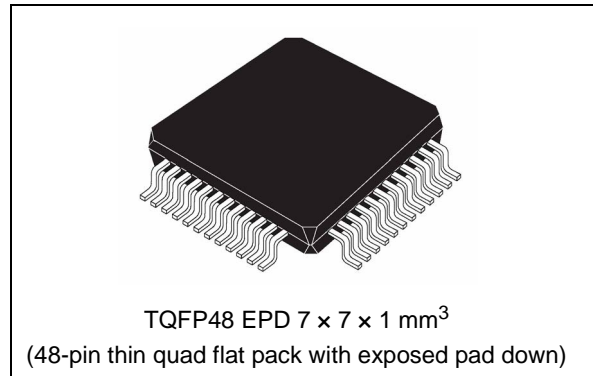


## Audio/video buffer for single SCART and HD output

Data brief

### Features

- I<sup>2</sup>C bus control
- Video section:
  - Selectable 7-MHz/30-MHz, low-pass filters, plus bypass, on three encoder video inputs
  - 7-MHz low-pass filters on six encoder video inputs
  - DC-coupled inputs
  - Each output is capable of driving an AC- or DC-coupled, 150-Ω video load at 3 V pp and CVBS output can drive a dual 75-Ω video load
  - Selectable gain of 6 or 12 dB for each channel
  - Selective video output muting
- Audio section:
  - Stereo sound capability
  - Differential or single-ended audio inputs
  - Audio outputs drive 2-kΩ loads at 3 V RMS
  - Selectable audio gain of 0 to 28 dB
  - Audio output muting
  - 9 V to 12 V single supply operation
  - Click-noise suppression management
  - Pop-noise suppression management
- Low power mode
  - Audio/video standby function



### Applications

- Set-top boxes (IP, cable, satellite, terrestrial)
- Integrated digital TV plug-in
- Blu-ray and DVD players

### Description

The STV6437B is a fully integrated solution for filtering and buffering standard- and high-definition signals, and buffering stereo audio signals from the MPEG decoder of a digital receiver, Blu-ray or DVD player, or iDTV plug-in.

The STV6437B is an assortment of switches and low-pass filters (three HD/SD filters and one SD filter) with output buffers and a dual audio amplifier that operates with either differential or single-ended inputs.

**Table 1. Device summary**

| Order code | Temperature range | Package                             | Packaging     |
|------------|-------------------|-------------------------------------|---------------|
| STV6437BH  | 0 to 70 °C        | TQFP48 (7 × 7 mm <sup>2</sup> ) EPD | Tray          |
| STV6437BHT | 0 to 70 °C        | TQFP48 (7 × 7 mm <sup>2</sup> ) EPD | Tape and reel |

