

TubeMeister 18 to TubeMeister Deluxe 20: a cathode follower case study



We got such cool and interesting feedback on our blog looking at the cathode follower and its influence on guitar amp tone that we decided we'd take the time to explain the evolution from the [TubeMeister 18](#) – which doesn't feature a cathode follower – to the [TubeMeister Deluxe 20](#)...

Now, the Deluxe 20 features a cathode follower – and we think it's probably the first amp in the world with only two preamp tubes to have one (the 18 doesn't).

But why is this? Why did we want to shoehorn a cathode follower into the Deluxe 20? And how did we do it? Read on to find out!

We're going to need a bigger preamp

Well, for starters it's worth pointing out that many H&K amps (like the [GrandMeister 36](#), [TriAmp Mark 3](#) and [Coreblade](#)) feature a cathode follower. In fact, of the TubeMeisters, it's only the original 18 (which features two 12AX7 tubes in its preamp) that doesn't have one.

This is because in the past we weren't sure how to fit a cathode follower into the 18. Tube 1 is the driver, tube 2 the phase splitter – and you need both to have a decent functioning amp.

The TubeMeister 36 has a third tube in its preamp section: a cathode follower in between the driver and the phase splitter.

That cathode follower sound

When it came to designing the TubeMeister Deluxe 20, we knew we wanted a cathode follower in there – not only as an impedance converter for the following EQ stage but as a sound-shaping device that adds the typical artefacts of a DC-coupled cathode follower to the distortion tones.

What this means is that the positive half wave of your signal is compressed, while the negative half wave stays "clean" – which creates unique harmonics and results in a warm and creamy distortion sound.

The challenge would be fitting this into a tube preamp with only two tubes!

Fitting three tubes into two spaces

Step forward the crack team of H&K engineers, who – after a rigorous period of research, testing and generally playing tube amps to death – found that (especially for the overdrive sounds) a cathode follower is way more important than the phase splitter tube.

With this in mind, they decide to try replacing the phase splitter tube with some newly-developed solid state circuitry that behaves like a tube... meaning that the second tube would now be freed up to use as a cathode follower.

So, like we said before, the TubeMeister Deluxe 20 is very possibly the first amp in the world ever to feature a cathode follower in a 2-tube-preamp. Let us know if you know of any other amps that beat us to this honor!



Spot the difference – but you’re more likely to hear it: TubeMeister 18 (left) and TubeMeister Deluxe 20

However you look at it, though, it’s pretty unique. And, most importantly, the tones are to die for. We’re pretty sure that if you try the TubeMeister 18 and the Deluxe 20 together, you’ll see what we mean.

There’s more to tone than cathode followers

Now, to be clear, we’re not saying that an amp with a cathode follower automatically sounds better than one that doesn’t have one. There are plenty of great amps with cathode followers, and plenty without.

Similarly, there are plenty of not so good ones with cathode followers and without.

The cathode follower is not the be-all and end-all of good tone. But in this case, it’s the biggest significant change between the TubeMeister 18 and the TubeMeister Deluxe 20, and the results are there for any guitar player to hear and feel while playing.

That’s all from us for today! If you’re dying to get into the technical details of the cathode follower in more detail, try this article on Valve Wizard – they’ve got you covered:

valvewizard.co.uk/dccf.html

And now click here to go back to the Blog Of Tone:

blog.hughes-and-kettner.com