

HD Video Acquisition and Compression Board

LT-101-USB

The LT-101-USB is an HD video capture module that compresses HDTV video in real-time without the use of host computer's CPU resources. The module is connected to a host system via high speed USB.

This board captures video from both analog and digital HD and SD video sources via DVI, RGB, VGA, component, S-video, or composite connectors. In addition to external video sources, the LT-101-USB can compress from host internal video sources such as files or DirectShow devices including USB and FireWire cameras. An HD/SD-SDI option is available.

The LT-101-USB compresses video in compliance with the VC-1 (SMPTE-421M) standard also referred to as WMV-HD. Originally developed by Microsoft, this format is supported natively by most software decoders.

This high performance board can compress 1080P/I at up to 30 frames per second (fps). 2048x2048 can be compressed at 15fps. At lower resolutions the maximum compression frame rate increases. If the frame rate is higher than the board can handle, frame decimation can be enabled allowing high frame rate source to be acquired at a lower frame rate.

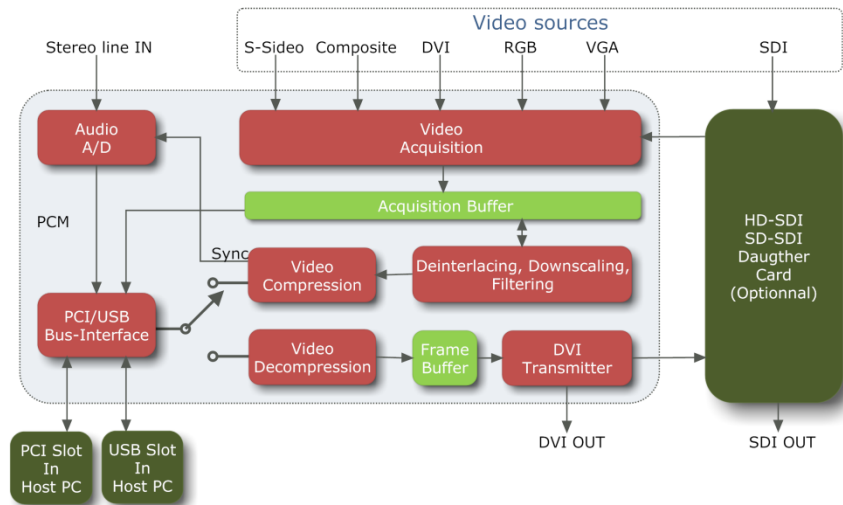
Compressed bitrates can vary between 64Kbit/s and 80Mbit/s depending on resolution, frame rate and quality desired.

An uncompressed video capture function is also available for simultaneous snapshots or continuous raw video acquisition.

- Real-time HD/SD video acquisition and compression
- Uncompressed video capture
- HDTV 1080p, 1080i, 720p, 576p, 576i, 480p, 480i compatible
- Graphics capture up to WUXGA
- Very low compression latency
- Multiple digital and analog video inputs including component, RGB, DVI, s-video, etc...
- HD-SDI/SD-SDI option
- Connects to host via USB
- Synchronized audio capture
- Text overlay prior to compression
- VC-1/WMV-HD video compression
- IP or I only compression
- Bitrates from 64Kbit/s to 80Mbit/s
- Windows and DirectShow support
- Linux support
- Mac OS X support



LT-101-USB Block Diagram



Key Features

- ❖ VC-1/SMPTE-421M advanced profile level 3 video compression. Compliant decompression
- ❖ I only or IP compression with variable GOP size
- ❖ VBR (variable) and CBR (constant) bitrate control
- ❖ 1024x512 motion vector search range covered
- ❖ Bitrates from 64Kbit/s to 80Mbit/s
- ❖ 1 frame maximum latency (can be reduced to a few milliseconds under special circumstances)
- ❖ ASF container format
- ❖ DVI, VGA, RGB, component, S-video, composite video inputs.
- ❖ Optional HD/SD-SDI input
- ❖ USB host bus interface
- ❖ Simultaneous uncompressed video capture
- ❖ 2 channel audio capture
- ❖ Synchronized audio/video acquisition
- ❖ Advanced hardware deinterlacing
- ❖ Frame rate reduction feature available
- ❖ Video scaling (1, ½, ¼) prior to compression
- ❖ Smoothing filter prior to compression
- ❖ Text overlay prior to compression
- ❖ Bitrate reduction via monochrome mode when color is not needed
- ❖ Synchronization to external events
- ❖ Extensive Motion statistics for all frames
- ❖ Windows XP/Vista drivers
- ❖ DirectShow support as well as simple SDK
- ❖ Linux support
- ❖ Mac OS X support

Applications

- ❖ HDTV capture and storage
- ❖ Digital video recorders
- ❖ Video Medical systems
- ❖ Endoscopy DVR
- ❖ Video surveillance systems
- ❖ Internet broadcasting
- ❖ Teleconferencing
- ❖ Video over LAN
- ❖ Inspection systems
- ❖ Machine vision video recorders

Product Codes

- ❖ LT-101-USB-VC1 LT-101 module for VC-1, docs, drivers
- ❖ LT-101-USB-SDI-VC1 LT-101 module with HD/SD-SDI

See Also

- ❖ LT-101-PCI-VC1 PCI/USB board version of LT-101
- ❖ LT-101-PCIE-VC1 PCI Express version of LT-101

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