

## Low-cost set-top box decoder

DATA BRIEF

### Description

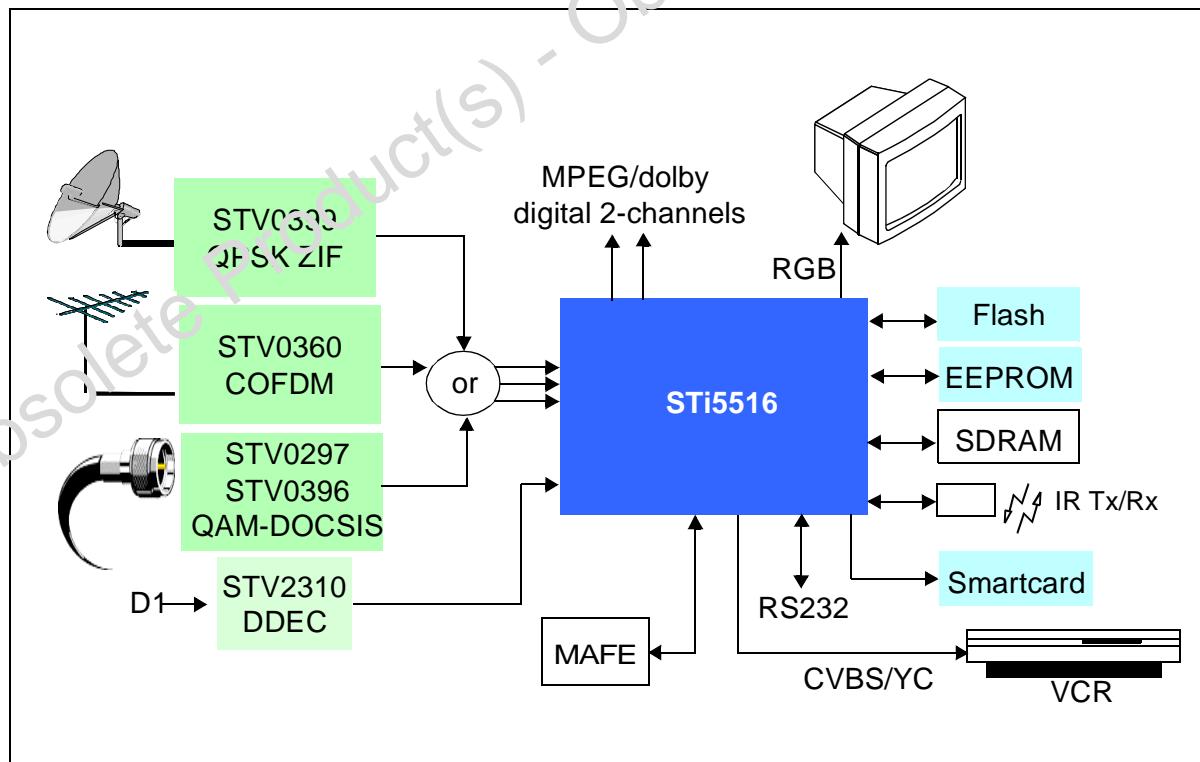
The set-top box market continually demands higher levels of integration to reduce costs. To meet this challenge, **STMicroelectronics** has developed two devices for low cost cable, satellite and terrestrial STBs. The STi5516 and STi5517 integrate more core STB functions into a single device than ever before, offering STB manufacturers the opportunity to build cost-effective solutions powered by devices from the leading supplier of MPEG-2 ICs.

Used with ST's established demodulator devices, the STi5516 and STi5517 form a complete chipset for low-cost STBs across all application areas.

The **STi5516** is a single chip STB decoder containing all the features required to build a basic set-top box.



### Application: Typical Pay TV application with Modem Return Channel



## Features

### ■ 180 MHz 32-bit ST20 CPU

- 8 Kbytes internal SRAM, 8 Kbytes of I-cache and 8 Kbytes of D-cache

### ■ Integrated transport demultiplexer

- DES, DVB and ICAM descramblers
- Support for more than 48 PID slots

### ■ MPEG-2 MP@ML video decoder

- Fully programmable horizontal and vertical SRCs

### ■ Audio features

- MPEG-1 layers I/II decoding (MP3 option)
- Dolby® Digital 5.1 down-mixed to 2 channels
- Dolby® Pro Logic compatible
- SRS® TruSurround® virtual surround sound
- PCM audio input
- Integrated audio DACs

### ■ Graphics/display

- 5 display planes (background, video, still, OSD and cursor)
- 2, 4 and 8bpp CLUT graphics

### ■ PAL/NTSC/SECAM video encoder

- RGB, CVBS, Y/C and YUV outputs with 10-bit DACs
- Encoding of CGMS, teletext, WSS, VPS, closed caption
- Macrovision 7.01 copy protection

### ■ Interfaces

- POD and dual DVB common interface
- 5 ASCs (UARTs) with Tx and Rx FIFOs
- 6 x 8-bit banks of parallel I/O
- 2 smartcard interfaces and clock generators
- 4 PWM channels
- Multichannel IR transmitter/receiver
- Low power/RTC/watchdog controller

### ■ Package PBGA 35 x 35 (388)

## Ordering information

Device number	Description
STi5516-DVB	Reference software drivers
STi5516-Mboard	Development platform
STi5516AWB/C	Basic DVB
STi5516BWB/C	DVB with MP3 and Macrovision
STi5516CWB	DVB with MP3
STi5516DWB	DVB/DES with Dolby®
STi5516EWBE	Euro1 DVB Dolby® and Macrovision
STi5516EWC	DVB Dolby® and Macrovision
STi5516FWB/C	DirecTV with Dolby®
STi5516SWB/C	DVB with Macrovision
STi5516TWB	DirecTV

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