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

Data Sheet **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 at 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

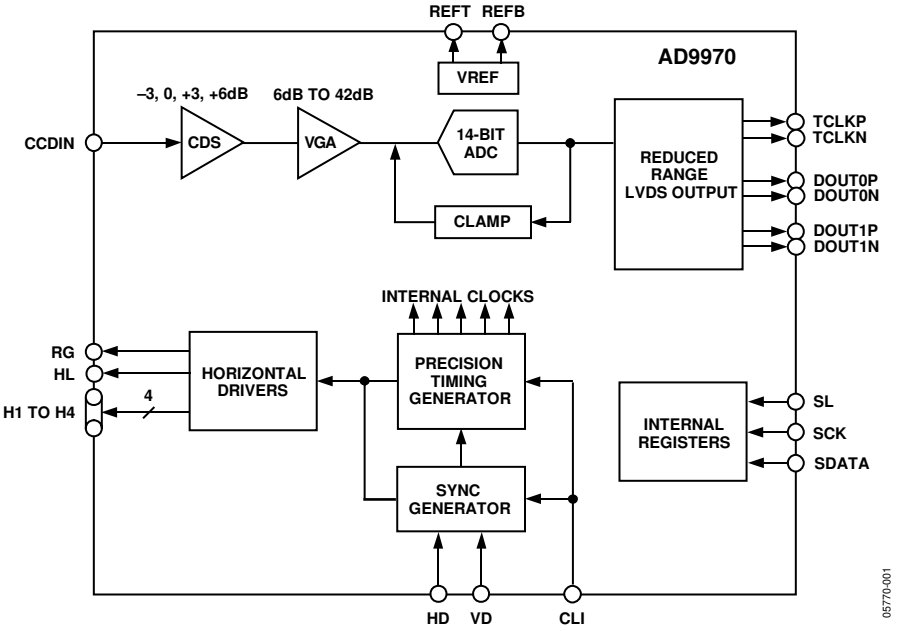


*Figure 1.*




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# AD9970* PRODUCT PAGE QUICK LINKS

**Last Content Update: 02/23/2017**

## COMPARABLE PARTS

View a parametric search of comparable parts.

## DOCUMENTATION

**Data Sheet**

- AD9970: 14-Bit CCD Signal Processor with Precision Timing™ Generator Data Sheet

## DESIGN RESOURCES

- AD9970 Material Declaration
- PCN-PDN Information
- Quality And Reliability
- Symbols and Footprints

## DISCUSSIONS

View all AD9970 EngineerZone Discussions.

## SAMPLE AND BUY

Visit the product page to see pricing options.

## TECHNICAL SUPPORT

Submit a technical question or find your regional support number.

## DOCUMENT FEEDBACK

Submit feedback for this data sheet.

## NOTES


D05770F-0-7/14(SpD)