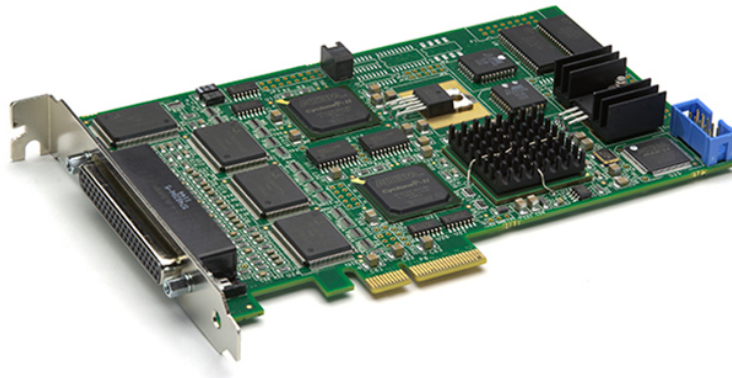


[Product Matrix](#)[Frame Grabber Finder](#)[Alta-AN](#)[Aon-CXP](#)[Axion-CL](#)[BitBox](#)[Cables](#)[Claxon CXP4](#)[Cyton-CXP](#)[Karbon-CL](#)[Karbon-CL4-SP](#)[Karbon-CXP](#)[Legacy Products](#)[Neon-CLB](#)[Neon-CLD](#)[Neon-CLQ](#)[Neon-DIF](#)[R3-CL](#)[R3-DIF](#)[Road Runner](#)[Software](#)

Alta-AN

The Alta-AN family has been discontinued. Please contact our sales team for further information and availability.

The Alta-AN is an affordable, versatile analog product family for Semiconductor and Industrial Vision OEMs. This family can acquire from almost any analog camera on the market; from high speed asynchronous-reset monochrome cameras to super high resolution color HDTV cameras. The Alta frame grabbers are high-quality, flexible, PCI Express bus imaging products that are well supported by an easy-to-use SDK and drivers for most popular software imaging packages.

There are two main models in the Alta family: Alta-AN1 and Alta-AN4. The Alta-AN1 has one Virtual Frame Grabber (VFG) and can support one analog camera of any type. The the Alta-AN4 has four VFGs and support four cameras. Each Alta model is a half size x4 PCI Express board (supporting total data rate up to 1.0 GB/S). Each VFG is a completely independent frame grabber. This means that each VFG can be configured for a different camera, different triggering mode, different destination buffer and can be in a different acquisition state than the other VFGs. But most

importantly, all of the VFGs on one board can acquire simultaneously at the camera's full frame rate and resolution.

Features

Specifications

Models

VFG Details

The diagram below shows the details of the Virtual Frame Grabber (VFG) of the Alta platform. Each member of the Alta family has from one to four VFGs. Each VFG has its own analog front end, each with three Analog-to-Digital converters. Each VFG has its own PLL and synchronization signals processor allowing it to run on its own timing, completely independent of the other VFGs on the same board. The Video Router is fully programmable and can be used to route the output of one, two, or three tap cameras to one, two, or three A-to-Ds respectively. In addition, the Video Router can be used to MUX between two cameras (one or two tap cameras only).

Digital data formatting and buffering is handled in the large Data MUX block. The output from this block feeds our advanced bus-mastering scatter-gather DMA engine that DMA's data to host memory at a rate of a gigabyte per second. This engine can DMA continuously to multiple host buffers without using any CPU cycles. In short, the Alta VFG is a small efficient frame grabber, up to four of which can be packed on one half-sized PCI Express board

Software Support

The Alta-AN is supported by the BitFlow Software Development Kit (SDK) which is available for both 32-bit and 64-bit Windows platforms. The SDK is board family generic, and will work with all of BitFlow's current and future frame grabbers. The kit provides drivers, DLLs and configuration utilities for people interested in using third party software.

For customers interested in developing their own applications, the SDK provides header files, libraries and huge amounts of example code. There is wide range of Application Programming Interfaces (API), from low-level direct hardware access, to high-level automatic buffer management (ring or sequence). Every line of code has been engineered for reliability under the toughest industrial conditions, while at the same time a priority has been put on ease of use and short development times. With the BitFlow SDK you'll have the Alta-AN integrated with your application in no time.

