

CLIO *pocket*

Release 2.2!



CLIO Pocket is Audiomatica's new Electro-Acoustical Multi-Platform Personal measurement system.

The system comes complete of the **CLIO Pocket** software (Windows and OSX native), the CLIO CP-01 Audio Interface hardware, and accessories.

The CLIO CP-01 Audio Interface uses an USB 2.0 connection for maximum portability and compatibility with current and future computer hardware architectures.

CLIO Pocket is a powerful, rugged and lightweight portable measurement system.



And... fits in your Pocket!

CLIO POCKET IN PILLS

INSIDE THE CLIO POCKET BOX

CLIO Pocket is housed in a plastic box:



Inside the box you find:

- The CP-01 Audio Interface
- The CLIO Pocket SD with software and drivers
- The Microphone MIC-02
- One USB 2.0 cable
- One RCA to RCA 2.7m long microphone cable
- One RCA to alligators impedance cable

TECHNICAL SPECIFICATIONS

CP-01 AUDIO INTERFACE

GENERATOR

24 Bit sigma-delta D/A Converter
Frequency range: 1Hz-45kHz
Frequency accuracy: better than 0.01%
Frequency resolution: 0.01Hz
Output impedance: 150Ω
Max output level (Sine): 13dBu (3.46Vrms)
Attenuation: 0.1 dB steps to full mute
THD+Noise(Sine): .008%

AC ANALYZER

24 bit sigma-delta A/D Converter
Input range (full scale): +40dBV down to -40dBV
Max input acceptance: +40dBV (283Vpp)
Input impedance: 64kΩ (5.6kΩ mic)
Phantom power supply: 8.2V

DC ANALYZER

12 bit A/D Converter
Input range: ± 6.5V

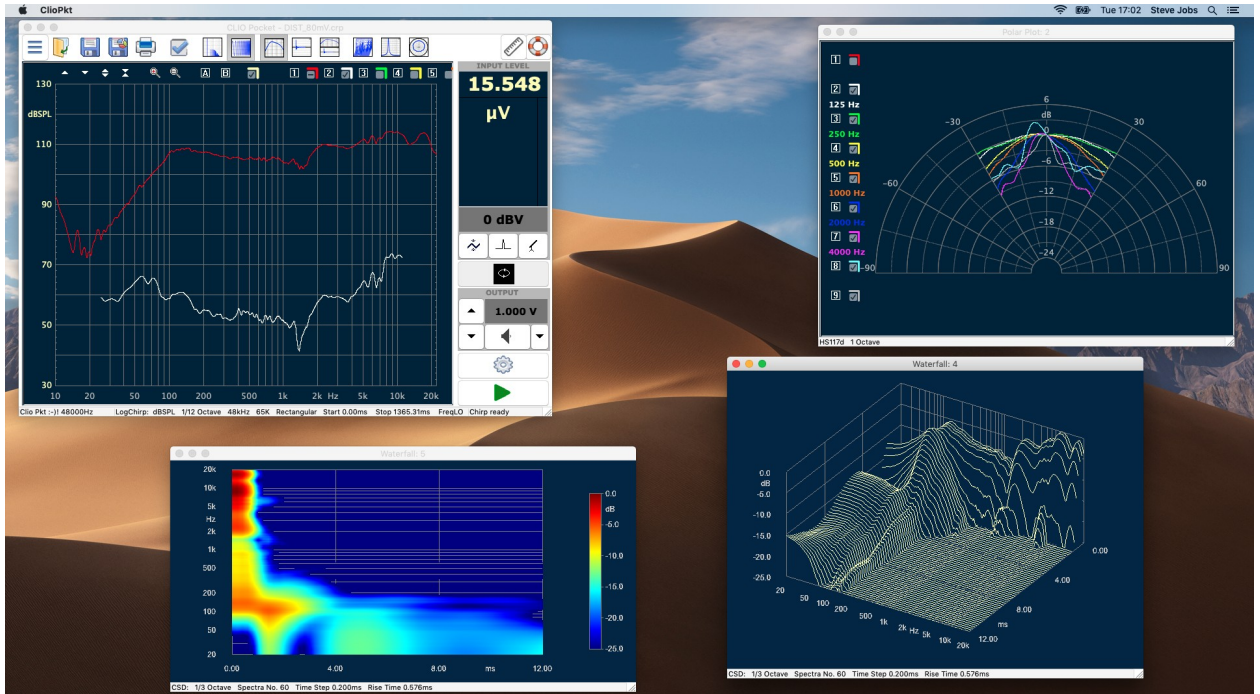
MISCELLANEOUS

Sampling frequencies: 96kHz and 48kHz.
Connections: analog RCA in and out
Digital connection: USB 2.0 port
Power supply: USB powered (480 mA)
Dimensions (cm): 9(w)x12(d)x2.5(h)
Weight: 0.3 kg

MIC-02 MICROPHONE

Type: Condenser electret
Accuracy: ±1 dB, 20 Hz to 10 kHz
±2 dB, 10 kHz to 20 kHz (direct field)
Maximum level: 130 dB SPL
Dimensions: 8 mm diameter, 12 cm long

