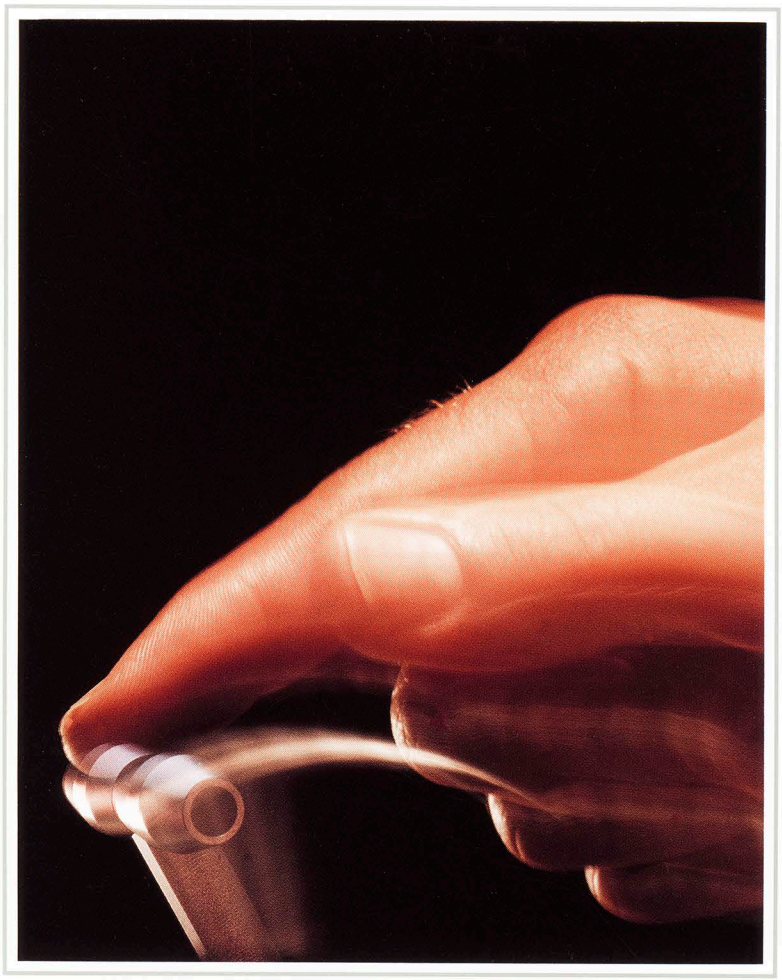
AMPEX
VISTA SERIES
COMPACT SWITCHERS

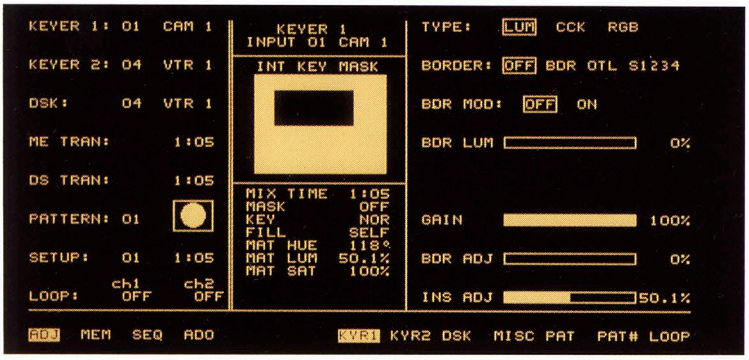


AMPEX

AMPEX VISTA SWITCHERS OFFER YOU TREMENDOUS CREATIVE POWER *AND* CONVENIENT SIZE.

Flexibility you'd never expect from a compact switcher.

These advanced switchers incorporate a flexible mix/effects system and a *full* downstream Mixer/Keyer with flip-flop operation. Vista switchers take the leap from ordinary to extraordinary capability by using the exclusive Ampex Digi-Loop™ system, which elevates the power of one M/E to the power of two or more. Digi-Loop lets you route almost any level of the switcher to ADO or other digital effects systems, and return the signal to the same location. This gains an extra layer *entirely* within the switcher!



The Vista™ display screen brings together many capabilities for quick interaction and at-a-glance information. The display screen is divided into three sections: the left is status and adjustment of all setups, the center provides specific details of the current operation, and the right allows specific adjustments for effects such as keys, patterns, and ADO control.

Digi-Loop gives the Vista switcher the power of a much larger switcher by allowing the compositing of complex layered images, using the ADO system with patterns and keys in only one M/E. Because of this, imaginative effects like flying logos and customized shadows are possible in one simple pass.

The keyers used in the Vista switcher possess unequaled video quality, and produce clean composited images. Design-wise, this can only be accomplished by using linear keyers with a wide gain range, which maintain the quality of the sources as they are composited.

There are three full-function linear keyers on the Vista switcher, two in the M/E and one in the downstream mixer output. Each keyer is capable of luminance keys, external ISO-keys, and chroma keys. These may be upgraded with Spectrakey™ for chroma-nulled chroma key capability.

Vista switchers also provide an additional linear keyer in the downstream system for external luminance key sources, such as character generators. This preset, unity gain keyer, the *Uni-key*, is also used for creating Digi-Loop system effects.

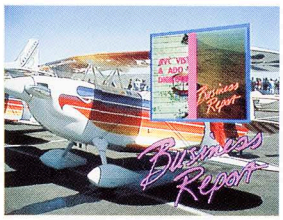
The Digi-Loop™ circuit gives a Vista switcher extra layering capability by routing special effects devices back to the same location in the switcher where the source originated. These images, then, are already keyed in, saving the use of an extra M/E for re-entry.

The bi-level linear keyers and the downstream key can be self-filled, independently matte filled, or independently key bus filled. Keys may be masked by either an internal rectangular mask or an irregular external mask, both of which may be inverted.

The functionality and performance built into the Vista system's keyers give you the versatility and precision you need for quality production.

Complete Digital Effects Integration.

As well as providing traditional switcher control, the Vista unit also provides a display-based, interactive user interface which benefits the operator in two important ways: First, the status of all setups is displayed for quick reference. Second, the display provides a simple user interface for primary setting of keys, patterns, and sequence settings, plus switcher configuration setup and memory control.



Vista switchers will combine up to four levels of video within one M/E.

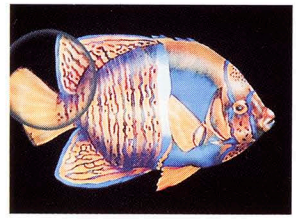
Perhaps most importantly, this unique user interface sets the Vista interface at the cutting edge of switcher technology by providing a location at the switcher for operational control of other peripherals. The new Vista SE model takes full advantage of this by completely integrating the ADO 100 operations into the Vista control panel.

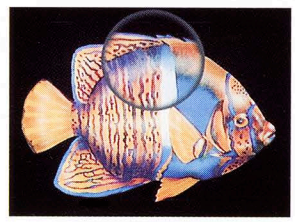
In this configuration, you can completely program and control the ADO 100 system from the Vista console. Ease of operation is a key factor in this integration, as it clears away unnecessary keyboards, reducing the number of interfaces the operator must master. This brings a simple and elegant solution to control rooms and edit suites. Other ADO models also utilize the Vista display when interfaced, allowing the operator to call up and run ADO system effects from the Vista control panel.

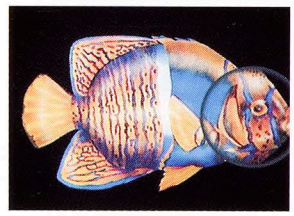
This unprecedented integration with effects devices gives Vista the power which sets it, and you, apart from the competition.

Versatility for your systems design.

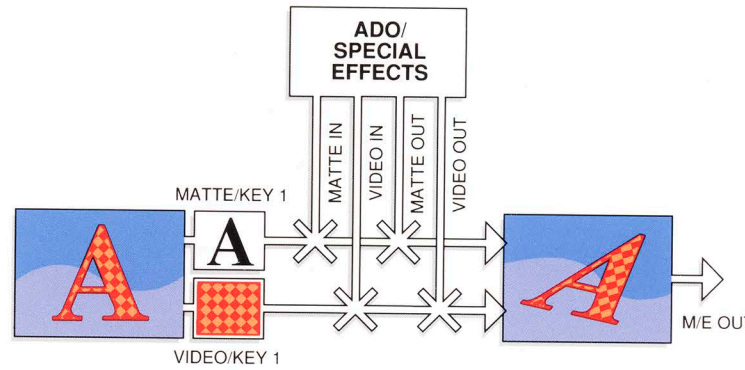
Additional buses are also provided with the Vista Series, including two auxiliary buses with all primary sources and fully timed re-entries. These combine with other features in the switcher to add enhancements such as increased Digi-Loop capability, further versatility for layering in one generation, extra switcher outputs and, of course, auxiliary control of the switcher. All buses, as well as the key source and key fill buses, may be controlled from the console menus or optional remote panels.







The powerful memory in a Vista system stores and recalls set-ups and sequences quickly and easily providing rapid access to common setups and an array of animation techniques.



Vista takes one M/E and gives it the capability of two by providing the proprietary Digi-Loop signal for adding extra layers. In addition, the downstream system provides full mixer/keyer operation and flip flop mode for on-air operation.

Integration with external devices is a key factor in your system design, and the switcher is often the key element. For maximum flexibility, the Vista interface provides a powerful protocol for editor control. In fact, Vista Series switchers have a sophisticated interface to all Ampex editors, plus most other editing systems.

A powerful memory system lets you store and recall setups and sequences quickly and easily.

