
Subject: Re: Some questions on Power supplies
Posted by [Damir](#) on Sun, 27 Nov 2005 20:01:56 GMT
[View Forum Message](#) <> [Reply to Message](#)

I suppose that $B+ = 365V$ is for output stage, CRC filter, from $60\mu F$ cap, and second RC filter ($5k6/20\mu F$) is for phase splitter. Output DC voltage ($365V$) from L-input rectifier is $0,9 \cdot U_{tr}$, minus losses in transformer windings and diodes. In another words, you'd need $U_{tr} = 365/0,9 = 405,5V + U_{losses}$. To find out exact U_{tr} , the easiest solution is to use PS simulator, Duncan PSU II. You can choose various PS "blocks", and rectifiers. The first step is to measure (with Ohm-meter) primary and secondary resistances of your transformer(s). With full-wave (say $450-0-450V$) secondary, measure the resistance of half of the secondary, from $0-450V$, r_s . Let's say it's 50 Ohms. Then measure r_p of the primary ($0-120V$), let's say it's 8 Ohms. Then find the turns ratio $N = U_{sec}/U_{pr} = 450/120 = 3,75$ in this example. Compute the resistance of the transformer, $R_{tr} = r_s + N^2 \cdot r_p$, in this example $R_{tr} = 50 + 3,75^2 \cdot 8 = 162,5$ Ohms. The program needs U_{tr} and R_{tr} . Put a reasonable choke, say $10H/100$ Ohms and $C \sim 100\mu F$ after tube rectifier of your choice, loads (constant-current, say $70mA$ for output stage) and you can see various numbers - currents and voltages, and graphs. See, for example my 300B "story" , part 3...