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LOG CHIRP ANALYSIS

- **Amplitude, frequency and time calibrated response.**
 - **Second harmonic, third harmonic and THD response.**
 - Chirp length: 16384, 65536 points
 - Impulse length range: 1.36s down to 170ms
 - Frequency range: 10Hz to 45kHz
 - Frequency response units: dBV, dBu, dBRel, dB SPL
 - Impedance response units: Ohm
 - Frequency and time simultaneous display, analysis and post-processing
 - Frequency smoothing (1/48 to 1 fraction of octave)
 - **Phase response (Normal, Minimum and Excess)**
 - Auto-Capture Delay with manual interactive fine-tuning
 - **Group Delay response (Normal, Minimum and Excess)**
 - **Time Impulse response**
 - **Step response**
 - **Schroeder impulse decay**
 - **Energy Time Curve**
 - **Quasi-Anechoic acoustic response with time window selection**
 - Time window: Rectangular or Auto-Half Hann tuned to impulse max
 - Continuous loop measurements for easy interactive tuning of systems
 - AutoStore to Overlay function to track up to 10 curves on screen
 - Math processing: Add file, Subtract file, Divide by file
 - Math processing: Add Value, Multiply by value
 - Math processing: Merge High and Low frequency response
 - Math processing: dB Shift
 - Math processing: MIB (Microphone In the Box) technique
 - Math processing: LP, HP, BP filter
 - Save Impulse time data to wav file
 - Export ASCII or Excel data to file or clipboard
 - Export Graphic data to file or clipboard for easy reporting
 - AutoSave function with automatic file name generation
 - Dedicated procedure and controls for executing polar measurements sets
- CLIO POCKET SOFTWARE REL.2.2 UNDER X-RAYS**

FFT AND RTA ANALYSIS

- Narrow-band FFT analyzer

- FFT size: 4096, 16384, 65536 points
- Acquisition range: 1.36s down to 42ms
- Frequency range: 10Hz to 45kHz
- Measurement units: dBV, dBu, dBRel, dB SPL
- Time window: Rectangular, Hanning, Hamming, Bartlett, FlatTop
- Average: linear to target count or continuously exponential
- Average count: 1 to 9999
- Continue average function to add next linear count
- Max or Min hold function
- Frequency and time simultaneous display and analysis
- Frequency smoothing (1/48 to 1 fraction of octave)

- Real-Time fraction-of-octave analyzer (RTA)

- RTA bands: 1/3 or 1/6 octave
- Event trigger with programmable delay and threshold
- OneShot event trigger function
- Save acquired time data to wav file
- Export ASCII or Excel data to file or clipboard
- Export Graphic data to file or clipboard for easy reporting
- AutoStore to Overlay function to track up to 10 curves on screen
- AutoSave function with automatic file name generation

SIGNAL GENERATOR AND OUTPUT CONTROLS

- Dedicated Generator Panel with on-the-fly controls

- Plays standard wave files
- Highly optimized waveform calculator
- Waveform: Sinusoid, FFT-bin optimized, bursted and tapered
- Waveform: Two Sinusoids with relative amplitudes
- Waveform: CEA burst with cycles control, FFT-bin optimized and tapered
- Waveform: White noise
- Waveform: Chirp, Lin or Log, up to 256k size and start and stop frequencies
- Waveform: Pink noise, FFT matched, pseudorandom, low crest factor
- Waveform: All Tones, FFT matched, low crest factor

- Dedicated main window surface with output controls

- All controls speeded up by hot keys
- Direct 3-digit input of output level
- Button control for 1dB or 0.1dB steps

MULTIMETER AND INPUT CONTROLS

- Free-running Voltmeter and Sound Level Meter with bar graph

- Measurement units: V, dBV, dB_r, dB SPL
- Integration: Slow, Fast, Impulse
- Filter: A-Weight & C-Weight
- Voltage reading range: from few μ V to 100V RMS
- THD reading: % and dB
- Frequency reading with 0.1Hz resolution
- Direct measurement of microphone sensitivity
- Direct measurement of reference voltage

- Interactive L-C-R meter

- Measured components: Resistors, Capacitors, Inductors
 - L,C,R % reading for easy components selection
- ### **- Dedicated main window surface with input controls**
- All controls speeded up by hot keys

- Button control input sensitivity in 10dB steps
- Input-Output Loop button
- Input polarity inversion
- Input gain autorange
- Microphone power supply

WATERFALL

- **Decay analysis with 3-D gesture-controlled swiveling graph**
- Color map 3D & 2D display with selectable shading
- Powerful 3D marker display
- Multiple windows allowed for easy comparison
- Analyzes Log Chirp Impulse response or FFT time data
- Classical **Cumulative Spectral Decay** for loudspeakers characterization
- **Wavelet Cycle Decay** for detailed decay analysis
- Frequency smoothing (1/48 to 1 fraction of octave)
- Reference operation
- Fully configurable frequency, time, cycle and amplitude axis
- Number of spectra: 15 to 120

POLAR PLOTS

- Circular & Half Circular Polar Plots
- Analyzes Log Chirp frequency response
- Frequency smoothing
- Possibility of mirroring data of symmetrical speakers
- Up to nine simultaneous plots at specified frequencies

THIELE & SMALL PARAMETERS

- Interactive Control Panel to simplify operation
- Free Air parameters
- Added Mass or Known Volume methods for full parameters estimation
- Direct measurement of ReDC.
- Multiple windows allowed for easy comparison

SYSTEM

- Software operates native under Windows or OSX
- Touch and gesture compliant software design
- Hardware relies on dedicated USB driver
- Ultra stable, glitch-free, streaming operation
- Self-calibration with comparison to Audiomatica Labs calibration conditions
- Stored calibration parameters trace international standards
- Assistance warning in case of any component run out of spec with time
- Security warning in case of any unauthorized parameter change
- Support for Audiomatica computer controlled Medusa Open Source Turntable

PC CONFIGURATION

The CLIO CP-01 audio interface running the **CLIO Pocket** software can be installed in any personal computer with the following system specs:

- Pentium IV class processor (suggested minimum 2GHz)
- One free USB 2.0 port, 1024x768 video adapter
- Microsoft Windows (XP, Vista, 7, 8, 10, 11) or Apple MacOS (10.9 to 12) .



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