

# Single-Chip Set-Top Box Decoder

## with Hard Disk Drive and MP3

### STi5518 OMEGA Set-Top Box Decoder

STMicroelectronics, the worldwide leading supplier of MPEG-2 Digital Video ICs, offers advanced, single-chip solutions for low-cost interactive set-top boxes.

Used with either a STV0399 QPSK or STV0360 COFDM receiver, the STi5518 forms a complete chipset for either satellite or terrestrial boxes.

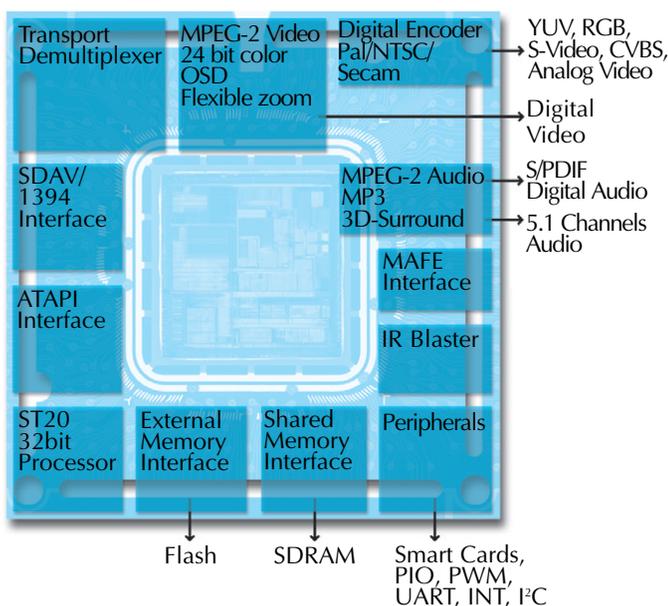
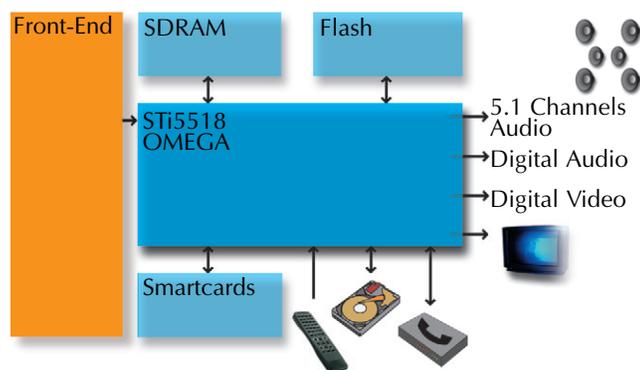
### Low-cost Multi-standard Platform

The STi5518 is a highly integrated single-chip decoder, designed for use in feature-rich mass-market set-top boxes. It integrates a high-performance 32-bit CPU, a dedicated block for DVB/DirecTV transport demultiplexing and descrambling, modules for MPEG-2 video and audio decoding with 3D-surround and MP3 support, advanced display and graphics features, a digital video encoder and system peripherals.

- A built-in ATAPI interface supports the glueless connection of standard Hard Disk Drives for live TV recording, pausing and time-shifting.
- To cover the needs of DVD-capable set-top boxes, STi5518 integration options include a CSS decryption block, a Dolby Digital audio decoder and Macrovision copy protection.

### OMEGA Super Integration

- 80Mhz 32-bit ST20 VL-RISC host processor
  - 4kB Internal SRAM, 2kB I-cache and 2kB D-cache
- Integrated Transport Demultiplexer
  - DVB, DES & CSS descramblers
  - 32 PIDS supported, 32 SI/PSI filters
- Integrated MPEG-2 MP@ML video decoder
  - Up to 64 Mbits of shared memory
  - Fully programmable zoom-in and zoom-out
  - 2-8 bits per pixel OSD, 24 bit color resolution
  - Anti-flicker/anti-flutter and anti-aliasing filters
- Integrated audio decoder
  - Dolby Digital/MPEG-2 multichannel outputs
  - SRS® 3D-Sound/TruSurround® Virtual Dolby
  - DTS digital out & MP3 decoding
- Integrated PAL/NTSC/SECAM digital video encoder
  - Macrovision 7.01 copy protection
- Programmable External Memory Interface
  - Glueless interfacing to Flash, SDRAM and peripherals
- Set-top box interfaces
  - 2 Smartcards, 2 UARTs, 1 SPI/I<sup>2</sup>C
  - 3 PWM outputs, 3 capture timers
  - SDAV/IEEE1394 A/V link layer interface
  - ATAPI Interface
  - Modem Analogue front-end interface
  - IR transmitter/receiver
- Low cost 208-pin PQFP package



