14-Bit CCD Signal Processor with *Precision Timing*™ Generator

AD9970

FEATURES

1.8 V analog and digital core supply voltage
Serial data link with reduced range LVDS outputs
Correlated double sampler (CDS) with −3 dB, 0 dB, +3 dB, and +6 dB gain
6 dB to 42 dB, 10-bit variable gain amplifier (VGA)
14-bit, 65 MHz ADC
Black level clamp with variable level control
Complete on-chip timing generator
***Precision Timing* core with 240 ps resolution @ 65 MHz**
On-chip, 3 V horizontal and RG drivers
5 mm × 5 mm, 32-lead LFCSP_VQ

APPLICATIONS

Professional HDTV camcorders
Professional/high end digital cameras
Broadcast cameras
Industrial high speed cameras
High speed data acquisition systems

GENERAL DESCRIPTION

The AD9970 is a highly integrated CCD signal processor for high speed digital video camera applications. Specified at pixel rates of up to 65 MHz, the AD9970 consists of a complete analog front end with analog-to-digital conversion combined with a programmable timing driver. The *Precision Timing* core allows adjustment of high speed clocks with 240 ps resolution at 65 MHz operation. The AD9970 also contains a reduced range LVDS interface for data outputs.

The analog front end includes black level clamping, CDS, VGA, and a 65 MSPS, 14-bit ADC. The timing driver provides the high speed CCD clock drivers for RG, HL, and H1 to H4. Operation is programmed using a 3-wire serial interface.

Packaged in a space-saving 5 mm × 5 mm, 32-lead LFCSP_VQ, the AD9970 is specified over an operating temperature range of −25°C to +85°C.

For more information about the AD9970, contact Analog Devices via email at afe.ccd@analog.com.

FUNCTIONAL BLOCK DIAGRAM

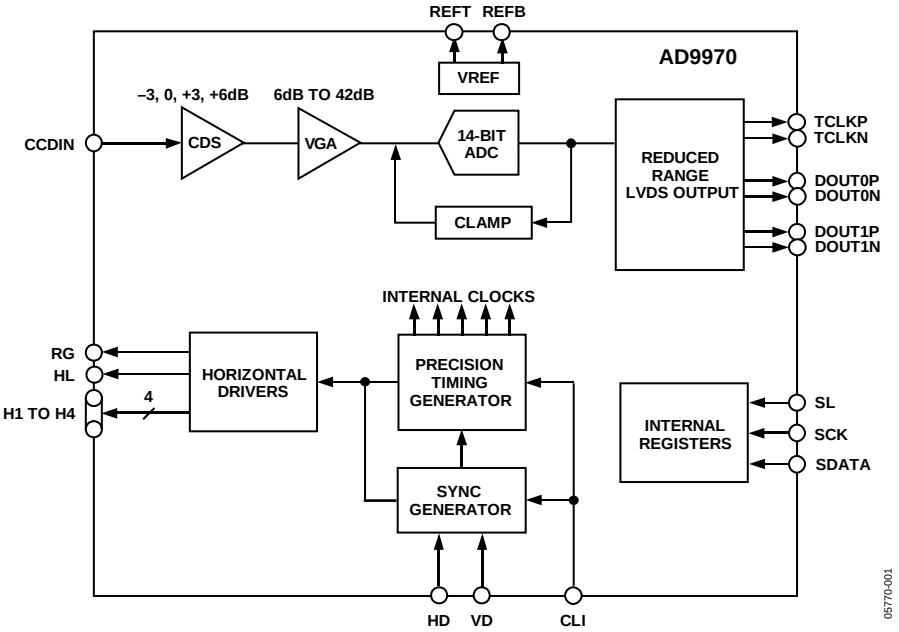


Figure 1.

Rev. SpA
Information furnished by Analog Devices is believed to be accurate and reliable. However, no responsibility is assumed by Analog Devices for its use, nor for any infringements of patents or other rights of third parties that may result from its use. Specifications subject to change without notice. No license is granted by implication or otherwise under any patent or patent rights of Analog Devices. Trademarks and registered trademarks are the property of their respective owners.

One Technology Way, P.O. Box 9106, Norwood, MA 02062-9106, U.S.A.
Tel: 781.329.4700 **www.analog.com**
Fax: 781.461.3113 **©2005–2007 Analog Devices, Inc. All rights reserved.**

NOTES

©2005–2007 Analog Devices, Inc. All rights reserved. Trademarks and registered trademarks are the property of their respective owners.
D05770-0-3/07(SpA)