

## Key Benefits:

- *Intuitive design*
- *Seamless integration*
- *Powerful digital filters*
- *Spectrum analysis*
- *Virtual patching capability*
- *Maximum flexibility*
- *File & tape media handling*
- *ASCLD reporting*

## Best Uses:

- *Forensic audio labs*
- *Multiple reference cancellation*
- *Real time noise reduction*
- *High profile casework*

## Who Needs This?

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

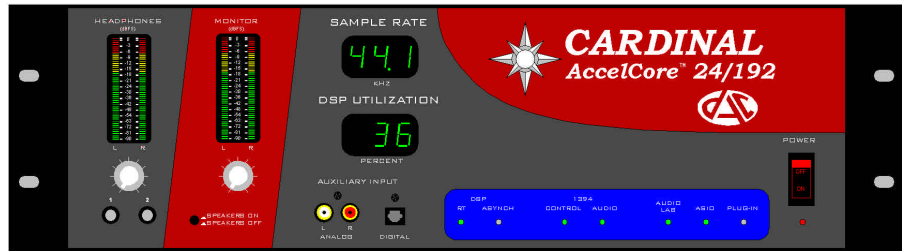
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**THE POWER TO HEAR –  
THE POWER TO CONVICT™**

# CARDINAL

Next Generation Forensic Audio Processor



CARDINAL takes forensic audio processing and analysis to the next level. Fully integrating the capabilities of both hardware and software, CARDINAL will seamlessly handle forensic analysis and processing of all analog and digital media, including file-based digital media. CARDINAL represents productivity enhancement through a seamlessly integrated audio workstation environment capable of blending the merits of superb audio filtering with comprehensive speech and signal processing.

## Key Features:

- **Multi-tasking:** Productivity-enhancing features such as asynchronous “batch-mode” processing will allow multiple jobs to be handled simultaneously.
- **Power, Power, Power:** The powerful AccelCore<sup>®</sup> external processor hardware, based on the Analog Devices TigerSHARC<sup>®</sup> floating-point DSP, will provide all audio I/O and perform lightning fast regardless of workload.
- **Handles All Media:** Common analog and digital media formats, including file-based media, can be handled directly.
- **Seamless Integration:** Both Direct-X and VST plug-ins will be supported within the AudioLab environment. This replaces the Master Control Panel found on previous products and allows software-based tools to be mixed and matched with others that are AccelCore-based. Further, the entire setup can be preserved in a single file for easy recall and repeatability at a later date.
- **Advanced Visualization:** Advanced real-time visualization tools such as Precision Spectrogram, Cepstral Voice Pitch Analyzer, 3D Waterfall Spectral Analyzer, and DTMF/Caller ID Visualizer will be included.
- **Additional Software Tools:** “Relative” speaker identification, transient reduction, automatic noise/effect analysis, multi-track alignment, and conversion to common law-enforcement audio formats will also be provided.

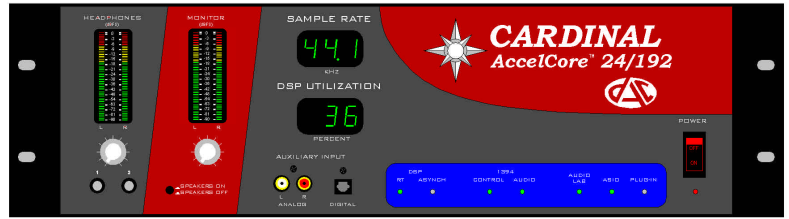


**DIGITAL AUDIO CORPORATION**

A DRI Company

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DAC customers worldwide have helped develop the components of this forensic audio workstation environment. Coupled with DAC's technical expertise, the CARDINAL system seamlessly guides the user through a structured, forensic problem solving methodology without limiting flexibility. No other tool or process ensures the highest quality audio processing for maximum noise reduction and speech intelligibility!



