

July 23, 1940

Mr. M. B. Krim  
Raytheon Production Corp.  
55 Chapel St.  
Newton, Mass.

Dear Mr. Krim:

I quite agree that it will be necessary to use mercury in the thyrotron designed to carry 300 ma peak current and 2500 to 3000 peak volts forward and inverse peak rating. I would like this tube to have a dionization time of something like  $1/1000$  sec. and can conveniently furnish any voltage up to -50 to keep it locked until the discharge is initiated by removing this bias. I expect that variations in bulb temperature will give little trouble because the amount of power which the tubes will be asked to carry will be very small. The tube will be heated mainly by the filament and will be operated for a rather uniform room temperature. Furthermore, sufficient negative bias can be employed to keep the tube locked at the highest temperature at which it will be used.

At present our principal receiving tube need is for something over 100 6C8G's. We will also need approximately fifty other tubes but circumstances will require us to order this later.

If you assist me in the solution of my thyrotron problem, it will be a great help indeed in the development of this machine. At present, our design and construction are proceeding at a very satisfactory rate and a year's efforts should find this project nearly completed.

Please thank Mr. Corn for his interest in my project.

Sincerely yours

J. V. Atanasoff  
Assoc. Prof. of Physics and  
Mathematics

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