



### Applications

Pockels cell driver  
Large aperture pockels cell driver  
Suitable for trap/dump laser configurations

Large aperture pockels cells generally need more volts than low aperture devices because the aspect ratio of the crystals used results in poorer field distribution inside the crystal. For example a KD\*P cell at 1064nm normally has a half wave voltage of ~7kV but a 30mm aperture device will be ~ 9kV.

Laser systems in which the laser pulse is amplified over several round trips of a cavity often need to switch the laser pulse in and then out at a later time. With suitable arrangements this pulse generator can drive a single pockels cell to do this.

### Summary

- Output voltage adjustable up to ~9kV into 50
- Single or double output pulse
- Output pulse widths independently adjustable
- Primary pulse width 12ns to 60ns
- Secondary pulse width 20ns to 60ns
- Various delay modes up to 400ns
- Rise time ~4ns
- outputs may be slaved to trigger
- Built in return terminator
- Monitor and Synchronisation outputs

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### SPECIFICATIONS

Amplitude	>9kV adjustable
Load	50 ohms
Rise time	~4ns
Pulse duration	12ns to 60ns adjustable
Pulse controls	
Pulse width	12ns to 60ns (80ns slaved)
Delay	up to 400ns
Second pulse width	20ns to 60ns (80ns slaved)
Amplitude	0 - 9kV
Trigger jitter	
Single pulse	Typical 100ps + delay/1000 RMS
Double pulse	Typical 100ps + delay/1000 RMS for first pulse Typical 500ps + delay/1000 RMS for second pulse
Trigger delay	~85ns direct, ~105ns min delayed
Functions	Slave trigger, single pulse Triggered, pulse width set internally Triggered, pulse width and delay set internally Slave trigger, double pulse Triggered, double pulse, pulse widths set internally Triggered, double pulse, pulse widths and delay set internally Triggering synced to RF input (eg mode locking signal) Overload trip (reset via front panel push button) Load fault (reset via front panel push button)
PRF	20Hz single pulse 10Hz double pulse
AC power	100-240V ac, <100VA
Cooling	Forced air
Controls	
Pulse width	10t rotary
Delay	10t rotary
Delay 2	10t rotary
Amplitude	10t rotary
Mode	Rotary
AC power	Rocker
Fault reset	Push button

### Connectors

AC power	IEC (rear panel)
Trigger	BNC
Aux trigger	BNC
Monitor	BNC
Pulse output	Lemo
Pulse return	Lemo
Pulse monitor	BNC

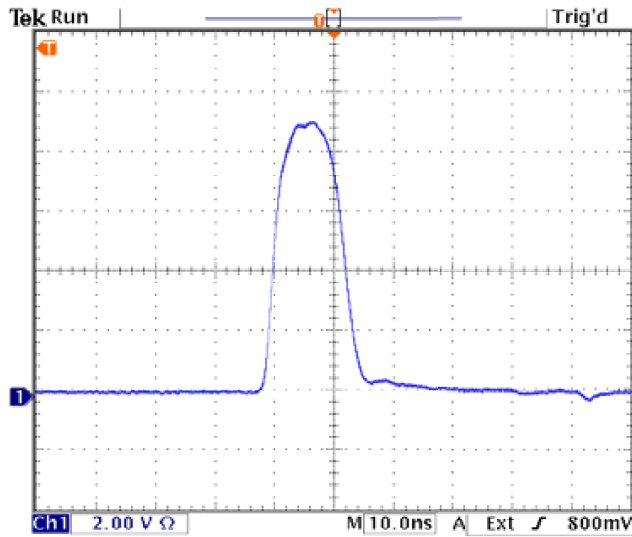
### Indicators

Power	LED
Triggered/fault	LED

### MODES

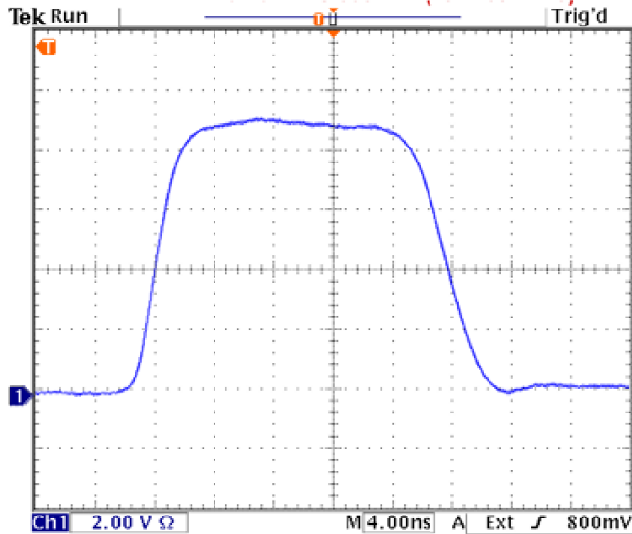
Mode	1	2	3	4	5	6	7	8	9	10
Slaved	X				X	X				
Pulse width set by PULSE WIDTH		X	X	X			X	X	X	X
Delay set by DELAY 1			X	X						
Sync. To RF into Aux Trigger				X						X
Double Pulse					X	X	X	X	X	X
Aux Trigger for 2nd. Pulse						X		X		
2nd. Pulse width set by Delay 2							X	X	X	X
Inter-pulse delay set by Delay 1									X	X

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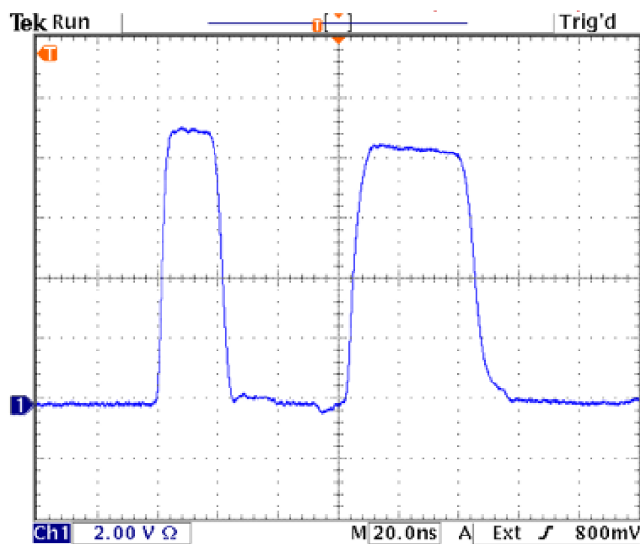


2KV per division

Minimum width at 10ns/div



Rise and fall times at 4ns/div



Typical double pulse at 20ns/div

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