The Vista Series' powerful memory system correlates to having a mini-animation system inside the switcher. Twenty-four memory locations may be used to store the complete switcher setup. Sequences link together the memory setups by listing up to 10 memories in any order. Twenty-four sequences may be created, stored or linked together for longer sequences, or you may loop sequences to create clever repeating effects.

You can use the memory system for the quick recall of a particular set-up frequently needed, as in broadcast applications, or for animation effects. The combination of ADO system triggered effects and the Vista switcher's powerful memory opens the door to a huge array of animated techniques limited only by your imagination.

Component and Composite Vista switchers operate identically.

Because composite and component Vista switchers operate the same way, operators will be able to move from one system to the other without having to learn a new interface. The differences that *do* exist between the two are internal to the chroma keyers, and to the system inputs and outputs.

WHETHER you work in a compact production suite, a mobile unit, a corporate teleproduction facility, or in broadcast, Vista™ switchers give you the performance you need for today's demanding teleproduction requirements. And the variety of configurations that the Vista Series provides lets you choose exactly the right one to fit your specific requirements.

Professionals asked us for a switcher that would give them the convenience of compact size, but with the power they'd expect to find in a switcher of traditional size. The result is the Ampex Vista Series compact switcher.

Vista switchers are available in component analog models and composite analog models, as either 10 or 18 input systems. These may be further upgraded to the Vista SE switcher, which integrates ADO® 100 special effects. And while this wide range of models and configurations provides the choices to fit your creative needs, the switcher's compact size allows it to fit anywhere in your facility.

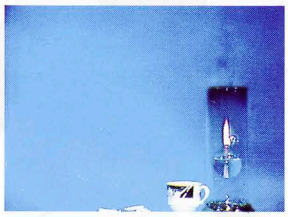
The Vista SE switcher integrates ADO 100 special effects, clearing away multiple keyboards and providing sophisticated digital effects from one easy-to-operate system.

Component and Composite Vista switchers operate identically, making it easy to mix and match formats for different edit suites and control rooms in one facility.

POWERFUL OPTIONS GIVE YOU EVEN MORE VERSATILITY

THE optional **ISO** and/or **RGB/Component Chromakeys** are available in three variations: eight ISO hole cutter inputs with chroma key capability, sixteen ISO hole cutters with chroma key, or a seven ISO hole cutter without chroma key capability. You may assign the ISO/chroma key signals to primary inputs in any order or combination from the control panel via the configuration menu on the switcher's display.

Spectrakey chroma-nulling chromakey capability may be added to the ISO/Chromakey option. Ampex



The Spectrakey™ system easily keys difficult sources such as smoke or reflections, creating realistic images and leaving no discernible traces that the image was keyed.

Spectrakey technology gives you the ability to key shadows, smoke, reflections and other fine detailed foreground scenes into any background. (The video source may have any color background). Composite Vista switchers accept encoded or RGB signals while component Vista accepts most analog component formats.

Spectrakey is fully integrated into the switcher, eliminating the time consuming task of external timing and signal routing that's required when using external devices. And all the controls for adjusting Spectrakey are just another subset of the key adjustments. This means all the tools for creating on-air news or imaginary scenes are at your fingertips.

Key Borders are provided for all three keyers as a single option. This gives you high quality linear analog key borders, including traditional borders, outlines, and one and two line drop shadows. There's also Ampex's proprietary *Border Modify* feature that allows adjustable drop shadows up to 14 lines deep.

The optional **Multi-point Preview system** for component Vista switchers (standard on composite Vista switchers) allows you to view any of the 4 primary buses, the M/E, or the pattern as the background of the preview output. In addition, you may preview any of the four keyers at any time over any of the above backgrounds. This makes it possible to adjust the backgrounds, keys and wipes for the next transition without disturbing the on-air images.

The Vista border option furnishes various border types including proprietary adjustable drop shadows up to 14 lines deep.

The **Vista-Disk** external storage device is optional for component and composite models, and is standard on Vista SE systems. The Vista-Disk is a dual micro-floppy disk drive for off-line storage of setups and programmed sequences, as well as ADO 100 effects and events. The Vista-Disk is completely controlled from the Vista display panel with no additional control buttons or panels needed.

Up to eight remote panels of various configurations may be added to Vista switchers. There are two basic types available: a remote bus row controller of 10 or 18 input configurations, or a 24 button controller. The remote bus controller is offered in an X-Y style and can access any combination of up to four buses from one panel. The 24 button controller can be used for recall of memory setups, sequence triggers or GPI functions. Their capabilities are set by using the configuration menus in the switcher.

AMPEX SWITCHERS . . . GENERATIONS AHEAD.

THE Vista Series' innovative design gives you the power and versatility of a large switcher in an easy to use, cost effective, and compact package. With its unparalleled ability to produce sophisticated and integrated digital effects, Vista will unleash your creativity like no other switcher can.

And, of course, when you need help, the worldwide Ampex organization provides a full range of customer service and systems solutions.

Specifications and configurations subject to change without notice.

AVC

VISTA™ 18 PRODUCTION SWITCHER

General

The Vista 18 production switcher offers the power of a "big" switcher combined with compact size. The Vista 18 switcher has 18 inputs, including color black and color background. It is ideal for post production and mobile applications or other situations where space and budget are limited.

For complex laying and sophisitcated production, there are 12 full buses, and four keyers with exceptional power. Effects can be done in fewer passes with top end equipment picture quality. A full featured preview system combined with a powerful dual keyer downstream program/preset mixer make the Vista 18 ideal for live use as well as post.

Among the outstanding features that make Vista switchers unique is the integration with ADO™ special effects units. Our Digi-Loop™ effects circuit lets you accomplish effects with one M/E that require three full M/Es plus a DSK on ordinary switchers. ADO effects can be selected and run from the Vista control panel, saving both time and space.

A revolutionary electro-luminescent display simplifies complicated production tasks. It shows operating status, transition times, available patterns, memory set-ups, diagnostics and other essential operational information, so you always know where you are.

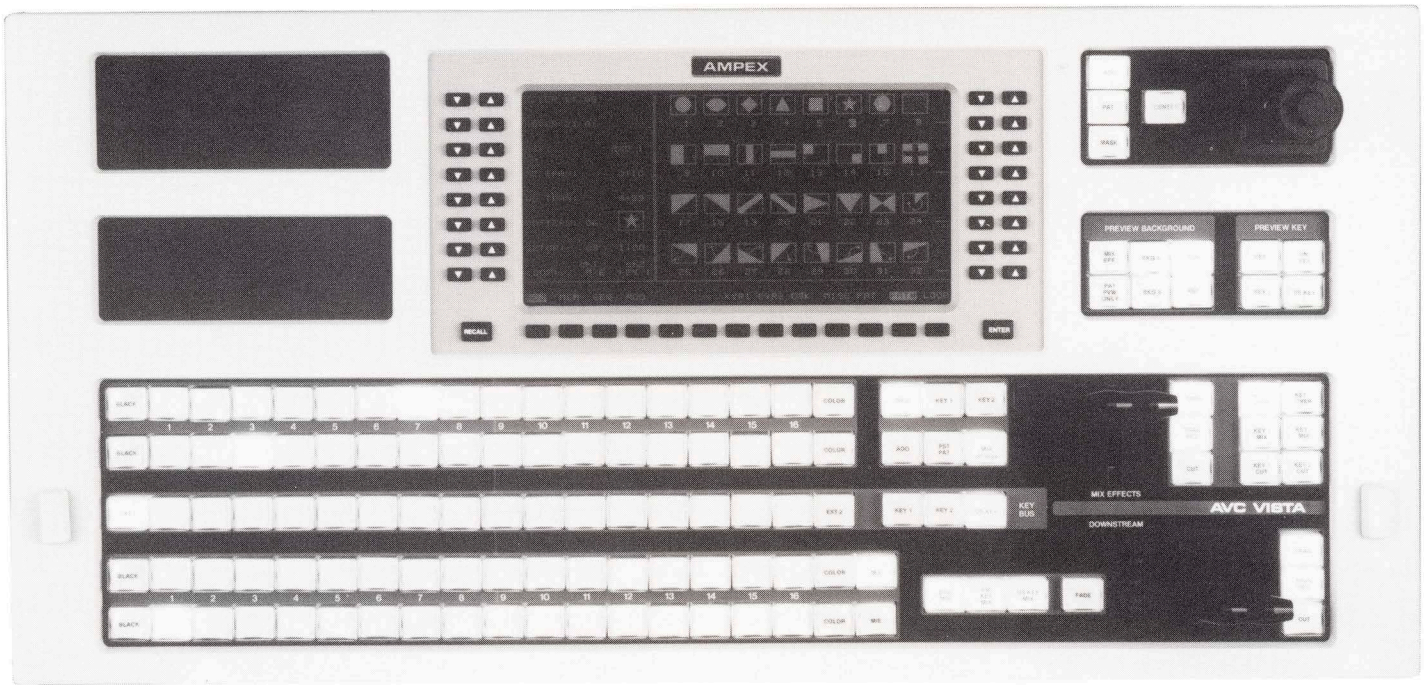
The unusually flexible memory found in Vista switchers stores 24 complete panel setups and 24 sequences for fast, easy recall of any combination of switcher operations.

