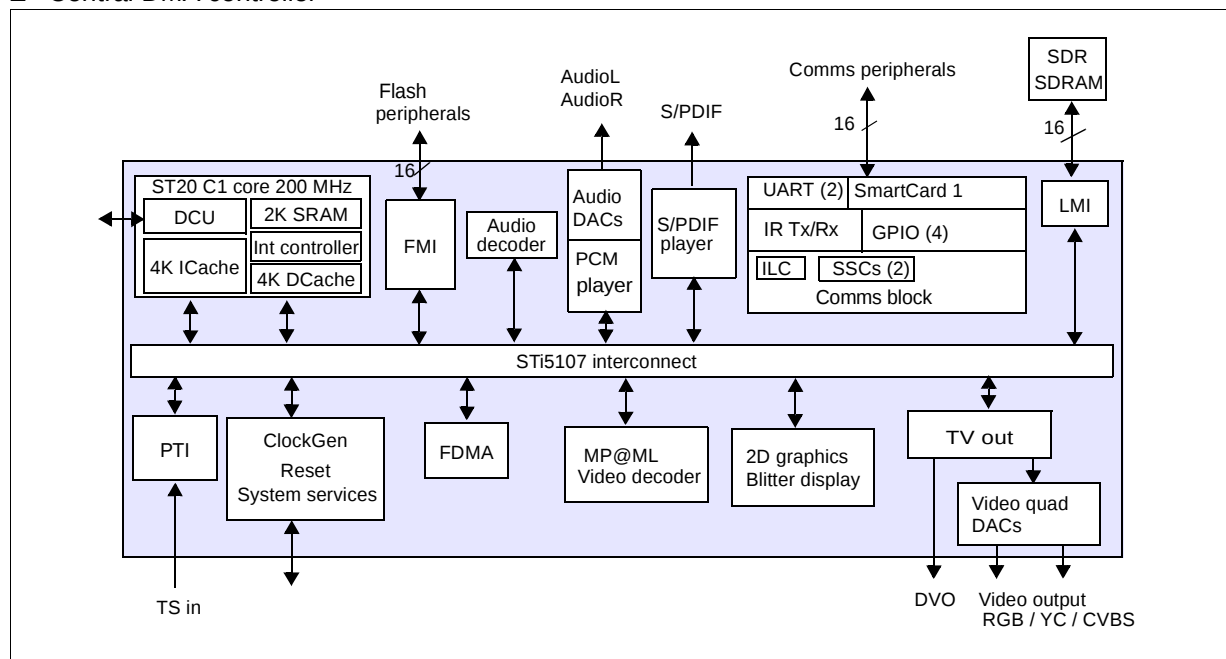


## Low-cost interactive set-top box decoder

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**

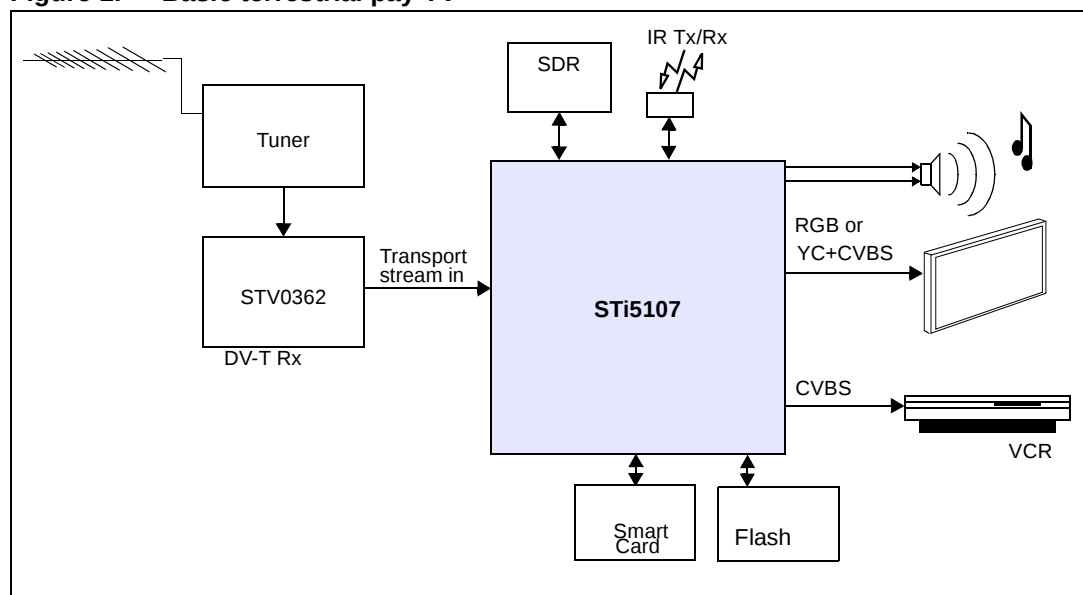


Figure 2. Basic satellite pay TV receiver

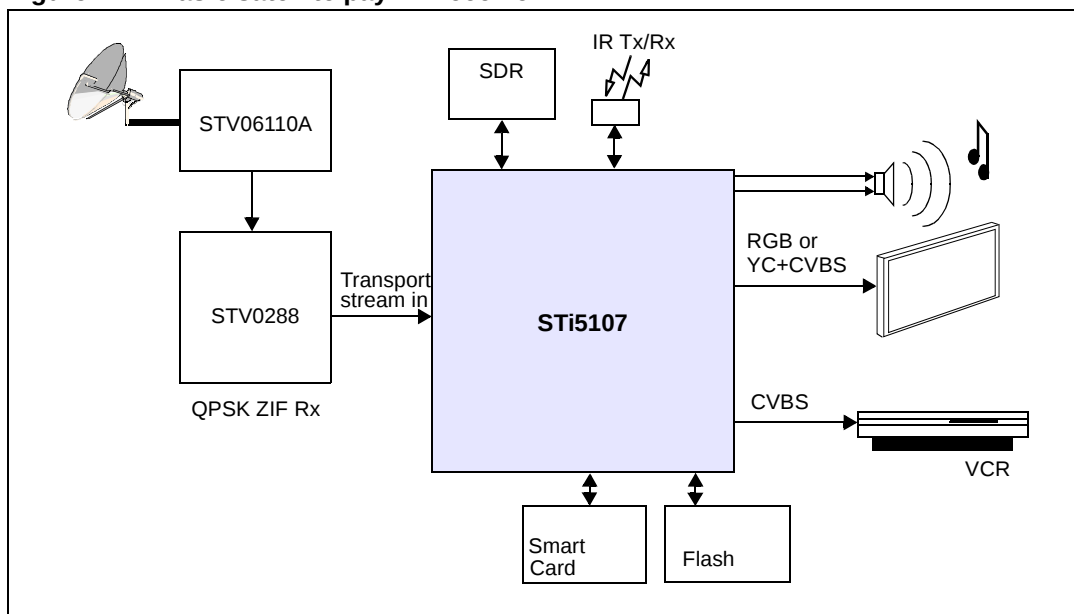
