

Apex Amp: Simple User Handbook

01. Welcome to Apex Amp

Apex Amp is your ultimate virtual guitar rig and tone studio. Whether you play clean jazz, vintage blues, classic rock, heavy metal, or synth-guitar sounds, Apex Amp gives you the warm sound, feel, and response of real physical tube amplifiers and pedals.

Easy Features for Musicians:

- **Real Tube Sound & Feel:** Virtual tube preamps and power amps respond naturally to how hard or soft you pick your strings.
- **Built-in AI Assistant:** Just tell the AI what sound you want in plain English (e.g., *"give me a sweet 80s clean tone with lush chorus"*), and it dials in your entire rig automatically!
- **Modular Backside Rack:** Press the Tab key anytime to flip the rig around and drag virtual cables to reorder your pedals or split your signal like a real rack.

02. Simple Guide to the AI Assistant

The AI Assistant acts as your personal guitar tech. You don't need any technical knowledge—just describe the sound you want:

Quick Prompt Ideas:

- 🎸 **Heavy Metal:** *"Give me a heavy 7-string rhythm tone, tuned down 2 semitones, with tight low end and a noise gate."*
- 🎧 **Ambient Solos:** *"Screaming lead tone with long delay echoes, plate reverb, and wide stereo sound."*
- 🎵 **Vintage Rock:** *"Cranked 60s British tube amp with subtle tremolo and spring reverb."*
- 🎹 **Synth Bass:** *"Fat synth bass tone with a filter sweep and sub-bass."*

[!TIP] **Quick Tip:** Tell the AI what guitar you are playing (e.g., *"I am playing a Fender Strat with single-coil pickups"* or *"I am using a Les Paul with humbuckers"*). The AI will automatically adjust the amp gain to match your guitar perfectly!

03. Your Guitar Signal Chain

Your guitar sound flows through a complete virtual pedalboard, amp head, speaker cabinet, and studio rack:

```
graph TD
    subgraph Stage1["1. Pre-Processing & Pitch"]
        Input[Guitar Input] --> Tuner[Strobe Tuner]
        Tuner --> Gate[Noise Gate]
        Gate --> PPT[Pickup Profiler & Acoustic Sim]
        PPT --> Shifter[Drop-Tuner Pitch Shifter]
        Shifter --> Synth[Guitar Synth Workstation]
    end

    subgraph Stage2["2. Drive & Preamp Circuitry"]
        Synth --> Comp[Studio Compressor]
        Comp --> Wah[Auto-Wah Pedal]
```

```
Wah --> Pedals[Boost / Fuzz / Overdrive Pedals]
Pedals --> Tamer[Palm-Mute Tamer]
Tamer --> Preamp[8-Stage Tube Preamp & Tone Stack]
end

subgraph Stage3["3. Power Amp & Cabinet Studio"]
  Preamp --> PA[Power Amp Voltage Sag & Bloom]
  PA --> CabStudio[Speaker Cabinet & Dual-Mic Studio]
end

subgraph Stage4["4. Post-FX, Ambience & Master Suite"]
  CabStudio --> DynEQ[Studio Dynamic EQ]
  DynEQ --> PostEQ[10-Band Graphic EQ]
  PostEQ --> ModFX[Chorus / Flanger / Phaser / Tremolo]
  ModFX --> Stereo[Stereo Width & M/S Air]
  Stereo --> Delays[Dual Echo Delays]
  Delays --> Reverbs[Dual Reverb Tanks]
  Reverbs --> Trim[Preset Master Trim]
  Trim --> Limiter[Safety Brickwall Limiter]
  Limiter --> Output[Main DAW Output]
end
```

04. Simple Knob & Switch Reference

1. Guitar Input, Tuning & Noise Control

Knob Name	What You Hear & What It Does	How to Use It
Master Input Trim	Adjusts global volume coming into the plugin.	Set this so your guitar pick attacks light up the green meter without turning red.
Preset Volume Trim	Adjusts volume for the current preset.	Use to balance loudness between clean and high-gain presets.
Guitar Tuner	Toggles the built-in strobe tuner display.	Turn on to tune up. Works down to low B and F# on 7-string/8-string guitars.
Noise Gate Switch	Turns the background noise suppressor on or off.	Silences single-coil hum and high-gain amp hiss when you stop playing.
Gate Threshold	Sets how loud your playing must be to open the gate.	Turn UP for tight, silent palm-muted chugs; turn DOWN for soft fingerpicking.
My Guitar Pickups	Tells the plugin what kind of guitar you are playing.	Select your instrument: Humbucker, Single Coil, P90, Active, Strat, Tele, PAF, Acoustic Sim.
Pickup Morpher	Digitally changes your pickup sound.	Makes a Les Paul humbucker sound like a chimey Strat single-coil on the fly.
Cable Warmth	Simulates the high-end roll-off of long vintage guitar cables.	Turn up to warm up harsh bridge pickups or simulate a 20ft coiled cable.