Standard Features

- ☐ 18 inputs including color, black and color background
- ☐ Powerful mix/effects unit
- ☐ Downstream mixer keyer with Master Fade-to-Black
- ☐ Flip-flop operating format
- ☐ Integrated switcher status display
- ☐ 5 independent matte generators
- ☐ 4 auxiliary buses (2 with full re-entries)
- ☐ Available in NTSC, PAL or PAL-M video standards

Keying

- ☐ Three linear keyers capable of Luminance, RGB Chroma, Composite Chroma and ISO keys
- ☐ Composite Chroma keying capability included standard
- ☐ Key memory system stores setups for each source, recalls to any keyer



- ☐ UNIKEY™ additional DSK external linear gain key
- ☐ Optional Spectrakey™ Advanced Chroma Key System
- ☐ Optional flexible borders: 4 shadow styles and border-modify

Patterns

- ☐ 32 patterns including rotary wipes and random pixel dissolve
- ☐ Full screen adjustable borders
- ☐ 4 pattern border types (hard, soft, soft halo and half halo)
- ☐ Border width can track pattern size
- ☐ Patterns can be positioned with Auto-Panning capability

Microprocessor Features

- ☐ Panel memory with event transition and automatic sequencing
- ☐ Powerful preview system will even preview patterns
- ☐ RS-232, RS-422 and GPI control ports
- ☐ AVC audio system compatibility
- ☐ User-programmable switcher configuration

Options

- ☐ RGB chroma keyer/ISOlated key input matrix
- ☐ Analog key border generator
- ☐ Digital effects interface
- ☐ AVC Audio System
- ☐ Assignable auxiliary bus controllers
- ☐ Extended panel memory system

Specifications

Video Inputs	75 ohm, loop-through
Return Loss	< -40 dB at subcarrier
Video Level	1V p-p composite
Timing Inputs	
Pulse Level	2 or 4V p-p nominal
Subcarrier	2V p-p nominal
Video Outputs	75 ohm source terminated, 1V p-p
Return Loss	< -37 dB at subcarrier
Frequency Response	± 0.2 dB, 100 kHz to 5 MHz +0.;2 db/ -0.5 dB 5 MHz to 8 MHz Smooth roll off above 8 MHz
Differential Phase	$\pm 1.5°$ (10%-90% APL) worst case
Differential Gain	$\pm 1.5\%$ (10%-90% APL) worst case
Signal-to-Noise Ratio	>60 dB p-p video/RMS noise 120 kHz to 5 MHz, unweighted
Line Tilt	$\leq 1.0\%$ (IEEE window signal)
Field Tilt	$\leq 1.0\%$ (IEEE window signal)
Chrominance/Luminance Delay Inequality	≤ 25 nS (12.5 T Pulse)
Chrominance/Luminance Gain Inequality	≤ 0.2 dB
Crosstalk	≤ -55 dB at subcarrier
Path Length Accuracy	$< 1.5°$ at subcarrier
K Factor (2T Pulse)	$< 1.0\%$
Crossfade Gain Linearity	$\pm 0.5\%$ luminance $\pm 1.5\%$ chrominance
Crossfade Phase Linearity	$\pm 1.5°$
Dynamic Gain	$\pm 1.0\%$ (10%-90% APL)

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Litho in U.S.A. — 7/88 — V-1218

AVC VISTA REMOTE PANEL CONTROL SYSTEM

General

The AVC Vista™ series production switchers may be enhanced with a variety of flexible remote panels which can be configured to serve a wide variety of purposes. Two basic types of panels are available: a **Bus Row Controller** which comes in either 10 or 18 input versions, and a **24 Button Controller.** All panels communicate over a 500 kbps RS-422 serial communications link with the main AVC Vista electronics frame. Up to 8 controllers of any combination may sit on the serial line and may be placed in any location, with the only limitation being that a total of no more than 500 feet of cable can be between the electronics frame and the last panel.

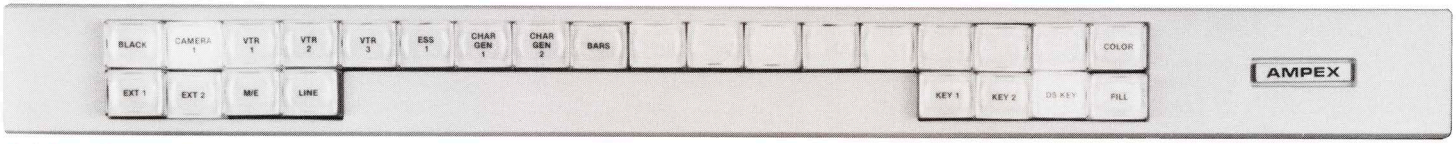
While the typical use of these panels is found in auxiliary switching applications, they are not limited to that. By mounting these panels near the main Vista control panel, a wide variety of functions and source selection can be provided without accessing the built-in menu display, or accessed while the menu display is being used for another function.

Bus Row Controller

For complex layering and sophisticated production, the Vista switcher provides 12 full buses, 8 of which can be accessed from the remote bus row controller panel. Buses which may be controlled remotely include: Aux 1, Aux 2, Util 1, Util 2, Key 1, Key 2, DS Key and Key Fill. Each panel is offered in an X-Y style and can access any combination of up to four of these buses from a single location.

The built-in electro-luminescent display on the Vista switcher allows each remote panel to be configured for how many and what combination of buses are to be controlled from each remote panel location. Each panel can be limited to control one, two, three, or enabled to control the full four buses allowed. Once the buses have been assigned, the customer may insert button legends provided into the four select buttons on each bus row controller.

10 Input Bus Control Panel

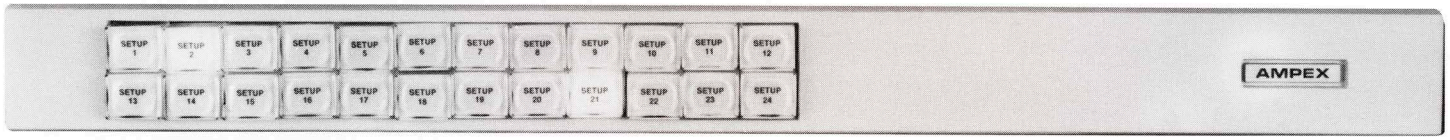


18 Input Bus Control Panel

24 Button Controller

A Vista switcher provides three groups of 24 functions which may be accessed from the 24 button controller: setups, sequences, or GPI. The unusually flexible memory found in Vista switchers stores 24 complete panel setups and 24 sequences for fast, easy recall of any combination of switcher operations. The switcher's standard, yet extremely adaptable GPI system allows any of over 130 different functions to be independently assigned to each of 24 contact closure inputs. While memory actions are normally operated from the menu display and GPI's from customer-provided contacts, any of these functions can be activated by a remote panel. Each button of this type of remote panel can be used to trigger one of the 24 panel memory setups, one of the 24 sequences, or one of the 24 GPI functions.

As with the bus row controllers, the built-in Vista display can similarly be used to configure 24 button panels to operate as panel memory setup, sequence, or GPI control panels. While this type of panel must be assigned to one of these three functions, intermixing of setup, sequence and other functions is possible using the GPI function mapping, also accessible from the configuration menus.



24 Button Remote Panel

Features

- ☐ Available in 10 and 18 input, four bus X-Y versions plus 24 button model
- ☐ Allows control of auxiliary buses from remote locations
- ☐ Allows control of any of the three key select plus the key fill buses without the use of the menu system
- ☐ Allows selection of panel memory setups without using menu or from remote locations
- ☐ Allows selection of panel memory sequences without using menu or from remote locations
- ☐ Allows triggering of GPIs without using contact closures

Specifications

Electrical	
Voltage Input:	9-125 VAC or 200-260 VAC (switch selectable)
Line Frequency:	48 to 62 Hz
Power Input:	3 Watts typical
Communications	RS-422 Looping, 500 kbps, 9 Pin "D"
Mechanical	
Rack Height:	1.75 inches nominal (1 Rack Unit)
Rack Width:	Standard EIA 19-inch
Rack Depth:	4 inches from mounting flange
Environmental	
Temperature:	0° to 40°C (+32° to +104°F)
Humidity:	10% to 90% non-condensing

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Litho in U.S.A. — 2/89 — V-1222

VISTA

VISTA-DISK ACCESSORY

Introduction

The Vista-Disk accessory is a dual floppy disk drive for off-line storage of programmed set-ups, sequences, and ADO® 100 effects and events.

This system is designed so operators may permanently save their work for later retrieval. For production and broadcast applications the Vista-Disk will provide time-saving benefits, allowing the operator to spend less time preparing the Vista or ADO systems for particular setups, maximizing both their creative time and their facilities or clients time.

Whether the application is a complex integrated Vista/ADO 100 move or a standard set-up for a broadcast application, it can be quickly and easily stored and recalled.

Description

The Vista-Disk can be used with any Vista series switchers, and is completely controlled from the Vista display panel with no additional control buttons or panels needed. The Vista display provides a menu for interfacing to the disk in storing and retrieving.

When the Vista control panel is utilized for ADO 100 operation, all Vista and ADO operations may be stored to the Vista-Disk.

The system is a 3.5 inch rack mountable unit using 3.5 inch 1.44 Mbyte floppy diskettes. The files on the disk are MS-DOS* compatable which allows file editing, such as deleting files from the disk, at a personal computer with MS-DOS applications.

The system communicates with the Vista switcher over Ethernet coax. For easiest use, the Vista-Disk would be mounted near the Vista control console.

The small plastic diskettes are durable and easily stored for long periods of time. The simple switch provided for write protection lets each operator easily protect his/her work.

*MS-DOS is a trademark of Microsoft Corporation.

