

Feature and Performance Comparison: PhaseAlign Lite vs PhaseAlign Pro

Core Features

Both versions provide the following core features:

- **Sample Delay** and **MS Delay** for delay adjustment
- **Phase Rotation** (0-360 degrees)
- **Polarity Inversion**
- **Auto Learn** to automatically find optimal settings
- **Bass Lock** for mono bass
- **Monitor Modes** (Stereo, Mono, L Only, R Only, Difference)
- **Preset System** with 8 factory presets

Advanced Features in PhaseAlign Pro

PhaseAlign Pro includes several advanced features:

Advanced Mode Toggle

- Slider14 enables/disables advanced mode
- Optimizes performance by disabling complex processing when not needed

Spectral Display

- Slider15 enables real-time spectral analysis and waveform visualization
- Only available when Advanced Mode is active

Enhanced Filter System

- Uses proper biquad filters for frequency bands (bass, mid, high) instead of simple separation
- More accurate frequency processing and phase rotation

Interpolated Delay Processing

- Supports fractional sample delay with interpolation for higher precision

Performance Comparison

Criteria	PhaseAlign Lite	PhaseAlign Pro
CPU Usage	Low (basic processing)	Higher with Advanced Mode or spectral display enabled
Memory Usage	4KB (2048 samples × 2 channels)	6KB+ (additional FFT and window buffers)
Filter Quality	Simple separation (coefficients)	Proper biquad filters with Q=0.707
Delay Accuracy	Integer sample delay only	Fractional delay with interpolation
Optimization	None	Dynamic optimization flags

Audio Quality

- **PhaseAlign Lite:** Uses simple low-pass filtering for bass, less accurate frequency separation
- **PhaseAlign Pro:** Uses biquad filters for precise frequency bands and phase rotation, resulting in higher fidelity

User Interface

- **PhaseAlign Lite:** Simple GUI with basic info and a basic correlation meter^[4]
- **PhaseAlign Pro:** Enhanced GUI with more detailed status, real-time spectral/waveform analysis, advanced warnings, and feature indicators

Performance Optimization

- **PhaseAlign Pro** features smart optimization: only processes features that are enabled, saving CPU resources when possible^[3]

Summary and Recommendation

Choose PhaseAlign Lite if:

- You need a simple, lightweight solution
- You are working on systems with limited CPU resources
- You only need basic phase alignment features

Choose PhaseAlign Pro if:

- You require the highest audio quality
- You work in professional mixing/mastering environments
- You need advanced visual feedback and analysis tools
- You need fractional delay accuracy for precision work
- Your system can handle higher CPU loads

PhaseAlign Pro clearly surpasses Lite in terms of features, sound quality, and flexibility, but at the cost of higher CPU usage. **PhaseAlign Lite** remains a solid choice for those who prioritize simplicity and efficiency