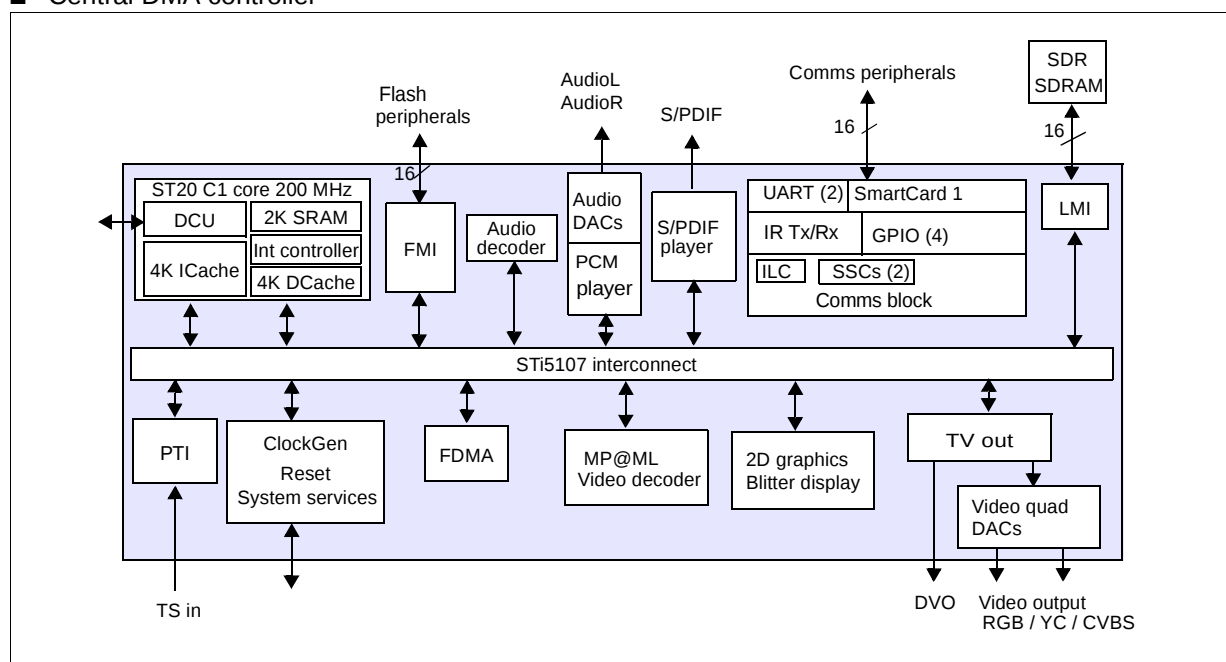


Low-cost interactive set-top box decoder

Data Brief

Features

- Enhanced ST20 32-bit VL-RISC CPU
 - up to 166 MHz, 16-bit wide SDR SDRAM interface
- 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

