

Initial Startup Guide

The first power-up protocol for fresh builds, rebuilds, and restorations.

Safe bring-up checklist · Dim-bulb / current limiter

Safely bringing up a newly built, extensively modified, or long-stored vintage tube amp for the first time is a disciplined ritual that prevents expensive component fireworks.

CRITICAL — always connect a load. Speaker cabinet or heavy-duty resistive dummy load before powering on. Running a tube amp without a load can flash-over sockets, ruin OT windings, or destroy flyback insulation.

1 · Pre-power checklist

Visual audit

Inspect every solder joint under bright light. Verify electrolytic polarities, diode orientations, and resistor values against the schematic line by line.

Cold resistance checks

Unplugged, power switch on: measure resistance from B+ rails to chassis ground. Look for dead shorts or unexpected bleeder paths. Verify IEC safety-ground continuity to chassis.

Current limiter

Plug the amp into a DIY current limiter (dim-bulb tester) for the maiden voyage so fault current is limited if a major wiring error exists.

Bleeder path

If cold-resistance checks show no bleeder, install one before first power-up (see Power Cap Bleeder Guide) or plan to discharge by hand with a proper tool.

2 · Step-by-step bring-up

01 Naked board test

Power on through the current limiter with no power tubes or rectifier installed (preamp tubes optional for heater check). Brief power switch on. Limiter bulb: bright flash then dim = normal capacitor charge. Confirm filament voltages (~6.3 V or 5 V AC) at the sockets.

02 Power down & populate

Unplug. Let filter caps bleed down (or discharge). Install power tubes. Set the bias trim pot to its coldest setting — maximum negative grid voltage — to pinch off idle current.

03 Power up via limiter

Mains on through the limiter. Bright and stays bright → shut down immediately (severe short). Bright then dims low → supply is stable. Proceed to check B+ rails.

04 B+ and bias

Confirm B+ is in the expected range. Move to the bias procedure (How to Bias an Amp) before any sustained playing. Do not skip warm-up and target-current calculation.

3 · Bench companions

Dummy load

No speaker on hand? Build a DIY dummy load box rated for the amp's power class.

Cap discharge tool

Bleed the caps by hand before opening the chassis if there is no reliable bleeder path.

Speaker / OT impedance

Confirm load and OT match before first power-up.

Current limiter

Build the DIY current limiter before step 01 if you do not already have one on the bench.

Companion to the online guide at **dimastro.com**. Does not replace tube datasheets or amplifier service literature. Always verify voltages with a trustworthy meter and follow professional high-voltage practice.

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