

LFG

HIGH-PERFORMANCE COLOR / MONO FRAME GRABBERS



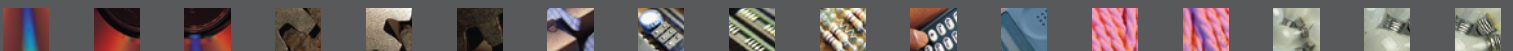
Featuring:

- Available in PCI Express, PCI, CompactPCI, PMC, ETX and PC/104-Plus form factors
- Comprehensive Software Developers Kit
- Windows, DOS, Mac OS X, Linux, VxWorks, QNX and Solaris with 32-bit and 64-bit support
- Royalty-free JPEG and MJPEG compression
- Color / Mono / S-Video real-time video acquisition
- Audio capture: 44kHz @ 16 bit to 8kHz @ 8 bit
- Data formatting for real-time display/processing
- Trigger input & digital I/O lines
- D-type I/O for industrial use
- 3rd party drivers: DirectShow, Twain, CVB, QuickTime (VDIG)



Active Silicon
COMPUTER IMAGING PRODUCTS

www.activesilicon.com



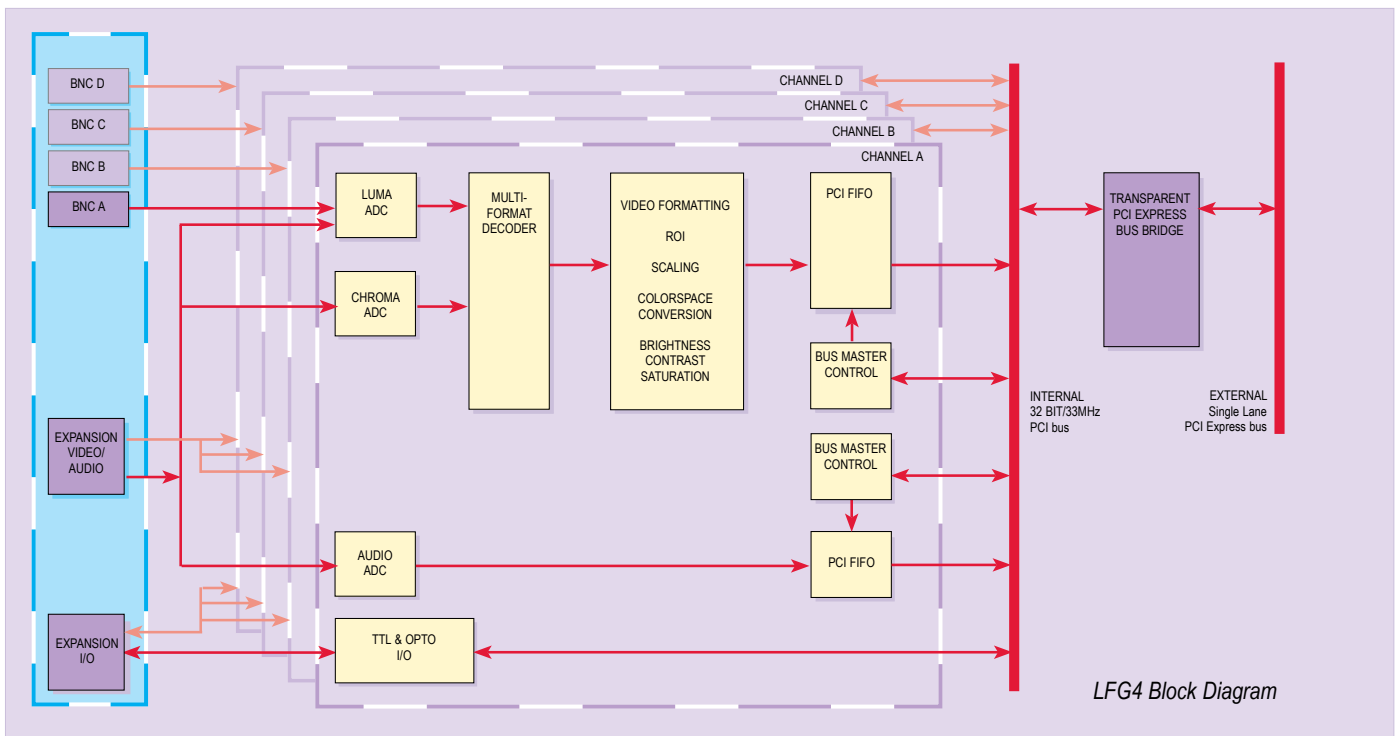
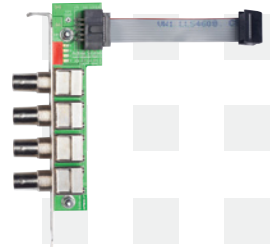
LFG. The Low-cost/High-performance Frame Grabber from Active Silicon

The LFG range starts with the LFG, which supports capture from one of four composite/monochrome sources or one S-Video. At the top of the range is the LFG4, which can simultaneously capture four from a total of sixteen composite/monochrome inputs or alternatively four S-Video inputs. There is also I2C available at the connector along with TTL trigger I/O, digital I/O and 12V & 5V fused outputs, for use as a camera PSU.

