



## NXP hybrid PC TV reception and capture device SAA7231

# Are you receiving?

Outside the living room, watching TV on a PC is rapidly overtaking alternative viewing habits. NXP enables you to benefit from this expanding market with industry-leading solutions. Our SAA7231 is a perfect example, simplifying your design effort and lowering overall system costs. Offering the highest level of integration, the SAA7231 is packed with built-in features, including full IR remote control functionality, in the industry's smallest form-factor.

### Key benefits

- ▶ Single-chip solution for analog and digital TV decoding and capture
- ▶ Enables hybrid PC TV tuner applications on low-profile add-in board, Express Card module or half-/mini-Express Card
- ▶ Simultaneous decoding and capture of digital and analog TV broadcast signals
- ▶ IR remote control functionality with PC system wake-up, compliant to Windows Vista
- ▶ PC connectivity including sophisticated power management capabilities
- ▶ Supported by software development kit and Microsoft Windows In Box Driver

### Key features

- ▶ DVB-T channel decoding, NORDIG 1.0.2 compliant and meeting DBook and Digtene requirements
- ▶ DVB-S channel decoding, supporting DiSeqC 1.2 dish control
- ▶ IF-demodulation of analog TV signals from direct IF or low IF and worldwide video and stereo decoding
- ▶ Color decoding with adaptive 2D comb filter separation

- ▶ Video improvements including 2D noise reduction
- ▶ VBI data capture and decoding (Teletext, Close Caption, CGMS-A, etc.)
- ▶ Analog baseband audio and video decoding and capture, including component video
- ▶ FM radio reception and demodulation including RDS decoding

### Key applications

- ▶ Windows Media Center TV tuner boards for Windows Vista and MCE (XP)
- ▶ Multimedia PCs
- ▶ Analog, digital or hybrid analog-digital TV tuner boards
- ▶ Plug-and-Play PC TV tuner applications
- ▶ Digital TV receivers for satellite or terrestrial broadcasts (STB)

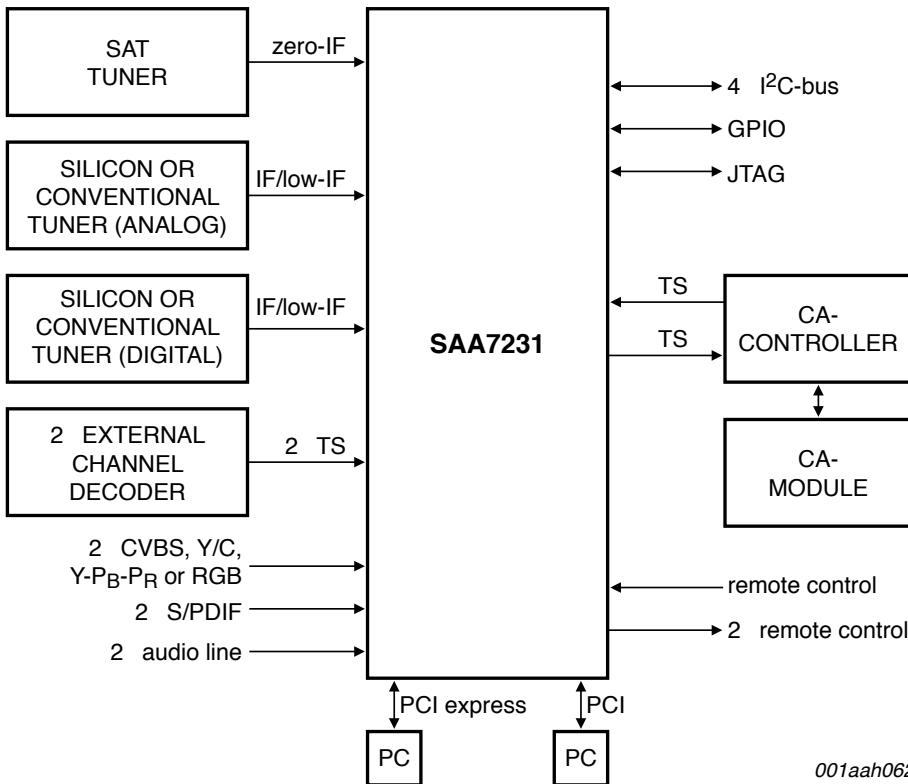
Incorporating high-level features such as infra-red remote control functionality, our dual channel multimedia receiver and capture IC SAA7231 represents a complete and cost efficient solution for Windows Media Center PCs. It serves as the core component for decoding analog and digital content from cable, satellite and terrestrial broadcast systems. Highly integrated, the SAA7231 enables complete TV tuner solutions with minimum power consumption and low overall system costs.

The SAA7231 accepts IF signals from up to three RF tuners for DVB-T, DVB-S and analog TV. Any combination of two broadcast signal streams can be decoded and captured concurrently. In addition to TV tuner signals, the SAA7231 also digitizes analog baseband audio/video signals such as stereo, CVBS, S-video and YPbPr/RGB.

For cost sensitive or space-restricted applications, the solution can share a single tuner for DVB-T and analog TV reception, with one system enabled at a time. For single tuner applications, the NXP silicon tuner TDA18271 is an ideal match for the SAA7231. The decoded streams are captured to PC memory, via PCI or PCI-Express interface.

The SAA7231 is supported by a device driver package for Microsoft's BDA (Broadcast Driver Architecture) for Windows Vista and XP. The driver is prepared for Windows Logo Program certification.

**System block diagram**



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