Specifications

Disk Control	Dual 3.5″ micro-floppy disk drives
Storage Capacity	1.44 Mbyte per disk
Dimensions	17″ (432 mm) W X 3.5″ (86 mm) H X 9.875″ (251 mm) D
Power	Voltage: 95-132V; 180-264V Frequency: 50 Hz ± 10%; 60 Hz ± 10% Power: 25 Watts
Environmental	Ambient Temperature: 0 to 40C Relative Humidity: 10% to 90%, non-condensing
Communication	RG 58 Ethernet (BNC, 50 ohm), 185 meters max. length, 1 meter min. length

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AMPEX

Litho in U.S.A. — 11/89 — V-1359

Vista SE Series

TECHNICAL DATA

General

The Ampex Vista™ SE system combines the power and flexibility of ADO® 100 digital effects and Vista series switchers in a remarkably compact and powerful system.

Advanced Digital Effects

The Vista and ADO 100 systems combine operation and integration for ease of use and greatly expanded capabilities. Switcher inputs, keys, patterns, and mix effects may be fed directly to the ADO 100 system. Effects are then returned to the same location in the switcher, eliminating the need for additional switcher M/Es and saving production generations. The capabilities of each system are combined to create complex effects which may be run simultaneously from the Vista control panel with a single button push.

Digital Key Processing

In the Digi-Loop™ system, the ADO 100 system can act as an advanced digital key modifier. Featuring its own separate key mask, it can be used to re-size, rotate, position, scroll, roll, or otherwise process a title key, station logo, camera artwork, or any other keyed graphic. The Digi-Matte dedicated key channel of the ADO 100 system allows complete retention of all subtleties contained within the key by processing video fill and keyhole.

Dual Pattern Systems

An ADO 100 system can also be used to provide additional digital pattern capabilities. Digital wipes can range from simple box wipes to rotating patterns and twinkling star effects. Once a wipe pattern is sent to the ADO system, the Vista wipes are available as a secondary wipe system. They can be run simultaneously with, or independently of the ADO system "wipe" effect.

Equally at home in a broadcast studio, mobile van or post-production suite, the Vista SE's quality signal performance, full range of effects, small size and low cost sets the precedence for a high performance teleproduction package.

Disk Memory

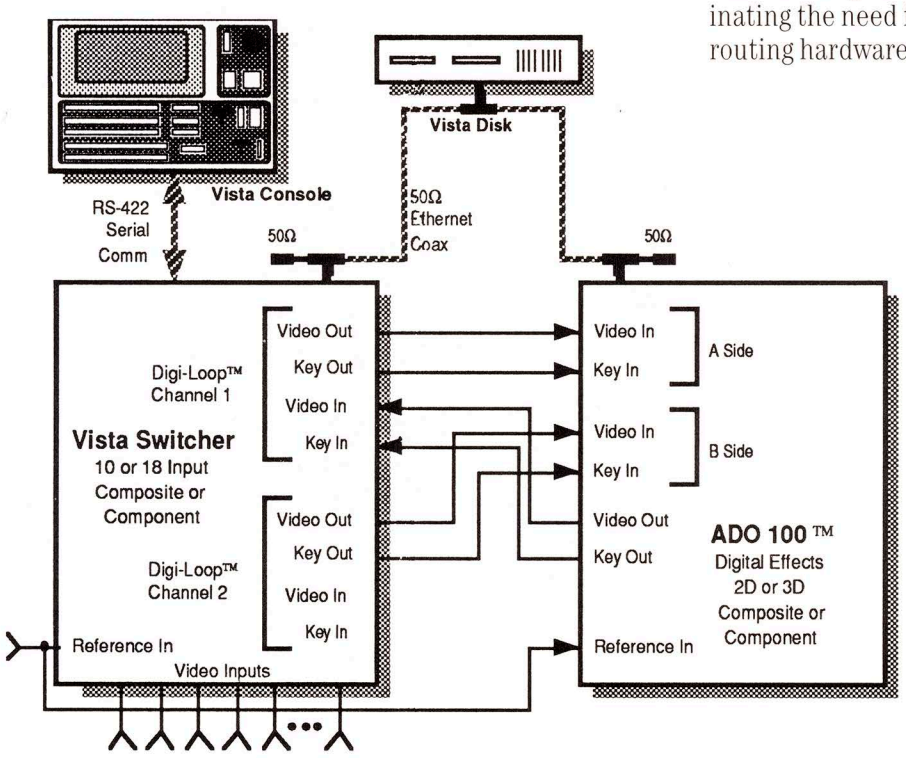
For long-term storage, Vista system set-ups and sequences, and ADO 100 effects may be stored on the Vista-Disk™ memory system. The Vista-Disk provides a micro-floppy disk storage location which is also controlled through the Vista console.

Control Panel Integration

In the Vista SE system the ADO 100 is directly controlled from the Vista console, which means programming, editing, and recall of all effects are done from the same location as the switcher functions.

The Digi-Loop™ interface is the key to the close coupling of Vista and ADO systems. It allows all video and key signal routing and output keying required for up to two ADO 100 channels via a Digi-Loop interface, eliminating the need for additional signal routing hardware.

VISTA SE ™
TYPICAL
INSTALLATION



Options

- ☐ An RGB and ISO key input option is available for user configured ISOlated key inputs and RGB component chroma key inputs. These are for externally generated keys which might come from such sources as RGB cameras or the Ampex ALEX™ character generator.
- ☐ The Spectrakey™ chroma key option provides enhanced chroma key capability for keying such difficult sources as smoke, reflections, and shadows. Ideal for news room usage, it allows the Vista switcher to provide high quality composite or RGB chroma keys on up to three keyers simultaneously. The ADO 100 system can access any one of these keys for instant re-sizing and positioning of the chroma key subject retaining the quality of the key.
- ☐ The 3D Perspective option allows the 2D ADO 100 system to be upgraded in the field with full 3D spatial capabilities, including Warps, variable perspective, skew, 3D image location and off-center rotations for barrel rolls and door swings.
- ☐ The ADO 100 Image Innovator option provides several additional video effects including mosaics, posterization and solarization, forced monochrome, color tint and luminance reversal, video defocus and half halo borders.

Available in a number of configurations including composite or component analog, the Vista SE system fills many of the gaps in production today.

Specifications

Vista Switcher

VIDEO PERFORMANCE

Input return loss (ext 75 Ω terminator)	≤ −40 dB at subcarrier
Output return loss	≤ −37 dB at subcarrier
Frequency response (reference to subcarrier)	100 kHz to 5.5 MHz ± 0.2 dB 5.5 MHz to 8.0 MHz + 0.2 dB to −1.0 dB Smooth rolloff above 8 MHz
Differential Gain	≤ 0.7% (10 to 90 % APL)
Differential Phase	≤ 0.7° (10 to 90% APL)
Signal-to-Noise Ratio	≤ 65 dB unweighted, 10 kHz to 5 MHz
Crosstalk	≤ − 55 dB at subcarrier

ADO Special Effects System

PERFORMANCE

Luminance frequency response:	NTSC: ± 0.5 dB to 5.5 MHz PAL: ± 0.5 dB to 5.5 MHz
Video performance:	Differential Phase: < 2° Differential Gain: < 2% K factor (2T pulse): < 1%
Motion performance:	Sub-pixel resolution: 2.3 nanoseconds

ADO-100 DIGITAL SIGNAL SAMPLING

13.5 MHz, 4:2:2	Conforms to CCIR-601 standard

PHYSICAL

Composite Signal System Chassis:	
ADO-100:	12.5″ (31.8 cm) H, 17.5″ (44.5 cm) W, 20″ (50.8 cm) D, 80 lbs. (30 kg)
Vista:	14″ (35.6 cm) H, 17.5″ (44.5 cm) W, 19″ (48.3 cm) D, 100 lbs. (45.5 kg)
Component Signal System Chassis:	
ADO-100:	12.5″ (31.8 cm) H, 17.5″ (44.5 cm) W, 20″ (50.8 cm) D, 80 lbs. (30 kg)
Vista:	28″ (71.1 cm) H, 17.5″ (44.5 cm) W, 19″ (48.3 cm) D, 120 lbs. (54.5 kg)
Control Panel:	10 Input: 12.25″ (31.1 cm) H, 3.375 (86 mm) D—below surface, 17.5″ (44.5 cm) W—10 input, 24″ (61 cm) W—18 input, 20 lbs. (9.1 kg)
Vista Disk:	3.5″ (89 mm) H, 17.5″ (44.5 cm) W, 9″ (22.9 cm) D, 13.5 lbs. (6.1 kg)
Ethernet:	50 ohm coaxial cable (RG-58U), 500′ (152 m) maximum length

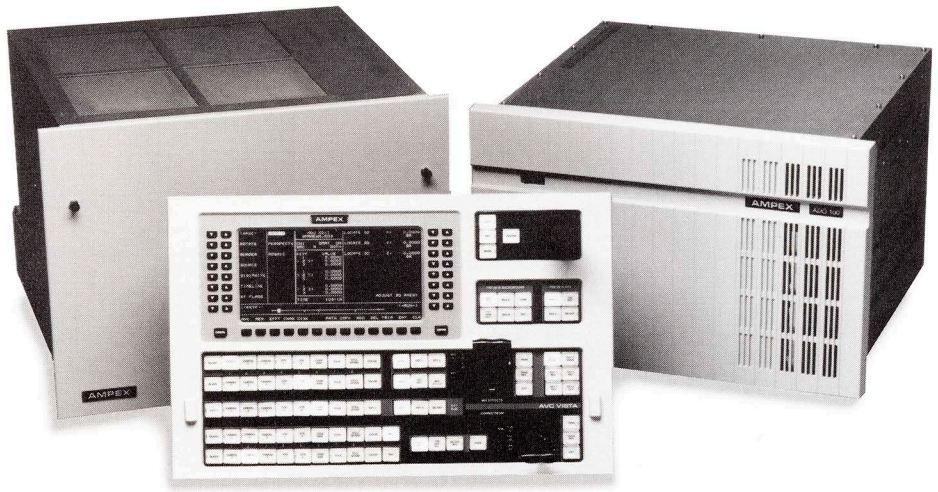
Please refer to Vista or ADO-100 data sheets for further product information.