STi5518, Single-chip Set-top Box decoder



A comprehensive development platform is provided for the STi5518 OMEGA Set-top Box Decoder, including a scalable evaluation board and a complete set of software drivers.

The platform significantly reduces the time to develop customized, feature-rich set-top boxes and accelerates product introduction cycles.

## The STi5518 Scalable Development Platform

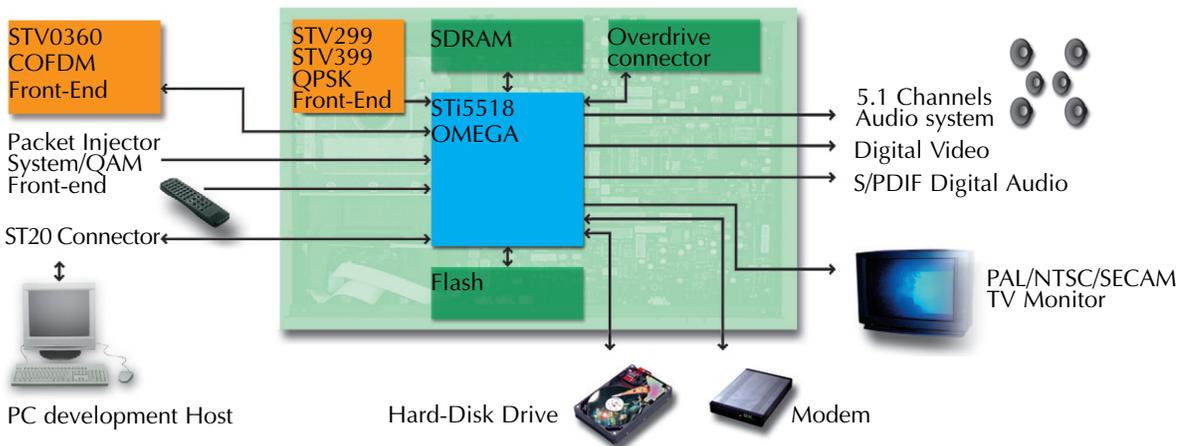
- The STi5518-Mboard supports all of the peripherals available on the STi5518 as well as all of the STV0399 QPSK and STV0360 COFDM receivers.

A user-friendly interface for the connection of Hard Disk Drives is also provided.

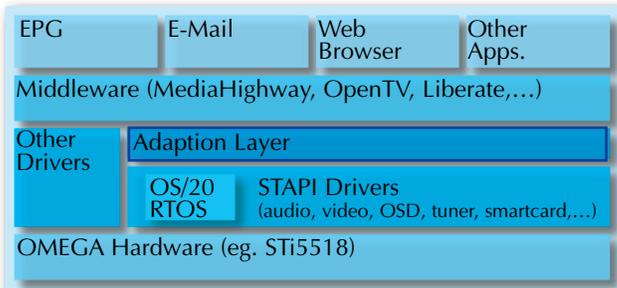
- An 'Overdrive' interface is included to allow for the connection of an external ST40 microprocessor board for dual processor systems.

- The STi5518-Mboard is supported by the proven ST20 software toolset and the royalty-free ST-Lite Real Time Operating System.

- The board also comes with a set of royalty-free drivers coded to the ST Application Programming Interface specification (STAPI)



### OMEGA Software structure



## STAPI Software Package

- STAPI is a fully supported and documented Application Programming Interface developed by ST to act as a stable base on which users can build their applications.
- STAPI will also be available on future ST chipsets, enabling software portability from one generation to the next.
- Adaptation layers for popular middlewares such as OpenTV, MediaHighway and Liberate are available.
- This approach provides STAPI users with hardware and middleware re-usability, thus minimising the overall project design time and effort.



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Full product information at [www.st.com](http://www.st.com)