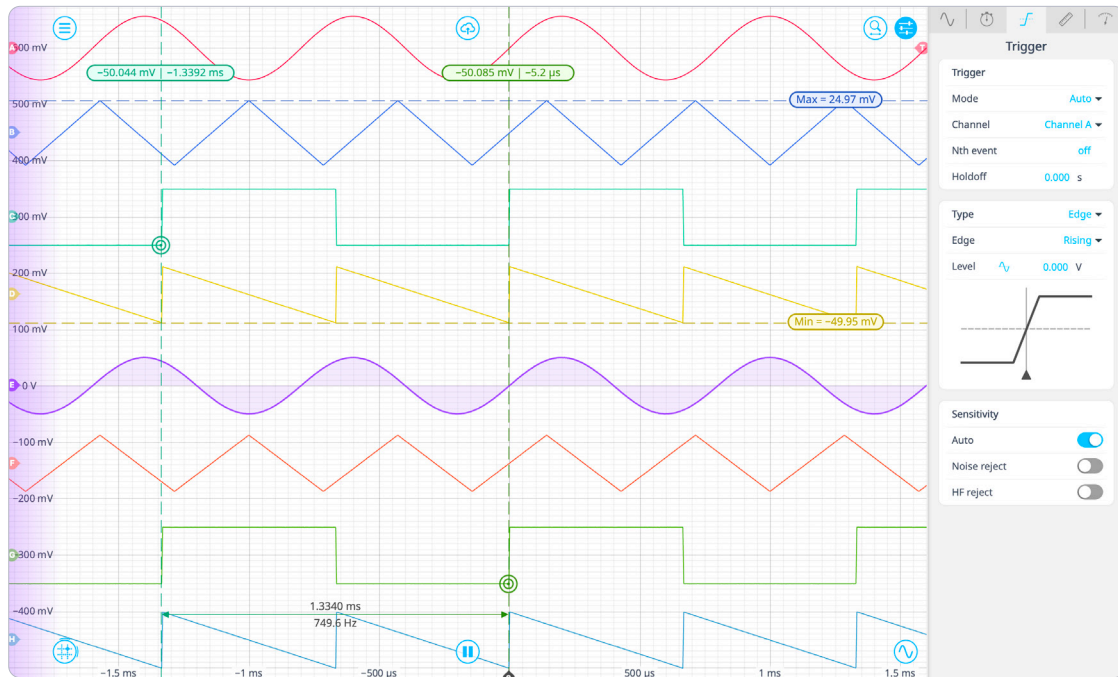




The Moku:Delta Oscilloscope features eight analog input channels with a 5 GSa/s sampling rate and 2 GHz bandwidth, utilizing a hybrid 14-bit and 20-bit ADC frontend to achieve a noise floor below 10 nV/√Hz. Built-in sine wave generator channels enable real-time stimulus-response and loopback measurements. Onboard clock with 1 ppb stability provides high-precision timebase, with support for external 10 MHz or 100 MHz reference inputs and a GPS-disciplined oscillator. Full API integration with Python and MATLAB facilitates automated test workflows.



**Sampling Rate**  
Up to 5 GSa/s

**Bandwidth**  
2 GHz

**ADC Resolution**  
14-bits and 20-bits

**Input Impedance**  
50 Ω / 1 MΩ

**Input Noise**  
< 10 nV/√Hz

**Sine Wave Generator**  
4 Channels up to 2 GHz

## Features

- Eight analog inputs with 2 GHz bandwidth
- Exceptional low-frequency noise performance of < 10 nV/√Hz
- Dual-ADC design with blended ADC technology
- Ultra stable 1 ppb onboard oscillator with onboard GPS receiver for GPS-disciplined oscillator capability
- Integrated high-speed signal generator channels with analog bandwidths up to 2 GHz

## Specifications

- Sampling rate: 5 GSa/s on 8 channels
- Input Impedance: 50 Ω or 1 MΩ
- Input noise: < 10 nV/√Hz
- Input coupling: AC or DC
- Input bandwidth:
  - 50 Ω: 2 GHz
  - 1 MΩ: 1 MHz
- Input range:
  - 50 Ω: 100 mVpp, 1 Vpp, or 10 Vpp
  - 1 MΩ: 1 Vpp, or 40 Vpp
- Output bandwidth:
  - 1 Vpp: 2 GHz
  - 10 Vpp: 100 MHz
- Math channel: Add, subtract, multiply, divide, XY mode, integrate, differentiate, FFT, min hold, max hold, and equation editor

