
Modeling 1:8, 2:8

4

486 DX CPU 1:5

5

525 Standard 3:41, 4:2, 4:7

6

625 Standard 3:41, 4:2, 4:7

A

A/B roll 3:22, 3:25, 4: 16, 4: 19

AC

Line cord 3:8, 4:3

Outlet 3:8, 4:3

Ad-just

Blanking 3: 1, 3:28, 3:35,
4:21, 4:23

Scroll Bars 3:29

Air Vent 3:8, 4:3

All-Y/C mode 2: 1

Alladin

Group Window 2:7, 2:9, 3: 15

Icon 2:9, 3: 15

Output 3:4, 3:34, 4:22

Paint 1:8, 2:7, 3:14

Run automatically 3: 16

Animation 1 :8

Anti-static precautions 2:3, 3:8,
4:9

B

Black

Burst 3:10, 3:17, 3:19, 3:41,
4:5, 4:7

Blanking adjustments 3: 1, 3:28,
3:35, 4:21, 4:23

BNC connector 2: I, 4:3

Board

Component 4:2, 4:8-4: 12

Component I/O 4: 10-4:11

Composite I/O 4: 10

Border 3:35

Breakout cables 4: 13

C

Cables

Breakout 4: 13

Character Generator 1:8, 3:32

Command Buttons 1:6

Component

Board 4:2, 4:8-4: 12

Format 1:2, 4:20

I/O Board 4: 10-4: 11

Inputs 4:2

Monitor 1:3, 4:5

Option 1:1, 2:1, 3:2, 4:1

Video sources 4:2

Component System

External Switcher 4: 17, 4:23

External Sync 4: 15

Composite

I/O Board 4: 10

Input 2:6, 2: 10, 3:2, 3:9, 3: 18

Monochrome output 4:5

output 3:9, 3:4 1

Configuration

System 2:9, 3:9, 4: 1, 4:5, 4:8

Connecting component sources
4:8, 4:13

Connector Pinout Data 3: 1,
3:27, 3:43, 4:6

Conventions

Documentation 1:6

Crop 3:30, 3:34-3:35, 4:22

CrystalGraphics 1:8, 2:8

Customer Service 1: 10

D

D2 3:43

Default settings 3:18, 3:28, 4:21

Delay 3:24, 3:42, 4:7, 4:18

Desktop

Installations 2:4, 3:7

Dialog

Boxes 1:7

Differential

- Gain 3:42,4:7
- Phase 3:42, 4:7
- DIP switch 4: 12
- Directories 3: 14
- Disk Care 3:13
- Distribution Amplifier 3:24, 4:18
- Documentation
 - Conventions 1:6
 - Terms 1:7
- Downstream Switcher 3:28

E

- Edit control
 - D2 3:43
- Effect 1:7
- Emulation 3:27
 - GVG 100 3:27
 - Sony VTR 3:27
- Environmental 3:7
- External
 - Key 3:9, 3:28, 3:32,3:37, 3:40, 4:3, 4:21, 4:23
 - Key input timing 3:28, 3:32, 4:21
 - Reference 2:4, 3: 19, 3:21, 3:23, 4:15, 4:17
 - Switcher 3:20,3:23,3:37, 4: 14, 4:17, 4:23
 - Sync Generator 2:5, 3:10, 3:19-3:21, 3:23, 4:5, 4:14-4:15, 4:17
 - Video inputs 1:7

F

- Factory-Installed Systems 4:8
- Fan 2:4,3:6-3:7
- Field Installation 4:8-4:9
- Format
 - Component 1:2, 4:20
 - Output 2:10, 3:11, 4:2
 - Selection 3: 18, 4:20
 - Switching 3: 11
 - System 3:41, 4:7
- Frame buffers 3:6
- Frequency response 3:42, 4:7

G

- Gain 3:33 3:38, 3:42, 4:7, 4:24
- Gen Lock 2:10, 3: 10, 3: 19, 3:37, 4:2, 4:5, 4:23
- Internal 3:37, 4:23

- General System Information
 - 3:1-3:2
- GPI 1:4,2:6,3:6, 3: 11, 3:26, 4:6
 - Connection 3:11, 3:26, 4:19
 - Control 1:4, 3:26
 - Input port 1:4, 3:26
 - Port 3:11, 4:6
- Graphics
 - Tablet 2:4, 3:7
- GVG Model 100 Switcher 3:27

