

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

DATA BRIEF

Description

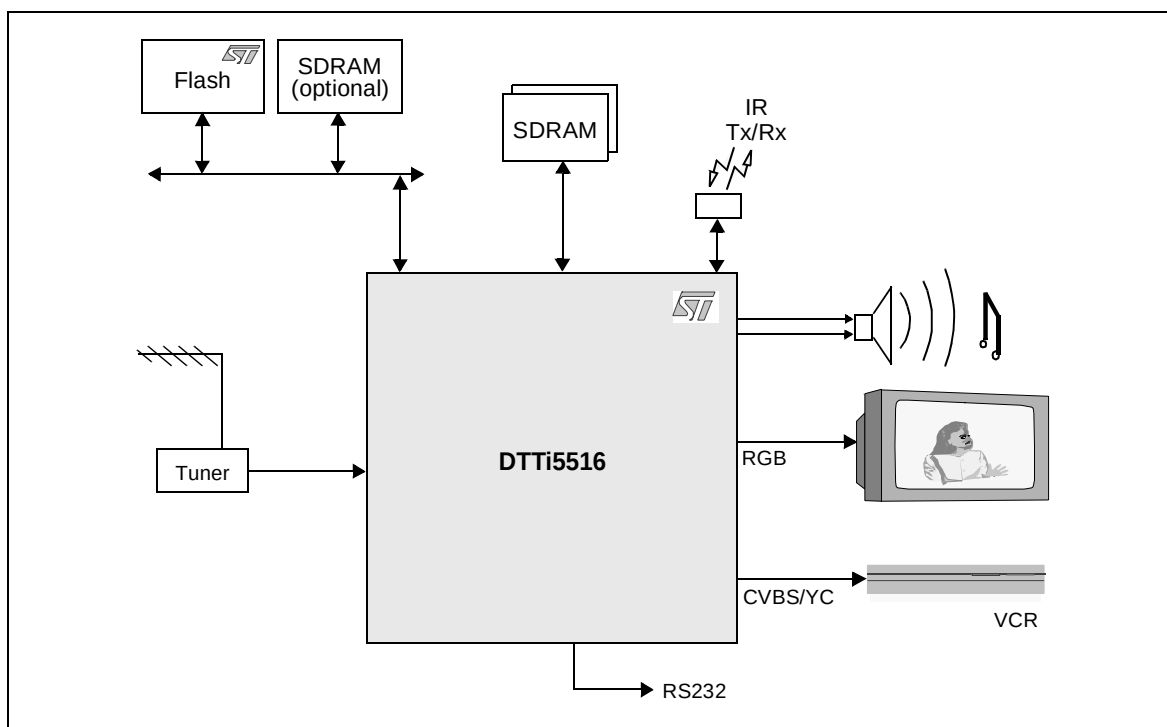
The DTTi5516 is an integrated demodulator/decoder solution for digital terrestrial receivers for compressed video, sound and data services. A COFDM (coded orthogonal frequency division multiplex) demodulator performs IF to MPEG-2 block processing of OFDM carriers. The demodulated stream is then processed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



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

■ 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

Ordering information

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

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