

## AccuStream 1000 & AccuStream 1000 SDI

The AccuStream 1000 is the next generation, high resolution video acquisition board from Foresight Imaging. It is specifically designed for high performance medical imaging and defense imaging applications. Video formats supported include HDMI, DVI-D, RGBHV analog, monochrome, and SDI (only on Accustream 1000 SDI). Resolution is up to 4 megapixels and includes up to 1080p and 1920 x 1200 x 60 Hz. All video formats are supported including all the non-standard, high resolution formats common in monochrome medical imaging applications such as fluoroscopy and angiography. The AccuStream 1000 provides extreme data performance with its PCI Express 2.0 x4 interface for 1.3 GB of sustained data transfers to support demanding high resolution video streaming applications including high resolution video at 60 fps. For current customers, their software investment is protected as the AccuStream 1000 uses the same IDEA software development kit and includes extensive example programs with source code as well as several programming interface options.

### Key Features:

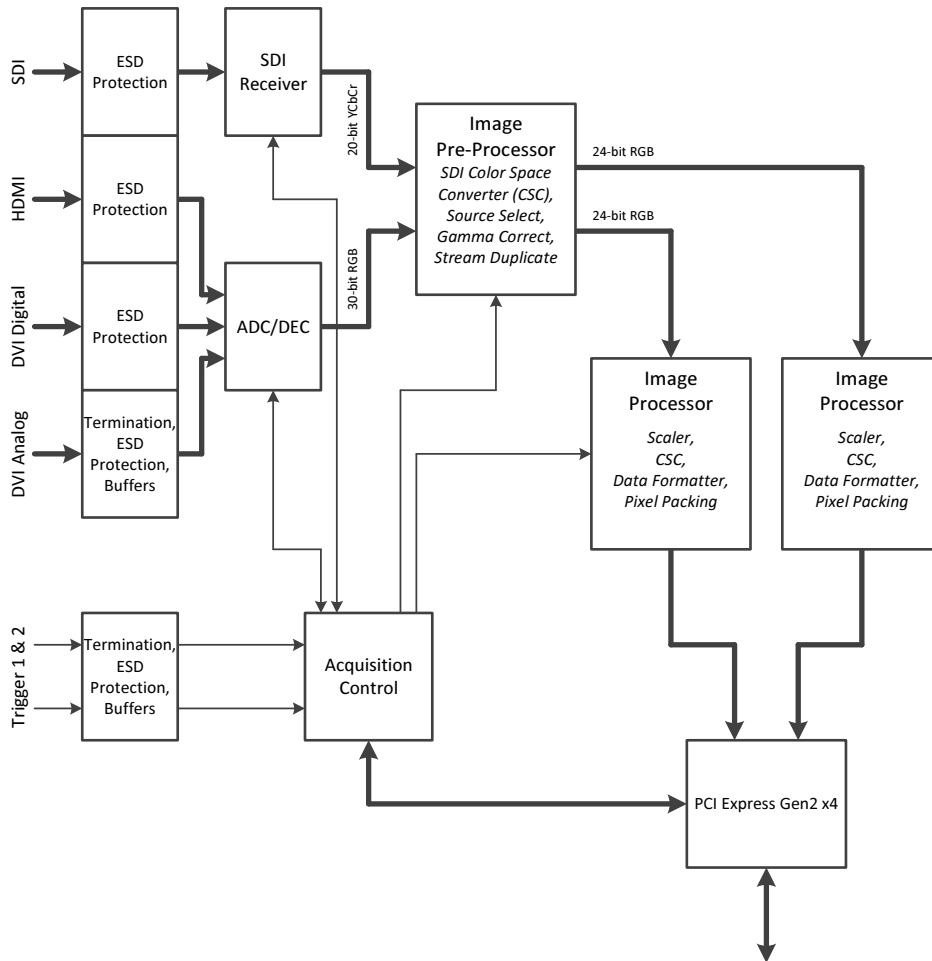
**Extreme Accuracy:** 59 dB signal-to-noise ratio,  $\pm 0.5$  ns pixel jitter, 10 bit analog A/D converters, 24 bit color & 8 bit monochrome storage, gamma correction

**Performance:** PCI Express 2.0 x4 interface, 1.3 GB/second sustained data transfers, dual data paths, real-time video scaler

**Video:** DVI, HDMI, RGBHV, monochrome, non-standard video, SDI (only on AccuStream 1000 SDI), up to 4 megapixels input resolution

**Software:** IDEA software development kit, Auto-SYNC application for automated video configuration to any standard or non-standard video signal, ActiveX controls, C API, WDM/DirectShow driver, Microsoft Media Foundations, example programs with source code

**Trigger:** trigger input for applications requiring a triggered capture interface, supports up to two separate triggers



## Video – Analog

- Video input: RGBHV, YPbPr, monochrome
- 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
- Gain, black level, white balance, phase adjustment
- AC coupled with DC restoration
- H and V sync input
- Bandwidth: 150 MHz
- Pixel rate: up to 165 MHz
- Horizontal frequency: up to 105 kHz
- Pixel resolution: up to 4 megapixels total area, includes up to 1080p and from VGA to WUXGA (1920 x 1200 at 60 Hz)

## Video - Digital

- DVI 1.0 compatible receiver
- Includes up to 1080p and from VGA to WUXGA (1920 x 1200 at 60 Hz)
- The receiver operates with true color (24-bit) panels in 1 or 2 pixel(s)/clock mode and features an intrapair skew tolerance of up to one full clock cycle
- Up to 165 MHz DVI
- 3G-SDI (only on AccuStream 1000 SDI)

## Image Quality

- Pixel jitter:  $\pm 0.5$  ns
- S/N ratio: 59 dB
- Linearity: Better than 99%
- Gain and offset stability: 1% from 15°C to 40°C
- Synchronization time: less than 250  $\mu$ s
- A/D conversion: 8 MSB of 10 bits each of R, G, & B (24 bits per pixel), 24 bits YPbPr, 8 MSB of 10 bits monochrome
- Color formats: RGB 24, RGB 32, RGB 5:5:5, RGB 8, YCbCr 4:2:2, YCbCr 4:4:4, 8 monochrome
- Gamma correction

## Controls

- Dual trigger input

## Physical

- Half-length, full height PCI Express card (length 6.6 inches, height: 4.2 inches)
- One female HDMI connector
- One female DVI-I connector
- One BNC connector (only on AccuStream 1000-SDI)
- One connector for dual trigger, 3.5 mm female stereo
- PCIe 2.0 x4 interface

## Performance

- 1.3 GB/second sustained to system memory via PCIe 2.0 x4 interface
- Real-time video streaming
- Real-time transfer to display memory
- Real-time up/down video re-sizer/scaler
- Dual data paths

## Software

- Windows 10
- Auto-SYNC automatic configuration software
- WDM/DirectShow driver
- Microsoft Media Foundations
- IDEA software development kit
- ActiveX controls
- C API
- Example application programs (source code included)

## Environmental

- Power consumption: 8 watts
- Operating temperature: 0 - 70 degrees C

## Ordering Info

- AccuStream 1000, part # 037000-100
- AccuStream 1000 SDI, part # 037000-200 (with SDI video input)
- AccuStream 1000 LF, part # 037000-175 (up to 75 MHz pixel rate)