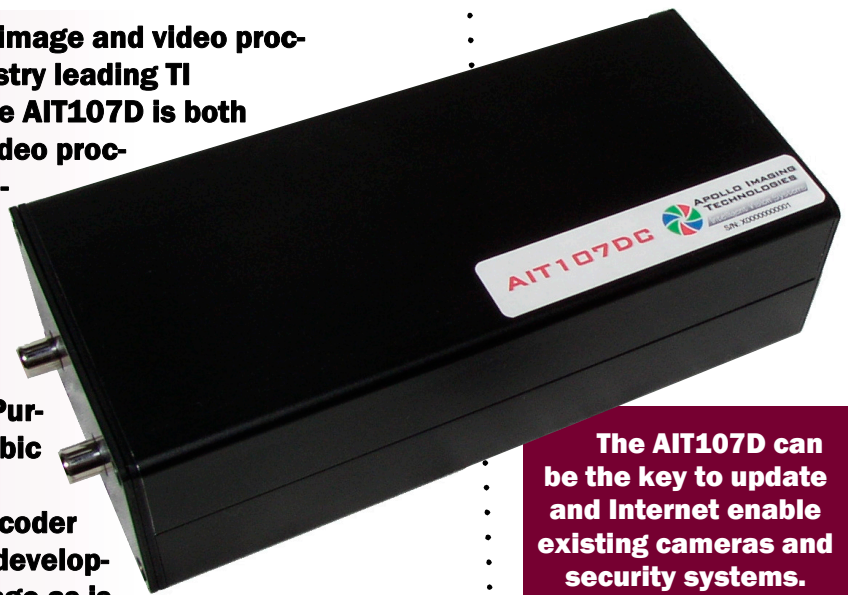
AIT107D

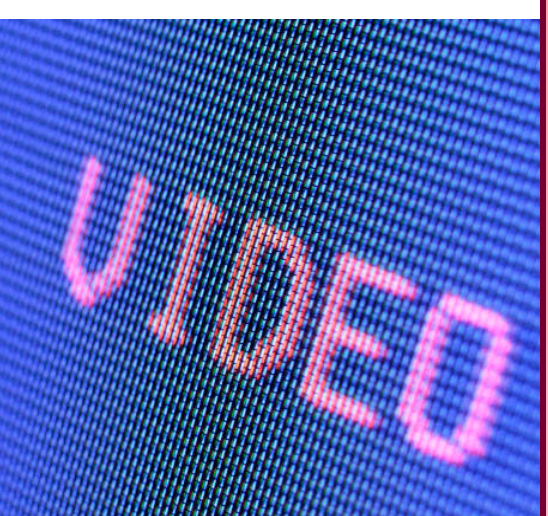
Apollo Imaging Technologies

AIT107D Intelligent Vision Platform

The Apollo Imaging AIT107D is an advanced image and video processing system based upon the powerful industry leading TI TMS320DM642 Digital Media Processor. The AIT107D is both a development platform and a stand-alone video processing system that is ready for your smart application, analytics or off-the-shelf compression algorithms. Fully featured with either two composite video inputs (AIT107D-C) or a single S-Video input (AIT107D-S), 10/100 BaseT Ethernet, USB 2.0, RS-232/RS-422, Audio in, Composite Video out, and General Purpose I/O, all housed in single compact 46 cubic inch metal case. An SDK with a complete Board Support Package, including a JPEG encoder and a Windows client, is available to speed development. For production, you can use the package as is, or Apollo Imaging will design a custom version to your specifications.



The AIT107D can be the key to update and Internet enable existing cameras and security systems.



