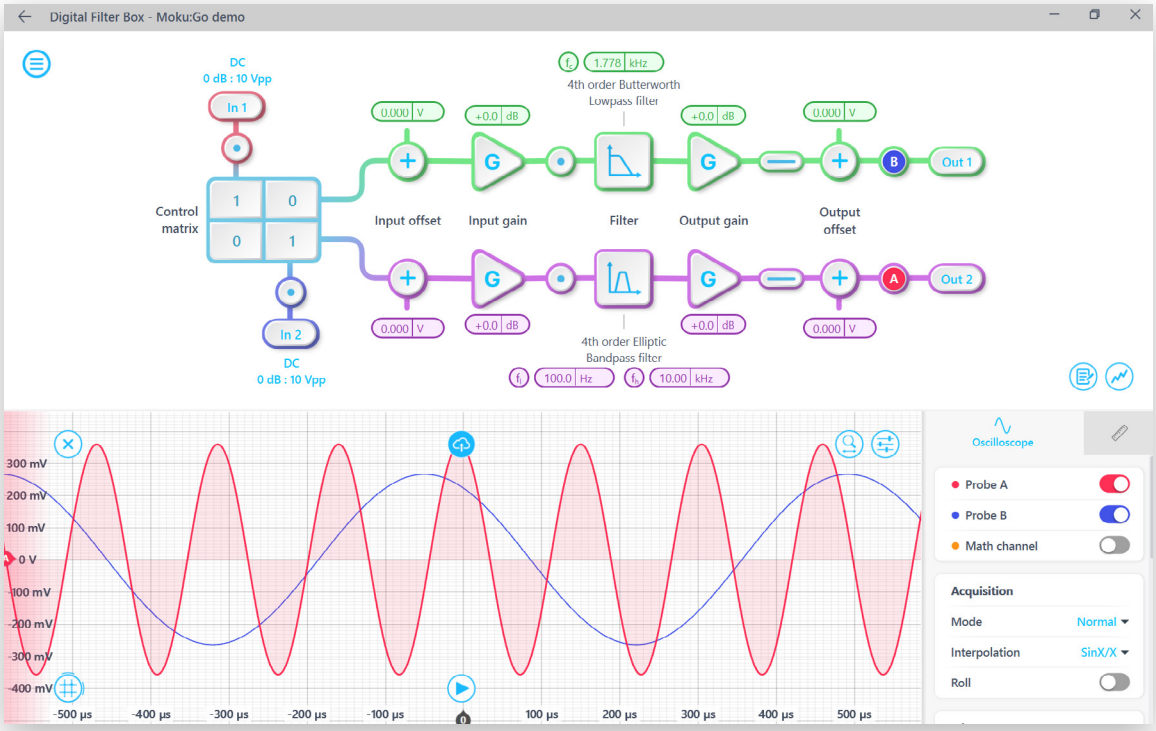
Moku:Go Instrument Datasheet

Digital Filter Box

With Moku:Go's Digital Filter Box, you can interactively design and generate different types of infinite impulse response filters with sampling rates of 61 kHz, 488 kHz, and 3.9 MHz. Select between lowpass, highpass, bandpass, and bandstop filter shapes with eight fully configurable types including Butterworth, Chebyshev, and Elliptic.



Sampling Rate	Filter Order	Input Range	Output Voltage Range	Filter Shapes
61.035 kHz, 488.28 kHz, or 3.9063 MHz	**2, 4, 6, 8**	**± 5 V or ± 25 V**	**± 5 V into high-z**	**Lowpass, Highpass, Bandpass, Bandstop, Custom**

Features

- Visualize your signal and configuration in real-time: design your filter's frequency response using the interactive Bode plot
- Block diagram view of the digital signal processing with built-in probe points for signal monitoring
- Versatile input and output options: 2 input channels, 2 output channels with optional linear combinations
- Supports custom filter designs

Specifications

- Filter shapes: lowpass, highpass, bandpass, bandstop
- Filter types: Butterworth, Chebyshev I, Chebyshev II, Elliptic, Cascaded, Bessel, Gaussian, and Legendre
- Corner frequencies: 11.73 mHz - 1.758 MHz
- Input-output latency: sub-microsecond
- Passband ripple: configurable 0.1 – 10 dB
- Stopband attenuation: configurable 10 – 100 dB
- Adjustability: independently adjustable input and output offsets and gain

Applications

- System design
- Closed-loop control
- Noise filtering
- Signal amplification