Key Benefits:

- **Comprehensive set of plug-ins**
- **Supports stereo audio**
- **Powerful digital filters**
- **Spectrum Analysis**
- **Efficient CPU utilization**
- **Multiple VST host environments supported**

Best Uses:

- **Forensic audio labs**
- **Multiple reference cancellation**
- **Real time noise reduction**
- **High profile casework**
- **Tactical surveillance**
- **Portable field operations (using a laptop)**

Ideal Users:

- **TSUs & field offices**
- **Private investigators**
- **Forensic audio examiners**
- **Technical investigators**
- **Intelligence and CI operators**
- **IG offices**
- **Prosecutors**
- **Accredited lab facilities**

For more information or to receive a price quote, visit the our website at www.nexo-tek.com or send us an email at sales@nexo-tek.com.

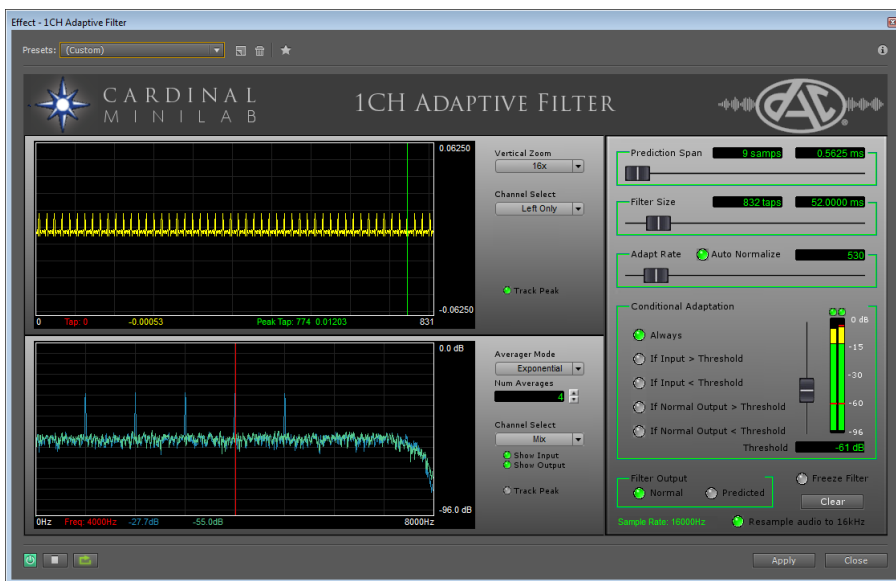**nexotek**

LINKING INVESTIGATIONS WITH TECHNOLOGY

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Digital Audio Corporation

CARDINAL MiniLab Suite

Comprehensive Plug-In Package for Digital Audio Workstations

The **CARDINAL MiniLab Suite** is a comprehensive set of ten software plug-ins that provides the same powerful filters as the hardware-based **CARDINAL AudioLab** workstations, with a familiar user interface to the many forensic audio experts throughout the world that have been trained on these and other DAC audio clarification products.

Based on VST technology, the MiniLab plug-ins operate within your favorite digital audio workstation, such as Adobe Audition, Sony Sound Forge, Acon Acoustica, iZotope, or Audacity, and are capable of reducing many different types of noises in voice recordings, including tonal noises, room "rumble", hum, engine noises, motors and fans, static, hiss, and background interferers (such as radio or television). Certain MiniLab plug-ins can reverse both acoustical and equipment effects that degrade voice intelligibility, such as muffling, spectral coloration, echo/reverberation, near/far party problems, microphone concealment issues, and poor frequency response of the equipment. Each MiniLab plug-in includes a dual-trace spectral analysis capability, allowing visual comparison of before and after audio, plus other visualizations as may be required by the specific tool, such as coefficient display, frequency response curve, etc.

MiniLab plug-ins can be purchased either individually or as a bundled suite, depending on need or budget (see back for plug-in specifications and bundled suite information).

