

start of the recording interval. This "post discrimination" is done in the following way. The comparatively long pulses of the differential selector are first sharpened to a pure exponential pulse of about $2 \cdot 10^{-8}$ sec duration. Then they are fed to the grid of a thyratron whose bias is modulated by a negative square wave starting right at the beginning of the measuring interval and lasting for a time of the order of one collection time. The negative modulation is so high as to prevent the pulses of the sharpener, which are all of equal height regardless of the height of the pulse originally actuating the selector to operate the thyratron. If the sharpener were actuated during this time of post discrimination the sharpener pulse would already have decayed appreciably at the time at which the negative modulation of the thyratron has stopped. It will therefore not actuate this thyratron, which, without the modulation, is biased so that sharpener pulses just actuate it at the moment when they reach their full height. On the other hand sharpener pulses originating after the start of the measuring interval reach their maximum height only after the modulation has ceased and will therefore be recorded. The accurate duration of the post discrimination interval can be determined experimentally. The procedure will be described in paragraph 3. Finally the output of the post discriminator thyratron is fed in the same way as the output of the integral thyratron to a 6L6 power tube and recorded by a relay-operated Cenco counter. All the power supplies for the amplifier and the high voltage of the ionization chamber were fed from a 500-watt, constant-voltage transformer.

The square-wave generators for the modulation of the feedback, discriminator and post discriminator are represented in Fig. 5. Feed-