CARDINAL Forensic Audio Processor

### Additional Considerations:

- **Maximum Efficiency:** All real-time filters and visualization tools will support multiple instances up to the maximum resource limitations of the PC, the IEEE-1394 "Firewire" interface, and the AccelCore.
- **Building on Experience:** Will include all filtering operations of the current-generation PCAP II Plus and MCAP products, plus many new real-time filters such as Clipped-Peak Restoration, Multi-band Downward Expander Noise Reduction, Precision Tracking Comb Filter, and Enhanced 1CH Adaptive and Reference Canceller filters. Simply amazing!
- **Sophisticated Timeline Management:** Tool allows different processing to be applied to different portions of the recording while maintaining evidence integrity.
- **Flexible and Intuitive Interface:** The redesigned graphical user interface is easy to navigate, allowing for quick filter setup and changes.
- **More Science - Better Results:** DAC's proven methodology and built-in scientific approach help produce the kind of results that win cases and survive legal challenges

### ASIO Driver:

- To allow third-party software products to directly utilize the AccelCore for their audio I/O

### Power:

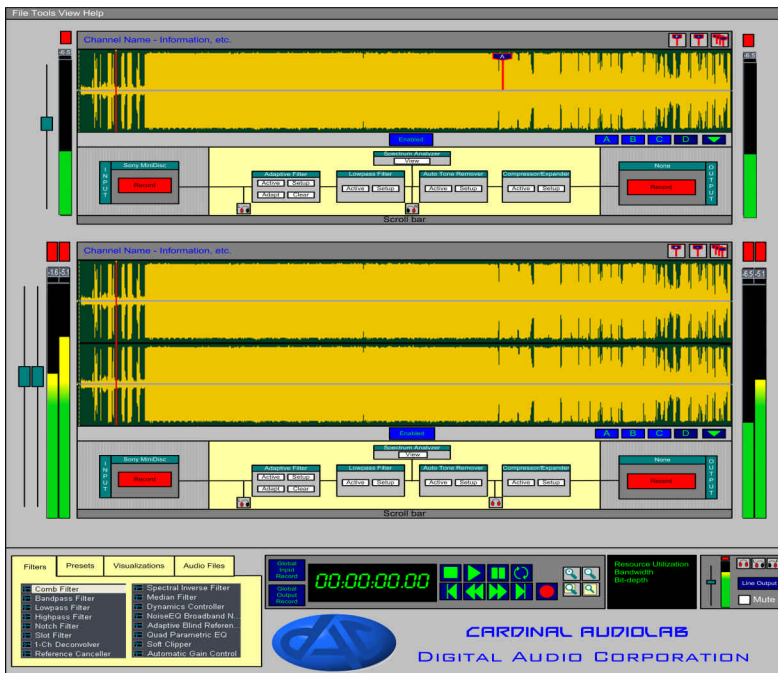
- Built-in universal AC power supply

### Audio I/O:

- 8 channels of balanced analog I/O, AES/EBU digital I/O, dual TOSLINK optical digital I/O, dual S/PDIF coaxial digital I/O, ADAT 8-channel optical I/O, dual monitor outputs for connecting amplified speakers, and dual front-panel stereo headphone jacks
- Supports all industry standard rates up to 192 kHz

### Software:

- Interfaces via IEEE-1394a Firewire
- Audio lab control software runs in Windows 2000/XP or higher, (dual displays recommended)



### New & Improved Real Time Filters

- Highpass • Lowpass • Bandpass • Bandstop • Comb • Inverse Comb • Notch • Multiple Notch • Slot • Multiple Slot • Limiter/Compressor/Expander • Broadband Noise Reducer • Broadband NoiseEQ • Automatic Spectral Inverse Filter • Parametric Equalizer • 20-Band Graphic Filter • Input Limiter • Adaptive 1 CH • Reference Canceller (2-8 Channel Adaptive) • Automatic Gain Control

### ... And Introducing ...

- ❖ An improved Floating Point Adaptive Filter for faster convergence and improved noise cancellation
- ❖ Real-time Clipped Peak Restoration for clarification of overdriven recordings
- ❖ Precision tracking comb filter to automatically adjust for variances in hum frequency