

### FEATURES OF EACH CHANNEL

- 1.8 V analog and digital core supply voltage**
- 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, 40 MHz analog-to-digital converter (ADC)**
- Black level clamp with variable level control**
- Complete on-chip timing generator**
- Precision Timing* core with 400 ps resolution @ 40 MHz**
- On-chip 3 V horizontal and RG drivers**
- 100-lead, 9 mm × 9 mm, 0.8 mm pitch, CSP\_BGA package**
- Internal LDO regulator circuitry**

### APPLICATIONS

- Professional HDTV camcorders**
- Professional/high end digital cameras**
- Broadcast cameras**
- Industrial high speed cameras**

### GENERAL DESCRIPTION

The AD9972 is a highly integrated, dual-channel CCD signal processor for high speed digital video camera applications. Each channel is specified at pixel rates of up to 40 MHz. The AD9972 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 approximately 400 ps resolution at 40 MHz operation.

Each analog front end includes black level clamping, CDS, VGA, and a 40 MSPS, 14-bit ADC. The timing driver provides the high speed CCD clock drivers for the RG\_A, RG\_B, H1\_A to H4\_A, and H1\_B to H4\_B outputs. A 3-wire serial interface is used to program each channel of the AD9972.

Available in a space-saving, 9 mm × 9 mm, CSP\_BGA package, the AD9972 is specified over an operating temperature range of -25°C to +85°C.

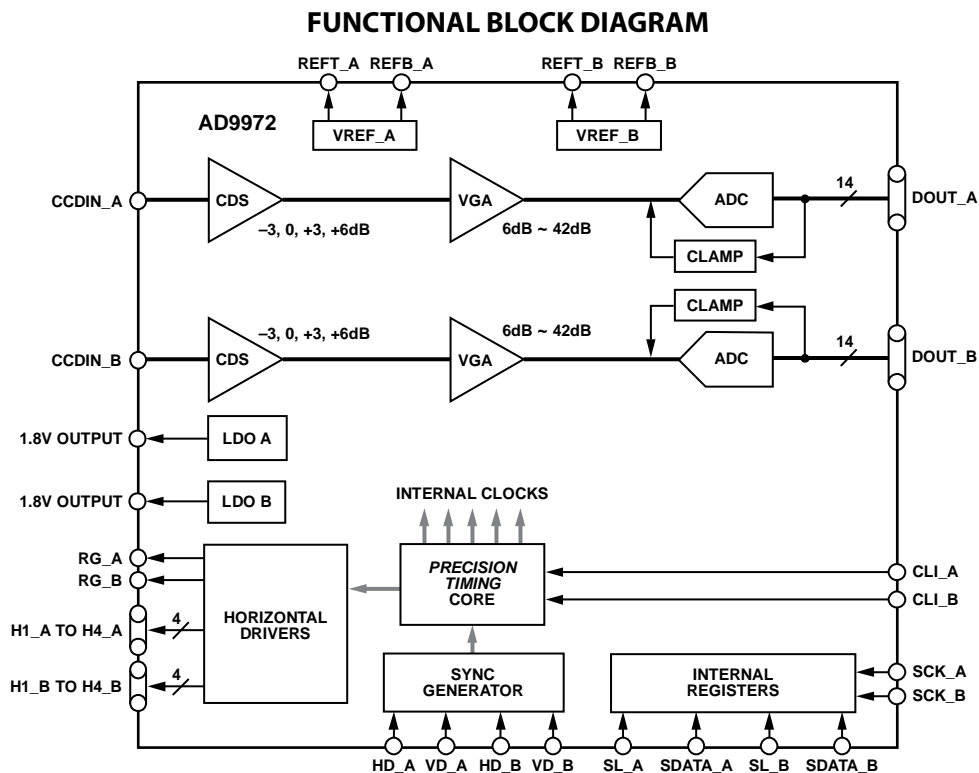


Figure 1.

For more information on the AD9972, contact Analog Devices, Inc. at: [afe.ccd@analog.com](mailto:afe.ccd@analog.com).

#### Rev. SpA

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**AD9972**

**NOTES**