

The 8025RS Variable Width High Voltage Pulse Generator utilizes highly reliable MOSFET, solid state elements to provide adjustable width, high voltage pulses with fast, symmetrical rise and fall times. The instrument is useful with electro-optic light modulators such as Lasermetrics' Series 1040, 1050, 1145, 1147 and 1150 Pockels cells in many applications: laser pulse gating, slicing, and shaping; and Q-Switching with post-lasing suppression. The 8025RS is also compatible with other low capacitance, two terminal devices such as piezoelectric transducers.

The 8025RS employs a low jitter, differential high voltage MOSFET switching amplifier which is triggered from an external event or synchronizing signal. Two trigger inputs are available: a high level 300 Ω, 5 to 24 volt input; and a 50 Ω, 5 volt, TTL compatible input. Trigger polarity is +/- selectable.

The 8025RS provides output voltages which are adjustable by means of a front panel control and meter. Output pulse voltage is insensitive to trigger voltage amplitude. An output pulse will be generated when the trigger voltage exceeds the minimum level specified to activate the input circuits.

Over the full range of delays and pulse widths, rise and fall times are maintained at less than 15 nanoseconds for output pulse amplitudes between 1.0 and 5.0 kV and pulse repetition rates up to 500 pps.

**8025RS -- NOMINAL SPECIFICATIONS**

Voltage Range, Output Pulse  
 Pulse Repetition Frequency  
 Delay Range, Input-Output — SELECT  
 Output Pulse Width Range — SELECT  
 Intrinsic Delay, Input-Output — DIRECT  
 Delay Range, Input-Output — DIRECT  
 Output Pulse Width Range — DIRECT  
 Output Rise and Fall Times  $t_r = t_f$   
 Jitter (Input to Output)  
 Jitter (Pulse Width)  
 Power Requirements  
 Cabinet Dimensions, Rack Mountable  
 Weight, nominal



Two modes of operation are available:

**DIRECT mode:** internal delay and pulse width functions are disabled and the output pulse width follows the width of the input trigger pulse. Pulse width range in the DIRECT mode is from about 50 nsec to infinity. Pulse width can be changed from pulse to pulse.

**SELECT mode:** an output pulse is activated by the leading edge of the trigger pulse. When set to the SELECT mode, a front panel adjustable in-out delay enables the user to delay the occurrence of the output pulse and select where, in the optical pulse, slicing, gating, or Q-switching occurs. Output pulse widths are continuously adjustable from less than 0.1 μs to 999.9 μs.

1000 Volts to 5000 Volts  
 Up to 500 pps at 5000 Volts  
 100 ns to ≈ 999.9 μs in three ranges  
 100 ns to ≈ 999.9 μs in three ranges  
 < 80 ns  
 < 80 ns to infinity — Externally Controlled  
 ≈ 50 ns to infinity — Externally Controlled  
 < 15 ns  
 < 5 ns  
 < 5 ns  
 115/230 Volts, 50/60 Hz, 60 Watts  
 19" W x 4.75" H x 17" D (3U Size)  
 22 lbs (10 kg)