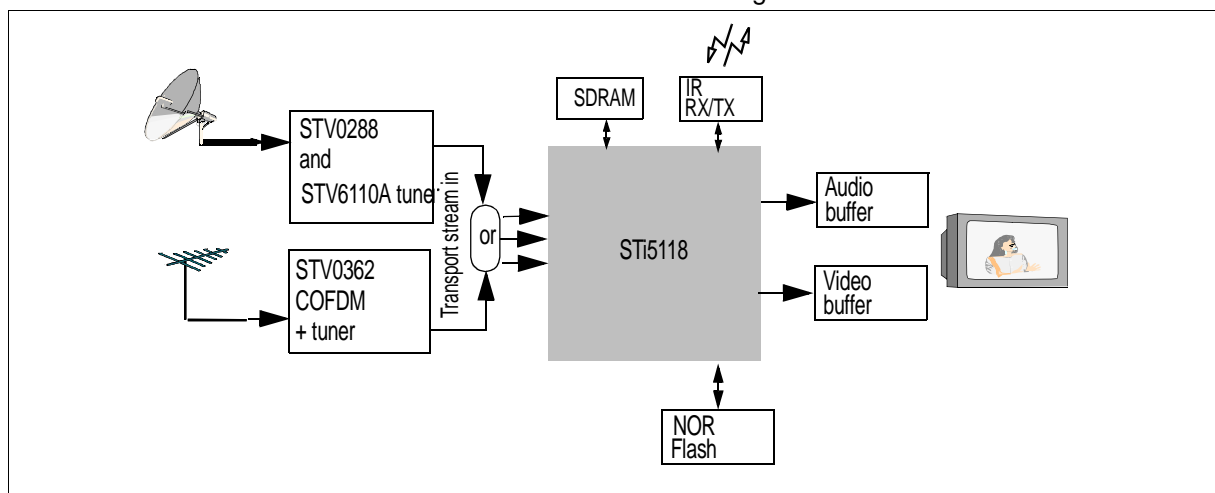# STi5118

Low-cost interactive FTA set-top box decoder

Data Brief

Features

- Enhanced ST20 32-bit VL-RISC CPU
  - 200 MHz, single cycle cache, 4 Kbyte instruction cache, 4 Kbyte data cache, 2 Kbyte SRAM
- Unified memory interface
  - Up to166 MHz, 16-bit wide SDRAM interface
- Programmable flash memory interface
  - SRAM, peripheral, Flash, SFlash™ support
  - support for low cost DVB-CI and ATAPI
- Programmable transport interface (PTI)
  - single transport stream input
  - support for DVB transport streams
- MPEG-2 MP@ML video decoder
  - fully programmable horizontal and vertical SRCs
- Graphics/display
  - advanced blitter base compositor
  - 8 bpp CLUT graphics, 256 x 30 bits (AYCbCr) CLUT entries
  - 16 bpp true color graphics, RGB565, ARGB1555, ARGB4444 formats, with link-list control

- Alpha blending, antialiasing, antiflutter, antiflicker filters
- 2D paced blitter engine with fill function
- PAL/NTSC/SECAM encoder
  - RGB, CVBS, Y/C and YUV outputs with four 10-bit DAC outputs. RGB/CVBS or YUV/CVBS or YC/CVBS
  - Encoding of CGMS, Teletext, WSS, VPS, close caption.
- Audio subsystem
  - MPEG-1 layers I/II
  - simultaneous MPEG audio decode and output of Dolby® streams on S/PDIF
  - IEC958/IEC1937 digital audio output interface
  - integrated stereo audio DAC system
- Central DMA controller
- On-chip peripherals
  - two ASCs (UARTs) with Tx and Rx FIFOs
  - three 8-bit banks of parallel I/O and one 7-bit bank
  - two SSCs for I²C/SPI master/slave interfaces
  - infrared transmitter/receiver
  - integrated VCXO

For further information contact your local STMicroelectronics sales office.   *www.st.com*

1 Description

STMicroelectronics sets a new standard for performance, price and integration in the single chip MPEG-2 set-top-box decoder market with the introduction of the STi5118. This highly integrated solution targets mass market FTA set-top boxes, offers increased performance over earlier devices and includes many features for further reduce costs, including a unified memory architecture.

The STi5118 features the ST20 CPU that is standard across the OMEGA range but boosts the clock speed to 200 MHz which, when combined with the 2D graphics engine gives the new device outstanding graphics performances, for mosaic composition, fast channel change time and richer graphic content. Targeting low-cost, single tuner STB applications, the STi5118 is hardware and software binary compatible with the STi5105. This allows manufacturers to use a unified platform for all mass market set-top boxes.

The integration of the VCXO and audio DACs ensures that manufacturers using the STi5118 will cut their total bill of materials and significantly simplify board design and assembly.

2   Ordering information

Table 1.   Ordering information

Order code	Packaging
STi5118ALC	Package 24 mm x 24 mm LQFP216

3 Revision history

Table 2.   Document revision history

Date	Revision	Changes
17-Nov-2008	1	Initial release

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