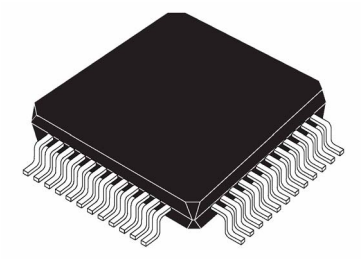
STV6430

Audio/video buffer for single SCART

Data brief

Features

- I^{2}C bus control
- Video section:
  - 7-MHz, low-pass filters on four encoder video outputs
  - 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



LQFP48 7 × 7 × 1.4 mm^3
(48-pin low-profile quad flat pack)

Applications

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

Description

The STV6430 is a fully integrated solution for filtering and buffering standard-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 STV6430 embeds buffers and low-pass filters (7-MHz, SD filters) and a dual audio amplifier that operates with either differential or single-ended inputs.

Table 1. Device summary

Order code	Temperature range	Package	Packaging
STV6430AG	0 to 70 °C	LQFP48 (7 × 7 mm^2)	Tray
STV6430AGT	0 to 70 °C	LQFP48 (7 × 7 mm^2)	Tape and reel

1 Introduction

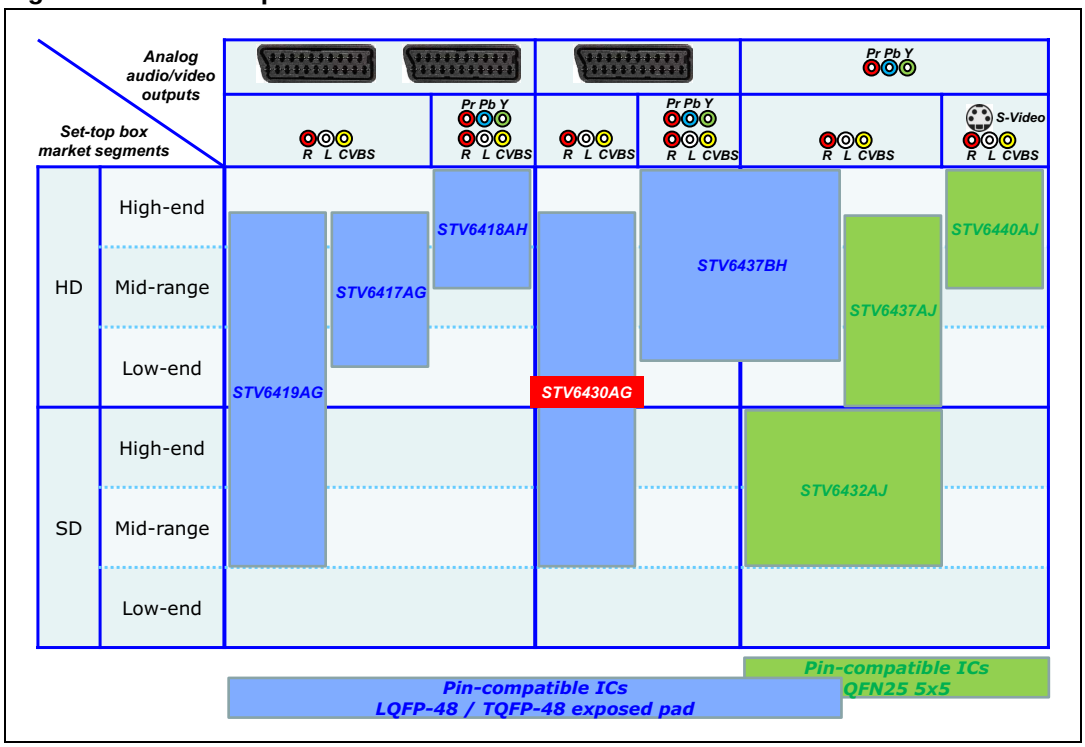
The STV6430 is an I²C-controlled integrated circuit for filtering and buffering audio and video signals in any single-SCART application. It can be used in products such as SD and HD set-top boxes or DVD/BD players and recorders for European markets.

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 the S-video signals only, to the SCART output. The STV6430 manages the slow blanking and fast blanking signalling through the I²C bus.

The STV6430 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.
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 STV6437BH.	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
12-Aug-2011	1	Initial release.

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