Hardware Requirements

Vista 10 or 18 input switcher
Vista-Disk
GPSINET
ADO-100 2D or 3D
Version 2.6/1.3 or later firmware

Future performance upgrades may require the addition of and/or the modification of hardware and/or software in system components. Vista and ADO-100 require compatible hardware and software to function in the Vista SE configuration. Older Vista and ADO-100 equipment may be upgraded to Vista SE configurations. Hardware and software additions may be required. Contact Ampex sales for information.

Specifications subject to change without notice or obligation.



AMPEX

Litho in U.S.A. —3/91 — V-1469

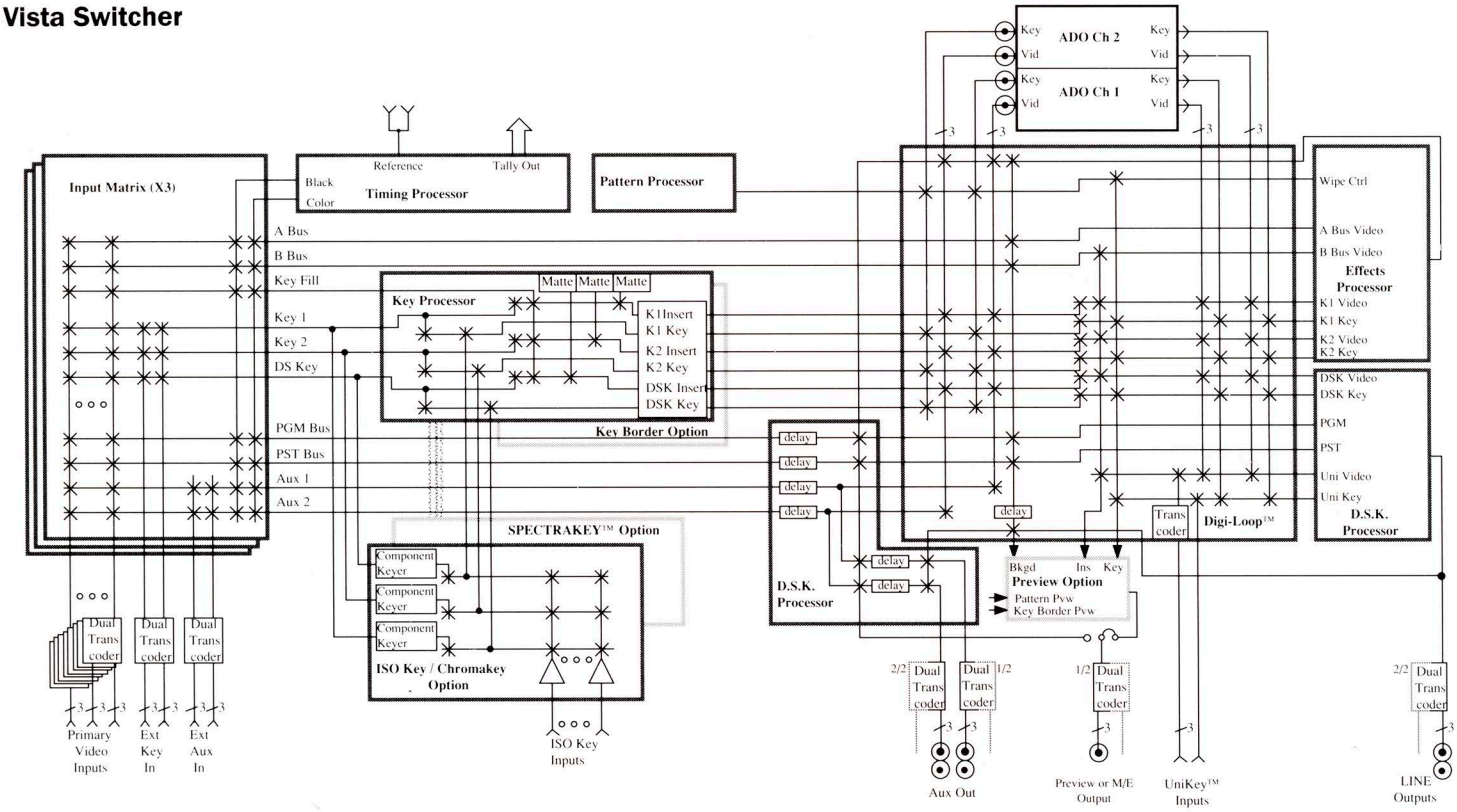
AVC VISTA COMPONENT SWITCHERS

PRELIMINARY

Introduction

The AVC Vista™ component switchers are a quantum advance in state-of-the-art television production equipment. Available in 10- or 18-input configurations, all Vista switchers utilize an electro-luminescent menu display to provide an unprecedented degree of control from an extremely compact control panel. While the menu display approach is a departure from historical switcher design, all basic video functions are performed from a traditional set of faders and bus rows that will be familiar to any operator. Vista switchers communicate via serial link between the console and signal system and employ a 68020 microprocessor for video control functions.

Vista Switcher



Video Functional Description

The component Vista basic system is comprised of a flexible mix/effects system (M/E) which provides a timed re-entry output to a full downstream mixer/keyer (DSK) system. Via the exclusive Digi-Loop™ circuitry, a variety of switcher video levels may be easily routed in component form to either of two channels of ADO® digital effects system (when equipped with component I/O) with automatic key/pattern signal patching and requiring no bus inputs for the ADO system.

All inputs to the component Vista switcher come in through transcoding input amplifiers which are included with the basic unit. These allow each input to be individually conformed to the users needs. All current analog component sources can be accommodated including Betacam, MII, SMPTE, and RGB. Additional plug-in networks will be available to allow for future formats. Sync adder jumpers may be set to allow for non-composite inputs. All outputs from the component Vista switcher also go through similar transcoding sync adding amplifiers to allow each output signal to be tailored to the user's requirements.

The M/E contains two bi-level linear keyers (Key 1 and Key 2), each with full length bus rows and each capable of luminance, ISOlated hole (external), component chromakeys, and superb chroma-nulled chromakeys when the Spectrakey™ keyer option is installed. The downstream system also contains two keyers, one of which is identical to the M/E keyers (DS Key). The second downstream keyer is called Uni-Key™ from its function as a unity gain fixed input keyer. The Uni-Key keyer is suitable for dedicating to any component source with a linear key signal and is also tied to several of the Digi-Loop circuit functions. The inputs to the Uni-Key keyer can also be configured to the users' desired component standard. Each of the

three main keyers can be self filled, matte filled from an independent matte, or filled from yet another internal independent key fill bus. Keys may also be masked by either an internally generated rectangular mask or external mask input. Using Mask Invert allows keying either inside or outside the mask area.

ISO and component chroma keys require an optional board available in three different versions: 7 ISO hole cutter inputs (no chromakey capability) and either 8 or 16 ISO hole cutter inputs with chromakey capability. The ISO key signals may be assigned to primary inputs in any order or combination from the control panel via the configuration menu. Chroma-nulling chromakey capability may be added with the Spectrakey plug-on board to the ISO/Chromakey Option. Key Borders (three each) are available as a single option for all three keyers, and provide the highest quality linear analog key borders. With this option, component Vista switcher's keyers may have traditional borders, outlines, 1 and 2 line drop shadows, plus our exclusive Ampex Border Modify feature allowing adjustable extended drop shadows up to 14 lines.

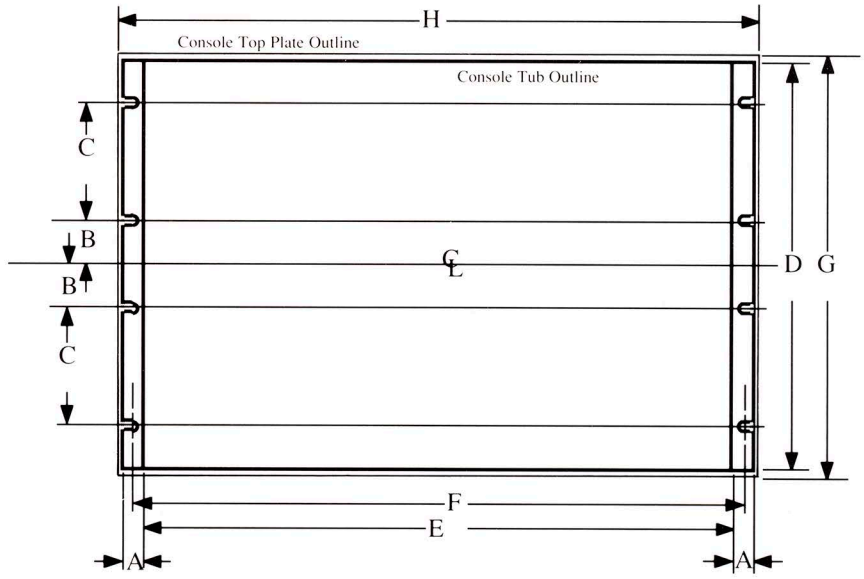
In order to facilitate the integration of component Vista switchers into a variety of applications, two additional buses with all primary sources including fully timed re-entries plus two extra inputs are provided standard for auxiliary switching requirements. These buses as well as the key source and key fill buses may be controlled from menus or from optional single rack unit remote panels.

The optional Multi-point Preview system allows an operator to preview any of the four primary buses, the M/E output or a pattern as the background of the preview output. The pattern preview is shown at the preset limit size with all parameters as currently adjusted, and can be previewed at any time except when the M/E is actually performing a wipe. Any of the four Keyers may be previewed at any time over any of the above backgrounds. When the Preview option is not installed, M/E video always appears on those outputs. The timing processor requires any video source with sync on it as a reference input.

