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AD9977 Dual-Channel, 14-Bit CCD Signal Processor with Precision Timing™ Core

Data Sheets | Application Notes | Evaluation Boards | Price, Packaging, and Availability

Product Description

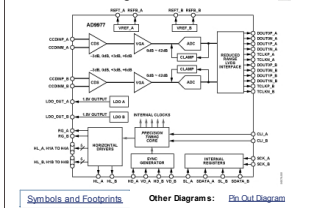
The AD9977 is a highly integrated dual channel CCD signal processor for high speed digital video camera applications. Each channel is specified at pixel rates of up to 65 MHz, and consists of a - [Link](#)

Specifications

Resolution (Bits)	14bit
Input Range (V p-p)	1V p-p
Sample Rate (MSPS)	65MSPS
Power Dissipation (mW)	300mW

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Functional Block Diagram



Features

- 1.8 V analog and digital core supply voltage
- Serial data link with reduced range LVDS outputs
- Correlated double sampler (CDS) with 73, 0, +3, +6 dB gain
- 6 dB to 42 dB, 10-bit variable gain amplifier (VGA)
- 14-bit, 65 MHz AD converter
- 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
- 6 mm x 6 mm, 84-ball CSP_BGA package

Price, Packaging, and Availability

Model	Status	Package	Pins	Temp. Range	Price* (1000 pcs.)	Available	RoHS Compliant	Sample Cart	Purchase Cart
AD9977BCZ	Prodn	84 Ball CSPBGA (Ref: 1.20mm) Stacked Dc	84	Comm	\$41.87	3/7/2008	Y Material Declaration	Contact ADI	Contact ADI
AD9977BCZRL	Prodn	84 Ball CSPBGA (Ref: 1.20mm) Stacked Dc	84	Comm	\$41.87	3/7/2008	Y Material Declaration	Contact ADI	Contact ADI

The USA list pricing shown is for BUDGETARY USE ONLY, shown in United States dollars (FOB USA per unit for the stated volume), and is subject to change. International prices may differ due to local duties, taxes, fees and exchange rates. For volume specific price or delivery quotes, please contact your local Analog Devices, Inc. sales office or authorized distributor. Pricing displayed for Evaluation Boards and Kits is based on 1 piece pricing. [View Samples Cart](#) [View Purchase Cart](#)

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Select a Product Category Last Updated: 8/2007

AFE - Integrated Timing Generator Products - Recommended for Camcorders, Digital Still Cameras, PC Cameras (Area CCD Applications)

Generic	Resolution (Bits)	Fs Max (MSPS)	DNL Typ (LSB)	SNR Typ (dB)	Power (mW)	Input Range (Vp-p)	Gain Range (dB) ¹	PGA ²	Black Level Adj. (LSB)	Programmable H. clock/ Holders	H.Driver Voltage (V)	Integrated Monitor Channels	
AD9847*	10	40	±0.5	72	695	1	0 - 34	Yes	0 - 64	No	Yes	5	0
AD9848*	10	20	±0.4	74	220	1	0 - 34	Yes	0 - 64	No	Yes	3	0
AD9849*	10	20	±0.5	71	150	1	0 - 34	No	0 - 64	Yes	Yes	3	0
AD9937	10	12	±0.4	76	100	1	0 - 34	No	0 - 255	Yes	Yes	3	0
AD9848	10	25	±0.4	74	220	1	0 - 36	Yes	0 - 64	No	Yes	3	0
AD9981*	10	27	±0.4	74	270	1	0 - 36	No	0 - 64	Yes	Yes	3	0
AD9849*	12	30	±0.4	76	450	1	0 - 34	Yes	0 - 255	No	Yes	5	0
AD9898*	12	30	±0.4	76	600	1	0 - 34	Yes	0 - 255	Yes	Yes	5	0
AD9926	12	36	±0.5	76	370	1	0 - 42	No	0 - 255	Yes	Yes	3	10
AD9923	12	36	±0.5	71	240	1	0 - 40	No	0 - 255	Yes	Yes	3	4
AD9943	12	36	±0.5	74	320	1	0 - 36	Yes	0 - 255	No	Yes	3	0
AD9992*	12	40	±0.5	78	316	1	6 - 42	No	0 - 255	Yes	Yes	3	0
AD9994*	12	36	±0.5	74	345	1	0 - 34	No	0 - 255	Yes	Yes	3	0
AD9998*	12	36	±0.5	76	360	1	0 - 36	No	0 - 255	Yes	Yes	3	0
AD9926A	12	40.5	±0.5	78	240	1	6 - 42	No	0 - 255	Yes	Yes	3	19
AD9998*	14	32	±0.5	78	320	1	6 - 42	No	0 - 255	Yes	Yes	3	0
AD9942*	14	40	±0.5	78	316	1	6 - 42	No	0 - 255	Yes	Yes	3	18
AD9942*	14	40	±0.5	74	371	1	0 - 36	No	0 - 1023	No	Yes	3	0
AD9970	14	65	±0.5	78	150	1	6 - 42	No	0 - 255	No	Yes	3	0
AD9972	14	40	±0.5	78	182	1	6 - 42	No	0 - 255	No	Yes	3	0
AD9974	14	65	±0.5	78	300	1	6 - 42	No	0 - 255	No	Yes	3	0
AD9977	14	65	±0.5	78	300	1	6 - 42	No	0 - 255	No	Yes	3	0
AD9978	14	55	±0.5	78	190	1.4	6 - 42	No	0 - 255	No	No	N/A	0
AD9979	14	65	±0.5	78	150	1	6 - 42	No	0 - 255	No	Yes	3	0

