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Find the *Foresight Imaging AccuStream 205* at our website: ***Click HERE***

FORESIGHT IMAGING®

AccuStream 50a, 75a, & 205a

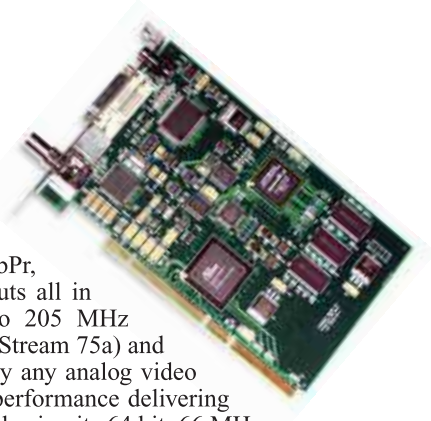
Key Features:

Extreme Accuracy
- ±0.5 ns pixel jitter
- 47 dB S/N ratio
- Gain, black level, and phase adjustments

High Performance
- Real-time video streaming with AVI file creation
- 250+ MB/second sustained 64 bit/66 MHz PCI bus transfers
- Simultaneous real-time transfer to memory and display

Video
- Up to 205 MHz pixel rate
- Up to 2048 x 2048
- Includes 1600 x 1200 x 75 Hz & 1280 x 1024 x 85 Hz
- Non-standard and standard video inputs
- 24 bit RGB, YPbPr, HDTV, 8 bit monochrome, S-video, composite color

Software
- Windows XP, Vista
- Auto-SYNC
- Video for Windows driver
- Example programs with source code



All Video Formats in One Board: High Resolution RGB, YPbPr, Monochrome, S-Video, Composite Color

The AccuStream™ Series of frame grabbers and video streamers is the most advanced, most versatile series of products from Foresight Imaging. The AccuStream 50a, 75a, & 205a provide all-in-one video input functionality: high resolution RGB, YPbPr, monochrome, S-video, and composite color video inputs all in one half-size PCI board. Input pixel rates are up to 205 MHz (50 MHz for the AccuStream 50a, 75 MHz for the AccuStream 75a) and 2048 x 2048 pixels, providing acquisition from virtually any analog video source. The AccuStream Series also provides extreme performance delivering sustained transfers to system memory of 250 MB/second using its 64 bit, 66 MHz PCI bus design. For example, the AccuStream 205a can stream to memory 1280 x 1024 x 60 Hz video without dropping any frames. In addition to 64 bit, 66 MHz PCI, the AccuStream Series is compatible with 32 bit PCI and PCI-X slots.

Accuracy

The AccuStream Series continues in the Foresight Imaging tradition of delivering extreme accuracy and image quality for demanding customers with high resolution and precision applications. Extremely low pixel jitter of ±0.5 ns, superior analog design, and a 47 dB signal-to-noise ratio provide the accuracy and image fidelity required of high performance applications. Color video digitization is performed at 8 bits each of R, G, and B (24 bits per pixel) or 24 bit YPbPr. Monochrome acquisitions are at 8 bits per pixel. Pixel formats include RGB 24, RGB 32, RGB 5:5:5, RGB 8, YCbCr 4:2:2, YCbCr 4:4:4, and 8 bit monochrome.

Performance

The AccuStream Series achieves its extreme 250 MB/second sustained performance via its 64 bit, 66 MHz PCI bus mastering design, scatter-gather technology, and double buffering. This high performance requires minimal CPU intervention so that the processor is free to work on other tasks or process the data immediately. Real-time display is simultaneously enabled by real-time transfer of image data directly to display card memory over the bus. AccuStream also features independent, dual video data paths, allowing for the simultaneous DirectDraw display of YCbCr 4:2:2 color video and the transfer of full 24 bit RGB video data for processing.

Video

The AccuStream 205a acquires images and video streams from both non-standard and standard video inputs up to 205 MHz RGB, YPbPr, monochrome, S-video, and composite color (50 MHz for the AccuStream 50a, 75 MHz for the AccuStream 75a). With this range of video formats and high frequency acquisition, the AccuStream Series can be used in virtually any application requiring analog video input. Input resolution is up to 4 megapixels total area. For fine-tuning of the video signal, gain, black level, white balance, and phase controls are provided. Separate H and V sync are supported. An external trigger is available.

Software

The AccuStream Series is supported by Auto-SYNC™, Foresight Imaging's flagship automatic configuration software. Auto-SYNC ensures quick and simple installation and image capture by automatically configuring AccuStream to the incoming standard or non-standard video signal. Auto-SYNC automatically analyzes the incoming video signal and builds a configuration file. Use the configuration file as created or utilize the Auto-SYNC Wizard for simple, step-by-step video adjustments. AccuStream is supported by the IDEA (Imaging Development Environment for Applications) software development kit. By using IDEA™, developers have the confidence of knowing that they can write their applications once and have support built-in for the entire AccuStream Series. A Video for Windows driver and a TWAIN driver are included to further simplify development and use of AccuStream. With IDEA, ActiveX controls are provided to facilitate easy development with Visual Basic and Visual C++. Extensive example programs (with source code) are provided with IDEA. Functions of the example programs include triggered acquisition, video streaming to AVI files, integration with Pegasus Imaging compression for streaming, overlays, and much more. Auto-SYNC, IDEA, example programs, and drivers are provided free of charge with each AccuStream.