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CARDINAL MiniLab Plug-In Specifications

Plug-In Specifications:

1CH Adaptive Plug-In:
• Adjustable filter size, prediction span, adapt rate and output
• Maximum number of taps: 8192 taps
• Auto Normalize adapt rate
• Conditional adaptation
• Coefficient display graph
• Optional Resampling to 16kHz

Spectral Inverse Plug-In:
• Adaptive Spectral Inverse Filter (ASIF)
· Adjustable lower and upper voice limits
· Selectable filter operation (Equalize Voice or Attack Noise)
· Selectable output shape (Flat, Pink, Voice, Custom)
· Adjustable adapt rate, filter output and gain
· Auto gain feature
• Spectral Inverse Filter (SIF)
· Adjustable lower and upper voice limits
· Selectable filter operation (Equalize Voice or Attack Noise)
· Selectable output shape (Flat, Pink, Voice, Custom)
· Adjustable filter output and gain
• Optional Resampling to 16kHz

Multi-Band Plug-In:
• Multiple Notch
· Independently adjustable notch frequency, width and depth
· No restriction on number of notches
· Minimum notch frequency: 10Hz
· Maximum notch depth: 120dB
• Multiple Slot
· Independently adjustable slot frequency, width and depth
· No restriction on number of slots
· Minimum slot frequency: 10Hz
· Maximum attenuation: 120dB
• Optional Resampling to 16kHz

Comb Plug-In:
• Adjustable comb frequency, limit and depth
• NEW – Auto Tracking feature for frequency setting
• Maximum depth: 120dB
• Minimum notch limit: 120Hz
• Selectable harmonics: All, Even or Odd
• Optional Resampling to 16kHz

Spectral Subtraction Plug-In:
• Noise EQ
• 20 adjustable frequency bands
• Normalize feature
• Adjustable output gain
• Output level graph
• Noise Reducer
• Adjustable attenuation and output gain
• Maximum output gain: 30dB
• Output level graph
• Optional Resampling to 16kHz

"X-Pass" Plug-In, incorporating the following six filters within same tool (maximum attenuation: 120dB):
• Lowpass
• Adjustable cutoff frequency, attenuation and slope
• Highpass
• Adjustable cutoff frequency, attenuation and slope
• Bandpass
• Adjustable lower and upper cutoff frequency, attenuation and slope
• Minimum width: 10Hz
• Bandstop
• Adjustable lower and upper cutoff frequency, attenuation and slope
• Minimum width: 10Hz
• Notch
• Adjustable notch frequency, width and depth
• Minimum notch frequency: 10Hz
• Slot
• Adjustable slot frequency, width and stopband attenuation
• Minimum slot frequency: 10Hz
• Optional Resampling to 16kHz

Plug-In Specifications (continued):

Graphic EQ Plug-In:
• 20-Band Graphic EQ
• 20 adjustable frequency bands
• Maximum attenuation per band: 100dB
• Normalize feature
• Hi-Res Graphic EQ
• User-defined shape using control points
• Maximum number of control points: 460 points
• Normalize feature
• Optional Resampling to 16kHz

Parametric EQ Plug-In:
• Variable number of stages
• Adjustable center frequency, width factor, boost/cut for each stage
• Output gain/attenuation
• Optional Resampling to 16kHz

Gain Plug-In:
• AGC
• Adjustable release time and maximum gain
• Maximum gain: 100dB
• Output level graph
• Limiter/Compressor/Expander
• 3 adjustable regions: limiter, compressor, expander
• Adjustable compression ratio and expansion ratio
• Adjustable attack and release times
• Adjustable Look ahead time
• Optional Resampling to 16kHz

Reference Canceller Plug-In (MiniLab Advanced Suite only):
• Adjustable filter size, delay, delay channel, adapt rate and output
• Maximum number of taps: 8192 taps
• Auto Normalize adapt rate
• Conditional adaptation
• Coefficient display graph
• Selectable reference (left or right channel)
• NEW – Auto Delay cross-correlation function, automatically determines correct delay and delay channel based on analysis of primary and reference audio
• Optional Resampling to 16kHz

System Requirements (minimum):

Windows XP-SP3 (32-bit)
1GB of RAM
Intel Core 2 Duo (or equivalent)
Software application capable of hosting VST 2.4 plug-ins

MiniLab Suite

Contains the following plug-ins:

• 1CH Adaptive Plug-In	• Spectral Subtraction Plug-In
• Spectral Inverse Plug-In	• "X-Pass" Plug-In
• Multi-band Plug-In	• Graphic EQ Plug-In
• Comb Plug-In	• Parametric EQ Plug-In
	• Gain Plug-In

MiniLab Advanced Suite:

Contains the entire MiniLab Suite and:
• Reference Canceller Plug-In

NOTE: We do not support Mac platforms at this time.