## Applications

- Automated system test
- Circuit design and characterization
- Jitter/clock analysis
- Photo detector alignment
- Signal monitoring and analysis
- Quantum optics
- RF and microwave signal characterization
- Time-domain reflectometry (TDR)
- Semiconductor test

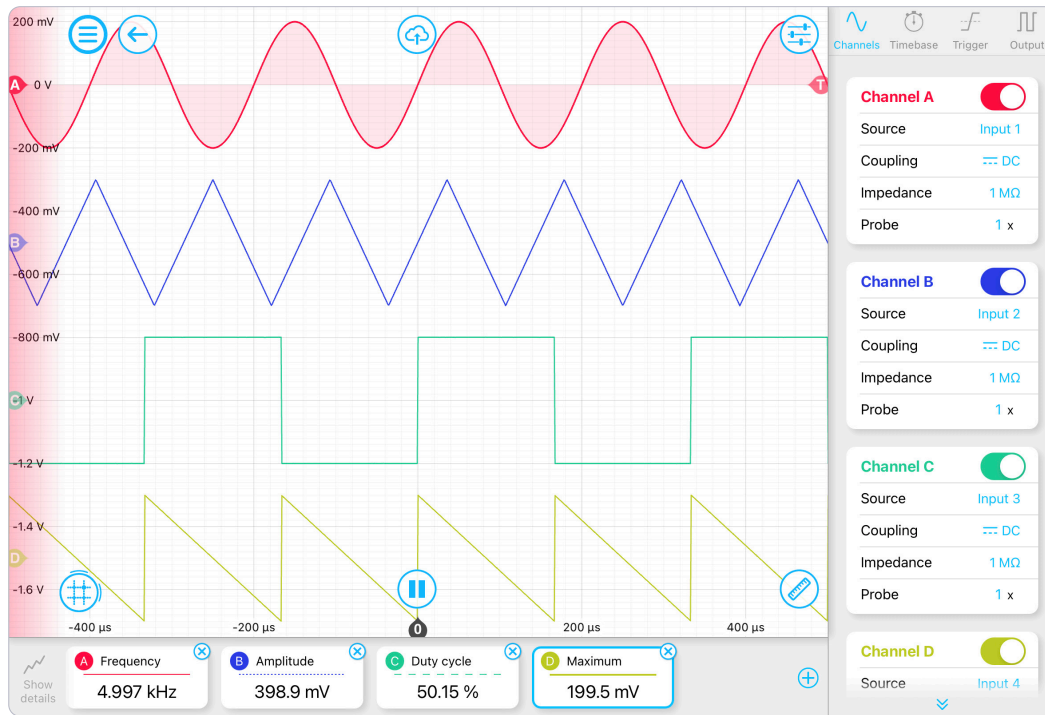


# Moku:Pro Instrument Datasheet

## Oscilloscope



The Moku:Pro Oscilloscope features four high-speed, ultra-low-noise input channels with 600 MHz analog bandwidth. An innovative blended ADC technology combines the information from 10-bit and 18-bit ADCs to cover a broad spectrum, providing class-leading input noise performance at 30nV/√Hz @ 100Hz with large dynamic range. The built-in four-channel Waveform Generators are capable of producing waveforms with a bandwidth of up to 500 MHz.



**Sampling Rate**  
Up to 5 GSa/s

**Bandwidth**  
600 MHz

**ADC Resolution**  
10 / 18 bits

**Input Impedance**  
50 Ω / 1 MΩ

**Input Noise**  
30 nV/√Hz @ 100Hz

**Waveform Generator**  
4 Channels up to  
500 MHz

## Features

- Four analog inputs with 600 MHz bandwidth
- Exceptional low-frequency noise performance: 30 nV/√Hz @ 100 Hz
- Dual-ADC design with blended ADC technology
- Ultra stable 0.3 ppm onboard oscillator with 10 MHz synchronization in and out
- Integrated high-speed waveform generator channels with analog bandwidths up to 500 MHz

