



# FlashPoint<sup>4xl</sup> Pro

## High-performance PCI and AGP frame grabbers with integrated display

FlashPoint 4xl Pro is a full-featured frame grabber with integrated VGA display for high-performance application development. Video can be acquired from multiple component, S-Video, or composite cameras and displayed at non-destructive overlay resolutions up to 1280x1024. FlashPoint 4xl Pro also provides extensive camera control and a scan-converted video output. Available in either AGP 4X or PCI bus formats, FlashPoint 4xl Pro is perfect for cost-effective OEM applications.

### FlashPoint 4xl Pro Features



- High-performance PCI 2.2 or AGP 4X frame grabber
- Integrated 143 MHz 128-bit 3D graphics accelerator
- 16 MB on-board display memory
- Up to 4 RGB or YCbCr component, 8 S-video, or 16 composite inputs
- Component, S-Video, or composite scan-converted video output with overlay
- True color display resolution up to 1600x1200
- Non-destructive color key overlay
- High-quality scaling of video overlay up to 1280x1024
- Camera integration support
- Programmable offset, gain, hue, and saturation of video levels
- Optically isolated output trigger, strobe interface
- General purpose TTL input and output triggers
- Switched and fused camera power
- On-board micro-controller
- Available Software Developers Kit
- Support for Windows<sup>®</sup> 9x, ME, NT 4.0, 2000, and XP operating systems
- Support for Linux<sup>®</sup> operating system

### Applications

- Machine Vision
- Inspection and process control
- Image analysis
- Scientific imaging
- Microscopy
- Medical imaging
- Fingerprint biometrics
- Law enforcement
- Security and access control
- Traffic control

## Integrated 3D Graphics Accelerator

FlashPoint 4xl Pro utilizes a 143 MHz, 128-bit 3D graphics accelerator with 16 MB of local SGRAM for image capture and display. The newly designed PC host bus interface works with either 3.3V or 5V tolerant PCI slots, and is also available in AGP 4X format. Display resolutions up to 1600x1200 with refresh rates up to 100 Hz in 8, 16, and 32 bit/pixel are supported.

## Non-Destructive Overlay Support

FlashPoint 4xl Pro supports non-destructive overlay of text and graphics on live video. This enables applications that require graphic overlays to be displayed on live video while the underlying video is cleanly captured or displayed.

## High-Quality Video Capture

FlashPoint 4xl Pro provides for high-quality capture from up to 4 component RGB or YCrCb, 8 S-Video, or 16 composite video inputs in either NTSC or PAL formats. Video is displayed in a fully resizable window with smooth interpolated scaling capabilities for arbitrary overlay sizes up to 1280x1024.

## Video Output

FlashPoint 4xl Pro allows for simultaneous display of VGA and video outputs by incorporating an on-board scan-converter. Video output is selectable between RGB or YCrCb component, S-Video, or composite video in both NTSC or PAL formats. The entire desktop, a programmable region of interest, or the live video overlay can be selected.

## Extensive Camera Control

FlashPoint 4xl Pro was designed for easy camera integration and control. Power the camera from the fused and switchable 12 volt power supply, control camera operation by the RS-232 interface, or use the general purpose input or output triggers to control specific camera functions such as exposure control, all through a single cable from the 4xl Pro's DB-25 connector. FlashPoint 4xl Pro also incorporates an on-board microprocessor to guarantee accurate synchronization and robust triggering without relying on the host CPU.

## Software Developers Kit

As with all Integral Technologies frame grabber products, a comprehensive software developers kit is available that provides access to the features of the FlashPoint 4xl Pro hardware. The SDK includes DLLs for Microsoft Windows and Linux operating systems. Source code samples are included in both Visual C and Visual BASIC to provide insight to various hardware functions of the FlashPoint 4xl Pro. Since all of the products in the FlashPoint 4xl family use the same SDK, users can easily switch between products. FlashPoint 4xl is also compatible with the FlashPoint 3Dx, so upgrading is simple. As always, Integral Technologies provides experienced and professional technical support at no cost to developers using the FlashPoint 4xl product family.

## Integral Technologies Imaging and Vision Library

Integral Technologies IVL is a high-level programming library that provides an extensive set of optimized high-performance image processing and analysis functions in a conventional C-callable interface. IVL is compatible with all Integral Technologies' frame grabber products for Windows 98, ME, NT 4.0, 2000, and XP operating systems.



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## Specifications

### Bus Format

- AGP 1x, 2x, and 4x compliant
- PCI 2.2 compliant, 5V and 3.3V universal slot

### Analog Video Inputs

- DB-25 connector
- 4 RGB or YCrCb component inputs
- 8 S-Video inputs
- 16 composite inputs
- Video expansion header

### Video Decoder/Digitizer

- NTSC M, NTSC N, NTSC 4.43, NTSC-Japan, SECAM, PAL BGDHI, PAL N, and PAL M format support
- ITU-601 digitization
- Software programmable digital control of offset, gain, hue, and saturation
- EEPROM for storing configuration and calibration settings

### Video Output

- Composite, S-Video, and component video output in NTSC or PAL formats
- Programmable region of interest, overlay, or desktop output

### Video Scaling Processor

- High-quality still frame image capture
- Smooth interpolated scaling
- Support for hardware pan and zoom up to 4 to 1

### I/O Control

- Optically isolated output trigger for flash interface
- 1 general purpose TTL input trigger
- 2 general purpose TTL output triggers

### External Control

- On-board microcontroller
- RS-232 control
- Camera exposure control
- Programmable DAC output (0V-10V)
- 12-volt DC output for camera power supply (fused at 1 amp)

### Available Software Developers Kit

- Windows 9x, NT 4.0, 2000, and XP display drivers
- Windows 9x, NT 4.0, 2000, and XP DLLs
- Linux Kernel 2.4 Driver
- Windows MCI and Video for Windows drivers
- DirectDraw support
- TWAIN driver
- Sample applications with source code
- Windows-based FPG video capture application

### Video Input Cable

- Variety of video cables available. Custom cables available upon request.