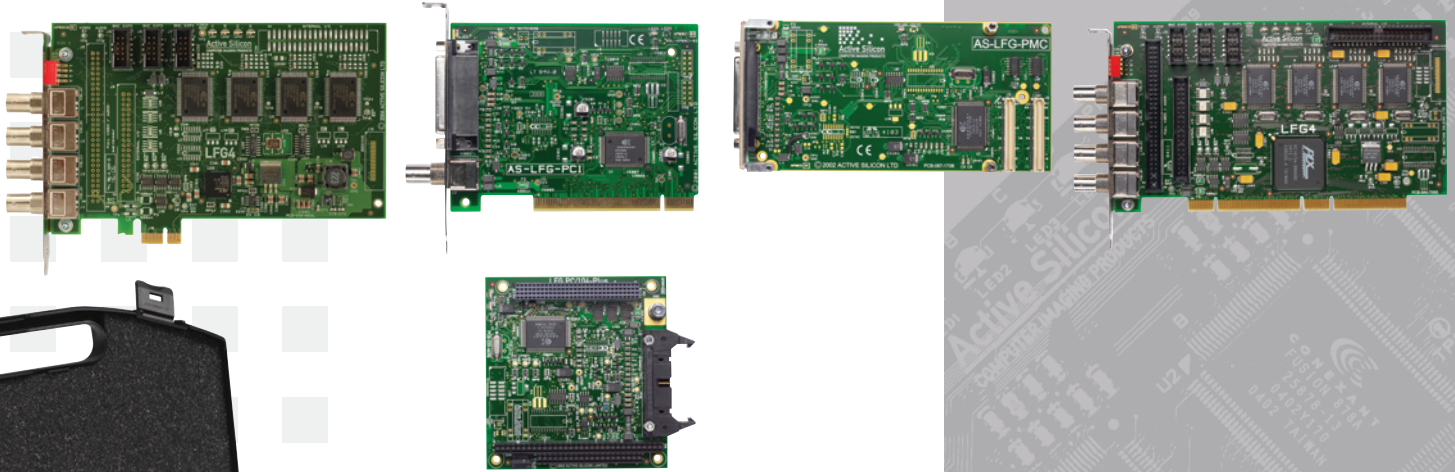
Raw video data may be optionally converted into one of several formats suitable for image processing or direct display. These include 32, 24, 15 and 16 bit RGB (using the internal

colorspace converter and formatter), as well as grayscale and YUV 4:2:2. DMA scatter/gather is performed fully in hardware as part of the DMA process, along with de-interlacing, region of interest generation and scaling, thus without any software overhead.

The Software Development Kit (SDK) has been specifically designed for OEM integration and includes a licence for the TMG Imaging Library (one licence per LFG card). This includes JPEG and MJPEG compression, decompression, various pixel data mappings, image display and support for the major image file formats.



LFG4 Block Diagram



A variety of operating systems are supported via a common API, including XP/XPe/Vista, QNX, DOS, Mac OS X, Linux, VxWorks, QNX and Solaris. Additional operating systems can be supported upon request.

Standard drivers are included for DirectShow, Twain, QuickTime (VDIG) and Common Vision Blox.

A range of fully populated developer cables as well as custom cabling solutions are available.

All hardware is provided with a one-year warranty. Extended warranties may be purchased.



APPLICATIONS

Medical

Ultrasound

X-Ray

Multimedia

IP video and audio streaming

Security

Remote monitoring

Traffic surveillance

Transport

Other

Robotics

LFG SPECIFICATION

- Multiple form factor support
- Multiple video luminance/composite and S-Video inputs
- 8/16-bit mono audio inputs with sampling from 8kHz to 44kHz
- PAL, NTSC and SECAM color decoders
- Hue, Contrast, Saturation, and Brightness adjustment
- Independent horizontal and vertical downscaling to 16:1
- Region of interest support
- Colorspace conversion from YUV4:2:2 to various RGB formats
- Byte and/or word swapping to provide support for big-endian processors
- Scatter/Gather DMA engine with no CPU involvement
- JPEG and MJPEG compression via software libraries
- Field, Frame, End of Sequence and Trigger interrupts
- Trigger input and output as well as TTL I/O lines
- 5V and 12V outputs

Feature List

	LFG	LFG-MM	LFG4	LFG4-MM
PCI Express (x1)	-	✓	✓	✓
PCI (32-BIT/33MHz)	✓	-	✓	✓
PCI (64-BIT/33MHz)	-	-	✓	✓
PCI/PCI-X (64-BIT/66MHz)	-	-	✓	✓
Total Composite Video Inputs	4	4	16	16
Total S-Video Inputs	1	1	4	4
Simultaneous Video Capture	1	1	4	4
Total Audio Inputs	3	0	12	0
Simultaneous Audio Capture	1	0	4	0
5V and 12V Output	✓	-	✓	-
Trigger Input	✓	-	✓	-
TTL I/O	3	0	28	0
24V Opto-isolated I/O	0	0	8	0

Founded in 1988, Active Silicon specializes in the design, manufacture and supply of digital imaging products and technologies. This includes video acquisition, vision systems and networked video on a variety of standard and specialist operating systems. The products are created from a core set of software and hardware technologies developed in-house and based upon industry standard microprocessors such as Pentium and PowerPC. These products and technologies have many applications throughout business, science and industry ...such as manufacturing, medical science, remote visual monitoring, scientific research and security. Customers include a variety of government organisations and blue chip companies as well as many small and medium sized companies. In fact Active



Silicon products are in use on land, sea, in the air and even in space....for medical diagnostics, deep sea exploration, aerospace applications and space robotics.

As well as the range of product solutions, customers also have direct access to Active Silicon for systems advice, consultancy and integration work to ensure successful completion of end user applications.

Solutions may also include the development of custom boards and software, often using specialist operating systems.

Although primarily a product based company, Active Silicon can provide a wide range of consultancy services for the design and integration of imaging equipment into OEM

machines and end user systems. This often extends to the development of custom software or hardware solutions, as well as licensing its own software technologies. In fact, Active Silicon has now developed quite a variety of cross-platform software technologies, including a novel device driver architecture; image read, write, processing and display code; plus JPEG and MJPEG compression CODECs.




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