

High Density Analogue Converter Test Option for Teradyne FLEX™

The HDACTO is the solution where a large number of basic analogue channels is required. Typically; Low end Audio; mp3, Class D, telecom, Power management, sensors, u-controllers, etc.

FEATURES

General Specifications:

- High channel count
- Modular / Scaleable Concept, every combination of source and capture possible.
- Fully transparent FLEX DSP background processing
- 4 Quadrant PMU per pin
- 20 bit resolution V-ref per module

Key capture Specifications:

- 18 bit resolution
- 1ksps to 2Msps sample rate
- 1.1 MHz bandwidth
- -137dBfs/Hz @ 20Hz-20kHz Typical (A-weighted)

Key source Specifications:

- 16 bit resolution
- DC to 2Msps update rate
- 500kHz output bandwidth
- INL/DNL: 1.5 LSB (23ppm)
- -134dBfs/Hz @ 20Hz-20kHz Typical (A-weighted)

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The main purpose of the HDACTO instrument, is to extend a FLEX™ configuration, with high channel-count Analogue Source and Capture channels. This makes it possible to test high number of sites in parallel or do concurrent testing to reduce Cost of Test. The HDACTO uses a modular concept, making various combinations of Source and Capture modules possible.

HDACTO Instrument Board

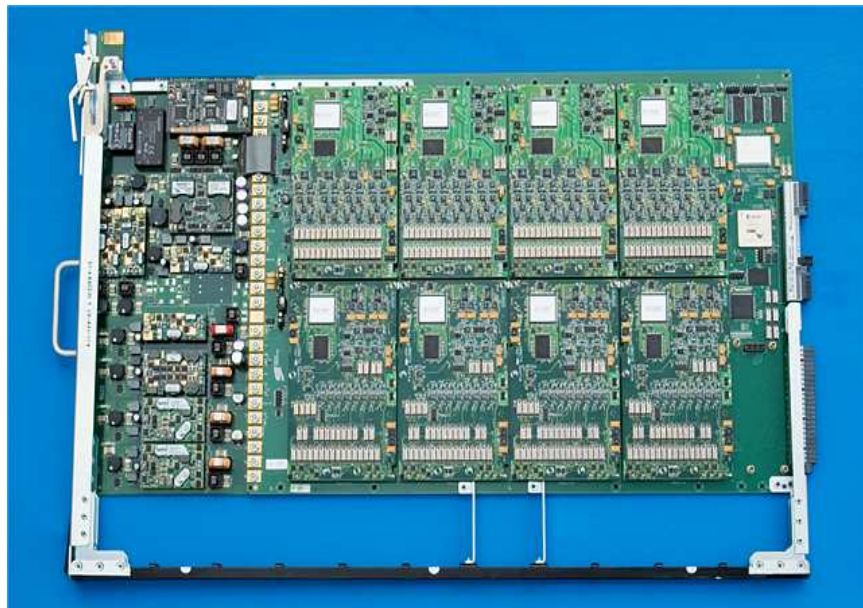
HDACTO consists of eight module positions each holding a high density module. Typically, you can have four Source and four Capture modules, in this configuration a user has 16 Capture and 32 Source channels. Other combinations are also possible. For example you with 8 source module your have 64 Source channels, with 8 Capture you have 32 Capture channels.

HDACTO Markets

The HDACTO Is designed for converter markets like; Micro controllers, Audio (5.1, 6.1, 7.1, MP3), Baseband (microphone, audio, stereo L&R), Automotive (Tire Pressure Sensor) and industrial Converters (ADC, DAC, Switches, Sensors).

HDACTO Benefits

- By achieving a high level of parallel testing of analogue content devices, the HDACTO reduces capital cost and test times (vs. Serial Testing, single site).
- BBAC pin compatibility.
- The HDACTO is fully compatible with the Flex G4 Background DSP.
- Every analogue channel or v-ref on the HDACTO has its own PPMU available, reducing need for other instruments for DC-measurements like continuity, leakage etc.
- Each module has its own high accurate (20 bits) reference voltage.
- DIB access connection for each channel to connect to other instruments.

