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MODEL PT003 TRIGGER GENERATOR

INTRODUCTION

The PT003 Trigger Generator is an ideal source to fire the larger PT55 series pulsers*. It is capable of driving loads of virtual short (0 impedance) to open circuit (500 volts into 10k Ohms). This unique feature renders the PT003 open to many applications, such as firing of: Solid State Laser, Xenon flash tube, LED, Squib, Hard and soft vacuum tubes, Microwave tubes and Krytrons. In the last category, the PT003 has operated into 7.5kV. anode potential through 180 Ohms isolation repeatedly, without ill effects.

OPERATION GUIDELINES

Electrical Connections	The input, output and D.C. charge connections are clearly marked on the name- plate. All leads are coaxial and of RG-174 type, and will accept standard RF type connectors.
Mounting	PT003 may be mounted in any convenient position, requiring only a single 6-32 UNC screw. The mounting point is floating (all pulse and D.C. returns are through individual coaxial shields).
D.C. Bias	A 90 volt battery is an excellent supply, or any regulated 100 volt linear power supply may be substituted. Observe proper polarity: do not apply over +100 volts D.C. bias. Current requirement is typically 0.5 mA. @ 60 pps. Idle drain is less than 25 uA. @ ambient. The PT003 will operate down to +10 volt D.C. charge.
Trigger Input	Trigger input impedance is 50 Ohms. The PT003 will trigger on a 3 volt 25 nS. Wide pulse. Fast rise pulses are desirable. Repetition rate is excess of 100 Hz.
Output	Output is designed to operate into 50 Ohms, but the PT003 will pulse into loads ranging from short to open circuit. Output amplitude is a function of D.C. charge: over +300 volts peak when charged to +100 volts D.C., and short circuit recovery is automatic. Output risetime is less than 10 nS. into 50 Ohms (typically 7.5 nS.)
Pulse Jitter	Input-Output delay is nominally 25 nS., jitter is less than 1 nS. When triggered by a mercury reed switch at 5 volts 60 pps., jitter was immeasurable @ 2 nS. O'scope sweep. Where jitter is critical, operate the PT003 at the maximum D.C. charge, i.e. +100 volts.

* A system consisting of a PT003 and PT55, will trigger on 3 volts and output more than 50 kV., with less than 5 nS. Jitter.