# 1 Introduction

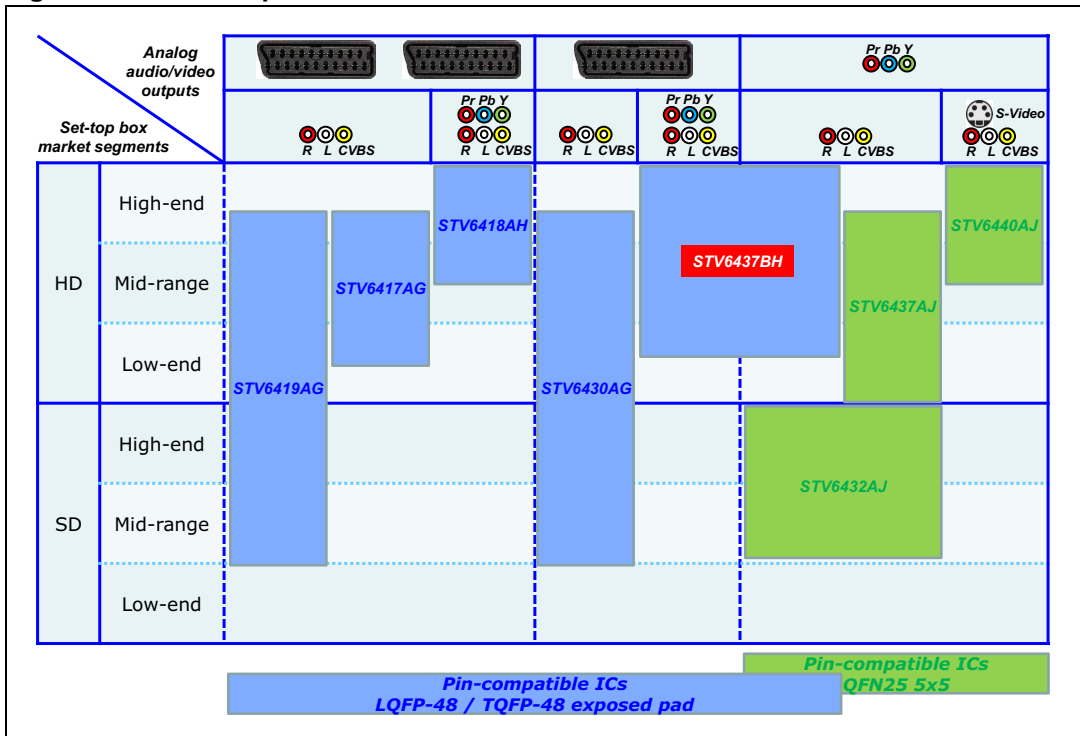
The STV6437B is an I<sup>2</sup>C-controlled integrated circuit for filtering and buffering audio and video signals in any single-SCART or non-SCART application with HD component output. It can be used in products such as HD set-top boxes or DVD/BD players and recorders for world-wide markets.

It can be connected to six video DAC outputs of an MPEG decoder, allowing simultaneous switching and driving of either the composite and RGB signals, or S-video/composite signals, to the TV SCART output, and the HD component output to RCA HD sockets. The STV6437B manages the slow blanking and fast blanking signalling through the I<sup>2</sup>C bus.

The STV6437B is one of the family of five, pin-compatible products (Figure 1) that complete the new generation of audio and video switches and buffers from STMicroelectronics. Together they cover, both technically and price-wise, the whole market spectrum from mid-range SD retail (zapper set-top boxes or basic recorders) up to DVR HD operators (set-top boxes or recorders with HD component output).

| Features   | Benefits   |
|--|--|
| Integrated switch from RGB/composite SCART to S-video SCART.                                   | Avoids change of output configuration for video DACs.  |
| Three selectable SD/HD filters and six independently-mutable RGB and component output buffers. | Allows suppression of either SD/HD component output or SD SCART output when both are connected to the TV.  |
| DC-coupled video inputs.   | Reduces component count.   |
| AC- and DC-coupled high-drive capability video outputs (for 70-Ω (minimum) loads).             | Connects to any type of display and drives several composite and RF modulator outputs without external active components.  |
| Fixed-gain video buffers selectable as 6 dB or 12 dB.  | Makes the device future-proof for next generation of SoC, with ever-finer technology and lower video DAC supplies.   |
| Smart pop-noise manager.   | Allows silent swap between active and standby modes.   |
| Selective standby command for audio or each individual video output.                           | As low as 1-mW standby consumption supporting compliance to 0.5-W standby requirements.  |
| 8-step selectable audio gain up to +28 dB, supporting output of 3.1 V RMS (minimum).           | Easy fine-tune of THD and SNR depending on requirements, whilst matching any specific audio output level, including China Cable, and saving external op-amps.        |
| Pin-compatibility with four other products.  | Combines single-device space-saving (up to 50%) benefits with commodity price/flexibility benefits to allow a single PCB design covering the entire market spectrum. |
| Pin-compatibility with STV6418AH.  | Provides dual-source solution at no cost premium in case of market shortage or sudden rise in demand.  |

Figure 1. Pin-compatible devices



## 2 Revision history

Table 2. Document revision history

| Date        | Revision | Changes          |
|-------------|----------|------------------|
| 04-Aug-2011 | 1        | Initial release. |

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