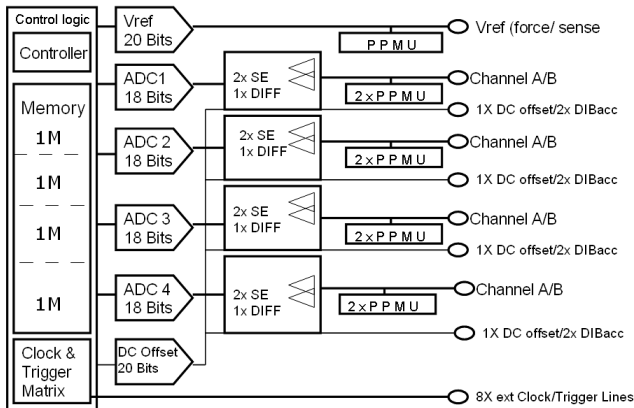
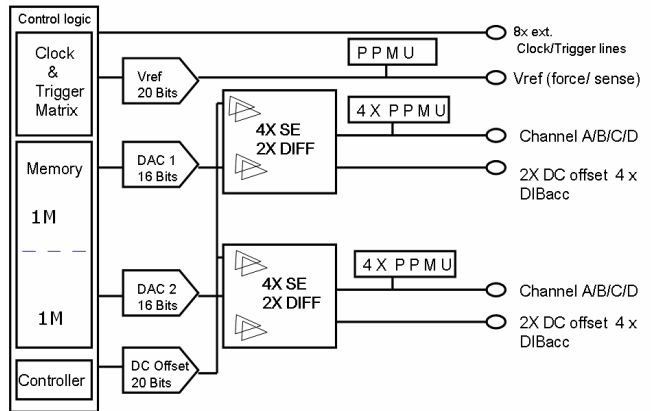


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HDACTO SOURCE MODULE

The source module contains two DA converters and two independent memory banks so it can produce two different waveforms at the same time. These two signals are buffered to produce eight single ended outputs or four differential outputs. The control logic will take care of the clocking and triggering of the samples. This can be done by using internal and/or external clock/trigging.

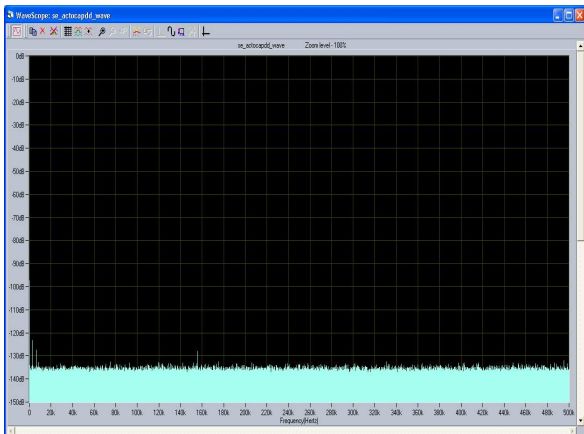
Source 16Bit 2MSps	
Resolution	16-bit
Update rate	DC to 2MSps
Output bandwidth	500 kHz
INLE	1.5 LSB(=23 ppm)
DNLE	1.5 LSB(=23 ppm)
Output range	-10.12 V to +10.12 V
AC Accuracy	±0.1 dB @ 1 kHz
SNR (typical)	97 dB @ 1kHz
THD (typical)	103 dB @ 1kHz



HDACTO CAPTURE MODULE

The Capture Module can capture four differential channels at 2 MSps using four 18 bits AD converters. Each channel has a capture buffer of 1 MWord (18 bit). The differential channels have the possibility to work as 4+4 single ended channels. (4 at the same time)

Capture 18Bit 2MSps	
Resolution	18-bit
Sample freq	1 ksp/s to 2 Msps
Memory	1M-word per channel
Input bandwidth	1.1 MHz
Input operating range	-8 V to 8 V
AC Accuracy	± 0.1 dB @ 1 kHz
SNR (typical)	100 dB A-weighted
SFDR (typical)	106 dB @ 1 kHz
THD (typical)	106 dB @ 1 kHz



Capture Noise Floor

General functionality	
PPMU	Per channel
Vrange	-1.0V to 6.5V
Irange	+/- 32uA to +/- 32mA
Accuracy	15mV
Resolution	force 1mV, measure 4mV
Reference Voltage	Per module
Vref	20bits
Vrange	0V to 6V
Accuracy	+/- 102 ppm
Resolution	5.72 µV