

User Manual – Latency Fix (AAX for Pro Tools)

1. Introduction

Latency Fix is an **AAX Native plugin** designed exclusively for **Avid Pro Tools**.

It measures and compensates system latency caused by audio interfaces, converters, external hardware, and networked recording setups.

The plugin was created specifically for **professional remote recording workflows**, where multiple studios exchange signals and precise time alignment is critical.

Key Objectives:

- Measure **true latency** in any signal path.
- Automatically **compensate recordings** for accurate alignment.
- Maintain **phase coherence** in hybrid mixing setups.
- Enable seamless **remote collaboration** between studios.

Typical Use Cases:

- Recording vocals/instruments while sending signal through external processors.
 - Aligning takes recorded in **different studios**.
 - Compensating latency in hybrid mixes (plugins + outboard gear).
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2. Installation and Requirements

2.1 Compatibility

- **Plugin format:** AAX Native.
- **DAW supported:** Avid Pro Tools 2021.12 or higher.

- **Operating systems:**
 - macOS 10.14 or later (Intel & Apple Silicon).
 - Windows 10 (64-bit) or later.

2.2 Hardware Requirements

- Core Audio (macOS) or ASIO (Windows) interface.
- External converters optional for outboard setups.
- Recommended: Quad-core CPU, 8 GB RAM minimum.

2.3 Installation

1. Download the installer from the official website.
2. Run the installer (Admin rights required).
3. Launch Pro Tools → verify **Latency Fix** under *Insert* → *Plug-In* → *Other*.

2.4 Licensing


- A valid license is required.
 - If the plugin shows **Expired**, reactivate via license manager.
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3. Interface and Operating Modes

Multiple instances can run simultaneously in different channels or inserts. Each module serves a specific purpose:

3.1 Ping Send

- Insert on the **source track** (e.g. a channel sending signal to outboard reverb).
- Sends a test pulse through the hardware or routing path.
- Works together with **Ping Receive**.

 **Important:** Do not insert on return buses.

3.2 Ping Receive

- Insert on the **return track** (signal after hardware).
- Receives the test pulse and measures total round-trip latency in milliseconds.
- Displays the exact delay value.

3.3 Recording Mode

- Features a **Nudge** button.
- Shifts recorded regions by the exact number of ms measured.
- Workflow: Select region → Click **Nudge** → Track is auto-aligned with source.

Example:

- Measured latency: **+132 ms**
- Record track → Press **Nudge** → Region moves **−132 ms**, perfectly aligned.

3.4 Master Mode

- Insert on the **Master Bus**.
 - Applies global playback delay according to measured latency.
 - Keeps the full mix phase-aligned when combining plugins + outboard.
 - Affects monitoring only, not exported bounce.
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4. Typical Workflows

4.1 External Hardware Latency Measurement

1. Insert **Ping Send** on the send track.
2. Insert **Ping Receive** on the return track.

3. Press **Ping** → plugin shows latency in ms.
4. Use this value for Recording or Master compensation.

4.2 Remote Recording Across Studios

1. Each studio measures its local latency.
2. Apply correction on recording tracks.
3. Exchanged files will align automatically when imported into any Pro Tools session.

4.3 Hybrid Mixing

1. Place **Ping Send/Receive** on each outboard loop.
 2. Measure delay for each chain.
 3. Use **Recording** or **Master** to compensate.
 4. Final mix plays phase-coherent.
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5. Controls and Indicators

- **Ping** → Sends measurement pulse.
 - **Nudge** → Auto-aligns recorded region.
 - **Out (red)** → Plugin disabled.
 - **Expired** → License expired.
 - **Not Sending** → No test pulse currently active.
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6. Best Practices

- Always measure latency **before starting a session**.

- Temporarily disable **Delay Compensation** in Pro Tools during measurement to avoid double-correction.
- Save latency presets for each hardware chain.
- After correction, check phase alignment on parallel tracks.

7. Troubleshooting

Issue / Message	Possible Cause	Solution
Expired	License invalid/expired	Reactivate via license manager
Ping not responding	Wrong insert position	Check plugin placement
Incorrect latency	Delay Compensation enabled	Disable during measurement
Not Sending	Ping not initiated	Press Ping button
Mix sounds out of phase	Master instance missing	Insert Master on main bus

8. Version Notes

Example:

- **Version 2025 18:20:48** → build time.
 - **Expired 2025 18:20:48** → license end date.
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9. Support

- Website: [Official URL]
- Technical Support: [Support Email]
- Updates & Downloads: [User Portal]

10. Signal Flow Diagram

Here’s a simple routing diagram for measurement and correction inside Pro Tools:

