

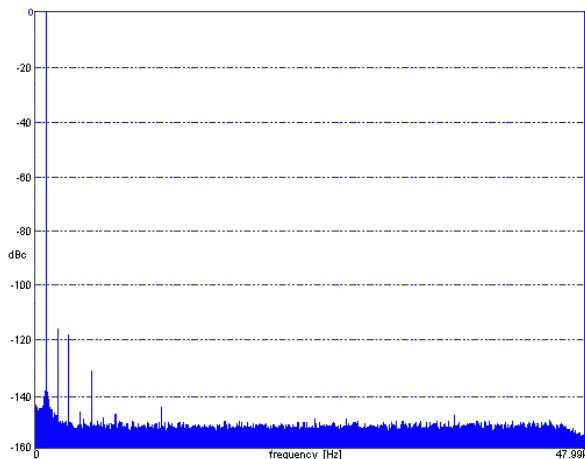
# PXI Dual channel 24-bit / 192ksps Digitizer

## PD24222

- Two channels, fully differential inputs
- Excellent dynamic performance
- 114dB THD typical at 1kHz / 96ksps
- Programmable DC-offset level
- 31.6mVpp to 10Vpp output range
- 1M $\Omega$  or 600- $\Omega$  input impedance
- Internal clock supports all standard audio rates
- Local bus clock for sync. to PG24192



The PD24222 is a PXI, Dual Channel Digitizer. It features fully differential inputs and a very low distortion. For differential measurements the input signals may have any common mode level as long as the common mode level plus signal stay within the -10V to +10V range. Alternatively AC coupling can be used. For single ended applications the PD24222 has a programmable DC offset source that can be connected to the negative input. This ensures the full resolution of the converter can be maintained when capturing signals with a DC offset.



DC to 48kHz spectrum, 1kHz carrier, 96ksps.

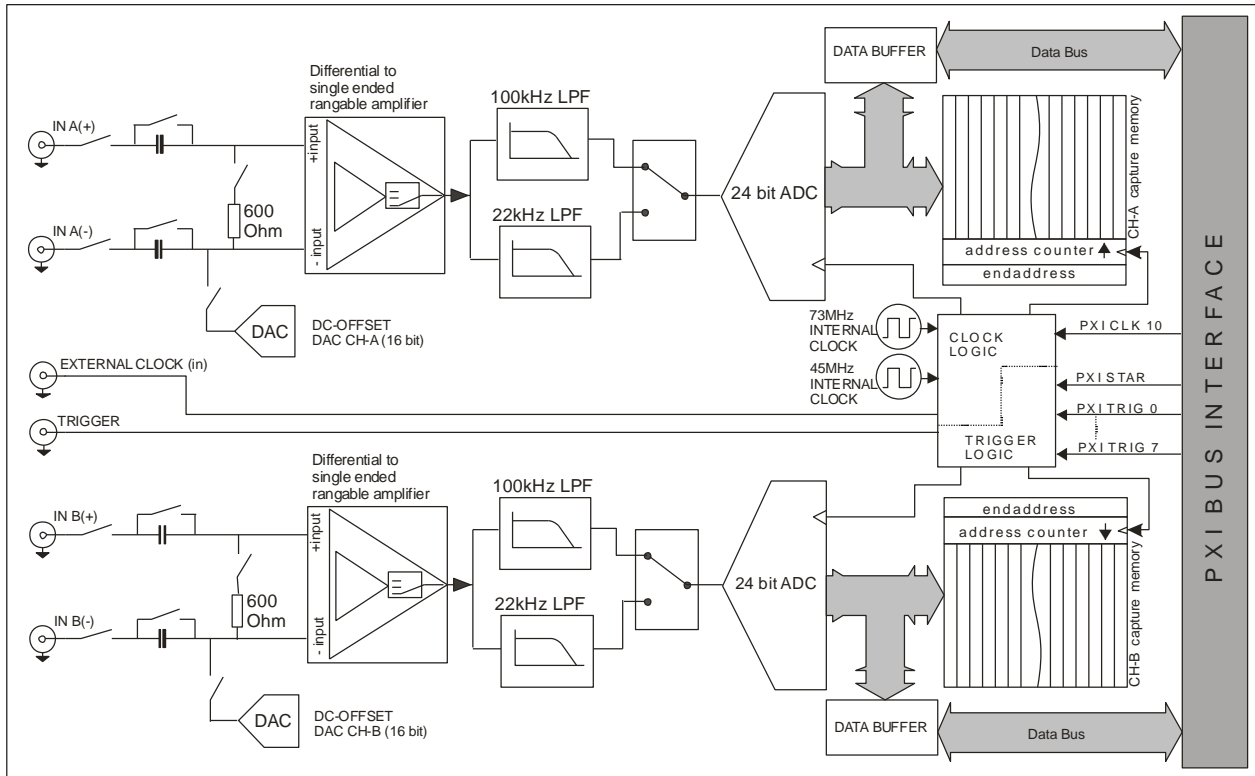
The unit is very suitable for audio type of measurements. The flexible input ranging and coupling allow easy adaptation to a wide range of Unit Under Test output voltages.

The two channels are ideal for stereo and phase shift measurements. The selectable 22kHz or 100kHz low pass filters reduce the out of band noise.

The internal clock sources can generate all standard audio sample rates and more. The External clock and trigger capability give the user full control of the measurement timing. If the PG24192 is used as generator, the clocks of the two units can be synchronized via the local bus capability of the PXI backplane. This allows coherent clocking for best measurement results.

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## Block diagram



## Specifications (conditions: $T_A = 25^\circ\text{C}$ )

### General

Channels	2
Resolution	24-bit
Sample rate, internal clock	5ksps - 192ksps
Sample rate, external clock	1ksps - 220ksps
Memory depth	1M-word per channel
Input range	31.6mV to 10Vpp in 10dB steps
Input configuration	Single ended or differential
Input coupling	AC or DC
Input impedance	1M $\Omega$ or 600- $\Omega$
Input operating area	-10V to +10V
Analog filters (low pass)	100kHz, 22kHz

### Accuracy

Amplitude accuracy	$\pm 0.05\text{dB}$ @ 1kHz/10Vpp
Frequency flatness	0.2dB from 20Hz to 20kHz

### Dynamic characteristics

(V <sub>in</sub> = 9Vpp, f-sample.=192ksps)	
SINAD (1kHz)	103dB (BW=20kHz)
SFDR (1kHz)	110dB
THD (1kHz)	105dB
THD (1kHz@96ksps, typical)	114dB
THD (10kHz)	103dB

### DC-offset voltage source

Voltage range	-5V to +5V.
Resolution	16-bit (152 $\mu\text{V}$ )

### Clock & Trigger inputs

Clock Input	50- $\Omega$ , V <sub>IL</sub> <0.6V, V <sub>IH</sub> >1.4V
Trigger input	10k $\Omega$ , V <sub>IL</sub> <0.8V, V <sub>IH</sub> >2.0V

### Triggering

Trigger sources	Software, External, PXI STAR, PXI TRIG 0..7
Trigger capabilities	edge or level, positive or negative going. Independent trigger source selection per channel