

Rep-Rate Thyatron: Multi-Purpose HV Impulse Generator

HRR-TU-18 Rack Unit

KEY PARAMETERS AND SPECIFICATIONS

- Pulse Energy - 500 mJ
- Peak Pulse Voltage - 20 KV
- 1 KHz Maximum Repetition Rate
- 820 nm Fiber Optic Timing Inputs
- Thyatron Charge Analog Out
- Marx Charge Analog Out
- Rack Height - 8.75 in
- Front Panel Width - 19 in
- Rack Depth - 20 in
- Total Unit Weight - 30 lbs



Technology Summary

The multi-purpose APELC HRR-TU-18 trigger unit utilizes a thyatron-based pulse-forming circuit to provide the trigger pulse to the Marx generator. The unit also conditions and routes optical signals from the delay generator to control the charge and inhibit cycles of the thyatron HVPS and the Marx HVPS. The trigger unit facilitates pulse charging of both the thyatron circuit and the Marx generator. The pulse-charging mode of operation minimizes high voltage DC degrading effects (e.g. corona) and provides a safer high voltage environment since the default states of all power supplies are inhibited.

Additionally, the trigger unit provides LED indicators on the front panel for indication of thyatron HVPS conditions. Two key system diagnostics, Marx HVPS Analog Out and Thyatron HVPS Analog Out, are available on the front panel of the unit. These two signals can be monitored on any 1 M Ω oscilloscope channel by connecting to the BNC jacks on the front panel.