

Data Conversion

Analog tools for university laboratories and projects

This brochure contains a selection of our most popular and useful data converters. All the converters in this guide are compatible with the Data Converter Plug-in (www.ti.com/dcplug-in). They are also compatible with the 5-6K (<http://focus.ti.com/docs/toolsw/folders/print/5-6kinterface.html>) and Analog-MCU (<http://focus.ti.com/docs/toolsw/folders/print/hpa-mcuinterface.html>) interface boards for easy interfacing to our most popular DSP Starter Kits (“DSKs”) and Microcontroller boards.



ADCPro™

Ref

Ref

The ADCPro™ is ready for customers to use straight away. A complete kit which includes an EVM, Motherboard and Software. The following devices featured in our brochure can be used with ADCPro™:

ADS1258EVM-PDK \$149 <http://focus.ti.com/docs/toolsw/folders/print/ads1258evm-pdk.html>

ADS8326EVM-PDK \$149 <http://focus.ti.com/docs/toolsw/folders/print/ads8326evm-pdk.html>

The ADCPro™ enables customers to evaluate the performance of a selection of data converters. It is an easy tool to test parameters such as Signal-to-Noise Ratio, Total Harmonic Distortion, Signal-to-Noise and Distortion, Spurious-Free Dynamic Range and Integral Nonlinearity using dynamic and static tests.

Analog to Digital Converters

Terms used:

EVM Evaluation Module

PDK Performance Demonstration Kit (inc. EVM and USB board)

General Purpose ADC

- 12-bit resolution
- 4 channels
- 6 MSPS sample rate

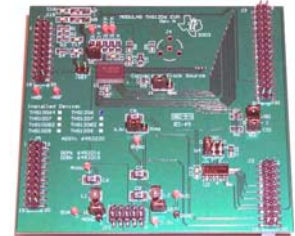
Part#: THS1206M-EVM

\$49

<http://focus.ti.com/docs/toolsw/folders/print/ths1206m-evm.html>

For: Radar, Imaging, Control, Automotive, and Communications projects.

The THS1206M EVM allows the simultaneous sampling of 4 single-ended signals or 2 differential signals or a combination of both. This EVM can accommodate all eight devices of the THS1206 family of data converter, which gives the board the versatility to be used for multiple projects.



Instrumentation ADC

- 24-Bit Resolution
- 16 channels
- 125 kSPS

Part#: ADS1258EVM

\$49

<http://focus.ti.com/docs/toolsw/folders/print/ads1258evm.html>

Part#: ADS1258EVM-PDK

\$149

<http://focus.ti.com/docs/toolsw/folders/print/ads1258evm-pdk.html>

For: Medical, Avionics, Process Control and Machine and System Monitoring projects.

The ADS1258 EVM accepts combinations of eight differential or 16 single-ended inputs with a full-scale differential range of 5V or true bipolar range of $\pm 2.5V$ when operating with a 5V reference. The fourth-order delta-sigma modulator is followed by a fifth-order sinc digital filter optimized for low-noise performance. The PDK includes an ADS1258EVM, a USB-based motherboard for easy connection to the PC and the ADCPro™ software for evaluation.

High speed ADC

- 16-bit resolution
- Single channel
- 4 MSPS sample rate

Part#: ADS8422EVM

\$99

<http://focus.ti.com/docs/toolsw/folders/print/ads8422evm.html>

For: DWDM, Instrumentation, High-Speed, High-Resolution, Zero Latency Data Acquisition Systems, Transducer Interface, Medical Instruments, Spectrum Analysis, ATE.

The ADS8422EVM is a modular board which allows the users the ability to create custom analog signal-conditioning circuits, as well as different reference sources and interfaces. The analog input circuitry, consisting of three operational amplifiers allows the users the ability to change the passive components to customize the input. The EVM lets the user operate with an external reference voltage in a range up to 4.15Volts. The internal reference is buffered out of the device by components on the EVM, relieving the user from supplying an external amplifier as a drive element.



High Speed ADC

- 24-Bit Resolution
- 16 channels
- 125 kSPS

Part#: ADS8326EVM

\$49

<http://focus.ti.com/docs/toolsw/folders/print/ads8326evm.html>

Part#: ADS8326EVM-PDK

\$149

<http://focus.ti.com/docs/toolsw/folders/print/ads8326evm-pdk.html>

For: Battery-Operated Systems, Remote Data Acquisition, Isolated Data Acquisition, Simultaneous Sampling, Multichannel Systems, Industrial Controls, Robotics, and Vibration Analysis.

The Modular MSOP8 Evaluation Module is an EVM that permits the testing of 12 & 16 bit in the MSOP8 package. For maximum flexibility the EVM is designed for easy interfacing to multiple analog sources. The modular EVM form factor allows for direct evaluation of the ADC's performance and operating characteristics. An interface card, the 5-6KINTERFACE board, can be used to interface this EVM to a number of TI's DSP Starter Kits including kits in the C5000 and C6000 series DSKs. It is also available as a PDK, which includes besides the EVM a USB-based motherboard and the ADCPro™ software.

High Speed ADC

- ADS160x/2x 16bit/18bit resolution
- 1 channel
- ADS160x/2x 5 MSPS/1.25 MSPS

Part#: ADS1605EVM, ADS1606EVM

\$149

<http://focus.ti.com/docs/toolsw/folders/print/ads1605evm.html>

Part#: ADS1625EVM, ADS1626EVM

\$149

<http://focus.ti.com/docs/toolsw/folders/print/ads1625evm.html>

For: Scientific Instruments, Medical Imaging, Vibration Analysis and Automated Test Equipment projects.