Mechanical System

Vista switchers utilize a rugged 16 Rack Unit (28″) by 17½″ deep frame to house the component transcoders, signal processing circuitry and microprocessor control and power supply. The 10 input control console is also rack mountable at 7 Rack Units (12¼″) by 19″ wide, while the 18 input version is the same height but requires an extra 6½ inches in width (25½″). The suggested console hole cut-out is shown for desk top mounting when desired.

Console Mounting



Letter	Dimension	Console Tub	Cutout
A	M ounting Flange	0.62" (16mm)	0.56" X.065" +.015/-.000 Deep (15mm X 1.6mm +0.4/-0.0)
B	Mntg Hole to Centerline	1.125" (29mm)	-
C	Mntg Hole to Mntg Hole	3.50" (89mm)	-
D	Height	11.99" (305mm)	12.15" ±.03 (309mm ±0.8)
E	Width (10 Input)	17.63" (448mm)	17.75" ±.06 (451mm ±1.6)
	Width (18 Input)	24.13" (613mm)	24.25" ±.06 (616mm ±1.6)
F	Hole Centers (10 Input)	18.12" (461mm)	18.31" ±.06 (465mm ±1.6)
	Hole Centers (18 Input)	24.62" (625mm)	24.81" ±.06 (630mm ±1.6)
G	Top Height	12.23" (311mm)	-
H	Top Width (10 Input)	19.00" (483mm)	-
	Top Width (18 Input)	25.50" (648mm)	-

Mechanical Specifications

VISTA CONSOLE

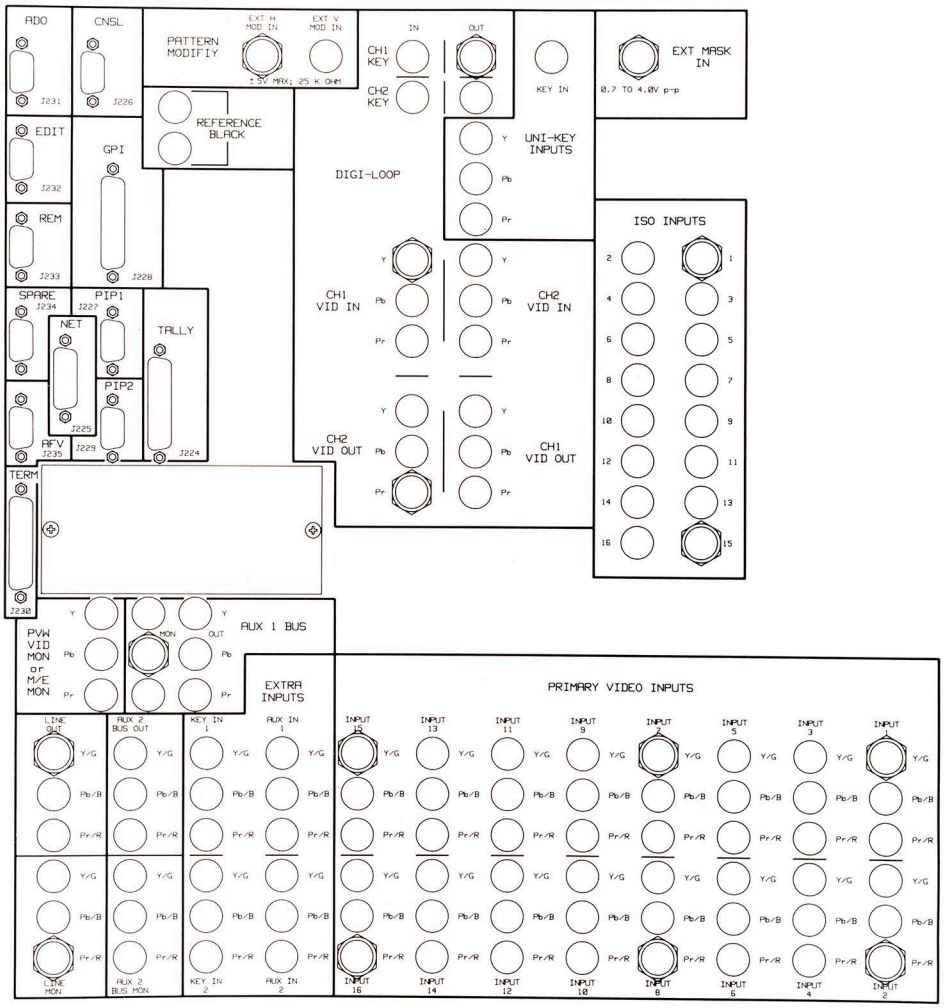
Width	19″ (483 mm) Rack Mount—10 Input 25½″ (648 mm)—18 Input
Height	12¼″ (311 mm)
Depth	3⅜″ (86 mm) Below mounting surface 2⅝″ (68 mm) Above panel (joystick)
Weight	20 lb (9.1 kg.)

SIGNAL PROCESSING UNIT (All Models)

Width	19″ (483 mm) Rack Mount
Height	28″ (711 mm)
Depth	17.5″ (445 mm)
Weight	120 lb (54.5 kg.)

VISTA INPUT/OUTPUT

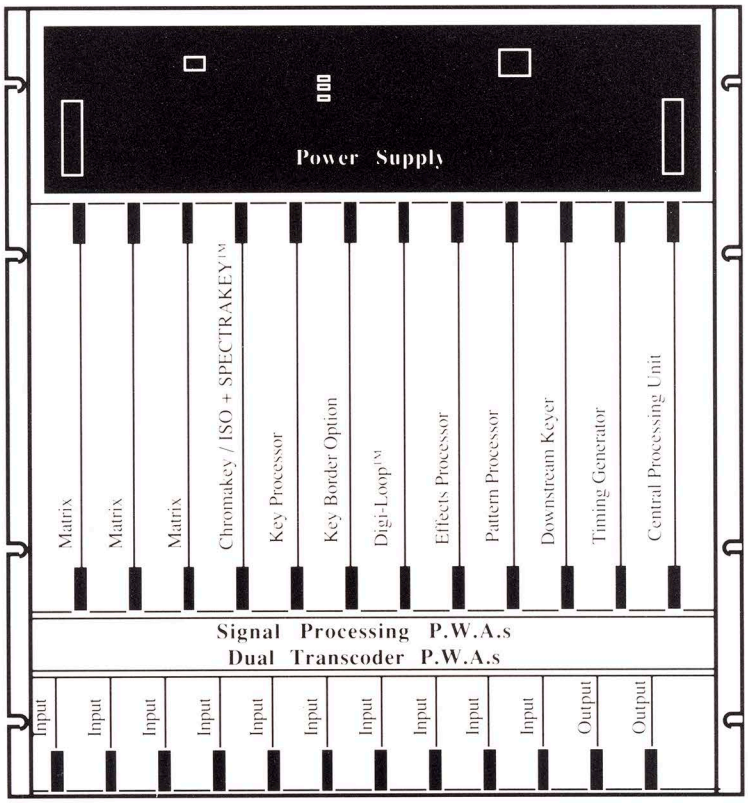
Connections



The back panel layout shows all connections to the frame of the Vista switcher. Due to the quantity of video connections required for component inputs, looping is not provided except for the reference timing input. Key signal and ADO system video inputs are also terminated. Dual outputs are provided for Line and Aux. Single monitor outputs are provided for Preview or M/E. BNC connectors are also provided for external key mask input and external pattern modulation inputs.

D style connectors are provided for all other signals. The CNSL PWR (console power, not shown) provides power for console operation up to 100 feet (30 meters) from the signal system. An optional remote power supply is available for longer distances. The CNSL (console communications) 9-pin D provides serial communication to the console over inexpensive dual twisted pair shielded cable up to 500 feet (150 meters). Four ports require the GPSI (General Purpose Serial Interface) option—ADO, EDIT, PIP1 AND PIP2. The ADO port is designed to communicate with any model ADO system, providing timeline control, effect selection, and effect trims from the Vista panel. The EDIT port provides SMPTE compatible editor control of all switcher functions from the Ampex ACE™ or other compatible editing computer. PIP1 AND PIP2 are serial peripheral interface ports, capable of controlling external devices from the Vista switcher's memory system. The REM port communicates with up to 8 daisy chained remote panels for auxiliary bus and other system control from remote locations. The AFV port is used for communication of control information to the AVC Audio system. The NET port will provide a high speed Ethernet communication link to other devices when the appropriate option is installed. The TERM port is RS-232 and is for use by the factory. The GPI 25-pin D connector provides 24 contact closure inputs to the switcher which may be configured to activate a wide variety of functions. The TALLY 25-pin D connector provides contact closure output for true air tally of all Vista inputs.

Signal Processing Unit Diagram



Specifications

Video Inputs	75 Ohm
Return Loss	≤ −40 dB
Video Outputs	75 Ohm source terminated, 1V p-p
Return Loss	≤ −40 dB at subcarrier
Frequency Response	±0.2 dB, 100 kHz to 5 MHz +0.2 dB/−1.0 dB 5 MHz to 8 MHz Smooth roll off above 8 MHz
Signal-to-Noise Ratio	>65 dB p-p video 10 kHz to 5 MHz, unweighted
Line Tilt	≤0.5%
Field Tilt	≤0.5%
Inter-component Delay Inequality	≤3 nS
Inter-component Gain Inequality	≤1%
Crosstalk	≤ −50 dB 10 kHz to 5 MHz
Path Length Accuracy	≤4 nS
Path Gain Accuracy	≤ 1%
Crossfade Linearity	±0.5% luminance gain (10 mV DC) ±2.0% HF gain
Dynamic Gain	±0.1 dB (10%-90% APL)

Specifications subject to change without notice or obligation.

