

Explaining the Phenomenon of Tube Amplifier Warm-up to Reach Maximum Sonic Performance.

(Quite possibly derived from: "a watched kettle never boils".)

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We are often asked: How long do I need to warm up my tube amp for it to sound its best? And why?

The short answer, in my experience, is close to an hour. Not that it won't sound pretty decent after the first 10 minutes or so, but about 45 minutes after turning my tube amps on, the soundstage starts to really expand and there is greater dynamic flow, coherence and transparency. Things sound a bit congested and small between the speakers and lacking in lively micro-dynamic shifts from cold. This goes to some degree for tube preamps as well, but since they all get turned on about the same time, everything sonically comes together in the same timeframe. It's also clear to those of us who listen for 3-5 hours at a time (and beyond) that tube electronics continue to open up, relax and sound even more real over several more hours. When you come home, try turning your system on right away, unless you actually enjoy hearing your stereo blossom in slow motion and don't want to waste precious tube life on warm-up.



As to why: There's a lot of mass in most tube amps; the chassis, transformers and circuitry all need to reach thermal equilibrium. Reaching operating temperature stability allows the circuit to achieve maximum electrical stability which minimizes distortion characteristics.

While it is important to let tube gear reach final operating temperature for optimal sonics, it is also important to allow proper ventilation around tube components -so they don't overheat in abnormally hot ambient air and shorten tube and overall component life. Follow your owner's manual or consult your dealer for guidance in this matter. For safety and tube-life practicality, it is not advisable to leave tube gear on all the time or unattended, especially tube amps.

A little context: If you think tube gear warm-up is a bit of a hassle, try listening to an all solid-state system from cold. Nasty business. Even after 10 minutes or longer. Solid-state audio generally takes so long to stabilize and sound half-way decent that some audiophiles resort to leaving these components on for days or all the time to avoid the pain.

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