

# PRO SUITE PROCESSOR

## Overview

System Requirements

Installation & Security

User Interface

DSP Modules

AI Restoration

Final Mastering

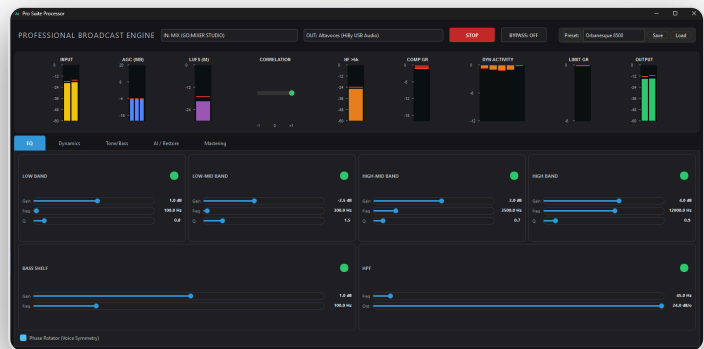
Preset Management

Troubleshooting

V 1.0.0

# USER MANUAL

**Pro Suite Processor** is a high-performance audio processing engine designed for professional broadcast environments, recording studios, and high-end podcasts. Utilizing advanced DSP algorithms, the program offers ultra-low latency and transparent sound quality.



*Pro Suite Processor Main Interface: Real-Time Monitoring*

## PROCESSING PHILOSOPHY

The system operates on a series-parallel processing chain that prioritizes phase integrity and spectral coherence. From AI noise removal to the final "brickwall" limiter, every stage has been optimized to deliver the classic "radio sound": powerful, dense, and crystalline.

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## SYSTEM REQUIREMENTS

To ensure stable processing at 44.1/48kHz without interruptions, the following specifications are recommended:

Component	Minimum	Recommended
Operating System	Windows 10 (64-bit)	Windows 11 (64-bit)
Processor	Dual Core 2.5 GHz	Octa Core 3.5 GHz+ (i7/i9/Ryzen 7+)
RAM Memory	4 GB	16 GB
Audio	DirectSound Driver	Audio Interface with ASIO Driver (Low Latency)
Security	USB 2.0/3.0 Port	Direct USB Port (no Hub)

## INSTALLATION & SECURITY

### HARDWARE LICENSING

Pro Suite Processor uses a hardware-based security system (USB Dongle). The program will not start unless it detects the authorized

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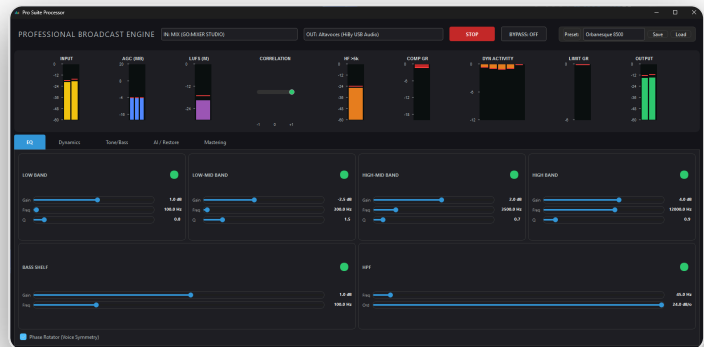
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physical security key connected to a system USB port.

**IMPORTANT:** Do not disconnect the USB key while the audio engine is running, as this will cause an immediate processing stop for security reasons.

## FIRST RUN

1. Connect your authorized USB key.
2. Run the `ProSuiteProcessor.exe` file.
3. In the top bar, select your **\*\*INPUT\*\*** device (Microphone or line) and your **\*\*OUTPUT\*\*** device (Speakers or Broadcast).
4. Click on **START ENGINE**.



*Top Panel: I/O Device Selection and DSP Engine*

## USER INTERFACE

The interface is divided into three critical zones:

### 1. Top Bar

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Flow controls: Hardware selection, global power button, BYPASS mode, and quick preset selector.

## 2. Meters Panel

Real-time visualization of Peak/RMS levels, LUFS, Phase Correlation, and gain reduction (GR).

## 3. Control Tabs

Access to deep parameters for each module: EQ, Dynamics, Tone/Bass, AI/Restore, and Mastering.

## ADVANCED MONITORING

The **DYN ACTIVITY** meters show the activity of the 5 virtual dynamic processing bands, allowing you to see how the compressor and limiter are working in different frequency ranges.

## DSP MODULES DEEP DIVE

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### EQ / PHASE

This module is responsible for the initial tonal balance and signal preparation.

