



TransXmedia USB Reference Design

- ◇ Transcoding:
 - AVC, MPEG2
 - HD to HD/SD
- ◇ 1250 DMIPS Dedicated Application Processor
- ◇ USB 2.0 Interface
- ◇ CA/DRM Transcription support
- ◇ Support for mobile devices such as iPhone, iPod Touch, Smart Phones, PSP and other portable devices
- ◇ AVC/MPEG2 HD encoding*

FEATURE SUMMARY

Smart XCode™ Transcoding/Transrating

- ◇ Format conversion of multiple streams (SD/HD):
 - AVC >> MPEG2, MPEG4 (ASP, SP), AVC
 - MPEG2 >> AVC, MPEG2, MPEG4 (ASP,SP)
 - VC1 >> AVC, MPEG2, MPEG4 (ASP, SP)
- ◇ Other popular Internet Video Formats supported
 - H.263, DivX, XVID, Real, etc. >> AVC, MPEG2, MPEG4 (ASP, SP)
- ◇ Bit-rate reduction of multiple streams:
 - 40 Mbps >> 64 Kbps
- ◇ Resolution reduction of streams:
 - HDTV >> HDTV >> SDTV >> CIF >> QCIF
- ◇ High-speed video processing 2X – 12X real-time

*MPEGPerfection™ Encoding**

- ◇ AVC HD High Profile up to level 4.1
 - ¼ pixel resolution
 - Full Interlace support – MBAFF
 - Entropy Coding – CABAC/CAVLC
- ◇ MPEG2 up to HD (MP@HL)
- ◇ MPEG4 up to D1 (with PSP, iPod, DivX™ remux)
 - ASP (L0 – L5)
 - SP (L0 – L3)
- ◇ 525/60 NTSC, 625/50 PAL
- ◇ VBR or CBR encoding
- ◇ Programmable GOP structure
- ◇ 4:2:2 to 4:2:0 conversion
- ◇ Inverse telecine (3:2 pulldown)
- ◇ Scene change detection

Digital Video Filtering

- ◇ Pixel-based motion-adaptive 3D comb filter
- ◇ Pixel-based temporal/spatial filter
- ◇ Image edge rectification

Stream Formats Supported (In/Out)

- ◇ Elementary Stream (ES), Packetized Elementary Stream (PES), Program Stream, Transport Stream (TS), ASF, 3GP, MP4, etc..

Programmable Audio Processing

- ◇ MPEG2 LI, LII, MP3
- ◇ MPEG2 AAC-LC-Stereo
- ◇ Dolby AC-3 True HD, 7.1, 5.1, Stereo
- ◇ DTS HD, 5.1
- ◇ WMA
- ◇ AMR
- ◇ aacPLUS
- ◇ PCM
- ◇ Others

* Available if YCrCb input is designed in

FEATURES

- ◇ USB 2.0 Device Connector
- ◇ 128 Mbit SPI Boot Flash
- ◇ 128 MByte DDR3 Memory x16
- ◇ MicroSD connector
- ◇ Other Interfaces available with XCode 4105:
 - Transport stream input (1 serial)
 - Transport stream output (1 serial)
 - Re-multiplexor
 - Smart Card interface
 - 2nd SD Memory, SDIO Interface
 - 2 x UART
 - Integrated NAND Flash Controller
 - 2 x I²C – master & master/slave
 - 1 x 8/10 bit CCIR 656 input or 1 x YCrCb input SMPTE (274/296)
 - 1 x I²S input
 - SPDIF In
 - General Purpose I/O

PACKAGE INCLUDES

- ◇ TransXmedia USB Reference Board
- ◇ Linux OS
 - SDK (API and documentation)
 - Linux Driver
 - Requires systems with Linux (Red Hat or Ubuntu)
- ◇ Board schematics
- ◇ Bill of materials
- ◇ Gerber files
- ◇ XCode® 4105 datasheet

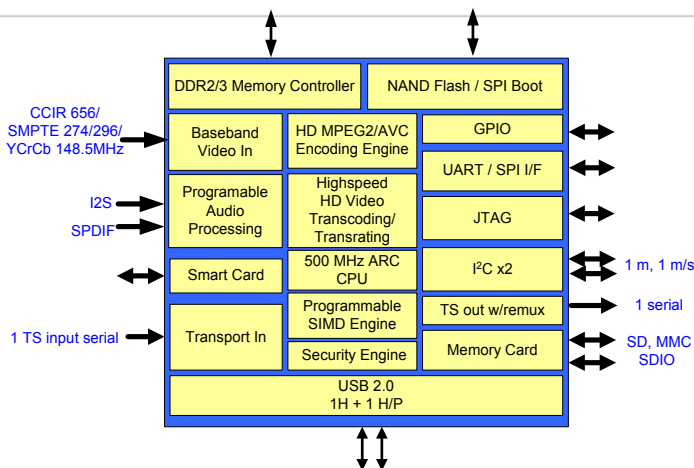
TYPICAL APPLICATIONS

- ◇ IPTV, Cable, and Satellite Set-Top boxes
- ◇ Personal Video Recorders (PVR's)
- ◇ DTV, PVR DTV
- ◇ Blu Ray Recorder/Player
- ◇ DTV PVR
- ◇ Residential / Home Gateways
- ◇ Video NAS

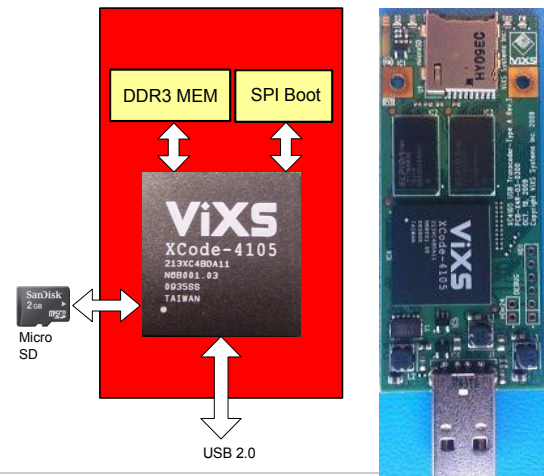
CORE TECHNOLOGIES

- ◇ Smart XCode™ technology allows users to convert formats, resolution, and frame rates of pre-compressed video, up to 12X faster than real-time, to fit video to many viewing devices
- ◇ MPEGPerfection™ technology defining low-bitrate HD compression without compromising video quality

XCode® 4105 BLOCK DIAGRAM



TRANSXMEDIA DESIGN



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