*Not recommended for new designs.
**Integrated Dual Channel AFE with TG

Recommended for Scanners, Digital Color Copiers, and Multi-Function Peripherals (Tri-Linear CCD or CIS Applications)

Generic	Resolution (Bits)	# of Channels	Fs Max (MSPS)	DNL Typ (LSB)	SNR Typ (dB)	Power (mW)	Input Range (Vp-p)	PGA Gain Range (V/V)	Offset Correction Range (mv)	Digital Shading and Offset Correction	
AD9907	12	3	6	±0.4	±1.5	0.3	450	2/4	4	±80±20	Yes
AD9916	12	3	6	±0.4	±1.5	0.5	420	1.5/3	6	±100	No
AD9914	14	3	10	±0.5	±4.0	0.95	350	2/4	6	±300	No
AD9922	14	3	15	±0.65	-10±2	1.5	380	2	6	±300	No
AD9924	16	3	15	±0.5	±16	3	400	4/00	6	±300	No

Other Products for Camcorders, Digital Still Cameras, PC Cameras (Area CCD Applications)

Generic	Resolution (Bits)	Fs Max (MSPS)	DNL Typ (LSB)	SNR Typ (dB)	Power (mW)	Input Range (Vp-p)	PGA gain Range (dB) ¹	PGA ²	Black Level Adj. (LSB)	Aux Output DACs	Aux Video Inputs	
AD9840A	10	40	±0.5	74	140	1.0	0 - 34	No	Digital	0 - 64	No	2
AD9841A	10	20	±0.4	74	75	1.0	0 - 34	Yes	Digital	0 - 64	No	2
AD9843A	10	20	±0.4	74	75	1.0	0 - 34	No	Digital	0 - 64	No	2
AD9846A	10	30	±0.5	74	125	1.0	0 - 34	Yes	Digital	0 - 255	No	2
AD9842A	12	20	±0.5	77	75	1.0	0 - 34	Yes	Digital	0 - 255	No	2
AD9846A	12	20	±0.5	77	75	1.0	0 - 34	No	Digital	0 - 255	No	2
AD9848B	12	30	±0.5	77	140	1.0	0 - 34	Yes	Digital	0 - 255	No	2
AD9935	12	40	±0.5	76	140	1	0 - 34	No	Digital	0 - 255	No	No
AD9924	14	30	±0.5	78	153	1.0	0 - 34	Yes	Digital	0 - 1020	No	2

¹ SNR is calculated as 20log₁₀(full-scale outputs/output noise)
² No longer recommended for new designs
³ Gain range referenced to 1V full scale system
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