Re: Loosely coupled transformer windings

Source: http://sci.tech−archive.net/Archive/sci.electronics.design/2008−01/msg02165.html

- *From*: "Steve Carroll" <nobody@xxxxxxxxxxx>

- *Date*: Wed, 16 Jan 2008 04:19:05 +1100

"John Popelish" <jpopelish@xxxxxxxx> wrote in message
news:g−edncoX_6xheRHanZ2dnUVZ_hSdnZ2d@xxxxxxxxxxxxxx

> Think E cores with center or one leg ground
> off to make a gap.

My drawing probably wasn't too clear, but there was an air gap in the middle leg. (It looks like a washer.) I figure that I can wind the 3 windings, then increase the air gap to reduce the coupling to the secondary until, under load, it drops from 1000V of "turns−ratio" voltage to about 100V−200V of "loaded" voltage, while still keeping close coupling between primary and feedback windings, (or two halves of a centre−tapped primary for push−pull driving).

> There are E core shapes made that have
> all 3 legs the same cross sectional area for this purpose.

I don't quite follow what you mean here.

> And, of course, you could add an external inductor in series
> with a tightly coupled secondary and get a very similar effect.

Yep, I've also been thinking about that. It would make starting easier, too, especially if I adopted a method of shorting across the second side of the heater filaments to heat them, then open that circuit to dump the series inductor's energy across the tube for ignition, similar to mains operated fluoros.

Incidentally, in the end I'll also add heater windings, which should have reasonably close coupling, but one thing at a time, I reckon.

.... Steve

.