

DTTi5516

Single module demodulator and decoder IC for digital video set-top boxes

DATA BRIEF

Description

The DTTi5516 is an integrated demodulator/ decoder solution for digital terrestrial receivers for compressed video, sound and data services. A COFDM (coded orthogonal frequency division multiplex) demodulator performs IF to MPEG-2 block processing of OFDM carriers.

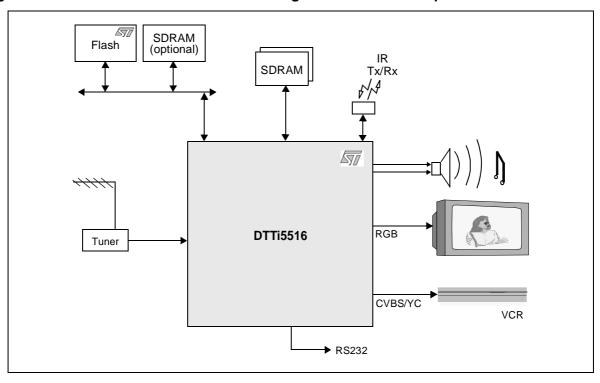
The demodulated stream is then processed by video and audio decoders using standard Omega technology.

The DTTi5516 provides a cost-effective solution for a digital video set-top boxes using a 2-layer PCBs and single device. It also has lower power requirements than separate demodulator and decoder ICs.

The DTTi5516 contains all of the most commonly used descramblers, and thus allows a single platform to be developed to cover the entire mainstream set-top box market.



Integrated demodulator/decoder solution for digital terrestrial set-top box and TV receivers



March 2004 1/2

Features

■ Enhanced ST20 32-bit VL-RISC CPU

 180 MHz, 8 Kbyte instruction cache, 8 Kbyte data cache and 8 Kbyte SRAM

■ Memory interfaces

- 121 MHz shared memory interface,16-bit wide SDRAM interface, 64 and 128 Mbit support
- SRAM, SDRAM, SFlash support

■ Programmable transport interfaces (PTI)

- Integrated DES-ECB, DVB and ICAM descramblers
- Support for low cost DVB-CI interface

■ MPEG2 MP@ML video decoder

- Greater than 2x decoding speed
- Trick modes including smooth fast-forward and rewind
- Fully programmable horizontal and vertical SRCs

■ Graphics/display

- 5 display planes
- 2, 4 and 8 bpp CLUT graphics, 256 x 30 bits (AYCbCr) CLUT entries
- RGB16 support

■ Audio subsystem

- MPEG-1 layers I/II decoding (MP3 option)
- Dolby® Digital 5.1 decoding downmixed to 2-channels
- Dolby Pro Logic® compatible output
- PCM mixing and sample rate conversion
- SRS/TruSurround® virtual surround sound

Ordering information

Salestype	Description
STi5516-DVB	Reference software drivers
DTTi5516-Brick	Development platform
DTTi5516xWC	IC reference

■ On-chip peripherals

- 5 ASCs (UARTs) with Tx and Rx FIFOs
- 6 x 8-bit banks of parallel I/O
- 2 smartcard interfaces and clock generators
- 2 SSCs for I2C master/slave interface
- 4 PWM channels
- Teletext serializer and DMA module
- Multi-channel infrared transmitter/receiver
- Modem analog front-end interface
- IEEE1284 interface
- Low-power / RTC / watchdog controller

■ DVB-T decoding and NorDig II compliant

- Single frequency network (SFN) compatible
- Adjacent channel interference canceller (ACI)
- Excellent static and dynamic (Doppler) performance
- Automatic guard interval and mode detection
- Accepts 6, 7 and 8 MHz channel bandwidths
- Lock indicators and general-purpose I/O pins
- Supports 2K, 8K modes
- Supports QPSK, 16, 64 QAM constellations
- 1/4, 1/8, 1/16, 1/32 guard intervals
- Supports hierarchical and non-hierarchical modes

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 the express written approval of STMicroelectronics.

The ST logo is a registered trademark of STMicroelectronics All other names are the property of their respective owners

© 2004 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

www.st.com