The ADS160x/2x EVM is a high-speed high-resolution delta sigma ADC. This board features on-board signal conditioning and basic system-level logic decoding. The input signal is measured against a voltage reference that can be generated on-chip or supplied externally. The digital output data is provided over a simple parallel interface that easily connects to DSPs. An out-of-range monitor reports when the input range has been exceeded.



Audio Codec

- 16/20/24/32-Bit Data
- Stereo audio ADC and DAC
- 8 kHz to 96 kHz data Rates

Part#: TLV320AIC33EVM-PDK

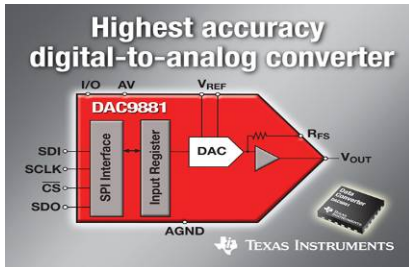
\$149

<http://focus.ti.com/docs/toolsw/folders/print/tlv320aic33evm-pdk.html>

For: MP3 Players, Hands-Free Kits, Dictaphones and Multi-Channel Audio System projects.

The TLV320AIC33 is a low power stereo audio codec with stereo headphone amplifier, as well as multiple inputs and outputs programmable in single-ended or fully differential configurations. The DAC stage includes programmable digital filtering for 3D, bass, treble, midrange effects, speaker equalization, and de-emphasis for 32-kHz, 44.1-kHz, and 48-kHz rates. The PDK includes a TLV320AIC33EVM and a USB-based motherboard called the USB-MODEVM Interface board. Evaluation software for use with personal computer running Microsoft Windows™ is provided, which allows exercising features of the TLV320AIC33.

Digital to Analog Converters



DAC9881 Evaluation Module

PART#: DAC9881EVM

\$75

<http://focus.ti.com/docs/toolsw/folders/print/dac9881evm.html>

The DAC9881EVM is a simple evaluation module designed for quick and easy evaluation of the functionality and performance of the 18-bit, voltage-output, single-channel serial input DAC9881. The DAC9881EVM is designed to work by default for unipolar output range, but it can also be configured for bipolar output range with the addition of an external amplifier and some resistors.

General Purpose DAC

- 16-bit resolution
- 4 channels
- 200 ksp/s update rate

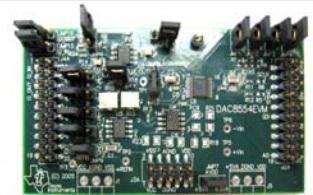
Part#: DAC8554EVM

\$49

<http://focus.ti.com/docs/toolsw/folders/print/dac8554evm.html>

For: Portable Instrumentation, Closed-Loop Servo-Control and PC Peripheral projects.

The DAC8554EVM offers monotonicity, good linearity, and exceptionally low glitch. Each on-chip precision output amplifier allows rail-to-rail output swing to be achieved over the supply range of 2.7V to 5.5V. The device supports a standard 3-wire serial interface capable of operating with input data clock frequencies up to 50MHz with a supply of 5V.



High Speed DAC

- 16-bit resolution
- 1 channel
- 3000 ksp/s update rate

Part#: DAC8581EVM

\$49

<http://focus.ti.com/docs/toolsw/folders/print/dac8581evm.html>

For: CRT Projection / TV Digital Convergence, Waveform Generation and Ultrasound projects.

The DAC8581 has a small-signal settling time of well under 0.3 μ s, supporting data update rates up to 3 MSPS. It is simple to use, with a single external reference and a standard 3-wire SPI interface that allows clock rates up to 50 MHz.

High Speed DAC

- 16-bit resolution
- 1 channel
- Low Power

Part#: DAC8531EVM

<http://focus.ti.com/docs/toolsw/folders/print/dac8531evm.html>

\$99

For: Process Control, Closed-loop servo-control, PC peripherals and Portable Instrumentation projects.

The DAC8531EVM 16-bit, low power, rail-to-rail output digital-to-analog converter is intended to be directly connected to TI DSP Starter Kits like the TMS320C6713 or TMS320VC5510 DSK and features bread-boarding area for additional circuitry.

Software

ADCPro™

Part#: ADCPRO

<http://focus.ti.com/docs/toolsw/folders/print/adcprou.html>

FREE

ADC Pro allows you to easily test and measure the quality of an A to D converter.

TINA-TI™

Part#: TINA-TI

<http://focus.ti.com/docs/toolsw/folders/print/tina-ti.html>

FREE

The Tina-TI is an easy-to-use, powerful analog simulation program based on a PSPICE engine.

FilterPRO™

Part#: FILTERPRO

<http://focus.ti.com/docs/toolsw/folders/print/filterpro.html>

FREE

FilterPRO designs MFB and Sallen-key low-pass and high-pass filters using VFB OpAmps. This helps with easy calculations of passive components.

MDACBufferPro™

Part#: MDACBUFFERPRO

<http://focus.ti.com/docs/toolsw/folders/print/mdacbufferpro.html>

FREE

Multiplying Digital to Analog Converter (MDAC) design utility allows the designer to enter design parameters.

Data Converter Support Plug-in Tool

<http://www.ti.com/dcplug-in>

FREE

The data converter support plug-in is a free tool, which allows the user of Code Composer Studio™ to create initialization data and configuration software for Texas Instruments data converters based on inputs on a graphical user interface.

***All prices shown in this brochure are commercial prices valid as of Q3 2009. These prices do not include tax or shipping. The European University Program will consider donation requests for these boards for student projects and labs. For more information please see: www.ti.com/europe/university**

Product Support

Europe, Middle East and Africa

www.ti.com/europe/csc



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