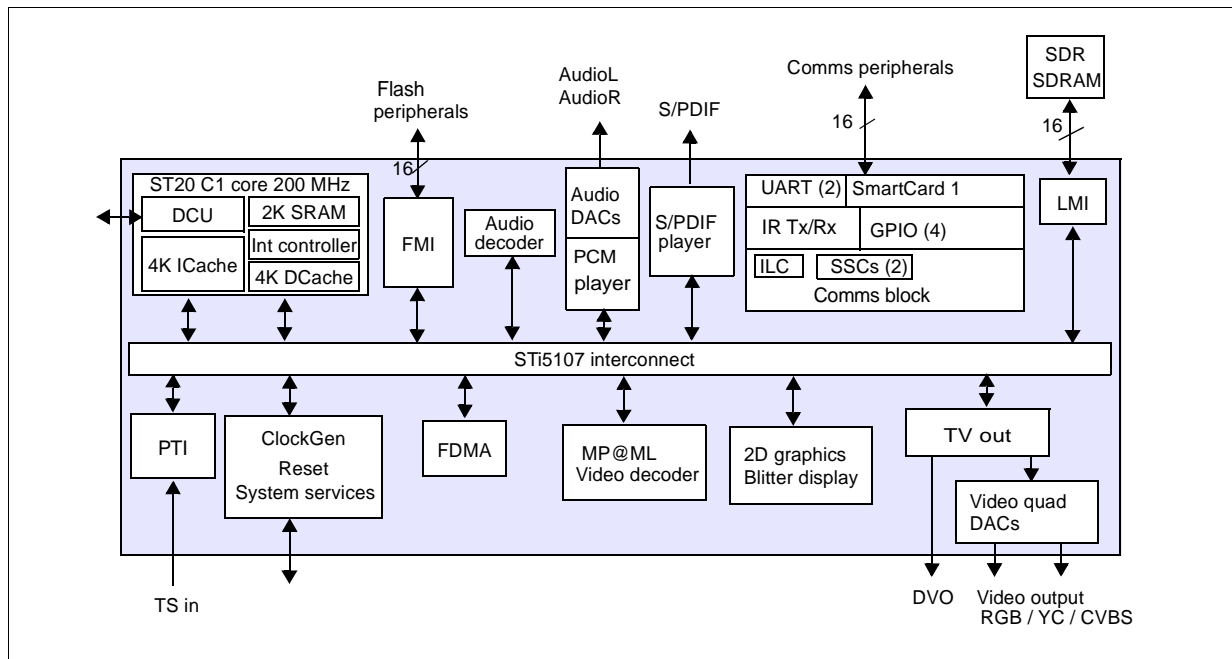


Low-cost interactive set-top box decoder

Data Brief

Features

- Enhanced ST20 32-bit VL-RISC CPU
 - Unified memory interface
 - up to 166 MHz, 16-bit wide SDR SDRAM interface
 - Programmable flash memory interface
 - Programmable transport interface (PTI)
 - single transport stream input
 - support for DVB transport streams
 - MPEG-2 MP@ML video decoder
 - Graphics and display
 - 3 display planes
 - 2D paced blitter engine with fill function
 - digital video output: compliant with CCIR 601/CCIR 656
 - PAL/NTSC/SECAM encoder
 - RGB, CVBS, Y/C and YUV outputs with four 10-bit DAC outputs.
 - Central DMA controller
- Audio subsystem
 - simultaneous MPEG audio decode and output of Dolby streams on S/PDIF
 - IEC958/IEC1937 digital audio output interface
- On-chip peripherals
 - 2 ASCs (UARTs) with Tx and Rx FIFOs
 - 3 banks of 8-bit and 1 bank of 7-bit parallel I/O
 - smartcard interface and clock generator
 - integrated VCXO
- Advanced security ready
- JTAG/TAP interface
- Package:
 - 23 mm x 23mm PBGA32
 - 15 mm x 15 mm LFBGA



1 Description

1.1 General

The STi5107 is the latest in the family of Omega2 set-top box ICs providing a high-performance, low-cost system-on-chip(SoC) for MPEG processing in cable, satellite or digital terrestrial STBs. It is a pin compatible IC derived from the STi5105, that supports multiple platform using a unified architecture. STi5107 is compatible with the latest CA advanced security specifications.

