

# 14-Bit CCD Signal Processor with *Precision Timing*<sup>™</sup> 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**

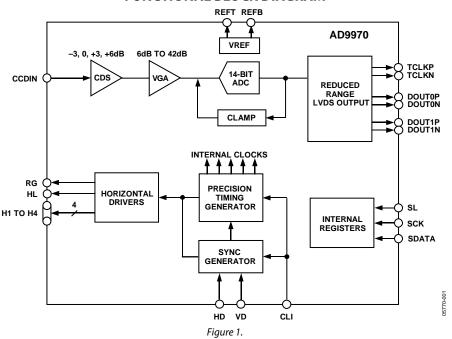
The AD9970 is a highly integrated CCD signal processor for high speed digital video camera applications. Specified at pixel rates of up to 65 MHz, the AD9970 consists of a complete analog front end with analog-to-digital conversion combined with a programmable timing driver. The *Precision Timing* core 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  $\times$  5 mm, 32-lead LFCSP\_VQ, the AD9970 is specified over an operating temperature range of  $-25^{\circ}$ C to  $+85^{\circ}$ C.

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

## **FUNCTIONAL BLOCK DIAGRAM**



NOTES