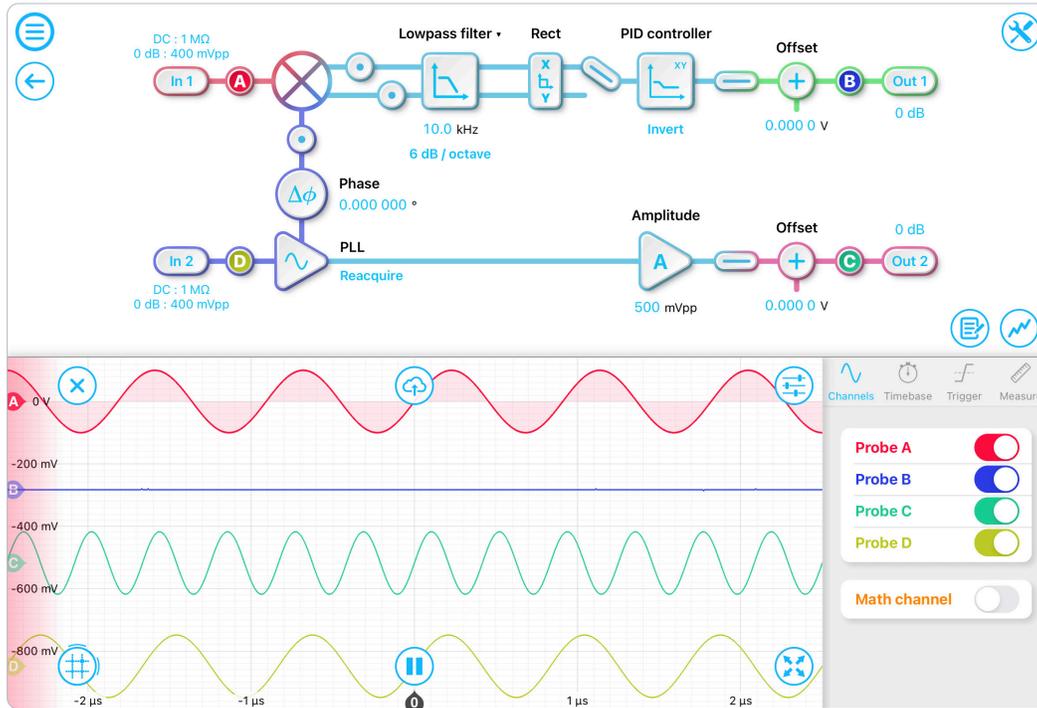




The Moku:Pro digital Lock-in Amplifier supports dual-phase demodulation (XY/R $\theta$ ) from 1 mHz to 600 MHz with more than 120 dB dynamic reserve. A PID Controller can be placed after the demodulation stage for phase-locked loop applications. It also features an integrated 4-channel Oscilloscope and Data Logger, enabling you to observe signals at up to 1.25 GSa/s and log data at up to 10 MSa/s.



<b>Demod. Frequency</b> 1 mHz to 600 MHz	<b>Dynamic Reserve</b> > 120 dB	<b>Time Constant</b> From 12.8 ns	<b>Filter Slopes</b> 6, 12, 18, 24 dB/Oct	<b>Input Noise</b> 30 nV/-Hz at 100 Hz	<b>Built-in Feature</b> PID Controller
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## Features

- Measure signals obscured by noise with more than 120 dB dynamic reserve
- Block diagram view of the digital signal processing chain
- Built-in probe points for signal monitoring and data logging
- Internal or external demodulation modes including a phase-locked loop (PLL)
- Demodulate at up to the 250th harmonic or down to 1/8th of the fundamental frequency
- Toggle between rectangular (X/Y mode) or polar coordinates (R/ $\theta$  mode)
- Built-in PID Controller and Data Logger

## Specifications

- Demodulate with frequencies ranging from 1 mHz to 600 MHz with  $\mu$ Hz resolution
- External PLL frequency multiplier: 0.125x to 250x
- Phase shift precision of 0.000 001°
- 50  $\Omega$  / 1 M $\Omega$  input impedance
- Adjustable time constant from 12.8 ns to 0.215 s
- 6, 12, 18, or 24 dB/octave filter roll-off
- Output gain range: -80 to +160 dB
- LO output up to 500 MHz with variable amplitude
- Ultrafast data acquisition: snapshot mode up to 1.25 GSa/s, continuous mode up to 1 MSa/s

## Applications

- Laser frequency stabilization
- Laser scanning microscopy
- Magnetic sensing (magneto-optical Kerr effect)
- Pump probe / ultrafast spectroscopy