STM5118

Low-cost interactive FTA set-top box decoder

DATA BRIEF

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 STM5118. 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.

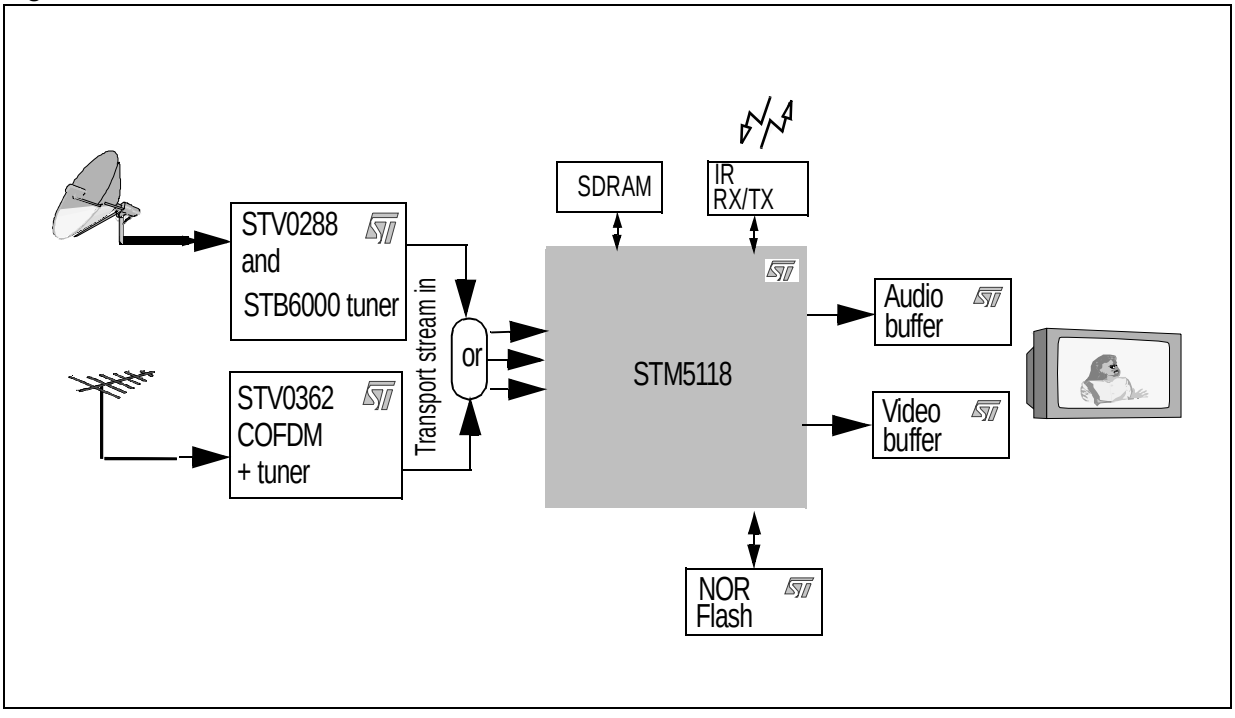
The STM5118 features the ST20 CPU that is standard across the OMEGA range but boosts the clock speed to 200 MHz which, when combined with the 2D graphics engine gives the new device outstanding graphics performances, for mosaic composition, fast channel change time and richer graphic content. Targeting low-cost, single tuner STB applications, the STM5118 is hardware and software binary compatible with the STx5105. 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 STM5118 will cut their total bill of materials and significantly simplify board design and assembly.

Figure 1. Package (24 x 24 mm LQFP216)



Figure 2. STM5118



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
  - low-power RTC watchdog controller
- JTAG/TAP interface
- Package 24 mm x 24 mm LQFP216

PART NUMBERING

Table 1. Order Codes

Part Number	Description
STM5118ALB	MPEG2 low-cost decoder

REVISION HISTORY

Table 2. Revision history

Date	Revision	Description of changes
July-2005	1	First issue

Information furnished is believed to be accurate and reliable. However, STMicroelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of STMicroelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. STMicroelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of STMicroelectronics.

The ST logo is a registered trademark of STMicroelectronics.

All other names are the property of their respective owners

© 2005 STMicroelectronics - All rights reserved

STMicroelectronics group of companies

Australia - Belgium - Brazil - Canada - China - Czech Republic - Finland - France - Germany - Hong Kong - India - Israel - Italy - Japan - Malaysia - Malta - Morocco - Singapore - Spain - Sweden - Switzerland - United Kingdom - United States of America

www.st.com