

### FEATURES

- Pin-compatible with the [AD9978A](#)
- Dual AFE channels
- 1.8 V analog and digital core supply voltage
- Serial data output with reduced range LVDS outputs
- Differential analog inputs
- CDS or SHA configuration (CDS bypass) with
  - 3 dB, 0 dB, +3 dB, and +6 dB gain
- 6 dB to 42 dB, 10-bit variable gain amplifier (VGA)
- 16-bit, 75 MHz analog-to-digital converter (ADC)
- Black level clamp with variable level control
- Precision Timing* core with 210 ps resolution at 75 MHz

### APPLICATIONS

- HD broadcast cameras
- High speed industrial cameras
- Professional digital cameras
- Digital copiers

### GENERAL DESCRIPTION

The [ADDI7018](#) is a highly integrated, dual-channel, charge-coupled device (CCD) signal processor for high speed digital video camera applications. Each channel is specified at pixel rates of up to 75 MHz and consists of a complete analog front end (AFE) with ADC conversion. The *Precision Timing*<sup>®</sup> core allows adjustment of the correlated double sampler (CDS) and sample-and-hold amplifier (SHA) clocks with 210 ps resolution at 75 MHz operation. The [ADDI7018](#) also contains a reduced range low voltage differential signaling (LVDS) interface for the dual-channel data outputs.

Each analog front end includes black level clamping, a CDS, a VGA, and a 75 MHz, 16-bit analog-to-digital converter (ADC). Operation is programmed using a 3-wire serial interface.

Packaged in a space-saving, 6 mm × 6 mm, 40-lead LFCSP, the [ADDI7018](#) is specified over an operating temperature range of -25°C to +85°C.

### FUNCTIONAL BLOCK DIAGRAM

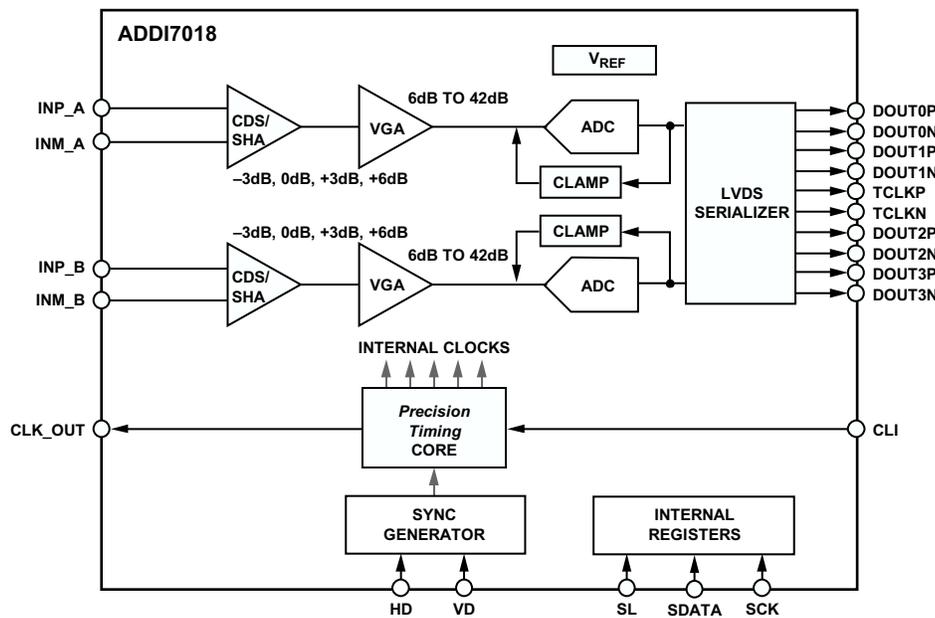


Figure 1.

For more information about the [ADDI7018](#), email Analog Devices, Inc., at [afe.ccd@analog](mailto:afe.ccd@analog).

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