FIREBIRD COAXPRESS

Dual CXP-6 Frame Grabber

- **CoaXPress Frame Grabber**
- **Two CoaXPress links, each at 6.25 Gbps**
- **RISC based ActiveDMA engine technology**
- **8-lane Gen2 PCI Express interface**

FEATURES

- CoaXPress gives high speed data and camera control all over a single cable.
- High performance with 12.5 Gigabits per second input rate.
- Fast PCI Express 8-lane Gen2 interface.
- ActiveDMA engine – acquisition with zero CPU usage.
- Standard half-length PCI form-factor.

OVERVIEW

FireBird Dual CXP-6 is a member of Active Silicon's state-of-the-art FireBird frame grabber family.

FireBird is designed for ultimate performance using Active Silicon's proprietary DMA Engine technology, "ActiveDMA". This technical innovation applies RISC based processor techniques and guaranties zero CPU intervention, high speed and low latency image data transfers.

CoaXPress is a leading transmission standard for high-speed imaging in professional and industrial applications. Each CoaXPress link supports up to 6.25 Gbps data rates. For faster 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 primary authors of the CoaXPress international standard, which is hosted by the JIIA (Japan Industrial Imaging Association). All our CoaXPress products are certified compliant to the specification through the JIIA CoaXPress Product Certification Program.

SPECIFICATION SUMMARY

CoaXPress Interface:	2 BNC connectors provide two links each operating up to 6.25 Gbps. 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.
Buffer Memory:	512 MBytes of DDR3 memory is fitted for buffering between the CoaXPress interface and the PCI Express bus.
PCI Express:	8-lane Gen2 interface to support up to 40 Gbps transfer from **FireBird** to the PC.
Fan Controller:	The fan speed is linked to the temperature of the FPGA die for optimum cooling and noise level.

CONFORMANCE

PCI Express Interface:	PCI Express Bus eight lane Gen2 interface to Specification Revision 2.0, with a max payload size of 512 bytes. **FireBird Dual CXP-6** supports both Short (32-bit) and Long (64-bit) Address packets. It also generates Posted Writes for image data, thus achieving transfer rates in excess of 3.4 GBytes/sec, subject to host performance. The board requires 16 MBytes of address space.	
CoaXPress:	**FireBird Dual CXP-6** conforms to v1.11 of the CoaXPress specification.	
Approvals:	EU	CE mark for compliance with EMC EN 55022:2010 (class A) and EN 55024:2010 in accordance with EU directive 2014/30/EU. RoHS compliance to RoHS2 directive 2015/863/EU.
	USA	EMC FCC Class A.
	The printed circuit board is manufactured by UL recognised manufacturers and has a flammability rating of 94-V0.	

PHYSICAL AND ENVIRONMENTAL DETAILS

Dimensions:	PCB: Overall:	168mm by 111mm. 187mm by 111mm.
Approximate weight:	162g.	
Power consumption (typical): *(Measured while acquiring from 2 CXP-6 links)*	+3.3 V 400mA	+12 V 900mA
Storage Temperature:	-15°C to +70°C.	
Operating Temperature:	0 °C to +70°C (ambient environment).	
Relative Humidity:	10% to 90% non-condensing (operating and storage).	