## Specifications

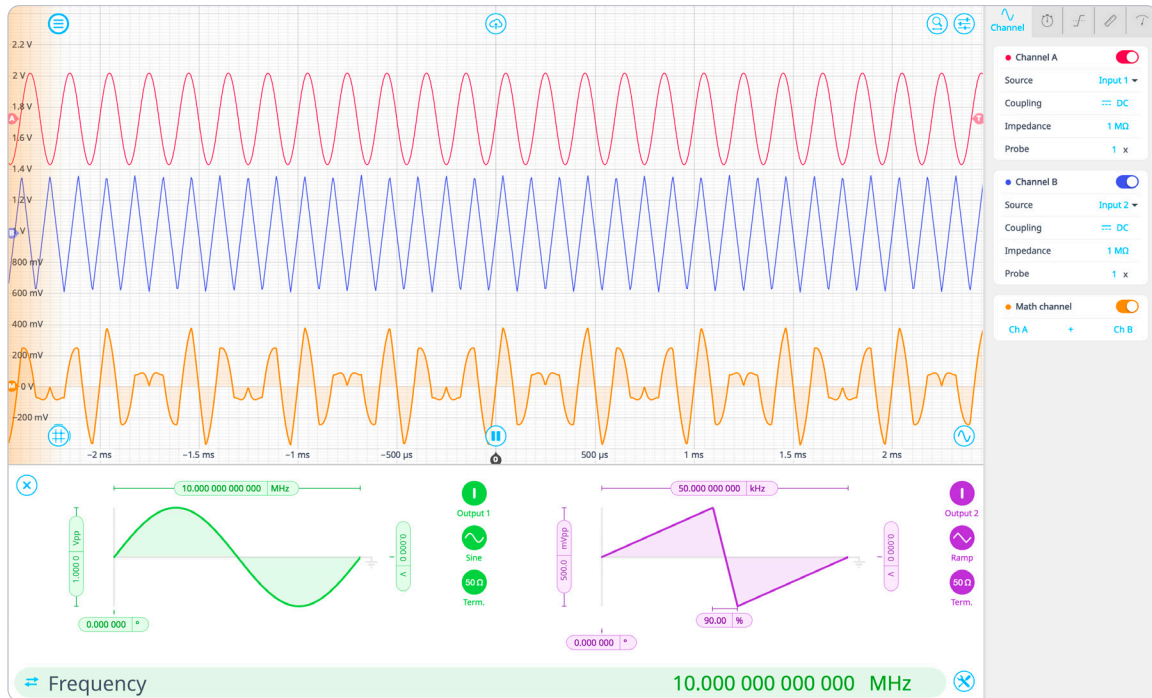
- Input range: 400 mVpp, 4 Vpp, or 40 Vpp
- Input noise: 30 nV/√Hz @ 100 Hz
- Sampling rate: 5 GSa/s on 1 channel  
1.25 GSa/s on 4 channels
- Input bandwidth: 300/600 MHz switchable
- Input coupling: AC or DC
- Input Impedance: 50 Ω or 1 MΩ
- Output bandwidth: 500 MHz (2 Vpp)  
100 MHz (10 Vpp)
- Output waveforms: sine, square, ramp, pulse, DC
- Math channel: Add, subtract, multiply, divide, XY mode, integrate, differentiate, FFT, min hold, max hold, and equation editor

## Applications

- Automated system test
- Circuit design and characterization
- Jitter/clock analysis
- Photo detector alignment
- Signal monitoring and analysis
- System test and debug



The Moku:Lab Oscilloscope features two 500 MSa/s analog input channels with 200 MHz analog bandwidth, 10 Vpp input voltage range, and user-configurable AC/DC coupling and 50  $\Omega$ /1 M $\Omega$  impedance. The oscilloscope also features two integrated waveform generators, each with a shape-dependent maximum frequency of up to 250MHz and capable of producing sine, square, pulse, ramp, noise or DC waveforms.



**Sampling Rate**  
500 MSa/s

**Bandwidth**  
200 MHz

**ADC Resolution**  
12 bits

**Input Coupling**  
AC or DC

**Input Noise**  
<30 nV/ $\sqrt{\text{Hz}}$  @ 100 kHz

**Waveform Generator**  
2 Channels up to  
250 MHz

## Features

- Two analog inputs with 200 MHz bandwidth
- Exceptional low-frequency noise performance: <30 nV/ $\sqrt{\text{Hz}}$  above 100 kHz
- Ultra stable 0.5 ppm onboard oscillator with 10 MHz synchronization in and out
- Integrated high-speed waveform generator channels with analog bandwidths up to 250 MHz
- TTL-compatible external trigger

## Specifications

- Input range: 1 Vpp or 10 Vpp
- Input noise: <30 nV/ $\sqrt{\text{Hz}}$  above 100 kHz
- Sampling rate: 500 MSa/s
- Input bandwidth: 200 MHz
- Input coupling: AC or DC
- Input Impedance: 50  $\Omega$  or 1 M $\Omega$
- Output bandwidth: 300 MHz
- Output waveforms: sine, square, ramp, pulse, noise, DC
- Math channel: Add, subtract, multiply, divide, XY mode, FFT, arbitrary equation mode, and many more

