



Simple Curve Tracer

1. What changes as the tube wears out?

2. How do I measure that?

Anyway, you can display curves on your scope, **one** grid voltage at a time, with the circuit shown here. The AC supply could be your 350V transformer on a variac. The plate voltage will be negative half of the time, but so what? The DC grid supply needs to be especially clean or it will spoil the curves

Set your scope to X-Y mode. Connect the X channel to the plate and set it to AC coupling. Connect the Y channel to the top of the 1 ohm current sense resistor. 1 ohm means 1 volt per amp, so if you have your Y axis set to 10mV per division then you can read it as 10mA per division. You might have to set that axis to invert.

With both supplies off you'll get just a dot. Position it somewhere convenient in the lower left corner of the display, then turn up the supplies and amaze your friends.