2. Drop-Tuning & Pitch Controls

Knob Name	What You Hear & What It Does	How to Use It
Drop-Tuner Switch	Turns the digital pitch shifter pedal on or off.	Instantly transpose your guitar without touching your tuning pegs.
Drop-Tune Semitones	Drops or raises your guitar pitch by semitones (-24 to +12).	-1 for Eb, -2 for Drop D, -7 for Drop A, or -12 for octave bass lines.
Drop-Tune Blend	Blends your raw guitar sound with the shifted pitch.	Set to 100% for drop-tuning, or 50% for 12-string octave harmonies.

3. Compressor & Dynamics Pedals

Knob Name	What You Hear & What It Does	How to Use It
Studio Compressor	Evens out picking dynamics and adds singing sustain to notes.	Great for clean funk rhythms, country picking, and smooth lead solos.
Compressor Threshold	Sets the volume level where compression kicks in.	Turn down to catch softer notes; turn up to only compress loud strikes.
Compressor Strength	Controls how hard the compressor squeezes your volume.	Low settings give subtle studio leveling; high settings give squashed sustain.
Auto-Wah Switch	Turns on the pick-responsive envelope wah filter.	Sweeps a wah filter automatically based on how hard you pick your strings.
Wah Pick Sensitivity	Sets how sensitive the wah filter is to your picking strength.	Pick soft for warm tone; pick hard to make the filter snap open for funky "quack."

4. Overdrive, Fuzz & Tube Drive Controls

Knob Name	What You Hear & What It Does	How to Use It
Treble Boost Pedal	Pushes the top-end of the amp with vintage treble boost (+0 to +18 dB).	Adds bite and pushes a clean amp into sweet, singing tube breakup.
Germanium Fuzz Pedal	Gives thick, woolly, explosive 60s/70s fuzz face distortion.	Great for vintage rock and psych solos. Rolls off cleanly when you turn down your guitar volume.
Overdrive Pedal Model	Chooses your overdrive pedal model (Green Tube Screamer, OCD, Klon).	Green mode boosts mid frequencies to tighten up metal rhythm chugs.
Overdrive Drive	Adjusts how much pedal distortion is added.	Keep low (1-3) when boosting high-gain amps; crank high for overdrive lead tone.
Preamp Gain / Drive	Controls raw tube amp distortion depth.	Low settings = clean; medium = bluesy breakup; high = heavy metal saturation.

Knob Name	What You Hear & What It Does	How to Use It
Active Tube Count	Selects how many virtual preamp tubes are active (1 to 8).	2 tubes = Vintage Tweed; 4 tubes = 80s Rock; 6-8 tubes = Modern Metal.
Hot-Rod Boost Mode	Switches amp gain structure (Stock Vintage, Hot-Rodded, Extreme).	Turn on Hot-Rodded or Extreme for ultra-saturated modern distortion.
Palm-Mute Tamer	Automatically suppresses boomy 200Hz frequencies during palm muting.	Essential for metal! Prevents low notes from sounding muddy or tubby.
Tightness Low Cut	Cuts sub-bass mud before it hits tube distortion.	Essential for 7-string/8-string metal to keep fast riffs tight and clear.