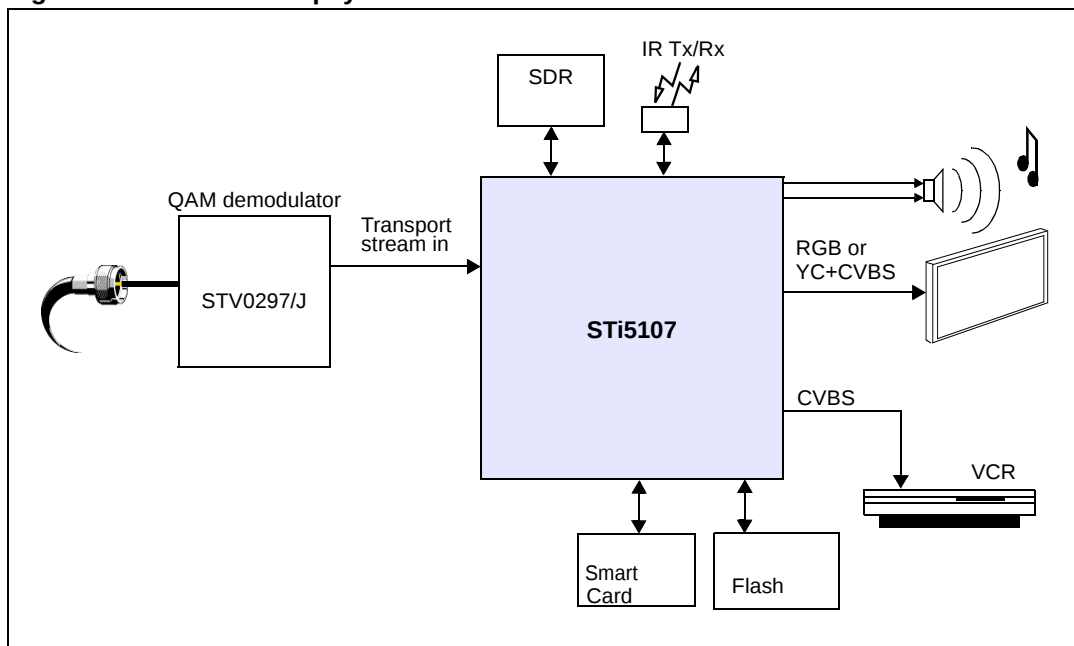


Figure 3. Basic cable pay TV receiver



## 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)<br>LQFP216 24 x 24 mm replaced by LFBGA 15 x 15 mm<br>STV6000 replaced by STV6110A in <a href="#">Figure 2</a> |

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