

GIPO-SAU Series

High voltage pulse generator (stand-alone unit configuration with instrumented front panel)

Patented – Under licence from the French “Commissariat à l’Energie Atomique” (C.E.A.)

1 standard model

Vin : 24Vdc or universal 85-264Vac

Vout : from -500V to -5.5kV

Pulse rising edge : 2.5ns typically on a load of 2pF



The GIPO-SAU product is the instrumented version of the GIPO. It features a clear screen display control panel. The GIPO that is included inside the box is basically composed of an adjustable high voltage dc/dc converter and a high speed, high voltage switch. The stability of the high voltage power supply integrated in the module is very high (10ppm/°C). This device is able to switch 5.5kV in less than 3ns. Pulse width, voltage and repetition rates can be adjusted by the user. For stand-alone operation, the amplitude of the HV pulse is set thanks to a potentiometer. For remote control operation, the equipment is fitted with an input for external 0/10V analogue signal. This equipment is fully qualified and has been tested by some of the most important players in the optical and photonics domain.

- output voltages to -5.5kV
- stand alone configuration
- negative polarity
- fast commutation : -5.5kV in <3ns
- adjustable pulse width from 200ns to 30µs
- clear information display on front panel
- for capacitive loads
- local and distant operations
- protection against polarity inversion and shortcuts

Parameters	Specifications	Possible Applications	
Input voltage Vin	<ul style="list-style-type: none"> ▪ solution 1: DC 24Vdc ±2Vdc with 24V input indicator ▪ solution 2: universal 85-264Vac + mains ON/OFF switch on rear panel with main power indicator 	<ul style="list-style-type: none"> ▪ Flash Lamps Triggers ▪ Intensified CCDs ▪ Laser Diodes Drivers ▪ Multi Channel Plates ▪ Pockel Cells Drivers 	
Output voltage Vout	continuously adjustable from -500V to -5500V		
Pulse rising edge	2.5ns typically on a load of 2pF		
Output signal width	continuously variable from 200ns to 30µs		
Jitter	<200ps		
Repetition rate	up to 100Hz		
Polarity	fixed negative		
High Voltage assembly	<ul style="list-style-type: none"> ▪ the bench top case integrates a GIPO block plus facilities ▪ pulse output connector: high voltage safety SHV RADIALL R317-580 on front panel 		
Controls and metering on front panel	<ul style="list-style-type: none"> ▪ high voltage ON/OFF switch and indicator ▪ high voltage panel meter by 3.5 digits digital meters ▪ output voltage setting via 10-turn potentiometers with turns-counting dial ▪ output pulse width setting via 10-turn potentiometers with turns-counting dial ▪ output pulse frequency setting via 10-turn potentiometers with turns-counting dial ▪ push-button for one shot manual triggering ▪ selection switch for the internal/external/manual mode ▪ pulse inhibits switch and indicator ▪ standard SHV 50Ω input for external trigger ▪ standard SHV 50Ω output for pulse synchronization 		
Internal mode	output pulse width and frequency are controlled by front panel potentiometers		
External mode	<ul style="list-style-type: none"> ▪ output pulse width and frequency are controlled by standard SHV trigger input ▪ output voltage and monitoring are controlled through SUB-D connector on rear panel 		
Manual mode	output pulse width controlled by front panel potentiometer, triggered by front panel pushbutton		
MTBF	>700800 hours @25°C		
Controls on rear panel	<ul style="list-style-type: none"> ▪ input 24Vdc through BR2 connector (optional) ▪ fuse for 24Vdc : 2,5A temporized (optional) ▪ fuse for 230Vac : 0,5A temporized ▪ mains ON/OFF switch ▪ SUB-D connector ▪ screw plug for grounding 		
Operating temperature	0°C to +40°C		
Storage temperature	-10°C to +70°C		
Provided accessories	specific coaxial shielded cable for high voltage equipped on one end with a SHV plug of safety RADIALL R317-074.		
		Package Configuration	
		Case	box 2U 42E
		Dimensions LxHxW	257 x 103 x 313 mm
		Weight	3kg

