



# QUANTUM TECHNOLOGY, INC.

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**MODEL HVP-540-DPHT-2  
DOUBLE PULSE HV PULSER  
DATA SHEET 766**

## MODEL HVP-540-DPHT - DOUBLE PULSE HV PULSER

### FEATURES

- { Output up to 5 KV, 9KV optional
- { All Solid State
- { High reliability
- { <10 ns Rise and Fall Times
- { Separation 200nsec to 5 usec

### DESCRIPTION

The Model HPV-540-DPHT-2 is an advanced, flexible, solid state driver designed to suit a variety of double pulse applications, such as holography and regen amplifiers. Based upon proprietary Quantum pulse technology, it offers a consistent low jitter performance. Featuring an adjustable high voltage output to 5 KV, the HVP-540-DPHT-2 can be triggered up to 1 KHz continuous. The HVP-540-DPHT-2 consists of the HVP-540-DPHT-2 chassis and HVP-DPHT driver.

The Model HVP-540-DPHT-2 can be thought of as two fast, digital ON-OFF switches coupled to a HV power supply. Differential voltage pulses are then presented to the Pockels cell. The output pulse amplitudes are simultaneously adjusted by setting the power supply voltage. The minimum pulse width is 10 nsec. Rise and fall times are less than 10 nsec with a 10 pF Pockels cell load mated directly to the driver module. Options include triggering without the DD1-2 (programmable pulse width delay module), rear mounted SHV connectors to mate to external Pockels cell, and high voltage to 9kV.

Applications include double pulsed Q-Switch driver or Pockels cell shuttering, (using any Quantum's QC series Pockels cell) for holography, material non-destructive testing, EMP testing, time of flight mass spectroscopy, micro-channel plate drivers or any other application requiring a flexible high voltage pulser.

The DD1-2 is a two pulse version of the DD1. The DD1-2 synchronizes to an external mode locked signal, or to the internal clock, like the DD1, except the DD1-2 has the addition of pulse width control for Out-1 and Out-2 signals to the driver. This gives complete control of the pulse separation in nanosecond increments and continuously analog pulse widths. When used without the DD1-2 the driver requires four trigger signals for leading and trailing edges of each output high voltage pulse. For additional information on the DD1, please see data sheet 734

### Specifications

<b>Output Voltage</b>	<b>0 to 5 KV, Option to 9kV</b>
<b>Rise and Fall Time</b>	<b>&lt;10 nsec: 5 nsec @ 5KV, &lt;8nsec @ 9KV typical</b>
<b>Pulse Width</b>	<b>&lt;10 nsec to 100 nsec (with DD1-2 option) &lt;10 nsec to 1msec (without optional DD1-2), 10 nsec to DC optional</b>
<b>Jitter</b>	<b>&lt;1nsec</b>
<b>Separation</b>	<b>200 nsec to 5 usec (with DD1-2) 200 nsec to 1msec (without DD1-2)</b>
<b>Pulse Repetition rate</b>	<b>Up to 20 KHz with forced air cooling</b>
<b>Trigger Requirement</b>	<b>DD1-2 which supplies 4 triggers without DD1-2 4 each triggers: 3-5 Volt into 50 Ohm (TTL)</b>
<b>Size HxWxD, Weight (lbs)</b>	<b>14.5x14.5x6.5 in<sup>3</sup> (HVP-540-DPHT-2 chassis with DD1-2), 2.5x7x9.52 in<sup>3</sup> (HVP-540-DPHT-2 chassis without DD1-2), 2.5x4.2x6.5 in<sup>3</sup> (HVP-DPHT Driver only, 2 sets)</b>
<b>Power Requirement</b>	<b>100/115/230 VAC, 50-60 Hz</b>