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Subject: Re: Some questions on Power supplies  
Posted by [Damir](#) on Sun, 27 Nov 2005 20:01:56 GMT  
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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  $0,9 * U_{tr}$ , 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 solutions 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,  $R_{tr} = r_s + N^2 * r_p$ , in this example  $R_{tr} = 50 + 3,75^2 * 8 = 162,5$  Ohms. The program needs  $U_{tr}$  and  $R_{tr}$ . Put a resonable 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...

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