

The “Gothik Ring” Layout Method

Before I dive in to the nitty-gritty of the “how” and “why” of the Gothik Ring (GR) layout method, let me provide a little background and history on it's genesis and development:

Years ago, when I first started to develop an interest in electronics, I naturally gravitated towards “Point-to-Point” (PtP) construction methods. The reason being, that it simply suited my personal sense of aesthetics. There have been many, many articles written on the superiority (or lack thereof) and advantages/disadvantages of each construction method, so I'm not going to take up that discussion at all. I will simply leave it at this: Although the GR method of PtP construction is my preference, **I make no claim that it is in any way superior to any other way of building electronics**. Furthermore, my personal position in the debate in general is that *anymethod* of construction can be as good as any other, if it is executed well.

Back to my interest in PtP and how it applies to a layout strategy that does not rely on a specific construction type... Naturally, I did a great deal of research on what makes “good” PtP vs. “bad”, and more importantly, what constitutes “really, REALLY good”. I stumbled upon a site that [really got me thinking](#). In particular, the statement that “Really, really good PTP construction will have the components arranged in almost a star pattern, all of them leading radially away from the socket.”

At the time, I was involved with a group of fellow guitar amp enthusiasts, and collectively, we called ourselves the “Gothik Amplifiers Consortium”. The first two members were an incredibly inventive and gifted designer named Iain Williams (hope you stop by to say hello Iain!) and yours truly. The name “Gothik” came from Iain's personal “brand” that he produced amplifiers under. We have since become effectively defunct, although we can all contact each other easily enough.

At any rate, Iain and I started passing some ideas back and forth on how to achieve this layout goal. The result was the Gothik Ring.

In my next post, I'll explain the technical rationale behind it, and provide examples of how it can be used in theory and in practice.

January 5, 2017 Amplifiers, Electronics Gothik Ring, Gothik Ring, Layout, Lead Dress, Point-to-Point, PtP

HyTronix Proudly powered by WordPress

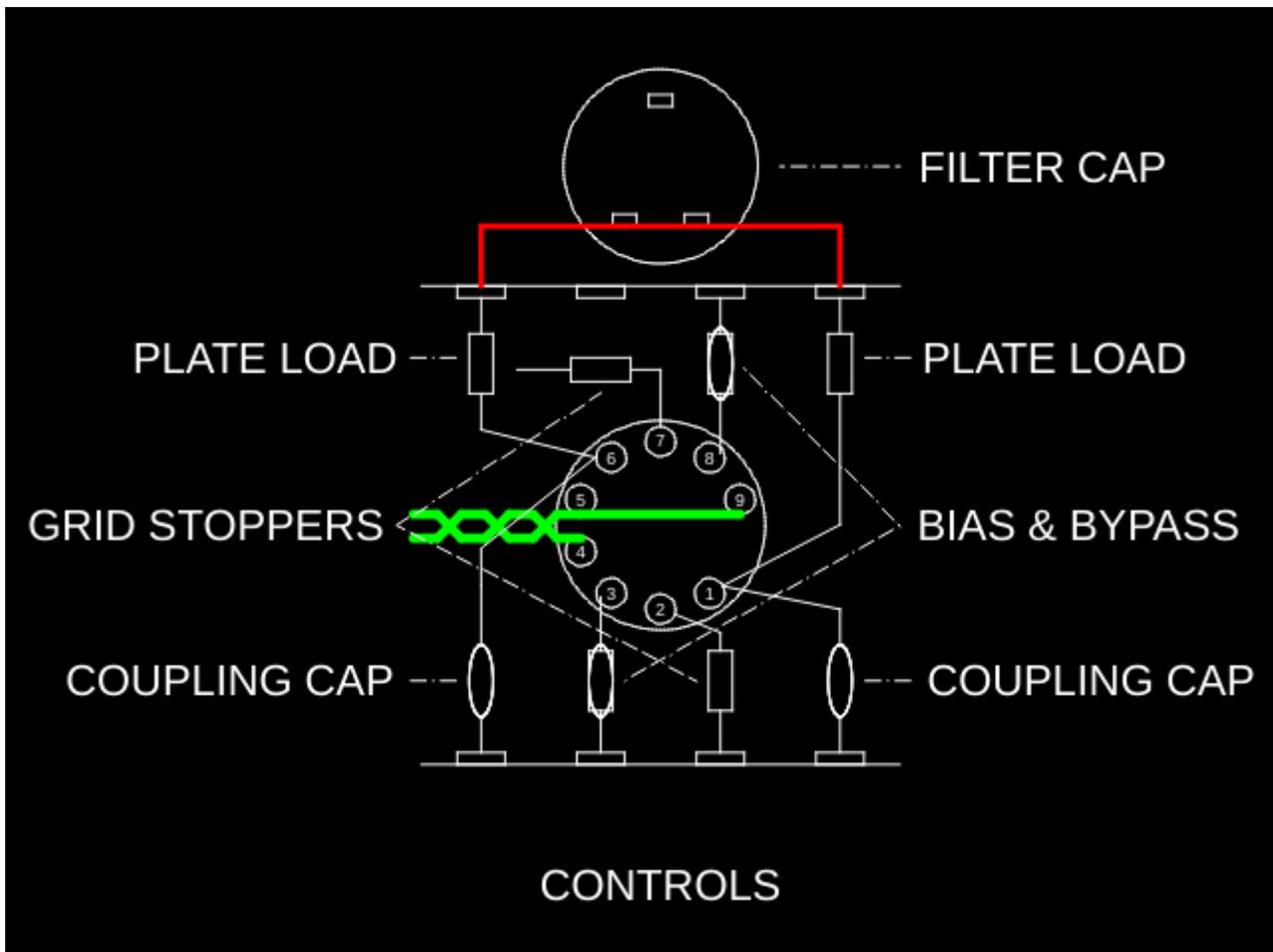
The “Gothik Ring” Layout Method, Continued...

Now that we've covered “how we got here”, let's take a look at “why” and “how”.

Why? We had a number of goals in mind:

- Reduce or eliminate coupling between components and/or leads
- Reduce or eliminate flying leads/wires
- Make the signal path as short as possible
- Where wires *must* cross, do so at right angles and on a different Z-plane
- Keep grid components as far as possible from sources of interference
- Make proper grounding technique easy to achieve

How? With some creative orientation of sockets and components, as well as extensive utilization of the Z-axis, we were able to meet all these goals. A sketch of these basic principles looks like this (for a B9A basing):



B+ wires are in red, heater wires are in green. Note that all the HV lines are on the opposite side of the tube socket from the coupling caps (which are generally leading to controls). Grid stoppers are right on the socket where they belong. Stage ground points are easy to aggregate at the filter cap, and utilizing them is natural – grounds from stage input controls or voltage dividers land right at that stage's cathode circuit ground, requiring only one short flying lead to aggregate at the filter cap ground. Heater wires run at a right angle to everything else, and on a different Z-plane. By placing the tube socket close to the control panel, flying leads to controls can be very short or eliminated altogether (by bridging the cap with the components themselves).

Here's a working example – the first push-pull amp I built using this method, which has been in HEAVY (ab)use since 2007:



~John-Eddie