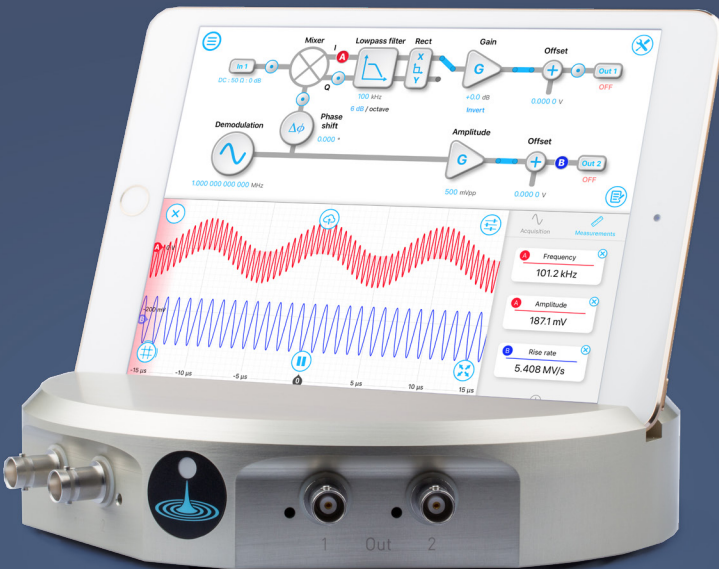


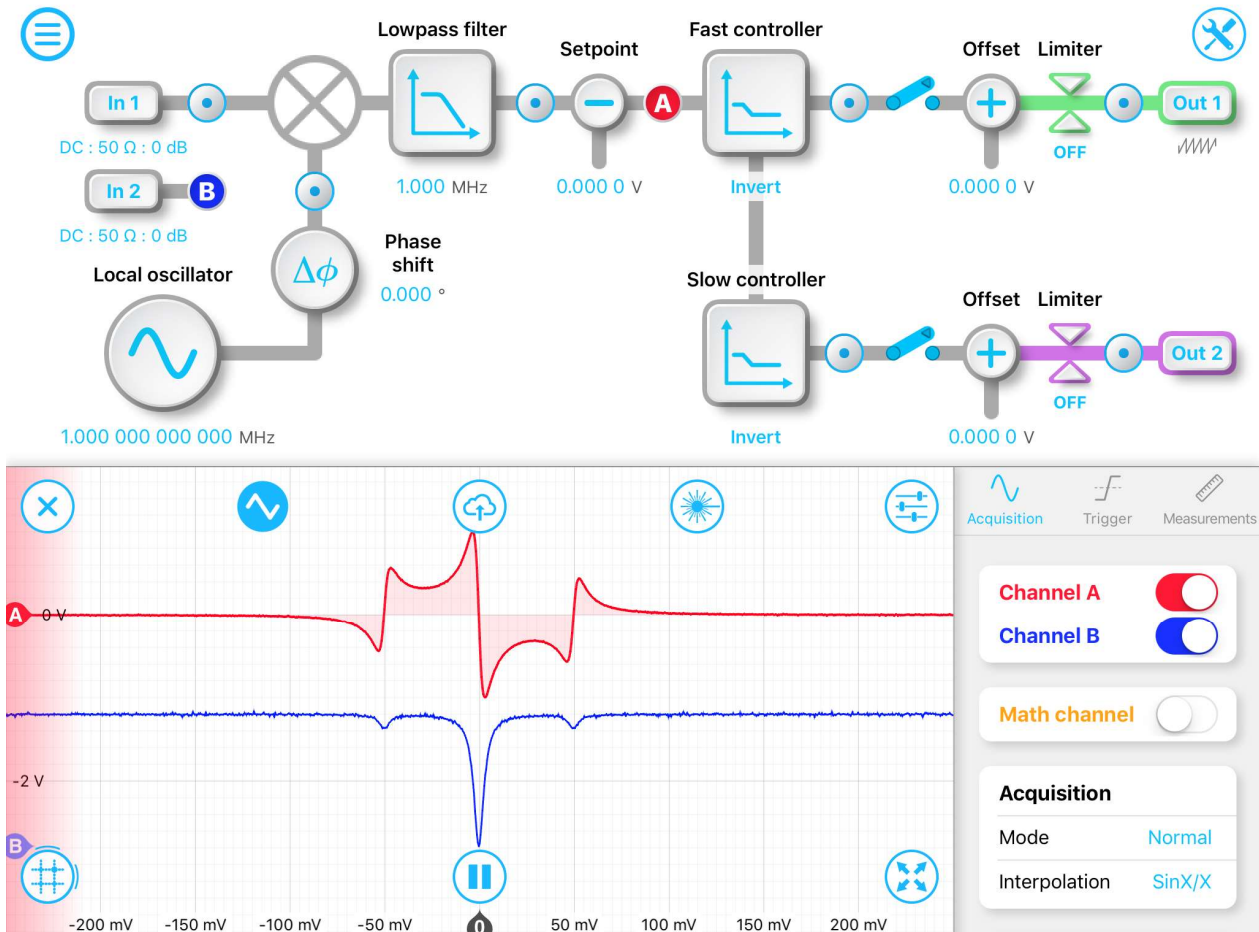
Twelve powerful instruments.
One flexible hardware platform.