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AMPEX

Litho in U.S.A. — 10/88 — V-1271

VISTA

COMPOSITE SERIES TECHNICAL DATA

General

The Vista™ family of switchers offers a composite switcher in a compact package. The Vista composite switcher is available in 10- or 18- input configurations. Either configuration may be upgraded to the Vista SE model with integrated digital effects. Both configurations include color and black as a subset of their inputs.

For complex layering and sophisticated production, there are four keyers, 12 buses, and a complete downstream system with full program preset mix capability. These features combine to make Vista switchers ideal for on-air as well as production applications.

Among the outstanding features that make Vista switchers unique is the integration with ADO® special effects units. The Digi-Loop™ effects circuit lets users accomplish effects with one M/E that require two or more M/Es on traditional switchers. ADO effects can be selected and run from the Vista control panel, saving both time and space. With the Vista/ADO system the ADO 100 operation is done solely from the Vista control panel.

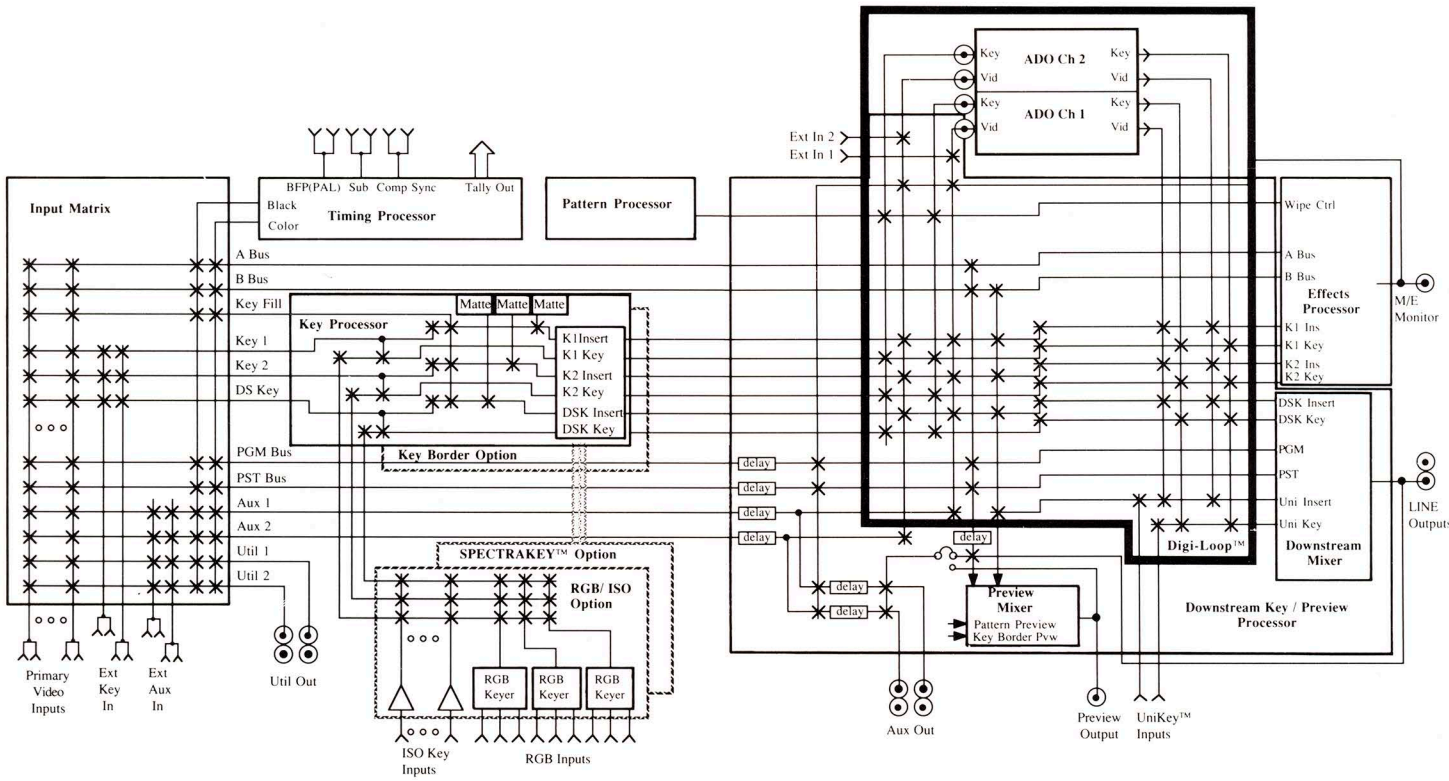
The unusually flexible memory found in Vista switchers stores 24 complete panel setups and 24 sequences for fast, easy recall of any combination of switcher operations. Optionally, the Vista-Disk accessory may be added for permanent storage of effects off-line.

A state-of-the-art electroluminescent display simplifies complicated production tasks. Transition times, patterns, key adjustments, memory set-ups, and diagnostics are all easily accessed and adjusted using the display. This location also provides a place to display status information for quick reference.

Mechanical

Vista composite switchers utilize a rugged eight-rack unit (14″) frame to house the signal processing circuitry as well as microprocessor control and power supply. The 10-input control console is also rack mountable at seven rack units (12¼″ x 19″), while the 18-input version is the same height with a width of 25½″.

Vista Switcher



Standard Features

- ☐ 10 or 18 inputs including color and black
- ☐ Powerful mix/effects unit
- ☐ Downstream mixer keyer with Master Fade-to-Black
- ☐ Flip-flop operating format
- ☐ Integrated status display
- ☐ 5 independent matte generators
- ☐ 4 auxiliary buses, 2 with full re-entries
- ☐ Available in NTSC, PAL and PAL-M formats

Keying

- ☐ Three linear keyers capable of luminance, component chroma, and ISO keys
- ☐ Key memory system stores setups for each source, recalls to any keyer
- ☐ UNIKEY additional DSK external linear gain key
- ☐ Optional Spectrakey™ advanced chroma key system
- ☐ Optional flexible borders; 4 shadow styles and border-modify

Patterns

- ☐ 32 patterns including rotary wipes and random pixel dissolves
- ☐ Full screen adjustable borders
- ☐ 4 Pattern border types (hard, soft, soft halo and half halo)
- ☐ Border width tracking
- ☐ Pattern positioning with Auto-Pan

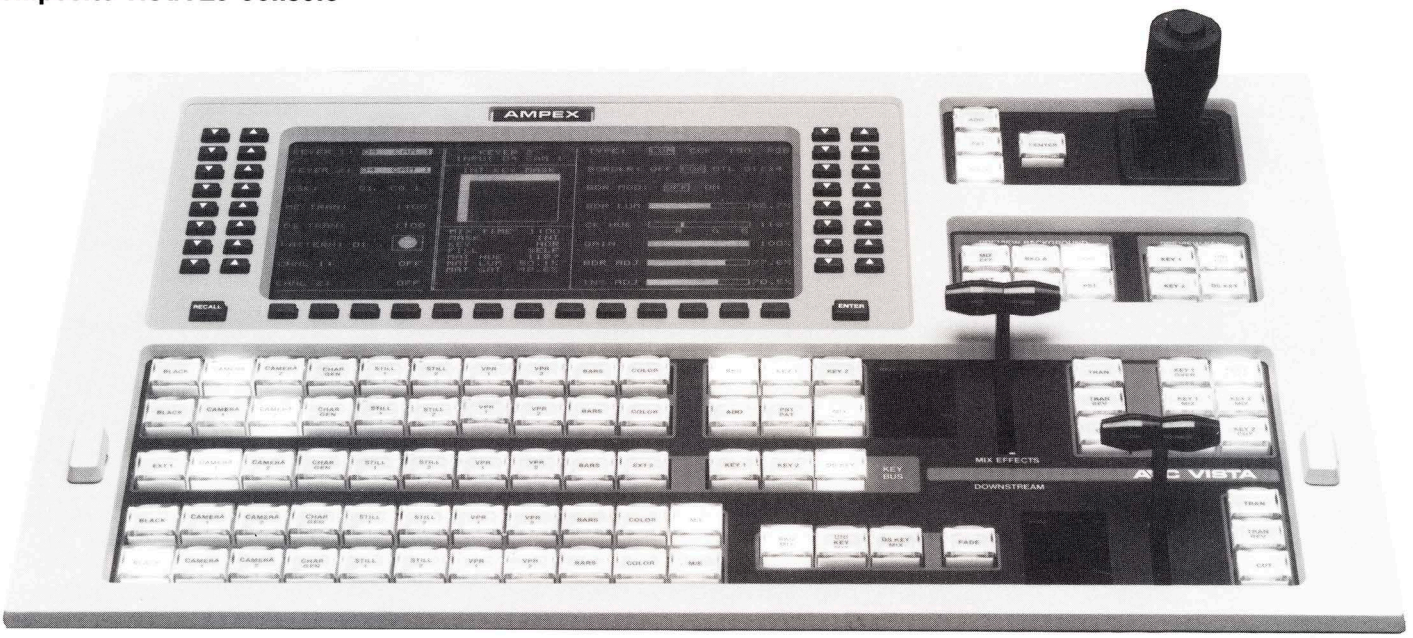
Microprocessor Features

- ☐ Panel memory with event transition and automatic sequencing
- ☐ Powerful preview system with pattern preview
- ☐ RS-232, RS-422 and GPI control ports
- ☐ AVC audio system compatibility
- ☐ User-programmable switcher configuration

