STi5514

Set-top box decoder with hard disk drive capability for digital TV, digital set-top box or cable box

DATA BRIEF

Description

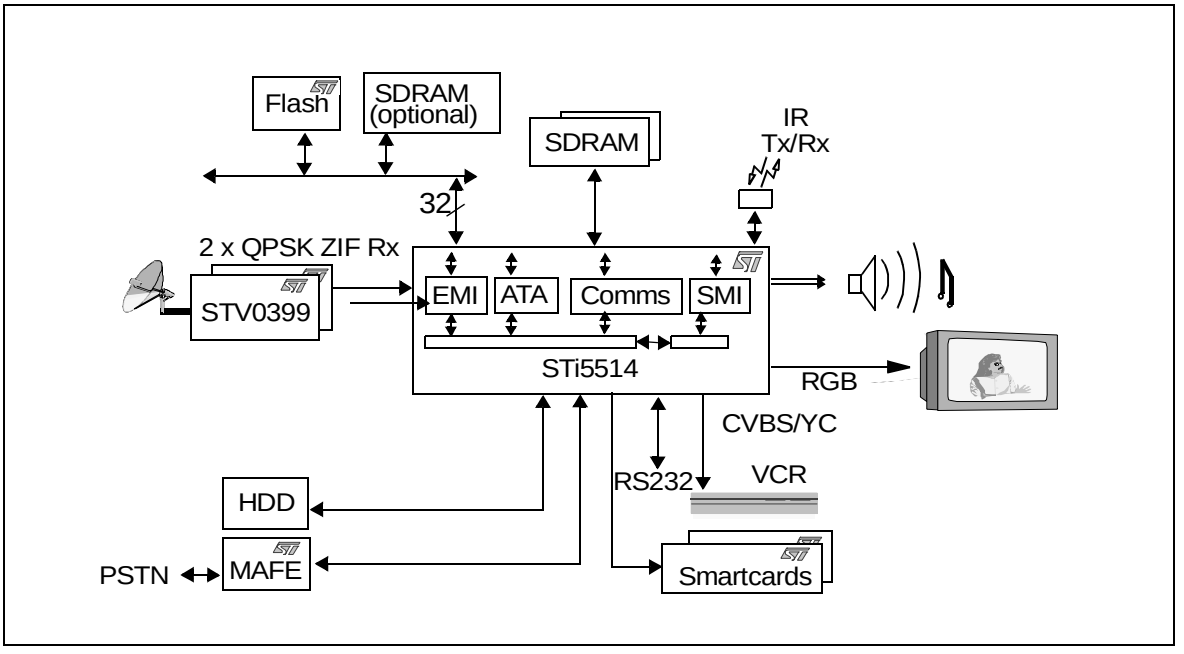
STMicroelectronics, the world leading supplier of MPEG-2 decoders, offers a complete range of integrated circuits for set-top box applications. The STi5514 device integrates a 32-bit CPU, an MPEG-2 decoder and many of the peripheral functions required by today's powerful STBs. Additionally, the STi5514 can simultaneously demultiplex three transport streams and manage multiple descrambling modes and conditional access standards, making it the ideal solution for low cost STBs requiring DVR (digital video recorder) functionality.

Together with the STi5516 and STi5517 devices, the STi5514 provides a scalable STB decoding solution reducing time to market for manufacturers by making the reuse of hardware and software components as easy as possible across a range of products.

Complementing the STi5514, STMicroelectronics has developed the STV0299, STV0297 and STV0360 demodulator devices to deliver a complete chipset offering for satellite, cable and terrestrial STB requirements.



Application: Set-top box applications with digital video recorder (DVR) functionality



Features

- **180 MHz 32-bit ST20 CPU**
  - 8 Kbytes instruction SRAM, 8 Kbytes of I-cache and 8 Kbytes of D-cache
- **3 programmable transport interfaces (PTIs)**
  - Integrated DES-ECB, DVB and ICAM descramblers
  - NDS RASP compliant
- **MPEG-2 MP@ML video decoder**
  - >2x decoding speed
  - Trick modes including smooth fast-forward and rewind
  - Fully programmable horizontal and vertical SRCs
- **ATA-5 compliant HDD interface**
- **JTAG/TAP interface**
- **Package PBGA 35 x 35 (388)**
- **Audio subsystem**
  - MPEG-1 layers I/II, MP3, MPEG-2 layer II, multichannel MPEG-2 and multichannel Dolby® Digital
  - Stereo downmixing, Dolby® Pro Logic® compatible output
  - PCM mixing and sample rate conversion
  - IEC958/IEC1937 digital audio output interface
  - Integrated stereo audio DAC system
  - SRS®/TruSurround® virtual surround sound
- **PAL/NTSC/SECAM encoder**
  - RGB, CVBS, Y/C and YUV outputs with 10-bit DACs
  - Encoding of CGMS, teletext, WSS, VPS, closed caption
- **Interfaces**
  - 2 Smartcard, 5 UARTs, 2 I²C
  - 4 PWM modules
  - Modem analog front-end interface
  - Multichannel IR transmitter/receiver
  - Teletext serializer and DMA module
  - Multichannel infrared transmitter/receiver
  - Modem analog front-end interface
  - IEEE1284 interface
  - Low power/RTC/watchdog controller

Ordering information

Device number	Description
STi5514-DVB	Reference software drivers
STi5514-Mboard	Develoment platform
STi5514AWC	Basic DVB
STi5514BWC	DVB with MP3
STi5514DWC	DVB with MP3, SRS®
STi5514NWC	DVB/DES with Dolby®
STi5514SWC	DVB/DES with Dolby®, Macrovision®
STi5514TWC	DVB/DES with Macrovision®

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