H

- Hard drive 1:5, 3:3
- Hardware
 - Installation 2:3,3:1,3:5,3:8, 4:6, 4:8
 - Requirements 3:3
- Help
 - Files 1:8

|

- I/O Board 3:6, 3:39, 4: 10
- IBM compatible 3:2-3:3
- Icon
 - Alladin 2:9, 3:15
 - Keyframe 3:30, 3:34-3:35, 4:22
- Image 1:7
- Imaging Software 1:4
- Input 2: 1
 - Composite 2:6,2:10,3:2,3:9, 3:18
 - RGB 4:2
 - Sources 1:2,2:6,3:2,3:4, 3:30
 - Sync 4:2, 4:4, 4:7, 4: 13
 - System 2:1, 3:41, 4:7
 - Timing 3:28, 3:32,4:21
 - Video adjustments 3:1, 3:28, 3:33, 4:21-4:22
 - YUV 4:2
- Inscriber
 - Manual 1:8
- Installation
 - Field 4:8-4:9
- Integrated production system 3:2
- Internal
 - Chassis components 3:6
 - Reference 2:4, 3:19, 3:21, 3:23, 4: 15, 4:17
 - Source 3:9, 4:4

K

K factor 3:42, 4:7

Key

Hole 3:40

Input connector 2:1, 3:9, 3:32

Output timing 3:28, 3:38,
3:40, 4:21, 4:24

Signal 3: 10, 3:24, 3:39, 4: 18

Keyboard

And Mouse 2:4, 3:7

Buttons 1:6

Keyframe 1:7

Icon 3:30, 3:34-3:35, 4:22

L

Layer A

Bus 3:37

Layer B

Bus 3:32

Linear Motion 3:32

Location Requirements 3:7

M

Menu

Setup 3: 18

Monitor

Component 1:3, 4:5

Monitoring 1:3, 3:2

Monochrome Preview output
4:2, 4:7

Motion

Linear 3:32

N

Naming

Switcher Inputs 3: 11

NTSC 1:2-1:3, 3:7, 3:9, 3:33,
3:41

O

Optional components 1:4

Output 2: 1

Composite 3:9, 3:41

Format 2: 10, 3: 1 1, 4:2

Group 3:9

Preview 2: 1, 3: 10, 3:39-3:40,
4:2, 4:5, 4:7

Program 4:5

System 2:1, 3:41, 4:7

Timing 3: 1, 3:28, 3:37-3:38,
3:40, 3:42, 4:7, 4:21,
4:23-4:24

Video timing 3: 1, 3:24, 3:28,
3:3 1, 3:37, 3:40, 4: 18,
4:21, 4:23

YUV 4:2

P

Page

Turns 1:1

PAL 1:2-1:3, 3:7, 3:41

Personal Computer 3:3

PiCon 3: 13

Picture 1:7

PIX Board 3:6, 4: 11

Point and shoot 1: 1

Power

Requirements 3:7, 3:42

Source 1:3

Supply 3:6

Preview

Monochrome Output 4:2, 4:7
Output 2: 1, 3: 10, 3:39-3:40,
4:5

Preview/Key Jumper 3: 10,
3:24, 3:28, 3:39-3:40

Program

Bus Delay 3:24, 4: 18

Bus delay 3:42, 4:7

Output 4:s

Propagation delay 4:7

R

Rack installations 2:4, 3:7

RAM 1:5, 3:3

Range 3:42, 4:4, 4:7

Reference

Internal or External 2:4, 3: 19,
3:21, 3:23, 4:15, 4:17

Loop 3:10, 3:21, 3:23, 4:15,
4:18

Selection 3: 19

Signals 1:3

Video 1:3, 2:4, 4: 11

Related Publications 1:8

Required components 1:2

RGB source 1:2, 4: 16, 4: 18

RS-422

Connector 3:6, 3:44

Control 3:22, 3:25-3:26, 4:16,
4:19

Editor Port Connection 3:26-
3:27

Port 3: 11, 3:27, 4:6
Run Alladin 1:5, 2:8-2:9, 3:15
Automatically 3: 16