5. Tone Stack, Power Amp & Cabinet Studio

Knob Name	What You Hear & What It Does	How to Use It
Amp Bass / Mid / Treble	Authentic 3-band amp equalizer controls.	Boost Mids to cut through a mix; scoop Mids for modern metal.
Amp Presence	Adjusts top-end bite and sparkle on the amp head.	Turn up to add edge and cut to leads; turn down to smooth out harshness.
Power Supply Voltage Sag	Recreates the feel, compression, and "squish" of cranked power amps.	When you hit a hard chord, the power supply dynamically sags and blooms back up!
Speaker Cabinet Model	Chooses your speaker cabinet (4x12 Vintage 30, 2x12 Greenback, etc.).	Swapping cabinets dramatically changes your tone! Try a 4x12 for rock or 1x12 for blues.
Mic Position (Center/Edge)	Moves the virtual mic from speaker cone center to the outer edge.	Center is bright and punchy; Edge is warm, smooth, and darker.
Mic Distance	Moves the microphone closer to or further from the speaker.	Closer = punchy bass; Further away = open room air.
Dual Mic Studio Switch	Activates the 2-microphone studio blending workstation.	Mix two different studio mics on your speaker cabinet simultaneously!
Microphone A Choice	Selects Mic A (SM57, MD421, R-121 ribbon, C414 condenser, etc.).	Use SM57 for aggressive mid-range bite and punch.
Microphone B Choice	Selects Mic B model.	Use R-121 ribbon for warm, smooth, dark body.
Dual Mic Crossfader	Blends between Microphone A and Microphone B.	Find the perfect balance of SM57 bite and R-121 ribbon warmth!

6. Modulation, Delays & Reverb Controls

Knob Name	What You Hear & What It Does	How to Use It
Stereo Chorus	Thickens your sound with lush multi-voice pitch movement.	Essential for 80s cleans, glassy funk, and wide stereo leads.
Jet Flanger	Sweeping comb-filter effect with resonant feedback.	Gives dramatic "jet plane" flanger sweeps on rhythm chords and leads.
Multi-Stage Phaser	Sweeps phase filters across your tone for swirling motion.	Gives psychedelic movement to clean picking and classic solos.
Optical Tremolo	Rapidly pulses your guitar volume up and down.	Great for vintage surf, indie rock, and dramatic ballad rhythms.
Stereo Width Expander	Spreads a mono guitar into a wide 3D stereo soundstage.	Makes a single guitar sound like a wide stereo wall of sound!
Echo Delay 1 & 2	Two independent stereo delay engines (Digital, Tape, Shimmer, Crystal).	Set Delay 1 to quarter notes and Delay 2 to dotted-eighths for ambient echo.
Reverb Tanks 1 & 2	Two independent reverb tanks (Spring, Plate, Room, Hall, Shimmer).	Use Spring for vintage surf, Plate for leads, or Shimmer for angelic pads.
Master Output Volume	Final precision output volume knob.	Adjusts plugin output level without altering amp saturation.
Safety Brickwall Limiter	Brickwall limiter with 0 dBFS ceiling.	Prevents digital clipping or harsh distortion in your DAW output.

05. Easy Tone Recipes

 Modern High-Gain Metal

- **AI Prompt:** "High-gain metal rhythm, 7-string, tight low end, Green overdrive boost, modern 4x12 cab, SM57 and R121 mic blend."
- **Front-Panel Quick Start:** Preamp Gain: , Active Tubes: , Overdrive: , Palm-Mute Tamer: , Tightness Cut: , Cab: .

 80s Studio Liquid Lead

- **AI Prompt:** "Screaming tube lead tone with 4 preamp tubes, subtle chorus, tape delay repeats, and plate reverb."
- **Front-Panel Quick Start:** Preamp Gain: , Active Tubes: , Overdrive: , Stereo Chorus: , Echo Delay 1: , Reverb: .

 Classic Surf & Blues

- **AI Prompt:** "Cranked 60s tweed amp with Germanium fuzz pedal, optical tremolo, and vintage spring reverb."
- **Front-Panel Quick Start:** Preamp Gain: , Active Tubes: , Fuzz Pedal: , Tremolo: , Reverb: .

acoustic Pristine Acoustic Soundboard

- **AI Prompt:** *"Clean acoustic guitar tone from electric humbucker pickups with soundboard body resonance."*
- **Front-Panel Quick Start:** My Guitar Pickups: Humbucker, Pickup Morpher: Acoustic Sim, Preamp Gain: 0.5 (Bypass), Speaker Cab: Bypass (Direct IR).

06. Specs & Compatibility

- **Engine:** 64-bit Floating Point Audio Processing.
- **Presets:** 117 JSON Rig Snapshots across 10 Categories.
- **Formats:** VST3 64-bit (Windows 10/11) — *macOS AU/VST3 support coming in a future update.*
- **Developed by:** Apex Plugins.