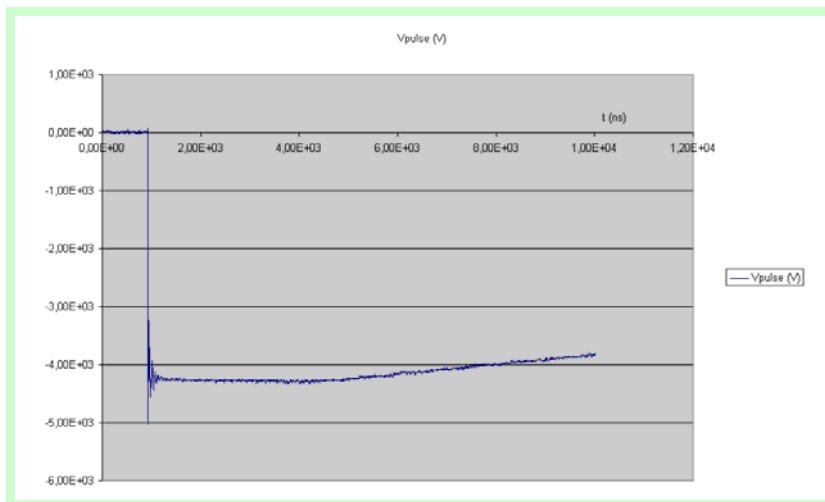


Fig.1 : overall view

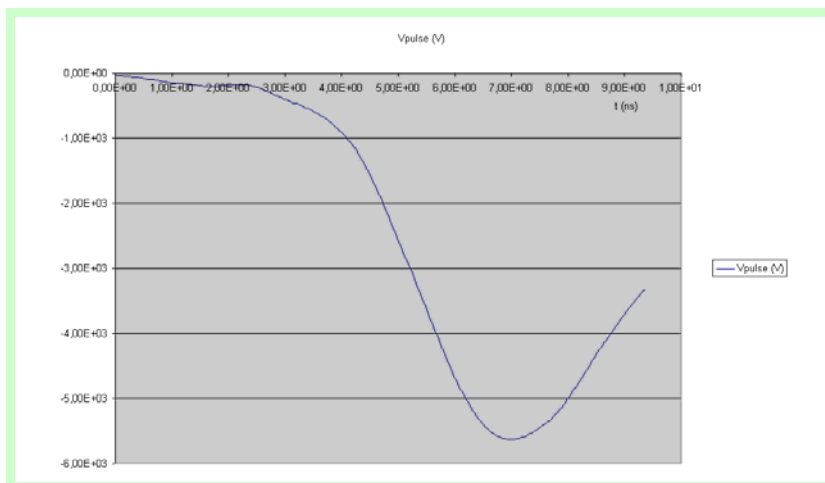


Fig.2 : detail of the falling edge

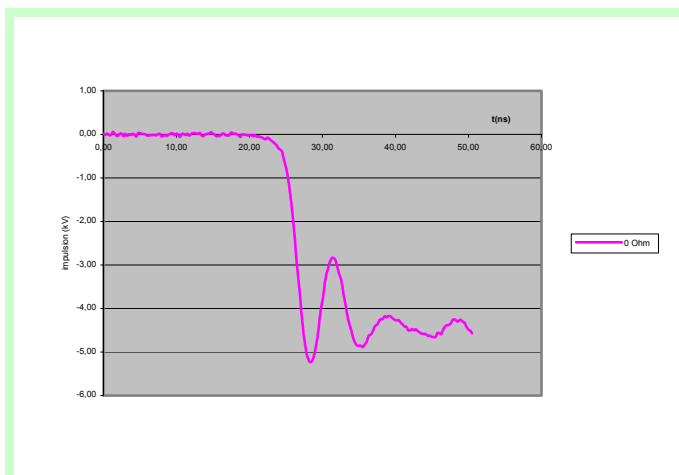


Fig.3 : rebound

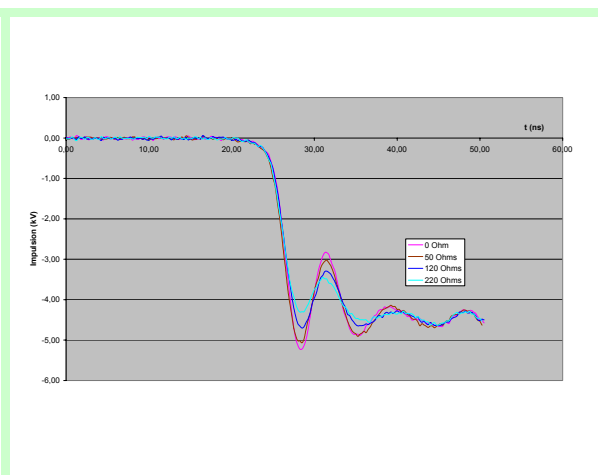


Fig.4 : a resistor in series with the Pockel's cell can smooth the rebound - test with several values of resistors