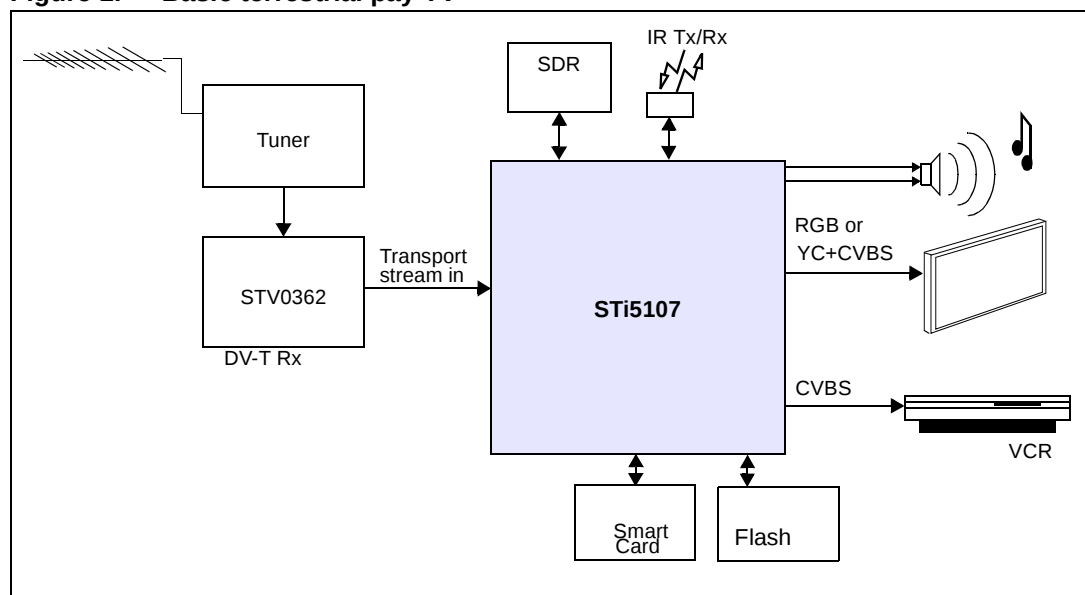
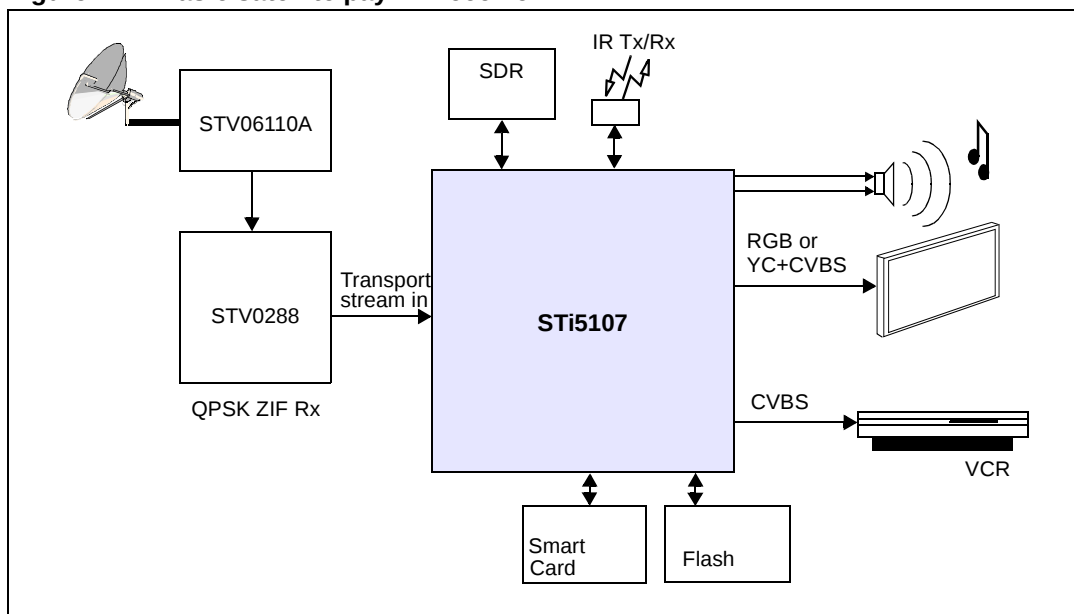
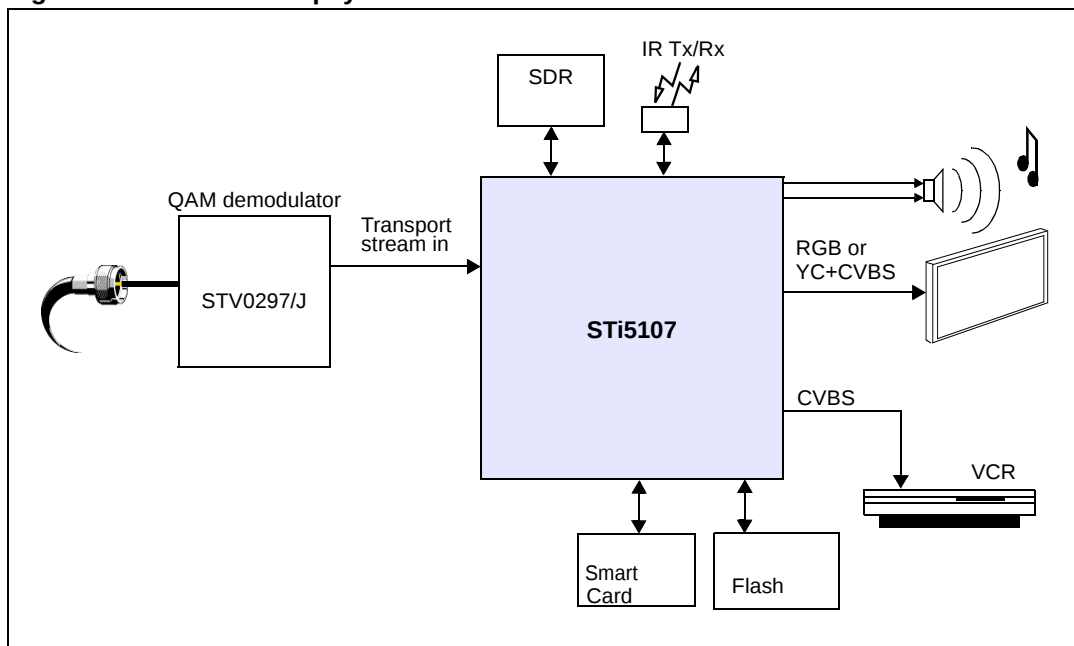


Figure 2. Basic satellite pay TV receiver**Figure 3. Basic cable pay TV receiver**

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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