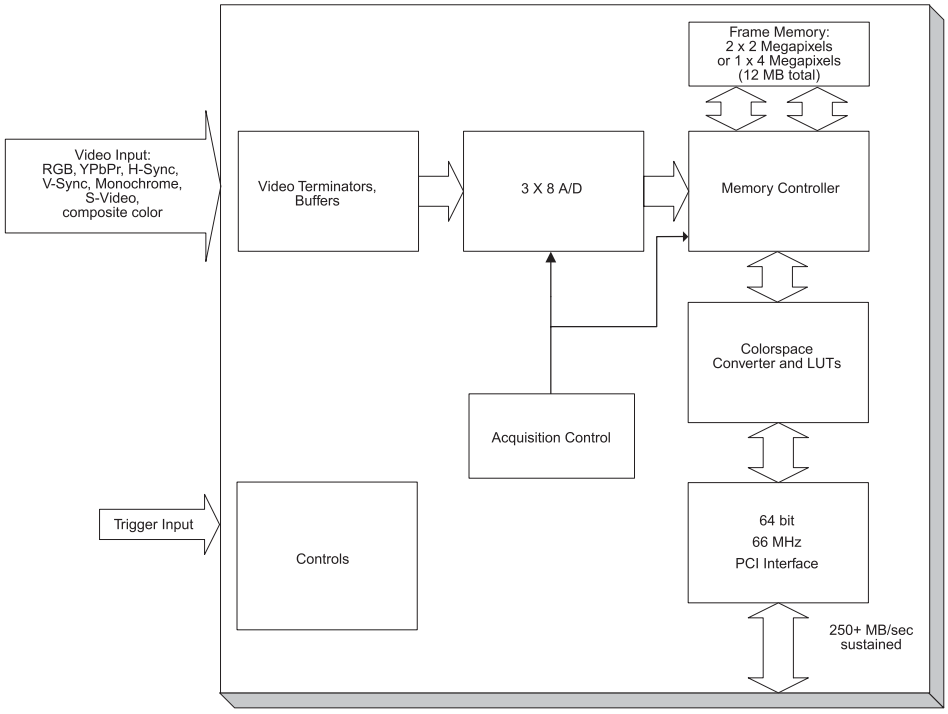
Applications

The AccuStream Series is ideal for any application requiring a wide range of video inputs, as well as high resolution and high performance imaging applications. Some of the more popular applications for the AccuStream Series include voyage data recorders (maritime imaging), military imaging, flight simulation, display monitoring, high-end multimedia, medical imaging, display monitoring, multimedia testing, and much more.

Multimedia: Acquire from HDTV video sources.
Flight simulation: Acquire from high resolution simulation displays.
Medical imaging: Acquire from virtually any medical imaging device.
Display monitoring: Acquire from high resolution displays.
Military imaging: Acquire from high resolution video screens for command & control.

AccuStream 50a, 75a, & 205a Specifications

AccuStream 50a, 75a, & 205a Block Diagram



Video - Analog

- Video input: RGB (one), YPbPr (one), monochrome (up to three), S-Video (one), composite color (one)
- Non-standard and standard video resolutions and frequencies
- Input range: 0.5 V pp to 1.0 V pp
- Offset: -1.0 V to 2.0 V DC
- 75 ohm termination
- 8 bit gain, 8 bit black level, white balance, phase adjustment
- AC coupled with DC restoration
- H and V sync input
- Bandwidth: 330 MHz
- Pixel rate: up to 205 MHz (50 MHz for AccuStream 50a, 75 MHz for AccuStream 75a)
- Horizontal frequency: up to 105 kHz
- Pixel resolution: up to 4 megapixels total area

Image Quality

- Pixel jitter: ±0.5 ns
- S/N ratio: 47 dB
- Linearity: Better than 99%
- Gain and offset stability: 1% from 15°C to 40°C
- Synchronization time: less than 250 µs
- A/D conversion: 8 bits each of R, G, & B (24 bits per pixel), 24 bits YPbPr
- Color formats: RGB 24, RGB 32, RGB 5:5:5, RGB 8, YCbCr 4:2:2, YCbCr 4:4:4, 8 bit monochrome

Performance

- 250+ MB/second sustained to system memory via 64 bit, 66 MHz PCI bus master
- Real-time video streaming
- Real-time transfer to VGA memory
- Storage memory: 4 megapixels, 12 MB total

Physical

- Half-size PCI card (length: 6.6 inches, height: 4.2 inches)
- One female DVI connector
- One female S-video connector
- One female BNC connector (composite video input)
- One female phono connector for trigger
- 3.3 volt and 5.0 volt PCI compatible

Controls

- Trigger input

Cabling

- DVI to VGA cable (15 pin D-shell) (optional)
- DVI to VGA cable (5 BNC) (optional)
- S-video cable (optional)
- Trigger cable (optional)

Software

- Windows XP, Vista
- Video for Windows driver
- Auto-SYNC automatic configuration software
- Example application programs (source code included)
- Real-time video streaming with AVI file creation
- IDEA software development kit
- ActiveX controls
- TWAIN driver

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