Bandit

PCI Video Digitizer and Integrated
High-Performance VGA Card

FEATURES

- Integrated VGA Card and Video Digitizer
- Live video in a Window
- Live video with graphics overlay
- Displays 1600 by 1200 in high color or
- 1280 by 1024 in true color
- Live mirror image or inverted image
- Simultaneous NTSC/PAL Interlaced and VGA Outputs
- SGRAM based VGA controller features 3D acceleration
- Continuous image zoom for resizing the video display
- Double buffering for tear-free displays
- Input MUX and a Y/C input
- NTSC/PAL/SECAM, RS-170 CCIR compatible input formats
- Software drivers and toolkit for Windows 95

APPLICATIONS

- Image analysis
- Digital video applications
- Dental imaging
- Security & surveillance
- Traffic control
- Teleconferencing

OVERVIEW

Bandit is a single slot PCI-bus video digitizer and integrated high performance VGA card that displays captured video in a resizeable window on the Windows desktop. Bandit's superior digitization maximizes video quality when capturing images from both color and monochrome composite cameras. The Bandit is targeted at applications requiring exceptional VGA performance and video capture.

VGA PERFORMANCE

Bandit features display resolutions as high as 1600 by 1200 in high color and 1280 by 1024 in true color. Additionally, Bandit features an accelerated VGA controller supporting DirectDraw, Direct3D and Direct Video. As a VGA card, Bandit is fast!

VIDEO MIRROR INVERTER

Bandit's advanced architecture supports video mirroring and inversion. In other words, digitized images can be inverted (top becomes bottom) or mirrored (right becomes left) on the display, all in real-time! This makes Bandit ideal for video teleconferencing, medical (endoscopy), dental and a variety of other applications requiring image manipulation. Both mirroring and inverting the image can occur at the same time and require no processing by the host computer.

CE

Certificate No. 003569

VIDEO SCALING

Bandit scales digitized video to fit the application window on your desktop, allowing users to see the entire image in the window. Bandit uses an advanced set of input filters to preserve image quality no matter how small or big the images are scaled.

ZOOMING

Bandit can zoom the live video window by arbitrary factors in both the x and y directions. This interpolative zoom creates sharp images with no pixelization typically found in less sophisticated pixel replication techniques. Additionally, images can be zoomed up or down meaning you can fill the entire screen with live video, or create an icon sized live video image without degrading image quality.

VIDEO CAPTURE

Bandit digitizes live video (up to 30 frames per second) from monochrome or color video sources. Digitized video is transferred directly to Bandit's VGA controller and frame buffer without loading the system PCI-bus. Bandit incorporates a sophisticated digital color filter, yielding sharper images and more intense colors. To grab images from VCRs, Bandit features an ultra-stable system for reconstructing the video timing signals, meaning frames will never be missed.

GRAPHICS OVERLAY

Bandit uses color keying to control the location of the live video window on the VGA display. In this way, Bandit non-destructively overlays text and graphics on top of the video image. Overlay images are at the same pixel depth as the Windows desktop.

SOFTWARE DRIVERS & TOOLKITS

Bandit is available with software drivers for the Windows 95 and Windows NT operating systems. Each Bandit ships with a demo program allowing users to open a live video window and to perform some basic image manipulations, such as saving an image to file, flipping images and resizing images. For customers developing their own applications, Bandit is also available with a developer's toolkit.

Bandit software is optimized for use under Windows 95 and Windows NT with DirectX compatible drivers. Bandit supports Direct3D for accelerated 3D operations, and DirectDraw for accelerated video operations.

SIMULTANEOUS INTERLACED OUTPUT

Bandit has two outputs, a VGA output driving VGA monitors and an NTSC/PAL output for displaying images on standard TV monitors or recording images on VCRs.

Integrated PCI Frame Grabber and VGA Card

TECHNICAL SPECIFICATIONS

VIDEO CAPTURE

PARAMETER	VALUE
INPUT VIDEO	1 V peak to peak, 75 ohms
INPUT FORMAT	NTSC, Y/C, RS-170, PAL, CCIR, SECAM
CAPTURE RATE	30 frames/sec for NTSC systems, 25 frames/sec for PAL
DIGITIZATION BIT-DEPTH	16 bits, YUV 4:2:2
COLOR DECODER	Digital Filter improves SNR
DIGITIZATION ACCURACY	45 dB SNR
INPUT MUX	3 composite inputs, or 2-5 composite inputs and 1 Y/C input
CAPTURE RESOLUTION	640 x 480 for NTSC, 768 x 576 for PAL

VGA DISPLAY RESOLUTIONS AND REFRESH RATES

RESOLUTION	VGA COLOR DEPTH			
	16 COLORS	256 COLORS	32/64K COLORS	16.7M COLORS
640 x 480	60*	60, 70, 72, 75, 85, 100		
800 x 600	56,60,72,75	56, 60, 72, 75, 85, 100		
1024 x 768	43(I), 60, 70,	43(I), 60, 70, 75, 85, 100		43(I), 60, 70, 75, 85
1152 x 864	75	70,75,85,100	70,75, 85	70, 75
1280 x 1024	43(I)	43(I) 60,75,85		43, 60
1600 x 1200	48(I), 60			

*in Hz. (I)= interlaced; otherwise all frequencies are non-interlaced

BANDIT DISPLAY/GRAB RESOLUTIONS (WITH 4 MB ON-BOARD MEMORY)

VGA DISPLAY RESOLUTION	VGA COLOR DEPTH	MAXIMUM VIDEO CAPTURE RESOLUTION (Aspect ratio preserved)	
		NTSC	PAL
640 x 480	ALL	640 x 480	768 x 576
800 x 600	ALL	640 x 480	768 x 576
1024 x 768	ALL	640 x 480	768 x 576
1152 x 864	ALL	640 x 480	768 x 576
1280 x 1024	16 COLORS	640 x 480	768 x 576
	256 COLORS	640 X 480	768 X 576
	32/64K COLORS	640 x 480	768 x 576
	16.7M COLORS	340 x 256	418 x 313
1600 x 1200	16 COLORS	640 x 480	768 x 576
	256 COLORS	640 x 480	768 x 576
	32/64K COLORS	424 x 318	486 x 364
	16.7M COLORS		