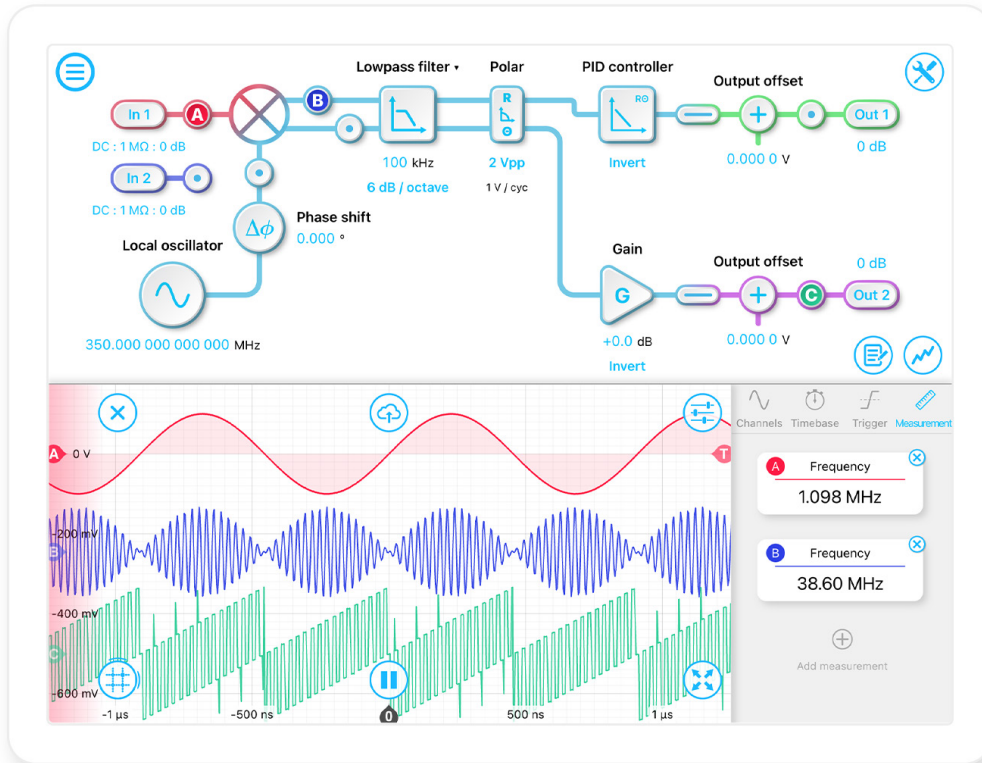




600 MHz Lock-in Amplifier



Moku:Pro's digital Lock-in Amplifier supports dual-phase demodulation (XY/R θ) 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 1 MSa/s.



Demod. Frequency 1 mHz to 600 MHz	Dynamic Reserve > 120 dB	Time Constant From 12.8 ns	Filter Slopes 6, 12, 18, 24 dB/Oct	Input Noise 30 nV/-Hz @ 100Hz	Built-in Feature 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 PLL (phase-locked loop)
- Toggle between rectangular (X/Y mode) or polar coordinates (R/Theta mode)
- Built-in PID Controller

Specifications

- Demodulate with frequencies ranging from 1 mHz to 600 MHz with μ Hz resolution
- Phase shift precision of 0.001°
- 50 Ω / 1 M Ω 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
- Ultra-fast data acquisition: snapshot mode up to 1.25 GSa/s, continuous mode up to 1 MSa/s

Applications

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