

FIREBIRD COAXPRESS

Dual CXP-6 Frame Grabber



- CoaXPRESS Frame Grabber
- Two CoaXPRESS links, each at 6.25 Gbps
- Next generation FireBird family
- 8 lane Gen2 PCI Express interface

FEATURES

- Supports the new v1.0 CoaXPRESS interface.
- Very high performance with 12.5 Gigabits per second input rate.
- Very fast PCI Express 8 lane Gen2 interface.
- Comprehensive I/O.
- Supports PoCXP (Power over CoaXPRESS).
- CoaXPRESS gives high speed data, power, and camera control all over one long cable.
- Standard half-length PCI form factor.
- GenICam GenTL support.
- Supported by the proven Phoenix software SDK.



OVERVIEW

FireBird Dual CXP-6 the first product in Active Silicon's all-new state-of-the-art FireBird frame grabber family.

FireBird is designed to support the very fast data rates of CoaXPRESS, using the latest FPGA families, DDR3 memory, and a fast Gen2 PCI Express interface.

CoaXPRESS is a new digital transmission standard that allows high speed data from a device such as a camera to be transferred to a host such as a frame grabber. Each CoaXPRESS link supports up to 6.25 Gbps data rates, along with device power up to 13W and device control at 20 Mbps – all on a single coax cable. For very fast devices, the links can be concatenated to provide multiples of the single coax bandwidth. Very long cable lengths are supported – up to 40m at 6.25 Gbps and over 100m at 3.125 Gbps. Active Silicon was one of the main authors of the CoaXPRESS specification which is now a JIIA (Japanese Industrial Imaging Association) standard.

FireBird is supported by Active Silicon's existing Phoenix SDK, allowing easy migration for existing customers using Phoenix frame grabbers. The Phoenix SDK is available as a separate item, and allows rapid system development and integration. It provides comprehensive example applications and optimized libraries, and is available for a variety of operating systems via a common API, including Windows and Linux (32 bit and 64 bit environments) as well as Mac OS X, DOS, VxWorks and QNX. Drivers for third party applications are also available such as Common Vision Blox, Image-Pro Plus, StreamPix, LabVIEW etc. Any

applications or libraries that support the GenTL interface of GenICam are also supported. As well as functions that control the hardware, the libraries include general purpose functions for the manipulation and display of images. A separate datasheet describes the SDK in detail.

SPECIFICATION SUMMARY

<i>CoaXPress Interface:</i>	2 BNC connectors provide two links each operating up to 6.25 Gbps, and each providing up to 13W of power via Power over CoaXPress (PoCXP). These can support two individual cameras, or one camera requiring two links. LEDs built into each BNC show the link status according to the CoaXPress specification.
<i>Buffer Memory:</i>	512 Mbytes of DDR3 memory is fitted for buffering between the CoaXPress interface and the PCI Express bus.
<i>PCI Express:</i>	8 lane Gen2 interface to support up to 40 Gbps transfer from FireBird to the PC.
<i>I/O:</i>	<p>The following I/O lines are provided for triggers, shaft encoders, exposure control and general I/O:</p> <ul style="list-style-type: none">• 4 opto-isolated inputs.• 4 opto-isolated outputs.• 4 TTL inputs, 5V tolerant.• 4 TTL outputs, 5V logic.• 4 RS-422 inputs.• 4 RS-422 outputs. <p>All these I/O signals are provided on a 50 way header on the FireBird board.</p>
<i>Power Input:</i>	An 8 way PCI Express Graphics (PEG) connector is provided to connect to a 6 or 8 way PEG connector from the PC power supply. This is only needed for PoCXP.

PHYSICAL AND ENVIRONMENTAL DETAILS

<i>Dimensions:</i>	PCB: 168mm by 111mm. Overall: 187mm by 111mm.
<i>Approximate weight:</i>	162g.
<i>Power consumption (typical):</i>	+3.3 V +12 V +12V PEG Connector TBD W TBD W Up to 34W for PoCXP
<i>Storage Temperature:</i>	-15°C to +70°C.
<i>Operating Temperature:</i>	0 °C to +55°C (ambient environment).
<i>Relative Humidity:</i>	10% to 90% non-condensing (operating and storage).

ORDERING INFORMATION

PART NUMBER	DESCRIPTION
AS-FBD-2XCXP6-2PE8	FireBird Dual CXP-6 frame grabber.
AS-PHX-SDK-xxx-CD	Software Development Kit for xxx operating system. For a full list of all supported operating systems please refer to the SDK datasheet, or contact your distributor.
AS-CBL-VDM230-xM	BNC to BNC cable x metres in length for use with CoaXPress video sources. Made from Gepco VDM230 cable. Standard stock lengths are 1m, 3m, 5m, 10m and 20m. Higher flex rating and longer length cables also available – contact your distributor for details.

An initial order for the **FireBird** with an SDK and cable is supplied in a presentation case.

THE FIREBIRD RANGE

The following products will be available in the range:

- High performance CoaXPress frame grabbers.
- Low cost CoaXPress frame grabbers.
- Camera Link frame grabbers, including deca and dual-deca support.
- 3G-SDI frame grabbers.

These will be available in various form factors including standard PC, PC/104-Express and XMC.



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