The STi5107 delivers enhanced performance with respect to previous devices. Main memory is based upon a single 16-bit external SDR SDRAM.

The display architecture of the device is based upon a high performance blitter engine that supports CLUT8 and RGB16 formats for background, video and OSD/graphics displays. It makes the porting of middleware easier with greater rendering.

1.2 Applications

Figure 1. Basic terrestrial pay TV

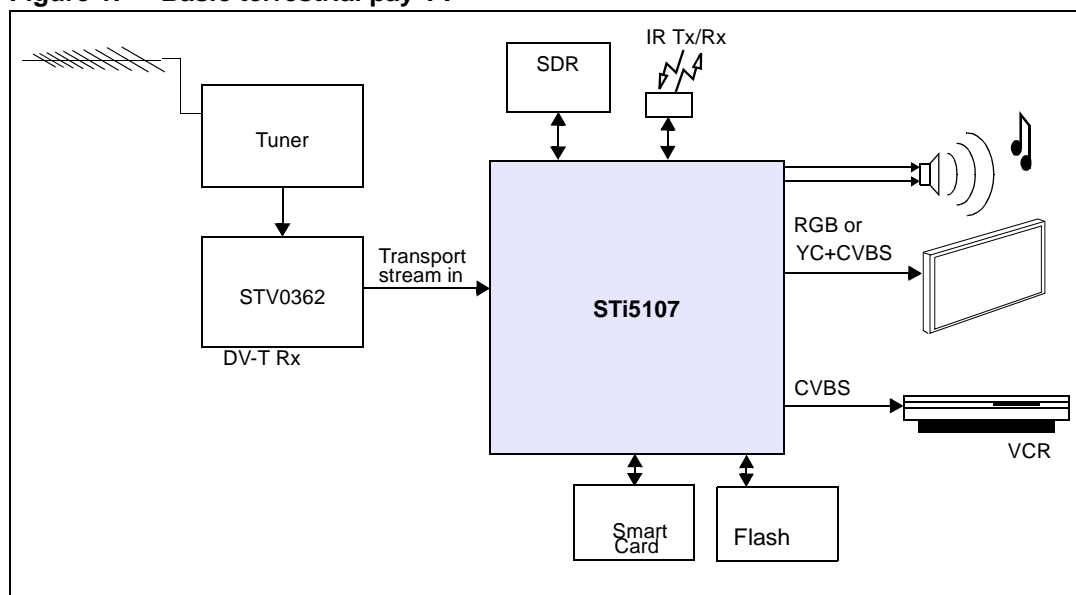


Figure 2. Basic satellite pay TV receiver

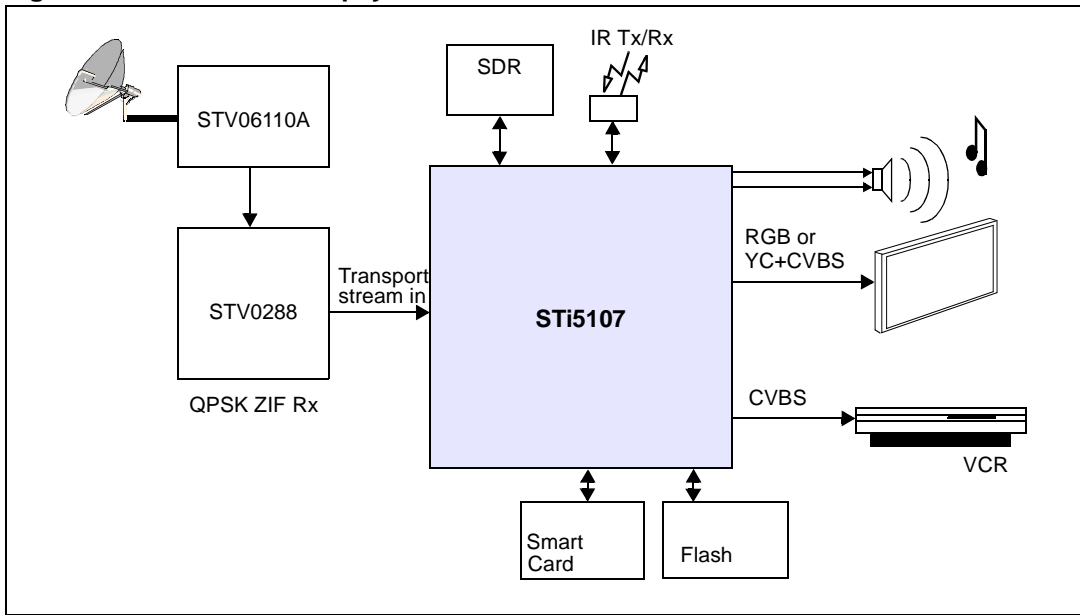
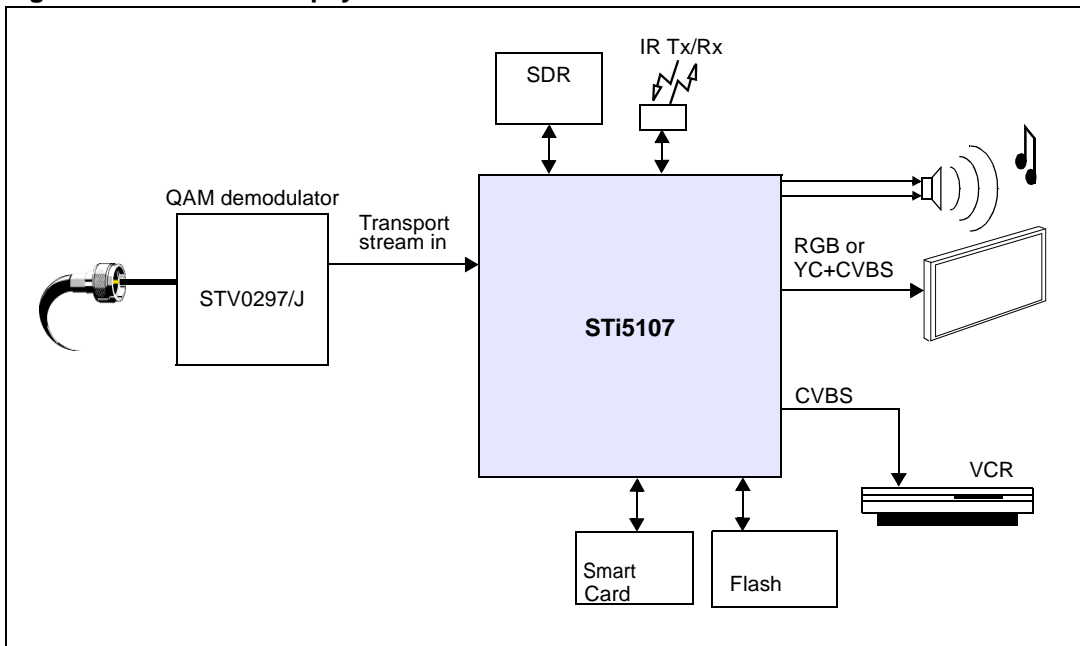


Figure 3. Basic cable pay TV receiver



2 Ordering information

Table 1. Ordering information

| Order code | Packaging | Description |
|-------------------|------------------|----------------------------------|
| STi5107ZBB | LFPGA 15 x 15 mm | Development version, all options |
| STi5107ZYB | PBGA 23 x 23 mm | Development version, all options |

3 Revision history

Table 2. Document revision history

| Date | Revision | Changes |
|-------------|----------|--|
| 05-Dec-2006 | 1 | Initial release |
| 14-Nov-2008 | 2 | Simplified version (page 1, 2 and 3 only from previous version) LQFP216 24 x 24 mm replaced by LFBGA 15 x 15 mm STV6000 replaced by STV6110A in Figure 2 |

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