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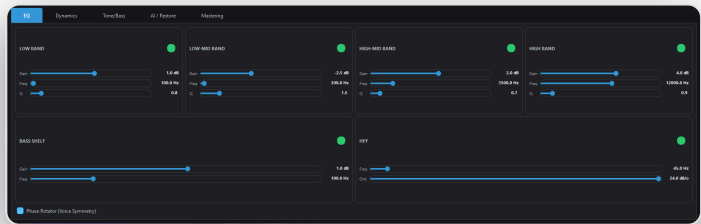
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- **4-Band Peaking EQ:** Surgical filters for Low, Low-Mid, High-Mid, and High.
- **Bass Shelf:** Smooth boost or attenuation of low frequencies below the crossover point.
- **HPF (High Pass Filter):** Eliminates low-frequency noise (rumble) with slopes up to 24dB/octave.
- **Phase Rotator:** A specialized processor that symmetrizes the voice waveform, allowing for more headroom before saturation.



*EQ Module: Tone Control, Shelf, and Phase Rotator*

## DYNAMICS

Dynamic processing ensures volume consistency and peak control.



*Dynamics Module: AGC, De-Esser, and Wideband Compressor*

## TONE AND BASS

Specialized processing to enhance body and analog warmth.

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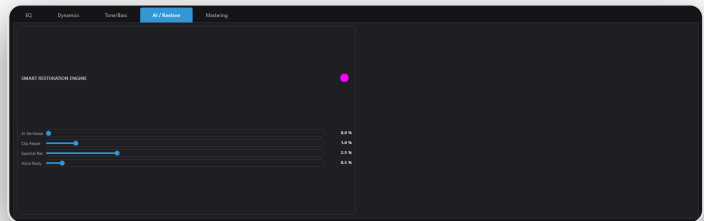


### *Tone/Bass Module: Bass Limiter and Tube Saturation*

- **Bass Limiter:** Controls low-end energy to prevent distortion on small systems.
- **Tube Saturation:** Adds warm harmonics for a professional, "vintage" sound.

## AI RESTORATION (SMART RESTORATION)

The **AI Restore** engine allows for cleaning and reconstructing low-quality signals.



### *Smart Restoration Engine: De-Noise, De-Clip, and Spectral Enhancement*

#### AI De-Noise

Eliminates stable background noise (Hiss, fans) through dynamic noise threshold analysis.

#### Clip Repair

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Reconstructs saturated/squared audio peaks by reducing harmonic distortion.

### Spectral Rec

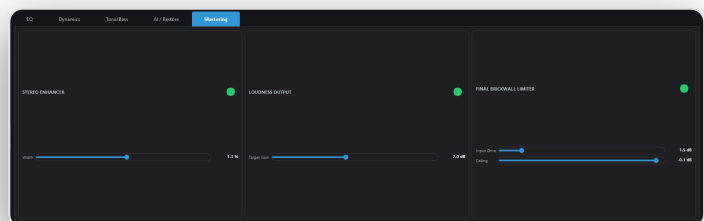
Recovers crystalline presence in compressed audio or those with high-frequency loss.

### Voice Body

Adds weight and authority to the voice, simulating the proximity effect of high-end condenser microphones.

## FINAL MASTERING

The final stage to provide the necessary commercial polish.



### *Mastering Module: Stereo Enhancer, Loudness, and Brickwall Limiter*

- **Stereo Enhancer:** Adjusts the width of the stereo image. Be careful to monitor the **CORRELATION** meter to avoid phase cancellations.

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- **Loudness Output:** Final gain to reach the desired loudness level.
- **Brickwall Limiter:** The final guardian. Prevents any digital clipping with an adjustable Ceiling of -0.1dB for maximum safety.

## PRESET MANAGEMENT

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Pro Suite Processor includes factory presets designed by professional audio engineers:

- **Radio Broadcast:** The classic sound of major FM stations.
- **Orbanesque 8500:** Inspired by legendary hardware processors.
- **Podcast Voice:** Optimized for spoken word clarity.
- **Modern Trap:** Aggressive bass boost and high sound pressure.

You can save your own settings by clicking **Save** and load them later using the **Load** button. Files are saved in standard JSON format.

## TROUBLESHOOTING

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### Audio skipping or "cracking"?

1. Increase the Buffer size in your ASIO driver settings.
2. Ensure no other heavy programs are using the CPU.
3. Verify that the Windows sample rate matches the program's (44100 Hz).

### START button not working?

Verify that the USB key is connected. If the

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problem persists, restart the program and ensure the USB device light is on.

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