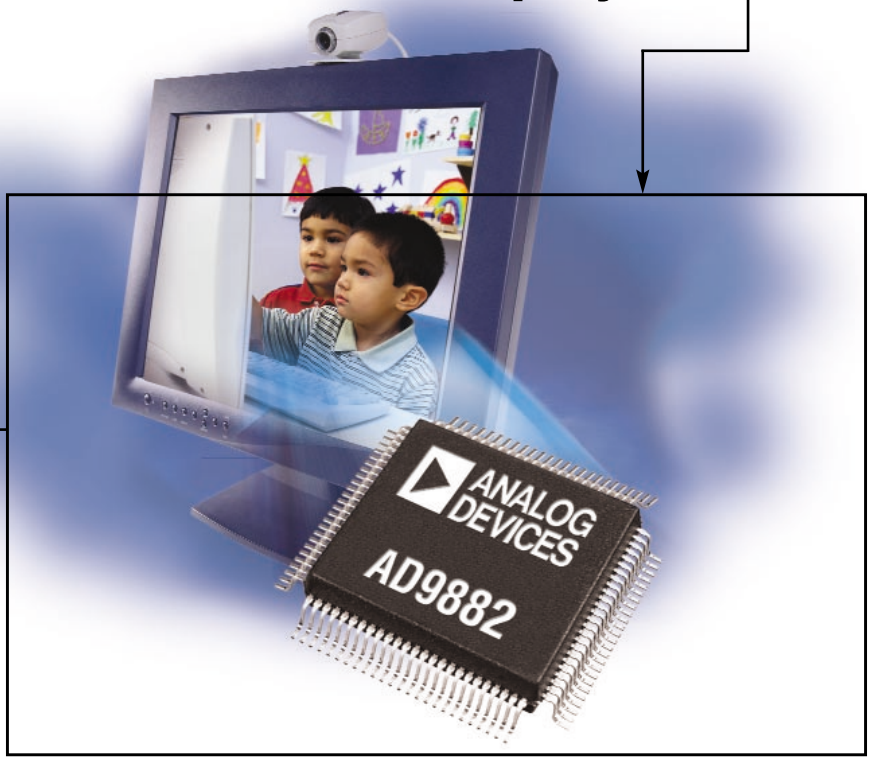
# AD9882 — Interface for Flat Panel Displays




*The AD9882 is a low cost, highly integrated dual interface device for XGA and SXGA displays.*

**Key Features**

- Low-cost dual interface technology assures legacy compatibility while still being "digital ready" for the future
- Analog interface combines high-performance triple A/D converters and low-jitter PLL for the highest image quality possible
- 140 MSPS conversion rate allows the analog interface to support display resolutions up to 1280 × 1024 at 75 Hz
- Midscale clamping for HDTV and DTV (YPbPr signals)
- Integrated sync processing for composite sync and sync-on-green applications
- Digital interface is fully compatible with DVI version 1.0 for FPDs to ensure unsurpassed image quality and minimal user adjustments
- 112 MHz operation allows the DVI receiver to support display resolutions up to 1280 × 1024 at 60 Hz
- DVI receiver includes support for HDCP with encrypted external HDCP device key storage for maximum security and the industry's highest level of compatibility
- Evaluation board with full schematics and software is available

**Integrated Dual Interface Solutions for Superior Image Quality**

The AD9882 is a high-performance, mixed-signal interface that combines low system cost and excellent image quality with reliable operation. The design of the AD9882 is optimized to meet the needs of XGA and SXGA displays without compromising performance.

The AD9882 offers designers the flexibility of an analog interface and a Digital Visual Interface (DVI) receiver integrated on a single chip. Also included is support for High-Bandwidth Digital Content Protection (HDCP).

The analog interface contains a 140 MHz triple ADC that supports resolutions up to SXGA (1280 × 1024 at 75 Hz) with fully integrated sync processing.

The digital interface contains a DVI version 1.0 compatible receiver and supports display resolutions up to SXGA (1280 × 1024 at 60 Hz).

With the inclusion of HDCP, displays may now receive encrypted video content. The AD9882 allows for authentication of a video receiver, decryption of encoded data at the receiver, and renewability of the authentication during transmission as specified by the HDCP version 1.0 protocol.

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**Product Specifications**

***General***

100–lead LQFP 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 power supply
5.0 V tolerant digital inputs

***Analog Interface***

140 MSPS maximum conversion rate
Programmable analog bandwidth
0.5 V to 1.0 V analog input range
Low PLL jitter: 500 pS typical at 140 MSPS
Full sync processing
Midscale clamping
4:2:2 output format mode

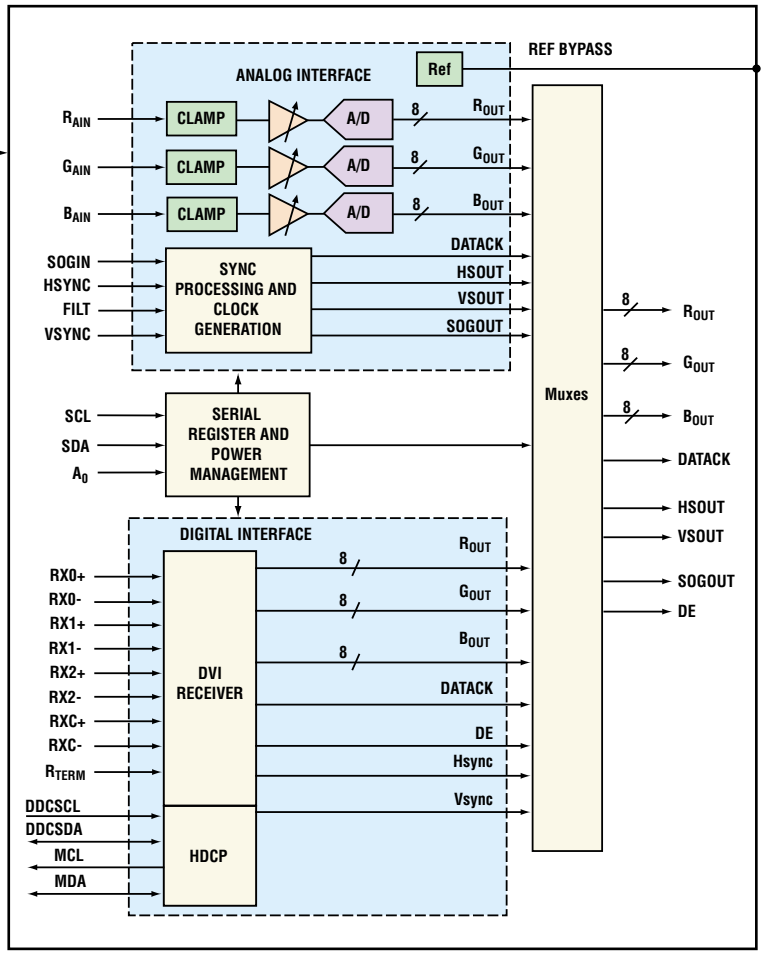
***Digital Interface***

DVI 1.0 compatible interface
112 MHz operation
High skew tolerance of 1 full input clock
Sync detect for "hot plugging"
Supports High-Bandwidth Digital Content Protection

***Applications***

RGB graphics processing
LCD monitors and projectors
Plasma display panels
Scan converters
Microdisplays
Digital TV

## AD9882 Block Diagram





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Printed in the U.S.A
H02900-1.5-2/02(0)