Typical Applications

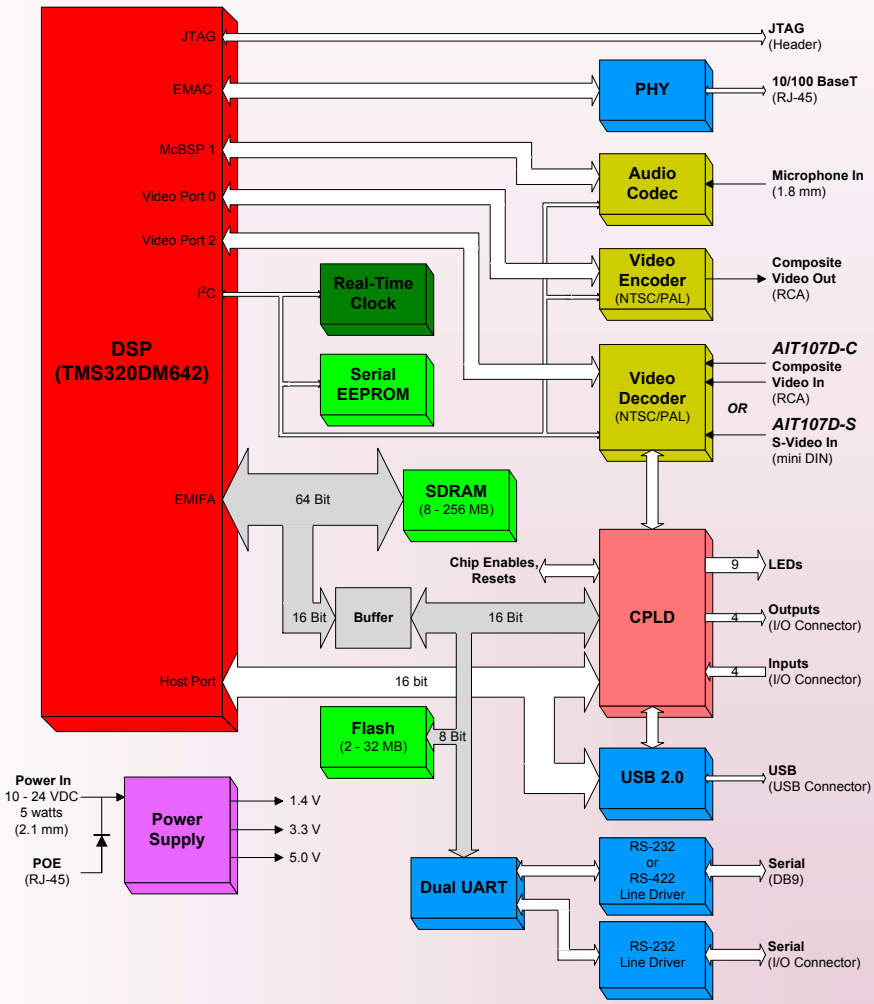
Video Network – The AIT107D can be the heart of a digital video network. Able to digitize and playback both NTSC and PAL video, the AIT107D can be used to interface, convert, scale, and connect analog video components with the digital world. With an internal web server, command, control and firmware updates are simplified.

Intelligent Security – Using standard NTSC/PAL security cameras, the AIT107D can digitize, compress, and send video out over a network. Available compression algorithms include JPEG, MPEG2, bandwidth saving H.264, or your own custom compression algorithm. Based upon the current video content or other factors, the compression and sample rate can be adjusted on the fly. It is even possible to automatically change from a temporal type (motion) algorithm to a static type to create evidentiary high quality still images. In addition to your specific text or graphics, the time and date can be superimposed on top of the video using the built-in battery backed real time clock.

Image Recognition - Using an internal database and algorithm, image recognition applications can be completely self-contained while still providing external notification (the AIT107D can even send you an email) and automatically update its database by downloading from a remote server.

Motion Analysis -- Using a motion detection algorithm, active image areas can be determined, captured, and then focused on for more in-depth analysis. The AIT107D can also be used as the processor/controller in sophisticated image tracking systems.

System Block Diagram



Processor / System

- TMS320DM642 Digital Media Processor (500Mhz/4000MIPS, 600Mhz/4800MIPS, or 720Mhz/5760MIPS)
- 128 MBytes SDRAM standard (32MBytes to 256MBytes)
- 2 MBytes Flash standard (2MBytes to 32MBytes)
- Battery backed Real Time Clock
- Serial EEPROM
- Xilinx CPLD

Video Decoder

- NTSC or PAL input
- ITU-R BT.601 Sampling
- 8-bit 4:2:2 or 8-bit ITU-R BT.656 output

Power Requirements

- 10 to 24VDC, 5 watts
- Power over Ethernet (POE) compatible

Front Panel

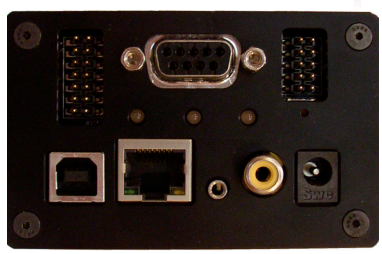
- RCA: Two composite video inputs (NTSC/PAL) *Model AIT107D-C*
- S-Video: S-Video input (NTSC/PAL) *Model AIT107D-S*
- LED: Dual color; programmable.

Mechanical

- Metal Enclosure 7.25" x 3.18" x 2" (not including connectors)

Rear Panel

I/O Connector:	RS-232 Serial Port
DB-9:	RS-232 or RS-422 Serial Port
I/O Connector:	Four general purpose inputs (non-isolated, 24V) and four general-purpose outputs (open drain, 24V/100mA)
Button:	Reset switch (recessed)
LEDs:	Three dual-color, programmable
2.1mm Coaxial:	Power, + 10 to 24 VDC, 5 watts
RCA:	Composite video out (NTSC/PAL)
1.8mm Phono:	Audio input with full featured CODEC
RJ45:	10/100 BaseT Ethernet and Power over Ethernet (POE).
USB Type B Connector:	USB 2.0



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Intelligent Vision Systems

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