## Applications

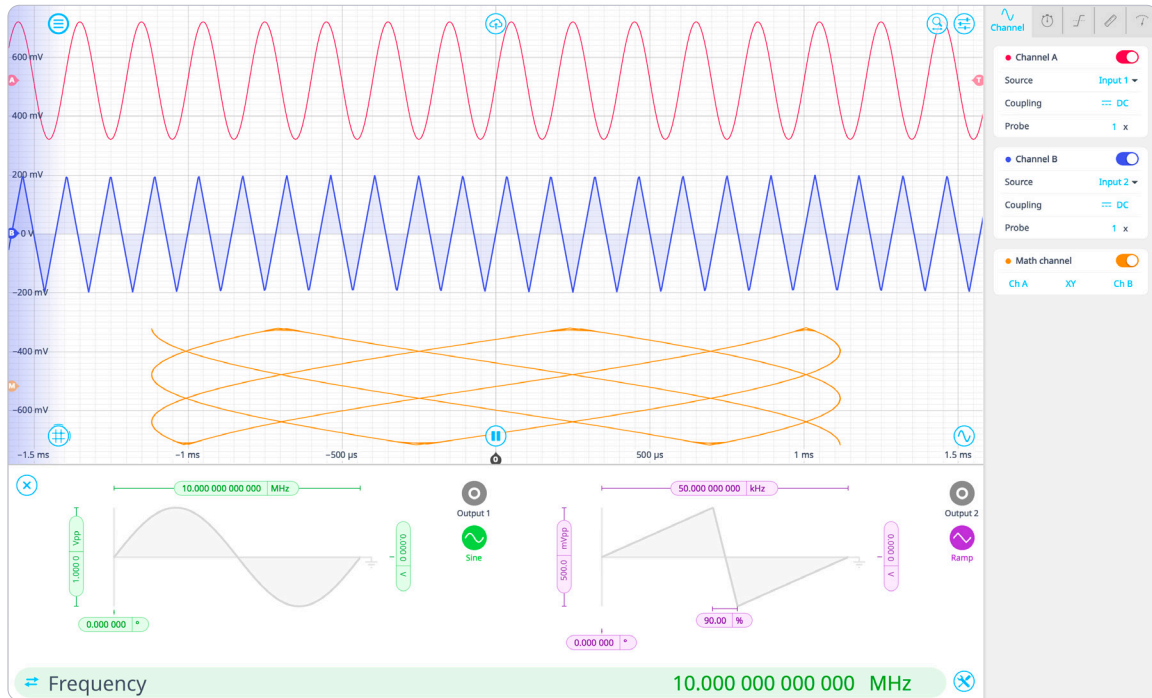
- Signal monitoring and analysis
- Circuit design and characterization
- Jitter/clock analysis
- Photo detector alignment
- Automated system test
- System test and debug



# Oscilloscope / Voltmeter



The Moku:Go Oscilloscope / Voltmeter features two input channels with sampling rates up to 125 MSa/s and 30 MHz analog bandwidth. Both channels support user-selectable AC / DC couplings, and  $\pm 5$  V or  $\pm 25$  V input ranges. The built-in two-channel waveform generator is capable of producing waveforms with a maximum bandwidth of 20 MHz.



**Sampling Rate**  
Up to 125 MSa/s

**Bandwidth**  
30 MHz

**ADC Resolution**  
12 bits

**Input Impedance**  
1 M $\Omega$

**Input Coupling**  
AC or DC

**Waveform Generator**  
2 Channels up to  
20 MHz

## Features

- Two analog inputs with 125 MSa/s sampling rate and 30 MHz bandwidth
- Intuitive user interface on Windows or Mac
- Built-in signal measurement functions
- Math channel with support for arbitrary functions
- Down-sampling, decimation, peak detection, and deep memory acquisition modes available
- Integrated, high-speed, 2-channel waveform generator with maximum frequency up to 20 MHz

## Specifications

- Vertical resolution: 12 bit
- Input range:  $\pm 5$  V or  $\pm 25$  V
- Sampling rate: 125 MSa/s
- Input bandwidth: 30 MHz
- Input coupling: AC or DC
- Input impedance: 1 M $\Omega$
- Output bandwidth: 20 MHz
- Output waveforms: sine, square, ramp, DC, and noise
- Math channel: add, subtract, multiply, divide, XY, integrate, differentiate, FFT, min hold, max hold, arbitrary user-defined function

## Applications

- Signal monitoring and analysis
- Circuit design and characterization
- Photo detector alignment
- Automated system test
- System test and debug