S

Scroll
 Bars 3:29
SCSI
 Cable 1:2, 2:6, 3:3
 Connector 3: 12
 Interface card 1:2, 2:3, 3:11
 Port 2:6, 3:11, 4:6
Selecting YUV or RGB format
 4:20
Srt Preview/Key Jumper 3: 10,
 3:24, 3:28, 3:39-3:40
Setting Up Your PC 1:3, 1:5,
 2:3
Setup Menu 3: 18
Signal connection 3:8
Signal to noise 3:42, 4:7
Site Preparation 3:7
Softness 3:35
Software
 Description 1:4, 3:1, 3:13
 Installation 2:3, 2:7, 3:1,
 3:13-3:14, 4:2, 4:12
 Requirements 1:2, 1:5, 3:3,
 3:11
Sony
 Serial VTR 3:27
Source 1:7
 Internal 3:9, 4:4
 RGB 1:2, 4:16, 4:18
Specifications 3:1, 3:26, 3:41,
 4:1, 4:7
Standalone Configuration
 Timing 3:28
Standards
 525 and 625 3:41, 4:2, 4:7
Still 1:7
Still Store 3:4, 3:6
stop 1:4
SVGA 1:3, 1:5, 3:3
Switchable YUV/RGB
 Component input 4:2
Switcher
 External 3:20, 3:23, 3:37,
 4:14, 4:17, 4:23
Switching
 Component formats 4:8, 4:12
 Formats 3: 11
Sync Generator 3: 17
 External 2:5, 3:10, 3:19-3:21,
 3:23, 4:5, 4:14-4:15, 4:17

Sync input 4:2, 4:4, 4:7, 4: 13
System 1:7
 Adjustments 2:3-2:4, 2: 10
 Configuration 2:9, 3:9, 4:1,
 4:5, 4:8
 Diagrams 3:20
 Factory Installed 4:8
 Files 1:4
 Format 3:41, 4:7
 Inputs 2:1, 3:41, 4:7
 Inputs and Outputs 2: 1
 outputs 2: 1, 3:41 4:7
 Reference Source 3: 17, 3: 19
 setup 3:1, 3:17
 Timing 3:28, 4:20-4:21

T

TBC 1:3, 3:4, 3:30
Technical Performance 3:42,
 4:7
Third party applications 1: 1
Timebase Corrector 3:4
Timing
 Output 3: 1, 3:28, 3:37-3:38,
 3:40, 3:42, 4:7, 4:21,
 4:23-4:24
Tool Bar 3:35
Topas 1:8, 2:8
TRAG Board 3:6

U

Unpacking and Inspection 3:1,
 3:5, 4:9
User
 Files 1:4
 Interface 1:4, 3:2
Using Scroll Bars 3:29

V

Video
 Adjustments 3: 1, 3:28, 3:33-
 3:34, 4:1-4:2, 4:4, 4:8,
 4:12, 4:18, 4:20-4:22
 Connections 4:1, 4:8, 4: 12,
 4:14
 Hardware Dialog 2:4, 2: 10,
 3:4, 3:10, 3:17-3:19, 3:21,
 3:23, 3:28-3:29, 3:33,
 3:35, 3:40, 4:17
 Input adjustments 3: 1, 3:28,
 3:33, 4:21-4:22
 Input Sources 1:2

- Monitor 1:3,2:4, 3:7,3:9,
3:30,4:s
- Sources 4:2
- Standard 3: 17
- Switch 3:4, 3:24, 3:30,
3:38,4: 18
- Voltage selector 3:8, 4:3

W

- Width 3:26, 3:35
- Window
 - Alladin Group 2:7, 2:9, 3:15
- Windows
 - Conventions 1: 1,1:7
 - User's Guide 1:7
- Wiring diagrams 3:20, 4: 14

Y

- Y, R-Y, B-Y 3:41, 4:7
- Y/C
 - All-Y/C mode 2: 1
 - format 2:5, 2: 10, 3:9, 3: 17-
3: 18, 3:20, 3:24
 - Input 2:s
 - output 2:5,2:10,3:9,3:18,
3:22, 3:24
- YUV
 - Program Output 4:5
- Y uv Component**
 - Inputs 4:2
 - Output 4:2
- YUV/RGB Input 4:2, 4:4

