Key Benefits:

- **Compact, field-deployable packaging**

- **Powerful, real-time audio clarification**

- **Optional VOX function to limit downstream capture to voice-only**

- **All settings programmable through USB port**

- **Windows programming utility included**

- **Can be connected directly to "wet pair" telephone wiring**

Best Uses:

- **Noise reduction on live audio signal prior to transmission or capture**

- **Minimizing recorded audio surveillance to voice-only for translation and/or transcription**

For more information, or to request a price quotation, send us an email at sales@salientsciences.com

Front-End Audio Processor

AUDIOPHILE is a miniaturized audio clarification processor that is specifically designed for tactical deployment applications, with the purpose of reducing typical background noises that may be present on live audio signals prior to their transmission and capture, particularly where compressed data links or devices are employed. Operation is extremely simple: the device is connected inline with the live audio, at or near its source (the "front end"), and the filters are configured, tested, and programmed into the onboard flash memory through the USB port via the included Windows-based application. Optionally, a special "VOX" algorithm can be activated for the purpose of sensing voice in the filtered audio; when voice is not detected, the audio output will be either silence or a special "C-Tone" signal that can be utilized by the downstream system to control the record function.
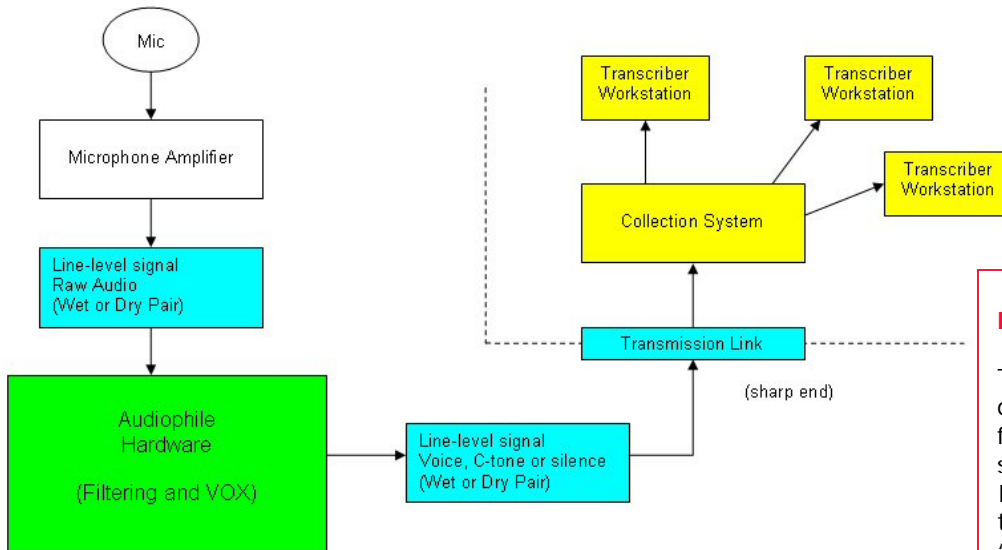
Key Features

- Compact size (1.1"W X 2.8"H x 6.0"D)
- Smart "VOX" algorithm, operating directly on the filtered audio signal
- Standard 7.5kHz audio bandwidth (18000 Hz sample rate)
- Low noise analog circuitry and 24-bit professional grade audio codec for high-performance audio throughput and digital filtering
- Texas Instruments floating-point DSP (latest technology)
- Multi-stage Filtering including: adaptive, adaptive spectral inverse (ASIF), adaptive spectral subtraction, and automatic gain control (AGC) processing
- Front-panel switches for real-time Pre- and Post- Filtering Selection, VOX, and C-Tone / silence selection
- Interactive USB2.0 communication with Windows software allows for real-time user configuration of the processing
- Internal flash memory storage of all processing and voice detection parameters

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Clarity Revealed

Typical Audiophile Application

Filter Specifications:

- Single-precision floating-point processing of 24-bit audio data; 24-bit result audio
- Multi-stage noise reduction filtering, including:
  - ➢ Dual FIR filter stages, each configurable as LMS adaptive filter (512 taps maximum), comb, lowpass, highpass, bandpass, bandstop, notch, or slot filter
  - ➢ Adaptive spectral subtraction stage for random broadband noise reduction
  - ➢ Equalizer stage, configurable as adaptive spectral inverse filter (ASIF) or graphic equalizer
  - ➢ Automatic "Crash Detect" and reset for all adaptive filtering
- "Look-Ahead" AGC for compensation of near/far party and low-level audio signals
- Automatic Voice Detection module applied to filtered output
  - ➢ Up to 5 seconds "pre-detection" and 30 seconds "post-detection" for any detected voice signal, allowing a maximum "guard band" of 35 seconds for any detected speech
  - ➢ Infinitely retriggers guaranteeing continuous recording if speech detected at least once each guard band period
  - ➢ Standard "C-Tone" output (852/1633 dual tone) whenever VOX is active, C-Tone selected, and speech not present
- Signal flow from input to output as follows:
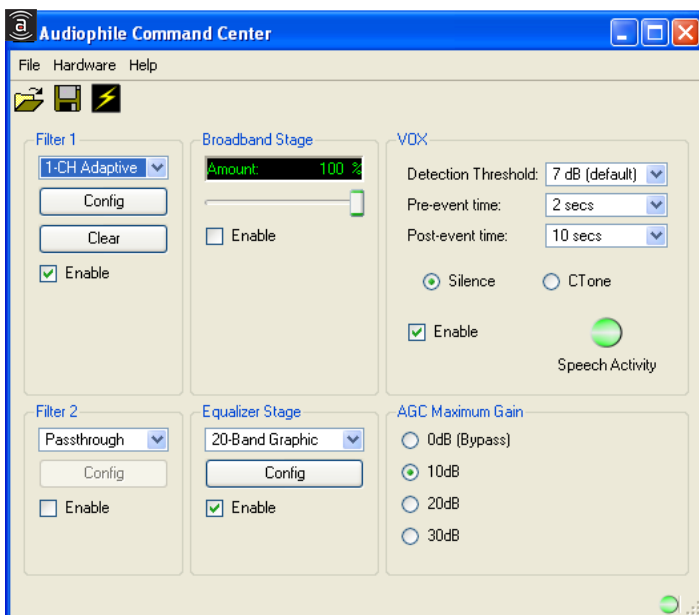 - ➢ Noise reduction filters->VOX stage->AGC stage

Design/Purpose:

The AUDIOPHILE is designed for use at the front end of an audio surveillance operation. Its primary purpose is to reduce the amount of "non-speech" being recorded by performing basic filtering on the signal and detecting speech events. When no speech is detected, a C-tone can be generated to signal a collection system to pause recording until the next event.
The audio input/output can be interfaced directly to "wet" or "dry" telephone pairs or any other audio equipment that can receive a line-level signal.

Physical Dimensions:

- 1.1"W x 2.8"H x 6.0"D, extruded aluminum chassis, approx. 1 lb
- Black painted case, black anodized front and rear panels
- Optional 2U x 19" rack mount kit, suitable for mounting up to 14 AUDIOPHILE units (vertical mounting)

Power:

- 9-18VDC input
- 2-pin Phoenix jack, 0.2" pin spacing
- Accepts regulated or unregulated power over specified range
- Universal AC power adaptor with compatible plug supplied
- Maximum power consumption-850mA @ 12VDC