AC Coupled, 14-Bit Digitizer for ExpressCard 54, 2 Channels 150 MS/s

Order-No.: EC14150A-x-x Series/Model: EC14150A



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150 MS/s, 14 bit, AC Coupled, 2 Channel, High Speed Digitizer ExpressCard 54

Main Product Feature

- **14 Bits of Resolution**
- **Bandwidth from 200 KHz to 200 MHz**
- **512 Megabytes of On-Board Memory**
- **Compact ExpressCard design for Mobile Computer Applications**
- **Very low power consumption at less than 4.5W**
- **266 MB/s PCIe Bus Implementation of ExpressCard**
- **PCIe Plug and Play Compatible Board**

The EC14150A (EC) is an AC-coupled dual channel waveform capture board that provides a remarkable combination of high speed and high resolution sampling along with a very large memory capacity all in a very compact and low power consuming
ExpressCard form factor. At 4.5 W, the EC represents one of the lowest power consuming digitizer cards ever created for its class. Signal frequencies up to 200 MHz can be accurately captured either in baseband or in higher order Nyquist zones using under-sampling techniques. Where DC-coupling is required, the EC14150D should be considered.

The EC is an ExpressCard 54 mm sized compliant board equipped with standard 'Plug and Play' features common in PCI systems. The entire 512 MB memory may be used as an exceptionally large FIFO for acquiring data directly to the ExpressCard bus continuously non stop (referred to as "EC Continuous Record Mode") or in the more simpler 2-step block acquisition to RAM and transfer to PC modes. In either the EC Continuous Record Mode (where the 512 RAM FIFO is used) or Data Transfer Mode; the EC card is capable of sustaining 180 megabyte/sec transfers over the ExpressCard bus interface. Significant test data has shown that recordings with this large 512 MB FIFO buffering the recording process can be continuous at up to 90 MSPS even when operating in traditional non real-time environments such as the Windows operating system.

The EC was designed to maximize the quality of the captured signal in terms of signal-to-noise ratio and

spurious-free dynamic range over a very wide frequency range. A 24 dB amplifier/attenuator circuit is at the input of both analog channels, where 20 dB of amplification and 4 dB of attenuation are available for selection in steps of 1 dB. Both input channels implement a transformer coupled input for best possible signal performance.

A frequency synthesized clock allows the ADC sampling rate to be set to virtually any clock value up to 150 MHz, offering maximum flexibility for sampling rate selection. This frequency selection flexibility comes at no cost to the acquisition clock quality/performance when locked to either the onboard 10 MHz, 5 PPM reference clock or to an externally provided 10 MHz reference clock via the onboard clock input connector. This same sync clock input connector can also be used for applying an external clock to the onboard EC ADCs.

The EC can be set to trigger from the input data channels, the external trigger signal input or via software command. The EC supports single shot, segmented, and pretrigger triggering modes.

Applications

- Sigint
- Radar
- Lidar
- Spectroscopy
- Mass Spectrometry – Time of Flight
- RF Communications
- Ultrasound
- Medical Diagnostics
- Non Destructive Testing
- Laser Doppler Velocimetry
- High Speed / High Resolution Waveform Capture

Manufacturer page

http://www.signatec.com

Data Sheet Download

2-Channel 14 Bit Digitizer 2 x 150 MS/s for EC54 AC-Coupled (794.1 KiB)

Opening the Download-Files May require the Adobe-Acrobat-Reader.
Click here to download the Adobe-Acrobat-Reader.

If you have questions please don't hesitate to contact us any time.

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