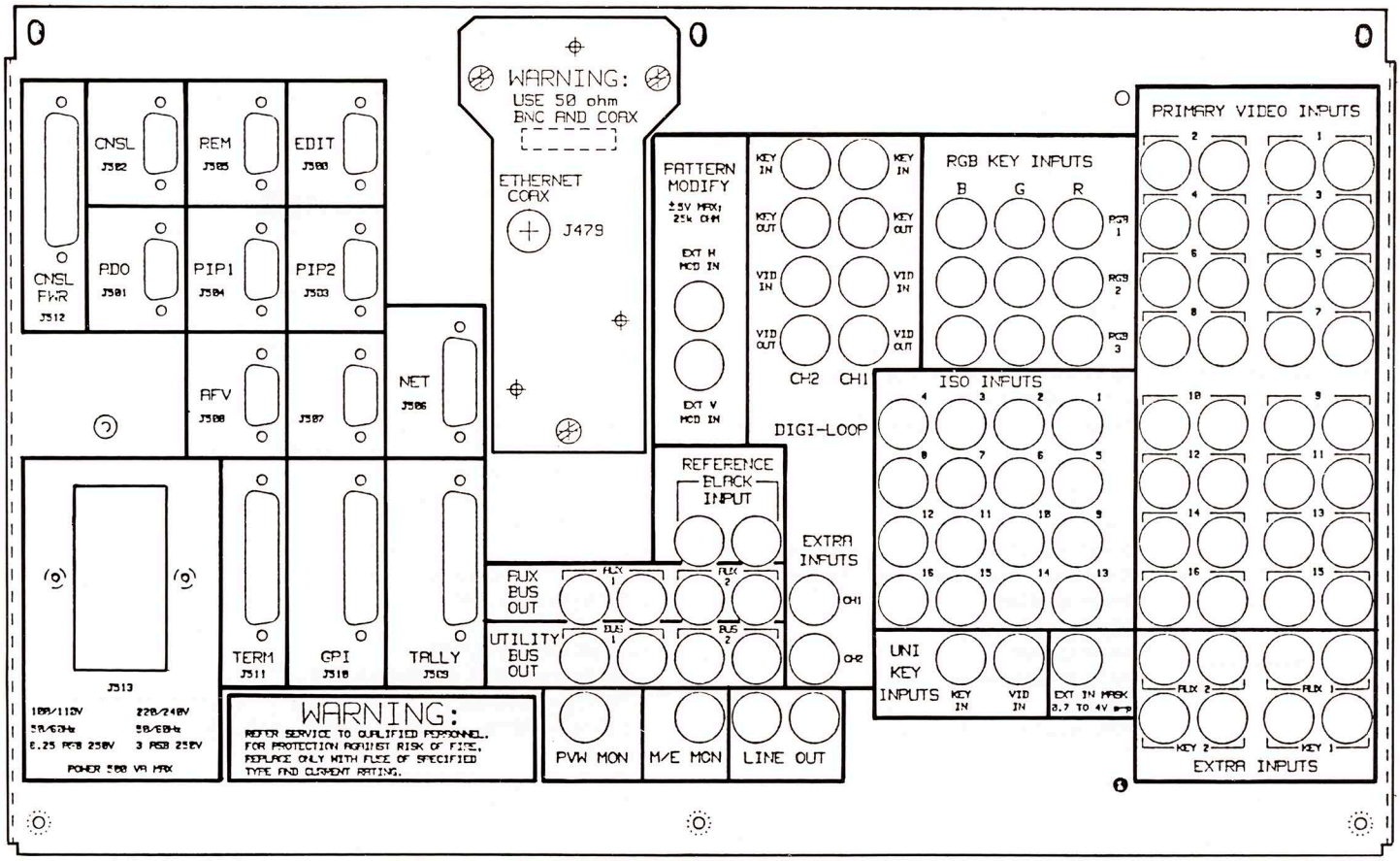
Options

- ☐ RGB chroma keyer/ISOlated key input matrix
- ☐ Spectrakey™
- ☐ Analog key border generator
- ☐ Editor and digital effects interface
- ☐ Vista Disk off line storage
- ☐ Vista SE upgrade for operational control of ADO 100 systems
- ☐ Assignable auxilary bus controllers
- ☐ AVC™ Audio System

Composite VISTA 10 Console



VISTA INPUT/OUTPUT



Connections

The back panel layout shows all connections to the Vista frame. Video connection are looped for all primary, extra, and timing inputs. Key signal and ADO inputs are terminated. Dual outputs are provided for line, utility and aux. Single monitor outputs are provided for Preview and M/E. BNC connectors are also provided for external key mask input and external pattern modulation inputs.

"D" style connectors are provided for all other signals. The CNSL PWR (console power) port provides power for console operation up to 100 feet (30 meters) from the signal system. An optional remote power supply is available for longer distances. The CNSL (console communications) 9-pin D connector provides serial communication to the console over inexpensive dual twisted pair shielded cable up to 500 feet (150 meters). Five ports require the GPSI (General Purpose Serial Interface) option—ADO, EDIT, PIP1, PIP2 and Ethernet.

The ADO port communicates with ADO 1000, 2000, and 3000 systems, providing timeline control, effect selection, and effect trims from the Vista panel. The BNC Ethernet port provides a high speed Ethernet link which is essential for ADO 100 communication.

The EDIT port provides SMPTE-compatible editor control of all switcher functions from the Ampex ACE or other compatible editing computer. PIP1 and PIP2 are serial peripheral interface ports, capable of controlling external devices from the Vista memory system. The REM port communicates with up to 8 daisy-chained remote panels for auxiliary bus and other system control from remote locations.

The AFV port is used for communication of control information to the AVC Audio system. The GPI 25-pin D connector provides 24 contact closure inputs to the switcher which may be configured to activate a wide variety of functions. The TALLY 25-pin D connector provides contact closure output for true air tally of all Vista inputs.

Specifications

SWITCHER INPUTS	Primary Inputs (1 through 16)	Loop through bridging: 1.0 Vp-p composite video
	RGB Chroma Key Inputs (RGB 1 through 3)	0.7 vp-p video with or without composite sync. All non-looping
	Isolated Key Inputs (ISO 1 through 16)	0.7 Vp-p with or without composite sync. All non-looping.
	Reference Video Input	Black burst reference; loop through.
	Extra Inputs	Aux 1, Aux 2, Key 1, Key 2; loop through Digi-Loop Ch 1, Digi-Loop Ch 2: non-looping
	Other Inputs	Uni-Key video in and key in, External key mask in, External H and V pattern modifiers: All non-looping.
SWITCHER OUTPUTS	Output Impedance	All outputs 75 Ω.
	Outputs	Line Out—2 outputs Preview Monitor, M/E Monitor—1 output each Auxiliary buses—2 outputs each, four buses
DIGI-LOOP INTERFACE	Outputs	Video and Key—channel 1 Video and Key—channel 2
	Inputs	Video and Key—channel 1 Video and Key—channel 2
VIDEO PERFORMANCE	Input return loss (ext 75 Ω terminator)	≤ −40 dB at subcarrier
	Output return loss	≤ −40 dB at subcarrier
	Frequency response (referenced to subcarrier)	100 kHz to 5.5 MHz: ± 0.2 dB 5.5 MHz to 8.0 MHz: +0.2 dB to −1.0 dB smooth rolloff above 8 MHz
	Line Tilt	≤ 0.5% (IEEE window signal)
	Field Tilt	≤ 0.5% (IEEE window signal)
	Chrominance/Luminance Gain Inequality	≤ 0.1 dB (12.5T modulated pulse)
	Chrominance/Luminance Delay Inequality	≤ 10 ns (12.5T modulated pulse)
	Differential Gain	≤ 0.7% (10 to 90% APL)
	Differential Phase	≤ 0.7° (10 to 90% APL)
	Dynamic Gain	≤ 0.1 dB (10 to 90% APL)
	Signal-to-Noise Ratio	≥ 65 dB unweighted, 10 kHz to 5 Mhz
	Crosstalk	≥ 55 dB at subcarrier
	Path Length Accuracy	≤ 1.5° at subcarrier
	Path Gain Accuracy	≤ 0.1 dB
	Video Switch	≤ 75 mV during vertical interval
	K pulse	≤ 0.5% (2T pulse)
	K pulse-to-bar	≤ 0.5% (2T pulse)
	Crossfade Luminance Linearity	≤ 0.5% gain; 10 mV DC
	Crossfade Chrominance Linearity	≤ 1.5% gain; 1.5° phase
ENVIRONMENTAL	Temperature (ambient)	0 to 45 Celsius (operational) 20 to 30 Celsius (for specification)
	Humidity (relative)	10% to 90% non-condensing
POWER	Input	100/120/220/240 VAC nominal 50 Hz to 60 Hz
	Power	600 watts maximum
TALLY	Relay	16 Relays (N.O. contacts) 24V, 1A resistive load
VISTA CONSOLE	Width	19″ (483 mm) Rack Mount—10 input 25 1/2″ (648 mm)—18 input
	Height	12 1/4″ (311 mm)
	Depth	3 3/8″ (86 mm) Below mounting surface 2 5/8″ (68 mm) Above panel (joystick)
	Weight	20 lb (9.1 kg.)
SIGNAL PROCESSING UNIT	Width	19″ (433 mm) Rack Mount
	Height	28″ (711 mm)
	Depth	17.5″ (445 mm)
	Weight	120 lb (54.5 kg.)

These specifications apply to the program path.
These specifications published January 1990.
Ampex reserves the right to change these specifications without notice.

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