PCI Express Interface

The Alta-AN uses a x4 PCI Express bus interface. The PCI Express bus offers huge increases in DMA performance over the PCI bus, but what is less well known is that the PCI Express bus is always peer to peer. This means that the Alta-AN does not share the bus with any other devices. In most motherboard architectures, it will talk directly to the PCI chip set that is on the memory bus. This direct connection equates to higher sustained DMA bandwidths regardless of system load.

Alta-AN Specifications

Parameters	Alta-AN1	Alta-AN4
Number of simultaneous monochrome cameras	1	4
Number of simultaneous two-tap cameras	1	4
Number of simultaneous RGB cameras	1	4
Number of trigger inputs	1	4
Total number of camera MUXed	2	8

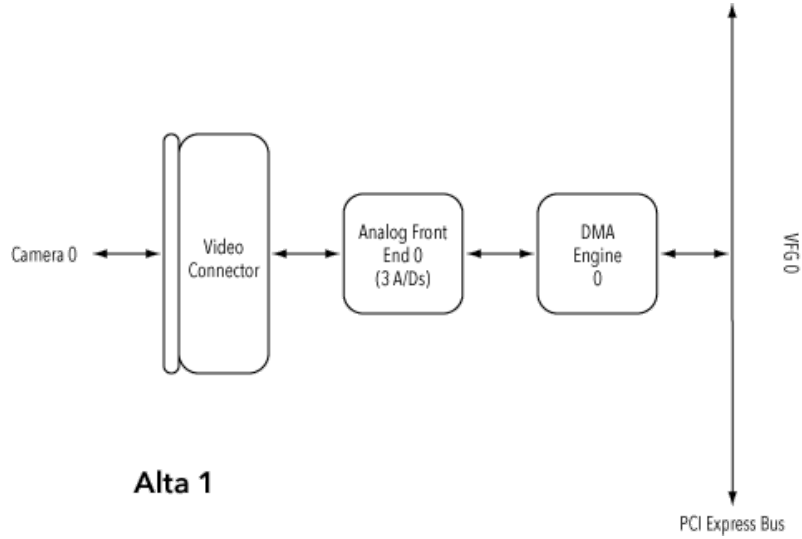
Alta-AN Common Specifications

Parameters	Alta-AN All models
Bits per channel	8 Bits
Maximum channels per VFG	3
Maximum frames per second	No Limit
Maximum A/D conversion frequency	160 MHz
Analog input voltage range	0.35 to 1.4 Volts P-to-P
Gain adjustment range	+/-6 dB
Gain adjustment resolution	8 Bits
Gain matching between channels	+/-1 percent of full scale
Offset adjustment range	+/-127 LSB
Maximum frame size	16K x 16K
Power for camera	12 Volts @ 0.5 Amps
Interface	Four lane (x4) PCI Express
Differential non-linearity typical	+/-0.5 LSB
Differential non-linearity maximum	+1.0/-0.9 LSB
Integral non-linearity typical	+/-1.1 LSB
Integral non-linearity maximum	+/-2.75 LSB
PLL jitter typical	250 picoseconds P-to-P
PLL jitter maximum	450 picoseconds P-to-P
HSYNC Frequency Range	10 to 150 kHz

