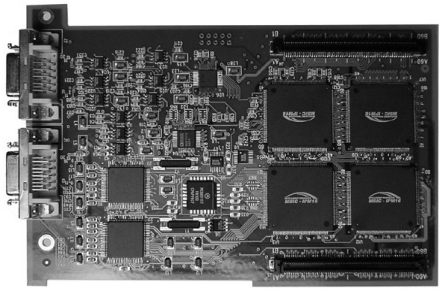
INTELLIGENT PARADIGM

VIDEO EXPLORER 2

Version: 1.1 April 2000

Analog Input / Output for the Video Explorer 2 System



A Video Explorer 2 base card with the Analog I/O Daughterboard allows you to work directly with analog video equipment such as analog video tape recorders, monitors and other peripherals.

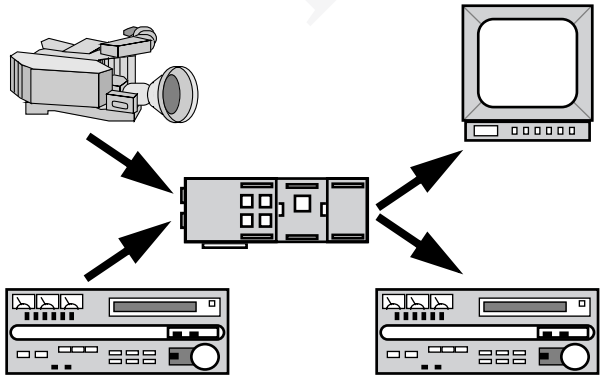
Video Explorer 2 System Features

- Broadcast quality output
- All digital video processing system
- Compatibility with QuickTime® software
- Proprietary MSIC™ systolic video processing chip set provides advanced digital video processing and switcher effects
- Interchangeable modular components allow system customization and future upgrades
- Professional level genlock
- Supports the MediaBahn™ Interconnect System, a real-time digital video bus which provides a pathway for transfer of digital video information between multiple Video Explorers and add-on cards at full video rates.
- 32 Mbyte framebuffer memory with multi-stream capability

Internal Digital Processing

The Video Explorer 2's internal 4:4:4:4, 10 / 16 bits per component digital processing provides significantly higher image fidelity than component digital equipment. MSIC technology provides flexible video processing with no additional noise or distortion and 100% image accuracy.

Video Flow



Analog I/O Daughterboard Features

Input

- Dual analog video inputs
- Internal color space conversion
- Programmable peak white, hue, brightness, saturation, and contrast for each input.

Output

- Simultaneous Composite, Y / C, and Component Outputs (YUV or RGB)
- Programmable chroma and luma filters
- NTSC-M, PAL-M / N, PAL-B / D / G / H / I, and PAL-60 support

Multi-Channel Support

The Analog I / O daughterboard has two analog inputs. Each input can accommodate either Component, Composite or S-Video signals. This way, the Video Explorer 2 can have either two separate inputs or an input and a key signal. Two inputs gives the Video Explorer 2 additional flexibility for applications requiring multiple video sources and graphics.

The Analog I / O daughterboard's main output can provide simultaneous component, composite and S-Video outputs. A separate analog key signal is also available. A third analog output can be used for any single component in the Video Explorer 2 system.

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Analog Input/Output for the Video Explorer 2 System

Host System Requirements

System Software: Windows / NT, Linux MacOS 8.6 or greater
Recommended RAM: 32MB Min.
Computer Monitor: 17" Color Preferred
Video Monitor: Studio Quality Serial Digital Capable Monitor Preferred
Number of Slots: One full size, +5V,33 Mhz PCI Slot

General Specifications – Inputs and Outputs

Interface: PCI 2.1 Compliant 5V / 32 bit
Card Size: 6.0" x 4.2"(15.24cmx10.67cm)
On Board Memory: 32MB SDRAM
Non-Volatile Memory: 32 KB EPROM
Video Ports: 2 Analog Inputs (Component / Composite)
1 Component Analog Output
1 Composite Analog Output
1 Key Channel Output
All Terminated to 75 Ω ± 1%
I/O Resolutions: Variable

Genlock

Source: Embedded Sync from Input
Lock Criteria: Stable Source - TBC or VTR w / Time Base Correction.
Modes: Master or Slave

Video Input

Bandwidth: Y = 0-5.75MHz, CR / CB = 0 - 2.75MHz
Sampling Frequency: Variable
Color Space Conversion: RGB or YUV 4:4:4, or YUV 4:2:2 Internal
Sampling Structure: 4:2:2 In 4:4:4:4 Internal 4:2:2 Output
Gamma Correction: Programmable

Video Output Levels

Component Digital: 800mV ± 10%
Composite Output: 1.0V p-p @ 75Ω
Signal To Noise Ratio: 75dB
K-Factor (2T Pulse): < 1%
LF Non-Linearity: < 3%

Input Adjustments

Dynamic Rounding: On / Off
Gamma Correction: Programmable

Output Adjustments

Dynamic Rounding: On / Off
Output Filtering: Video Standard Dependent
Gamma Correction: Programmable
Video I/O Standards: NTSC, PAL, SECAM
Video I/O Types: Betacam, SMPTE / EBU, RGB (GBR)
I/O Resolutions: Variable
Genlock: Either Video Input
Lock Criteria: Stable Source - TBC or VTR w / Time Base Correction.
Modes: Master or Slave

Timing Adjustments

Video Phase: 0-63 Pixels in Single Pixel Increments (Video Relative to Sync)
Video Input Bandwidth: 5.5MHz
Gamma Correction: Programmable

Video Output Levels

YRGB: 1.0V (p-p) @ 75Ω ± 1%
B-Y/R-Y: ± 350mV @ 75Ω ± 1%
Signal To Noise Ratio: 65dB
K-Factor (2T Pulse): <2%
LF Non-Linearity: <4%
Input Adjustments
Y, B-Y/R-Y: Gain and Black Level, Adjustable in 256 increments up to ± 10% of 700mV Signal (p-p)

Output Adjustments
Y, B-Y/R-Y: Gain and Black Level, Adjustable in 256 increments up to ± 10% of 700mV Signal (p-p)

Miscellaneous

Operating Temperature: <70ºC
Regulatory Approval: FCC Class A
Supplied Accessories: I / O Cables w / BNC Connectors

Pin Configuration

20 Pin Input Configuration			
1	"Y2" Center Conductor	11	"Y2" Shield
2	No Connection	12	No Connection
3	"U2" Center Conductor	13	"U2" Shield
4	No Connection	14	No Connection
5	"V2" Center Conductor	15	"V2" Shield
6	"V1" Shield	16	"V1" Center Conductor
7	No Connection	17	No Connection
8	"U1" Shield	18	"U1" Center Conductor
9	No Connection	19	No Connection
10	"Y1" Shield	20	"Y1" Center Conductor

20 Pin Output Configuration			
1	"Y" Center Conductor	11	"Y" Shield
2	"Luma" Shield	12	"Luma" Center Conductor
3	"U" Center Conductor	13	"U" Shield
4	"Chroma" Shield	14	"Chroma" Center Conductor
5	"V" Center Conductor	15	"V" Shield
6	"Composite" Shield	16	"Composite" Center Conductor
7	No Connection	17	No Connection
8	"Sync" Shield	18	"Sync" Center Conductor
9	"Aux" Center Conductor	19	"Aux" Shield
10	"Key" Shield	20	"Key" Center Conductor

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