

AD9887A—High Performance Dual Interface for Flat Panel Displays

Key Features

- Both interfaces optimized to support display resolutions up to 1600×1200 at 60 Hz and all HDTV formats
- Pin-to-pin and software compatible with the AD9887 for immediate upgrade
- Analog interface combines high performance triple A/D converters with a low-jitter PLL for superior image quality
- Digital interface is fully compatible with DVI version 1.0 for FPDs to ensure unsurpassed image quality and compatibility
- DVI receiver includes support for HDCP with encrypted external HDCP device key storage for maximum security and ease of manufacturing
- Midscale clamping for HDTV and DTV applications (YPbPr signals)
- Integrated sync processing for composite sync and sync-on-green (SOG) applications
- 4:2:2 output formatting for component video applications
- Evaluation board with full schematics and software is available



Integrated Dual Interface Solution for Unparalleled Image Quality and Maximum Interoperability.

The AD9887A has been designed with high performance and interoperability in mind. Today's high resolution displays must be able to assure legacy compatibility, be "digital ready" for the future, and provide the best image quality possible.

The AD9887A is pin-to-pin and software compatible with the AD9887, it is a drop in replacement for the AD9887 for an immediate upgrade to UXGA resolution.

The analog interface contains a 170 MHz triple ADC that supports resolutions up to UXGA (1600×1200 at 60 Hz) with low-jitter PLL, fully integrated sync processing, and midscale clamp.

The digital interface contains a DVI version 1.0 compatible receiver and supports display resolutions up to UXGA (1600×1200 at 60 Hz).

With the inclusion of HDCP, displays may now receive encrypted video content. The AD9887A allows for authentication of a video receiver, decryption of encoded data, and renewability of the authentication during transmission as specified by the HDCP version 1.0 protocol.

General

- Pin-to-pin and software compatible with the AD9887
- 160-lead MQFP package
- 0°C to 70°C temperature range
- 3.3 V power supply
- Three-state CMOS outputs operate from 2.5 V to 3.3 V
- 5.0 V tolerant digital inputs

Analog Interface

- 170 MSPS maximum conversion rate
- Programmable analog bandwidth
- 0.5 V to 1.0 V analog input range
- Low-jitter PLL: 500 pS typical at 170 MSPS
- Fully integrated sync processing
- Midscale clamping
- 4:2:2 output formatting

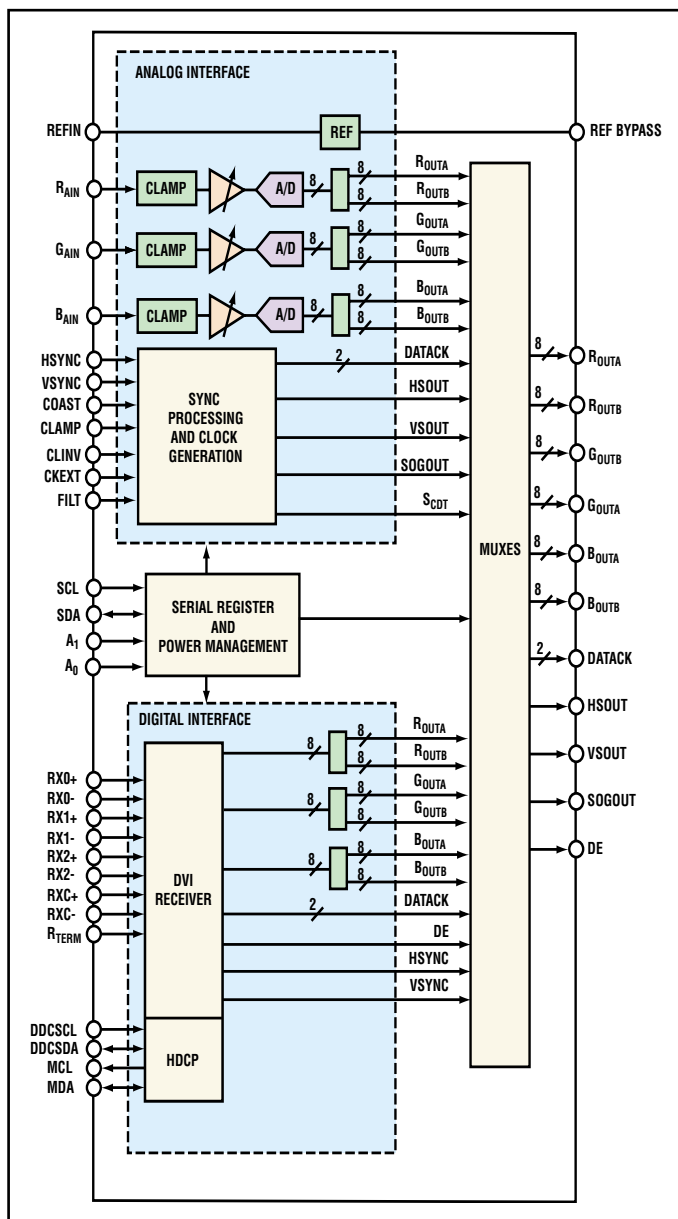
Digital Interface

- DVI version 1.0 compatible
- 170 MHz operation
- Supports High-bandwidth Digital Content Protection (HDCP)
- High skew tolerance of 1 full input clock
- Sync detect for "hot plugging"

Applications

- RGB graphics processing
- LCD monitors and projectors
- Plasma display panels
- HDTV Personal displays

AD9887A Block Diagram



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