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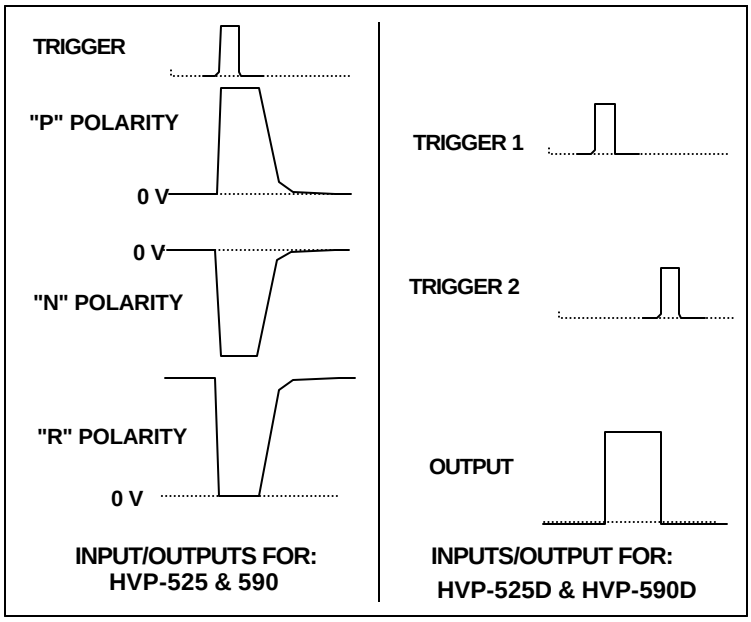
MODEL HVP-500
HIGH VOLTAGE PULSERS
DATA SHEET 749

- **Adjustable Output to 9 KV**
- **Fast <8nsec (5 typ.) Risetimes**
- **Shielded Modules**
- **Good Noise Immunity**
- **Rugged Solid State Design**
- **OEM Configurations**
- **Fast turn-around on most items**

The **HVP-500** Series modules are completely solid state, rugged, high voltage switching devices that provide a reliable switching pulse for any Quantum's LN, QC or QS series Pockels cells (Lithium Niobate for Mid-IR or KD*P and BBO Q-Switches). They offer fast nanosecond switching times for up to 9 KV pulses. Model HVP-525 has a 4 nsec typical rise time and HVP590 has an 8 nsec typical risetime, both with a 30 pF load. They can be used for Cavity Dumping, Pulse Picking, Chopping, Slicing, Gating applications as well as modulation of laser beams when used with Pockels cells. They can be used to gate microchannel plates or electron beam steering and other R&D applications. Some DC powered units operate on +15 VDC. The **HVP-500 series** are advanced, flexible, solid state pulsers designed to suit a variety of applications. Based upon proprietary Quantum pulse technology, they offer consistent, low jitter performance. Featuring adjustable high voltage outputs to 9 KV, these modules can be triggered up to 2KHz continuous or 2 MHz bursts. Continuous 20KHz repetition rates can be attained with optional higher powered power supplies. Modified versions of these drivers have been driven up to 100 KHz. These drivers can be thought of as operating a fast, digital switch coupled to a HV power supply. The output pulse amplitude is easily adjusted from 10%-100% of the maximum HV by adjusting this power supply.

SPECIFICATIONS HVP-525S-P, N or R ONLY:

Voltage monitor:	1/1000, 20 KOhm source
Input trigger:	3-15 Vp @ 1 KOhm (single shot to 10 KHz)
Pulse level control:	0 to 10 V level for 10% to max
Rise Time:	< 8nsec (8 nsec typ)
Input DC Voltage:	+15VDC typ
Input DC Current:	250 mA idle (700mA Max)
Max Output Swing:	9000 V
Input Trig Voltage:	5V (50 ohm)
Output Polarity:	Positive P, or Negative N, or +HV falling edge R
Propogation Delay:	20 nsec typ
Input/Output Connectors:	BNC / MHV (SHV optional)
Load:	50 pF including cable (RG59U- 2 feet)
Control/Power Connector:	6 pin RJ45 type/2.1 mm
Internal pulse rate control:	0 to 10 V level for 500 Hz to 10 KHz
Trigger output timing:	200 ns to 450 us (screwdriver-adj) delay
Delay defeat:	zero or adjustable delay switch
Trigger sync out:	single shot to 10 KHz TTL 50 Ohm
Trigger Sync Connector:	BNC
Trigger source select:	accept or generate trigger select switch
Trigger rate select:	remote / local trigger rate control switch
Trigger rate control:	screwdriver adjust when in local mode



HVP-500 SERIES PULSER SELECTION TABLE

MODEL	PULSE LEVELS		OUTPUT TYPE	INPUT POWER	REP RATE	DESCRIPTION
	Rise/Fall Time	Output (KV)				
HVP-525S-P, N, R	<10ns rise ~40us fall	1-5KV	single output	15VDC, AC adapter avail.	1KHz	OEM general 5 KV Q-Sw Driver, MHV Output connector, forced air cooling
HVP-590-P, N, R	<10ns rise ~40us fall	2-9KV	single output	HV & 400V	1KHz	OEM fast rise ~ 8ns full amplitude, Q-Sw, Cavity Dump Driver
HVP-525-DR	<5ns rise <5ns fall	1-5KV	2 differential outputs	HV & 400V	1KHz	5 KV Pulse Picker, Slicer, Cavity Dumper 10nsec-1usec
HVP-590-DR	<8ns rise <8ns fall	2-9KV	2 differential outputs	HV & 400V	1KHz	9 KV Pulse Picker, Slicer, Cavity Dumper 10nsec-1usec
HVP-525-DM	<5ns rise <5ns fall	1-5KV	single output	HV & 400V	1KHz	5 KV Pulse Picker, Slicer, Cavity Dumper 80ns-1msec
HVP-590-DM	<8ns rise <8ns fall	1-9KV	single output	HV & 400V	1KHz	9 KV Pulse Picker, Slicer, Cavity Dumper, 10nsec-1usec

OPTIONS:

POLARITY OPTIONS:

-R option: Output pulse polarity is reverse or inverted. The positive HV rest level quickly collapses to ground and resets in an RC time constant.

-P option: Output pulse polarity is positive.

-N option: Output pulse polarity is negative.

SQUARE PULSE DRIVERS:

-DR option: Dual differential outputs (R type) for pulse widths from <10nsec-1usec typical max. avail in -5xx-DR-BM or -5xx-DR-RM

-DM option: Drive Module whose output follows the input trigger separation from 80 nsec to 1msec avail in -BM or RM, -P or -N polarities, P std -available in -525-DM-BM and -590-DM-BM

POCKELS CELL CONNECTION:

-BM option: Bottom mount Pockels Cell option for fastest optical response due to lowest inductive and capacitive loading the Pockels Cell. available in -525-DR-BM and -590-DR-BM

-RM option: Rear Mount Pockels Cell option, the driver rear panel is fitted with 2 SHV connectors to connect up to the Pockels Cell in this option, available in -525-DR-RM and -590-DR-RM may reduce risetime and max rep rate slightly depending on cable and load capacitance.

HIGH REP RATE VERSIONS:

-F option: increases the maximum rep rate to 25 KHz for the HVP-525-DM-F @ 5 KV 20KHz with the HVP-525-DM-Fand 20KHz for the HVP-590-DR-F with suitable supply. Forced air cooled for maximum cooling, the air is forced out the rear panel.

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