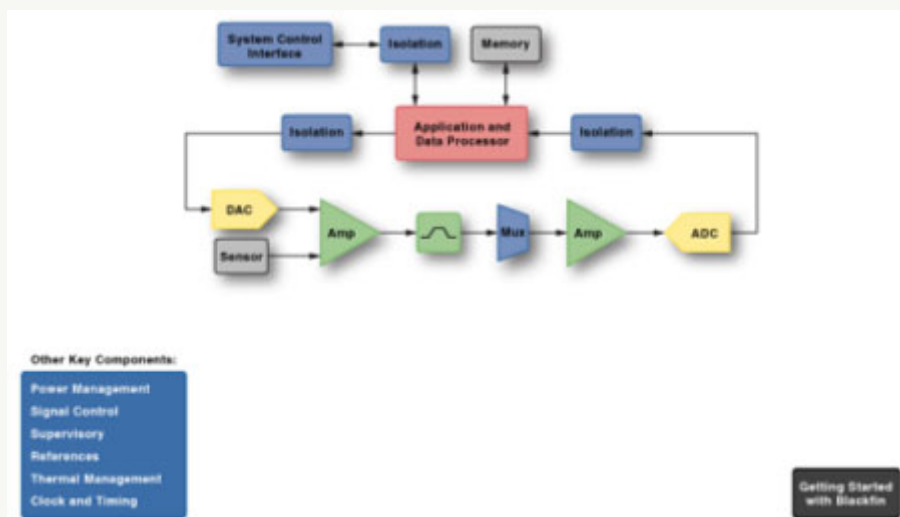


ADI数据收集系统解决方案



Acquiring data from sensors involves measurement and processing of real world analog voltages and currents. Typical devices used in the data acquisition signal chain are amplifiers, multiplexers, isolators, and ADC's. In some cases measurement accuracy can be improved by providing an offset voltage via a DAC. System requirements for accuracy, bandwidth and input range dictate the selection of amplifiers and ADCs. A DSP or μ -controller is used to process the digital signals for display or analysis.

Application Notes

AN-835: Understanding High Speed ADC Testing and Evaluation (pdf, 1,358,339 bytes)

AN-793: ESD/Latch-Up Considerations with iCoupler[®] Isolation Products (pdf, 252,700 bytes)

AN-769: Generating Multiple Clock Outputs from the AD9540 (pdf, 134,100 bytes)

AN-756: Sampled Systems and the Effects of Clock Phase Noise and Jitter (pdf, 298,702 bytes)

AN-742: Frequency Domain Response of Switched-Capacitor ADCs (pdf, 329,461 bytes)

AN-741: Little Known Characteristics of Phase Noise (pdf, 1,719,696 bytes)

AN-584: Using the AD813X Differential Amplifier (pdf, 178,358 bytes)

The AD813x differs from conventional op amps by the external presence of an additional input and output. The additional input, VOGM, controls the output common mode voltage.

AN-573: OP07 Is Still Evolving (pdf, 159,635 bytes)

AN-501: Aperture Uncertainty and ADC System Performance (pdf, 233,126 bytes)

A Key Concern in IF Sampling is that of Aperture Uncertainty (Jitter)

AN-417: Fast Rail-to-Rail Operational Amplifiers Ease Design Constraints in Low Voltage High Speed Systems (pdf, 234,127 bytes)

Movement towards lower power supply voltages is driven by the demand that systems consume less and less power coupled with the desire to reduce the number of power supply voltages in the system.

The following applications are discussed: Single-Ended and Differential Input ADC Input Circuits, Video Line Driver, Active Filter, HDSL Transceiver, and Transformer Drive Circuits.

AN-410: Overcoming Converter Nonlinearities with Dither (pdf, 117,930 bytes)

AN-402: Replacing Output Clamping Op Amps with Input Clamping Amps (pdf, 57,313 bytes)

So far most clamping amplifiers have relied upon an output clamping architecture and are called output clamp amps (OCAs). A new architecture called an input clamp amp (ICA) offers superior

clamping accuracy and lower distortion.

AN-257: Careful Design Tames High Speed Op Amps (pdf, 626,042 bytes)

AN-138: SPICE-Compatible Op Amp Macro-Models (pdf, 858,957 bytes)

AN-117: OP-42 Advanced SPICE Macro-Model (pdf, 172,274 bytes)

AB-113: Precision Ramp Generator (pdf, 56,068 bytes)

AB-112: Single Resistor Controls Wien Bridge Oscillator Frequency (pdf, 19,329 bytes)

Frequency control can be added to the conventional Wien Bridge Circuit by adding an op amp inverter.

AB-111: Single-Supply Wien Bridge Oscillator (pdf, 67,923 bytes)

Wien Bridge Oscillators require only one op amp, important in battery-operation. This circuit operates from a single 9V battery.

AB-109: High Speed Precision Rectifier (pdf, 25,241 bytes)

The low offsets and excellent load driving capability of the OP-27 are key advantages in this precision rectifier circuit.

AN-108: JFET-Input Amps are Unrivaled for Speed and Accuracy (pdf, 511,291 bytes)

AB-3: Digital Nulling of Precision Op Amps (pdf, 64,744 bytes)

AN-726: Triple-Supply Power-Good Indication with the ADM108x (pdf, 77,150 bytes)

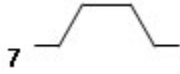
1 System Control Interface

(1) Interfaces: RS-232 Device

ADM560
ADM561
ADM1385
(2) Interfaces: RS-485 Device
ADM1485
ADM1486
ADM2483
2 Isolation
ADUM1100
ADUM1200
ADUM1201
3 Application and Data Processor
(1) MicroConverter® Products: Precision Analog Microcontrollers
ADUC7019
ADUC7020
ADUC7021
(2) Blackfin Processors
ADSP-BF531
ADSP-BF532
ADSP-BF533
4 Isolation
ADUM1100
ADUM1200
ADUM1201
5 DAC
(1) D/A Converters: Single-Supply Voltage-Output D/A
AD8801
AD8802
AD8803
(2) Digital Potentiometers
AD5228
AD5201
AD5227
6 Amp
(1) Operational Amplifiers: Precision Dual-Supply Op Amp
OP183
OP113
AD820
(2) Operational Amplifiers: Precision Single-Supply Op Amp
AD8009
AD8011
AD8641
(3) Instrumentation Amplifiers
AD522

AD524

AD526



Operational Amplifiers: High-Speed Low-Power Op Amp

AD8022

AD8029

AD8030

8 Mux

(1) Multiplexers: Dual-Supply Multiplexer

AD8170

AD8174

AD8180

(2) Multiplexers: Single-Supply Multiplexer

ADG704

ADG706

] ADG707

9 Amp

(1) Operational Amplifiers: Precision Dual-Supply Op Amp

OP183

OP113

AD820

(2) Operational Amplifiers: Precision Single-Supply Op Amp

AD8009

AD8011

AD8641

10 ADC

(1) A/D Converters: Bipolar-Input A/D

AD7898

AD7658

AD7366

(2) A/D Converters: High-Resolution Sigma-Delta A/D

AD9870

AD7142

AD73460

(3) A/D Converters: High-Resolution SAR A/D

AD7656

AD7663

AD7664

(4) A/D Converters: 12-14 bit Single-Supply A/D

AD7940

AD7942

AD7920

(5) A/D Converters: High-Speed Low-Power A/D

AD9220

AD9224

AD9432-105

11 Isolation

ADUM1100

ADUM1200

ADUM1201