



# FlashPoint<sup>3D</sup> PLUS<sup>®</sup>

AGP & PCI Video Frame Grabbers

## The first full-featured AGP video frame grabber in the industry

The FlashPoint 3D video frame grabber line comes in two formats: AGP and PCI. The AGP board greatly increases image transfer rates over the more conventional formats. The innovative FlashPoint 3D Plus captures and displays superior-quality, 24-bit color and RS-170 video at resolutions as high as 1600x1200. Whichever format you choose, the FlashPoint 3D Plus has the greatest feature set — both hardware and software — to propel your video system well into the new millennium.

### Applications

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

### Users

- Ideal for OEMs, VARs and system integrators designing systems that require high-quality video acquisition in a low-cost, easy-to-install solution.

### Key Features

- High-performance PCI or AGP bus frame grabber
- 8MB SGRAM video frame buffer
- Display resolution up to 1600x1200
- High-quality capture and display of NTSC and PAL video
- Nondestructive color key overlay of graphics on live video
- 6 composite, 3 S-Video and 4 RS-170 video inputs
- Progressive scan camera support
- Separate A/D with LUT on RS-170 video inputs
- General purpose TTL input and output triggers
- Camera integration support
- 12-volt DC output for camera power (resettable fuse)
- Hardware pan and zoom (up to 4x)



9855 Crosspoint Blvd., Suite 126 | Indianapolis, IN 46256 USA

PH: +1-317-845-9242 | FAX: +1-317-845-9275 | E-mail: [info@integraltech.com](mailto:info@integraltech.com)

Visit our Web site at [www.integraltech.com](http://www.integraltech.com)

FlashPoint 3D Plus is a high-performance, low-cost frame grabber designed to capture and display full-frame color and RS-170 video in real time to VGA display memory. Available in both PCI and AGP bus formats, it was specifically designed with features for OEMs, VARs, and system integrators designing systems that require high-quality video acquisition in a low-cost, easy-to-install solution.

The FlashPoint 3D Plus is the first in the FlashPoint family of products to incorporate an **on-board 3D accelerator and 8MB of fast SGRAM**. Its 128-bit memory interface accommodates display resolutions up to 1600x1200 at 85Hz.

FlashPoint 3D Plus supports **nondestructive overlay** of text and graphics on live video. This allows applications that require crosshairs, selector boxes, or other objects to be displayed on live video while the underlying video is cleanly captured or displayed. Its independent control of the graphics and video color depth allows efficient memory usage that supports the simultaneous display and capture of high-resolution video (up to 768x576) on a high-resolution desktop (up to 1280x1024).

FlashPoint 3D Plus **multiplexes up to 6 composite, 3 S-Video, and 4 RS-170 video inputs** in both NTSC and PAL formats. The RS-170 video is digitized using separate 8-bit A/D and PLL circuitry and supports the capture of non-interlaced video from progressive scan cameras. A programmable Look-Up Table (LUT) is available on the RS-170 input channel. Video is displayed full screen or in a resizable window and can be adjusted (offset and gain) to the desired levels through software-controlled video amplifiers. Very low pixel jitter ensures accurate representation of horizontal detail. 3D is the first of the FlashPoint family to offer triple buffering of captured video. Up to three distinct fields of video can be stored in display memory at a given time.

FlashPoint 3D Plus accommodates **simultaneous display of CRT and TV** by incorporating an integrated video encoder. An output for either composite or S-Video is provided in NTSC and PAL formats. Flicker reduction is possible with a programmable flicker filter.

To control external devices or cameras, the FlashPoint 3D Plus has been designed with **multiple I/O or camera interface controls**. A software-controlled, optically isolated contact closure circuit enables the triggering of a strobe for synchronizing illumination to a digitized video frame. A general purpose TTL input trigger, along with two TTL output triggers, allows for the synchronization of image acquisition to external events. A camera interface allows for the input of the horizontal sync, vertical sync, and pixel clock from the camera, thus allowing for precise capture. An on-board sync generator provides for genlock of external cameras.

FlashPoint 3D also incorporates **on-board programmable intelligence** to guarantee accurate strobe synchronization, robust triggering, and serial I/O while relieving the host CPU of the details of counting syncs or servicing serial interrupts. A fused 12-volt DC power output is supplied through the DB-25 connector, eliminating the need for, and cost of, an external camera power supply.

A **comprehensive Software Developers Kit** provides programmable access to the features of the FlashPoint 3D's hardware architecture. The SDK includes DLLs for Microsoft® Windows 95/98/NT, Visual BASIC Support, MCI, Video for Windows (AVI) & TWAIN drivers, and sample applications with source code. Source code samples provide insight to various functions of the 3D such as video-in-a-window, color and chroma key, camera integration control, triple buffering, and progressive scan support. FlashPoint 3D offers full DirectX support.

**Analog Video Input**

- 25-pin connector
- 6 composite video inputs
- 3 S-Video color inputs
- 4 RS-170, 8-bit, 256-level monochrome inputs with Look-Up Table

**Video Decoder/Digitizer**

- NTSC, PAL, RS-170, and CCIR
- Square pixel digitizing resolutions for NTSC (12.27Mhz at 640x480) and PAL (14.75Mhz at 768x576)
- Input LUT (256x8) on RS-170 monochrome video
- Separate 8-bit RS-170 A/D converter
- Progressive scan camera support
- Software-programmable digital control offset, gain, hue, and saturation
- EEPROM for storing configuration and calibration settings

**Video Output**

- Composite or S-Video output in NTSC and PAL formats
- Programmable flicker filter

**Video Pixel Format**

- YUV 4:2:2 Color for composite and S-Video
- 8 bits-per-pixel, 256 grayscale levels for RS-170

**VGA Frame Buffer & Pixel Format**

- 8MB SGRAM
- 8/16/32 bits per pixel, up to 16 million colors

**Video Scaling Processor**

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

**I/O Control**

- Optically isolated output trigger for flash interface
- Asynchronous trigger support
- 1 general purpose TTL input trigger
- 2 general purpose TTL output triggers
- On-board programmable sync generator for camera genlock

**External Control**

- RS-232 serial
- On-board microcontroller
- Programmable DAC output (0V-10V)
- 12-volt DC fused output at 1 amp, resettable and on/off control

**Software Developers Kit**

- Windows 95, 98 and NT display drivers
- Windows 95, 98 and NT DLLs
- Windows MCI (16/32 bit) and Video for Windows (AVI) drivers
- DirectX support
- Visual BASIC support
- TWAIN driver (16/32 bit)
- Sample applications with source code
- Windows-based FPG video capture application (95, 98, NT)
- Media Cybernetics Image-Pro Plus 3.0 drivers
- Optimas 6.2 drivers

**Video Input Cable**

- Composite, S-Video, and RS-170 video input cable
- Custom cables and connector pin-out available upon request