Imaging Evaluation Kit

Complete hardware & software solution for imaging applications

This audio/video system is designed to support any kind of imaging application. Used as evaluation module or as audio/video component on a motherboard, it allows prototyping of final systems and reduces time to market.

Main Benefits

Ready to operate

Flexibility

Performance

Analog or digital I/Os

FPGA + DSP customization

Application examples

Supports DSP-BIOS II

TI eXpressDSP compliant

The Imaging Evalutaion Kit includes

Hardware module (used as stand-alone or daughter board)

Software development kit (foundation software)

Video compression application

Code Composer Studio (evaluation version)

Video compression algorithms (evaluation version)

Demonstration
DSP evaluation
Algo evaluation
Development tools
Imaging application
OEM

Hardware block diagram

Can be used as stand-alone or daughter board
- 4 analog video inputs
- 1 analog video output
- 1 analog audio input and output
- 1 DSP TMS320C6211 + 1 FPGA 30 000 gates
- Serial or parallel links to host system
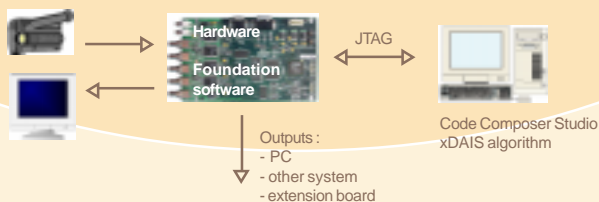- General TTL IO ports
- Single power supply (5 V)
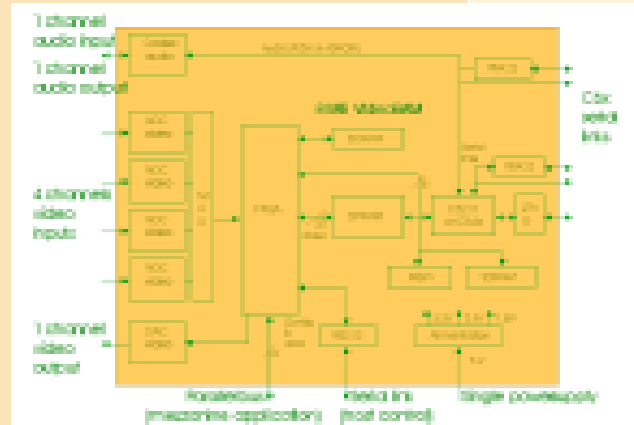
Applications

The kit helps you cuting time to market from the early stages of your project :
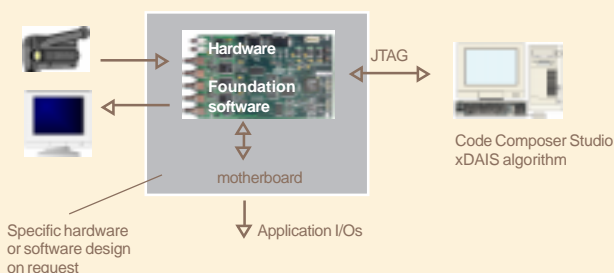
1. choosing the right solution without designing a dedicated hardware (DSP & software performances)

2. prototyping the final system with all the features

3. designing the firmware in parallel of the final hardware development

4. integrating imaging hardware in your system.

This kit can be used either as an evaluation module or as part of an end user application system (see below).

Evaluation module

JTAG

Code Composer Studio
xDAIS algorithm

Outputs :
- PC
- other system
- extension board

Application board

JTAG

Code Composer Studio
xDAIS algorithm

motherboard

Specific hardware
or software design
on request

Application I/Os

Main features

Analog I/Os
- Video inputs : composite / PAL, NTSC / YUV 4:2:2 / A.G.C. / Scaling / Teletext
- Video output : composite / PAL, NTSC / YUV 4:2:2 / On screen display
- Audio input/output : line level (700mV RMS) / voice band (300Hz-4KHz) / PCM (A-law or µ-law) or ADPCM (16, 32 or 64 Kb/s)

Signal processing
- DSP TMS320C6211-150 TI / 16 MB local SDRAM / 512 KB Flash

Pre-processing
- FPGA 1K30 ALTERA / 1K50 option / Downloaded by DSP or motherboard
- 32KB DPRAM (helpfull for pixel arrangement, pixel format conversion)
- Video memory : 8 MB SDRAM, local to the FPGA

External links
- 2 DSP bidirectional serial links in RS422 and TTL levels (high speed data)
- 1 RS232 bidirectional serial link : up to 460 Kbits/s (host control)
- 1 8-bits parallel bus (or 16 TTL I/Os : can be a digital camera input)