

Flexible MPEG audio/video codec with DVD and DVB receiver capability

DATA BRIEF

DESCRIPTION

STMicroelectronics has developed an audio/video full-duplex Codec for low-cost combo devices.

The STd8010, equipped with open and scalable architectures, brings audio/video encoding for DVD or HDD recording, state-of-the-art DVD player and recorder features, STB, networking and PVR.

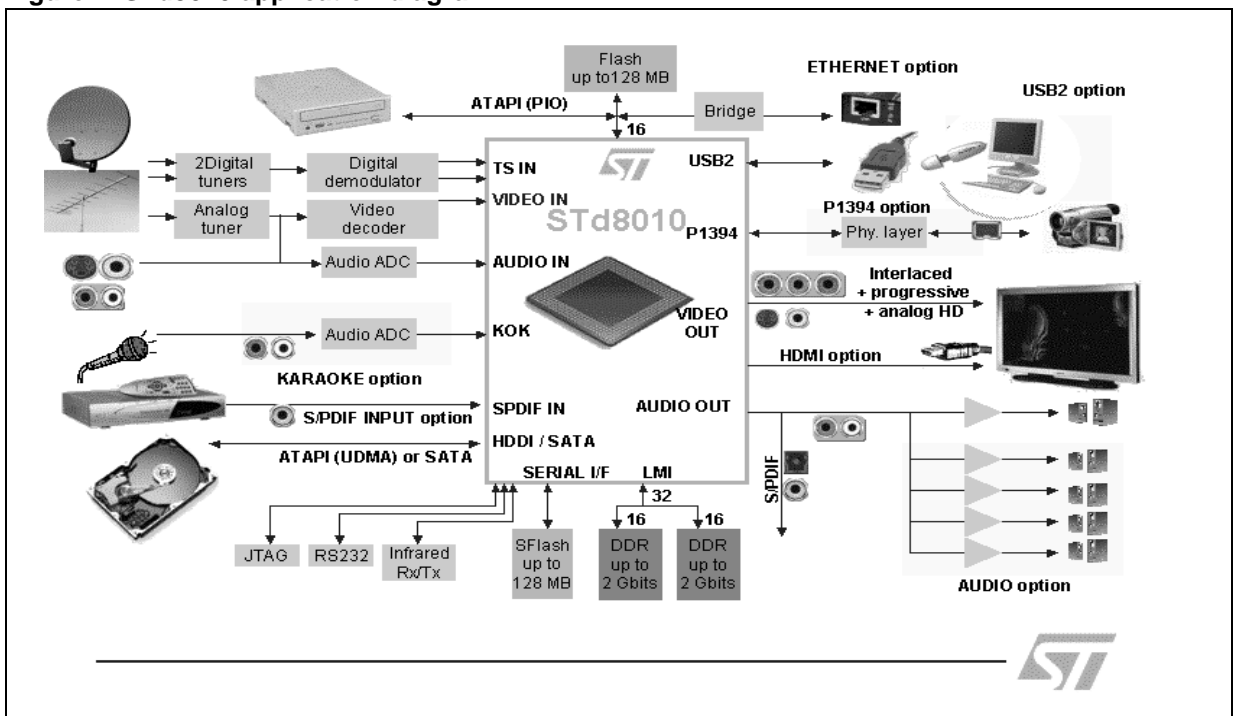
TV watch and record, time shift, DV movie transfer to disc, MPEG4 decoding and encoding, DVD audio are many functions supported by this device.

The STd8010 offers manufacturers of STB, DVD recorder, PVR and convergence products a cost-effective solution with an unrivalled set of features, and flexibility.

Package (35x35 mm² PBGA)



Figure 1. STd8010 application diagram



FEATURES

- Host processor
 - ST231 processor at 400 MHz, with TLB support for Linux and OS21 operating systems
 - 3 processing cores providing up to 4.5 GOPs of processing power
- Video encoder
 - Based on the ST231 processor 400 MHz
 - Real time MPEG2 MP at ML encode
 - Real time DivX encode
 - Pre-processing for superior image quality
 - Constant and variable bit-rate encoding
 - D1 interface input: 720x480 (576) at 30 fps (25 fps)
- Audio encoding
 - Based on the ST231 processor at 400 MHz
 - Dolby® stereo, MPEG1 layer 2, MP3
- Digital video decoder
 - DV to MPEG2 format conversion
 - Glueless interface to P1394 Phy
- Video decoder
 - Dual TS input, one TS output
 - DVB-CSA decryption for DVB-T services and move to “integrated encryption/decryption”
 - MPEG2 MP at ML, MPEG4 SP at ML
 - Zoom in/out, advanced trick modes
- Audio decoding
 - Based on the ST231 processor at 400 MHz
 - 5.1 Dolby® Digital/MPEG multichannel/MP3/WMA/DTS/MLP and AAC decoding
- Virtualizer: ST OmniSurround™
- 4 x 2-channel PCM outputs,
- IEC60958-IEC61937 digital output
- DVD sub-picture decoder high performance picture composition
 - Multi plane: background, still picture, video, sub-picture, graphics, PIP, cursor
 - 2D graphics accelerator
 - Adaptive anti-flicker
- Multi-format video outputs
 - CVBS, Y/C, RGB and YUV outputs with 10-bit DAC at 54 MHz
 - PAL/NTSC/SECAM encoder
 - HD analog output and simultaneous interlaced/progressive outputs
 - HD digital output through HDMI
 - Macrovision 7.1 and 1.0 (525p)
- Memory interfaces
 - Unified DDR memory up to 166 MHz
 - Generic host interface supporting flash memory, ATAPI interface (PIO modes), SRAM like devices, SDRAM
- Disc drive interface
 - Front-end interface for DVD player loader
 - ATA/ATAPI-5 UDMA-66 interface
- Integrated encryption/decryption
 - CSS/CPPM/CPRM decryption
 - CPRM/VCPS encryption
- Integrated peripherals
 - 40 GPIOs, 4 PWMs, SSC, I²C, 3 UARTs, IR-Ir, USB 2.0, SATA.

PART NUMBERING

Table 1. Order codes

Part Number	Description
STd8010AWB	Flexible MPEG audio/video codec with DVD and DVB receiver capability

REVISION HISTORY

Table 2. Revision history

Date	Revision	Description of changes
December-2005	1	First issue

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