Discover Moku:Lab



Laser Lock Box 激光锁频/稳频



背景介绍

稳定的激光频率对专业测量或者时间/频率标准领域中的许多系统都至关重要。Moku:Lab 激光锁频/稳频是一个高性能激光锁定系统，具备锁定诊断和一些自动化程序，可以使用各种激光锁定技术锁定激光，该系统可用于大多数激光器和频率参考。

Features

- Local oscillator options 本机振荡器选项
 - internal LO
 - PLL LO
 - external LO
- Single Fast PID 独立高频 PID
- Single Slow PID 独立低频 PID
- Scan generator 扫描发生器
 - triangular 三角波
 - sawtooth 锯齿波
- auxiliary sine gen 辅助正弦信号发生器
- configurable low pass filter (2 x SOS) 可配置的低通滤波器
- Monitoring options 监测选项
 - Inputs 输入
 - Outputs 输出
 - error signal 误差信号
 - demodulation 解调
 - scan 扫描
 - aux sine 辅助正弦
- conditional triggering 条件触发
- tap to lock 点击即可锁定
- scope scan lock - locks axis to scan for scanning ease 范围内扫描锁定

Marketing features 主要特点

- Block diagram view of the signal processing chain 信号处理框图
- Demodulate signals with internal or external local oscillator 使用内部和外部本机振荡器解调信号
- Scan resonances with sawtooth or triangle waveforms 扫描锯齿波或三角波共振
- Observe signals at different locations in the signal processing chain using an integrated oscilloscope 使用内置示波器观测在信号处理过程中不同位置的信号
- Quickly lock to any zero-crossing in the error signal using the 'Tap-to-Lock' feature 使用“点击-锁定”功能快速锁定到误差信号的任一零交叉点。

- Low-pass filter demodulated signals with up to fourth order infinite-impulse response filters 低通滤波器即高达四阶无限冲激响应滤波器解调信号
- Individually configure high- and low-bandwidth PID controllers for fast and slow feedback 可单独配置的高带宽、低带宽 PID 控制器用于高频、低频反馈
- Observe signals with respect to the scanning voltage using the 'Scope-Scan Lock' feature 使用范围内扫描锁定功能观测与扫描电压有关的信号

Key Specifications 典型参数

- Demodulate with frequencies up to 200 MHz with 3.55 μ Hz resolution 解调高达 200 MHz 频率，频率分辨率 3.55 μ Hz
- Generate modulation signals at up to 200 MHz 生成高达 200 MHz 的解调信号
- Scan resonances with sawtooth or triangle waveforms at up to 1 MHz 扫描高达 1 MHz 锯齿波或三角波共振
- Generate control signals at a sampling rates of 31.25 MSa/s 以 31.25 MSa/s 采样率生成控制信号
- Continuously acquire data at up to 1 MSa/s 以高达 1 MSa/s 持续采集数据
- AC / DC input coupling AC / DC 输入耦合
- 50 Ω / 1 M Ω input impedance 50 Ω / 1 M Ω 输入阻抗
- Adjust the low-pass filter cut-off frequency between to 2.081 kHz and 28.13 MHz 可在 2.081 kHz - 28.13 MHz 之间调整低通滤波器截止频率

V1.0 Specifications

Metric	Specification	Notes
sample rate	61.25 MHz	
sample rate slow pid	488.28 kHz	
latency	35 degrees at 100 kHz	
INPUT		

Metric	Specification	Notes
input frequency range	0 to 200 MHz	
Input gain settings	-20 dB, 0 dB, + 24 dB, + 48 dB	
IIR		
IIR low pass filter order	up to 4	Implemented as a cascade of two SOS filters.
IIR low pass filter corner frequencies	1 kHz - 14 MHz	
IIR low pass filter coefficient width	32 bits	30 fractional bits, 1 integer bit, 1 signed bit
AUX		
Aux frequency range	0 to 200 MHz	1 MHz increments
Aux output destinations	None, output 1, output 2, both.	
LO		
LO frequency range	0 to 200 MHz	1 MHz increments
LO sources	Internal, external, external with PLL	

Metric	Specification	Notes
SCAN		
Scan frequency range	0 to 1 MHz	1 MHz increments
Scan waveform types	Sawtooth, triangle.	
Scan output destinations	None, output 1, output 2, both.	
PLL		
FAST PID		
Fast PID sample rate	62.5 MHz	
Fast parameters	Full single PID parameter set.	
SLOW PID		
Slow PID sample rate	488.28 kHz	
Slow parameters	Full single PID parameter set.	