Block Diagrams

Alta-AN1

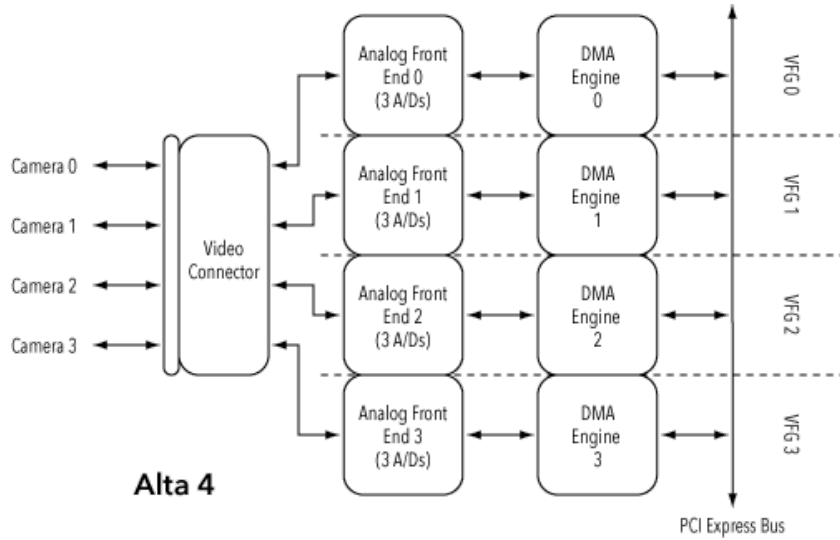
The Alta-AN1 can support one analog camera of any type.



Alta 1

Alta-AN4

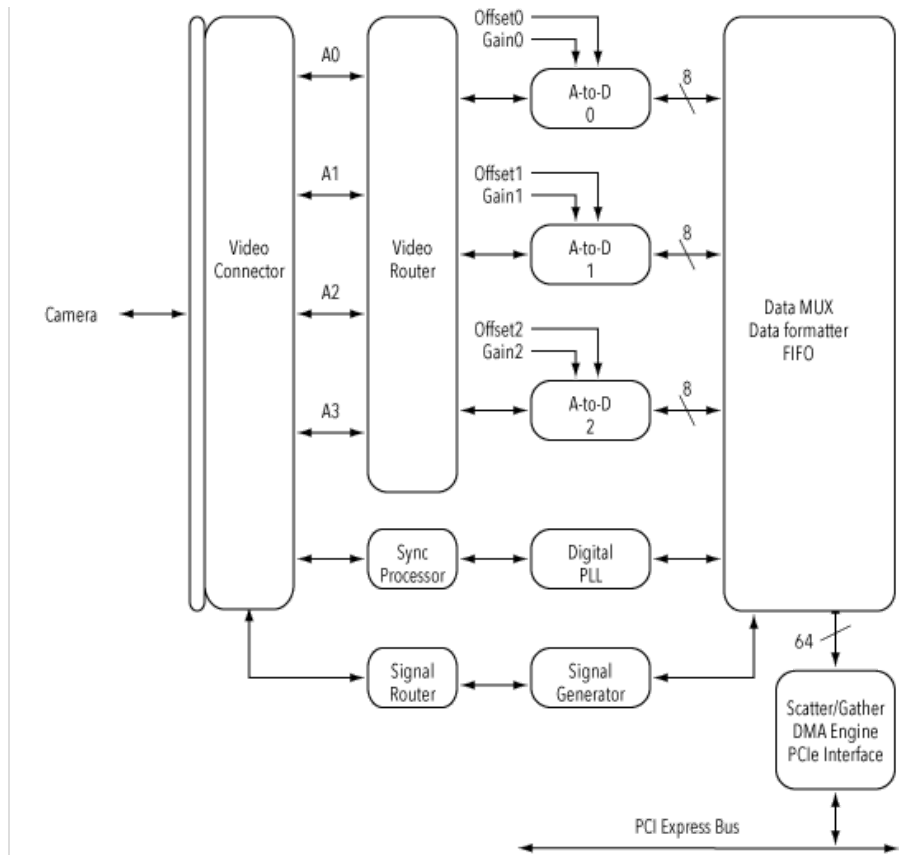
The Alta-AN4 can support four analog cameras of any type. Each camera is completely independent of the other. Think of the power, efficiency, and flexibility four cameras into one x4 PCIe slot—that the Alta-AN4 can provide.



Alta 4

Alta-AN Virtual Frame Grabber

Each VFG has all of the following components. For example, the Alta-AN4 has four copies of everything in the block diagram below.



Alta Virtual Frame Grabber (VFG)

Support

Of course, the Alta family, though it may be very affordable, is still built to BitFlow's exacting quality standards and is backed by BitFlow's legendary customer support.