



# 14-Bit CCD Signal Processor with Precision Timing™

## AD9970

### FEATURES

- 1.8 V analog and digital core supply voltage**
- Serial data link with reduced swing 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 @ 65MHz**
- On-chip, 3 V horizontal and RG drivers**
- 5 mm × 5 mm, 32-lead LFCSP package**

### 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 swing LVDS interface for the 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, the AD9970 is specified over an operating temperature range of -25°C to +85°C.

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### FUNCTIONAL BLOCK DIAGRAM

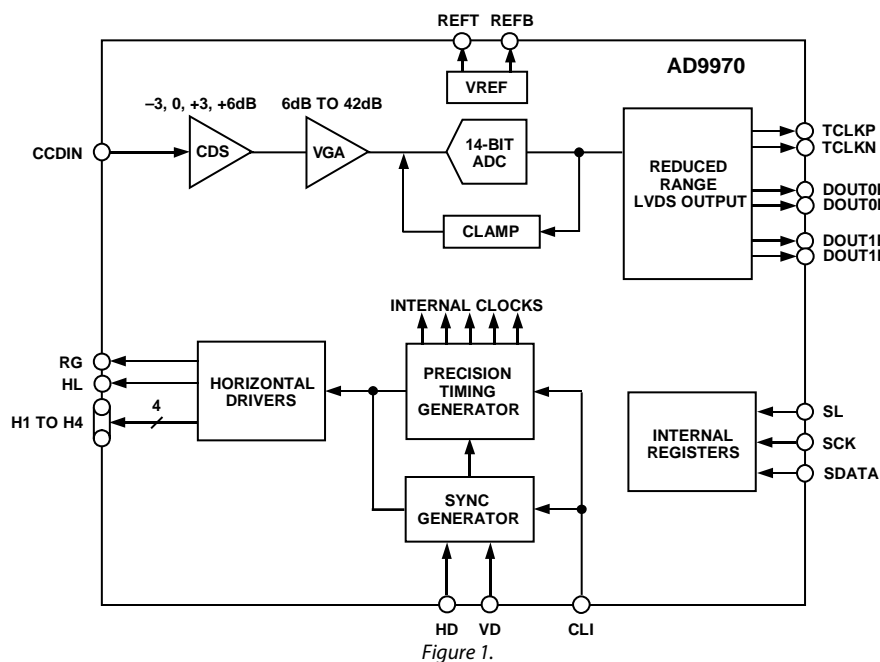


Figure 1.

For more information about the AD9970, contact Analog Devices via email at [afe.ccd@analog.com](mailto:afe.ccd@analog.com).

#### Rev. Sp0

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**NOTES**

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