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Wrocław

## ULTRASONIC PULSER OPGUD HV

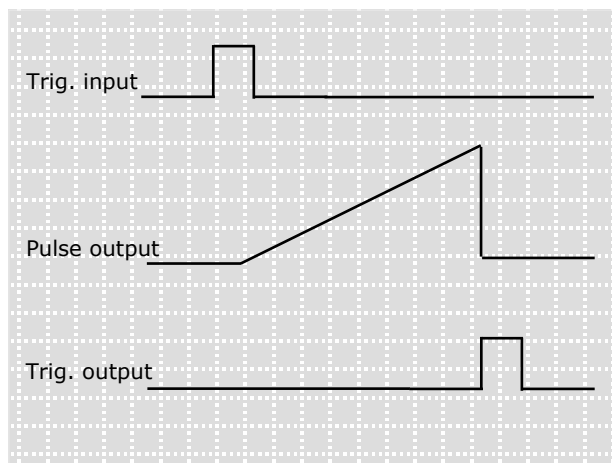
OPGUD HV is an ultrasonic pulser suitable for work with all ultrasonic transducers with about 500pF – 20nF impedance.



### Method of operation:

The rising edge of the Trigger signal (see picture) initiates the transducer charging process. After a predetermined time, the end of charge of the transmitter occurs and the ultrasonic pulse trigger (falling edge pulse output) is generated. At the same time a pulse Trig output is generated.

- Pulse amplitude: 100V - 1250V
- Duty factor: 50% - 95%
- Frequency: 0.7 – 164Hz
- Trigger output/input: TTL



## Working modes

Generator can work in two modes:

- Setting (SET) mode which allow to set parameters using potentiometers, available on the front panel. The generator is also normally working in this mode, but not necessarily stable.
- Normal work mode (RUN). In this mode the possibility of changing the settings is blocked. The generated signal is stable in this mode.

Trigger:

- INT – Internal trigger
- EXT – External trigger.

In both cases trigger signal is sent or received by BNC (TRIG) connector on the rear panel.

Trigger pulse is sent out after the transducer is discharged.

In the case of external trigger mode, the generator reacts to the raising pulse, starting the process of loading and discharging the transducer.

Input/Output of trigger is placed on the rear panel.

## Front Panel

**SET/RUN** –  
Mode switch;

**INT/EXT** -trigger  
switch;

**AMPLITUDE** –  
setting of pulse  
amplitude;

**DUTY** – duty cycle  
regulation;

**FREQUENCY** –  
cycle length  
regulation



Front

### Rear Panel

BNC Connector  
**TRIG** – Trigger  
(internal / output or  
external / input)

### OUTPUT

+

–

**POWER** switch

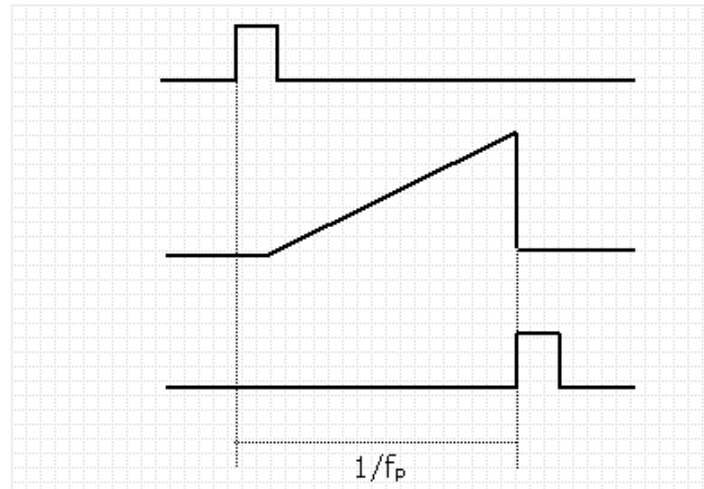
Jack Connector  
**12V/3A** for wall  
socket.



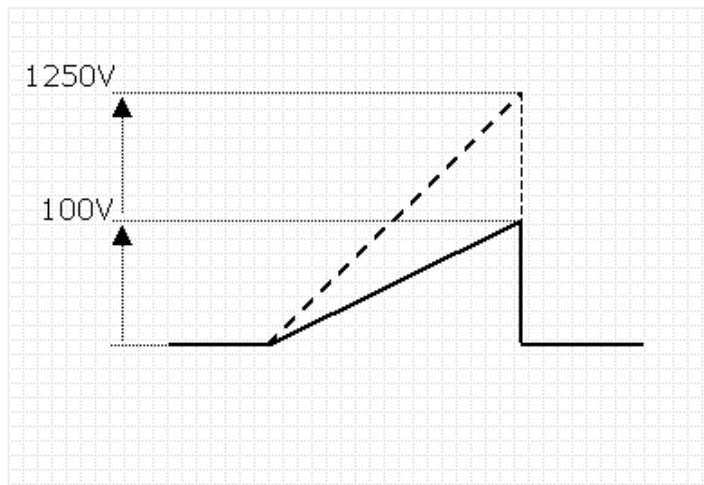
Back

### Settings

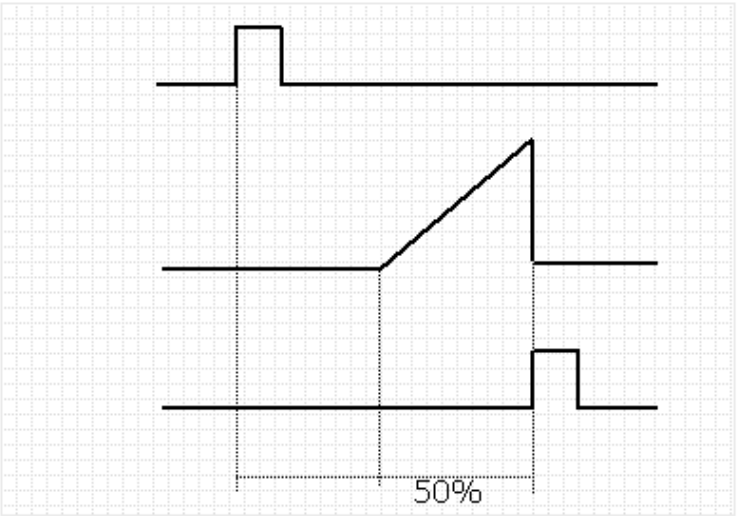
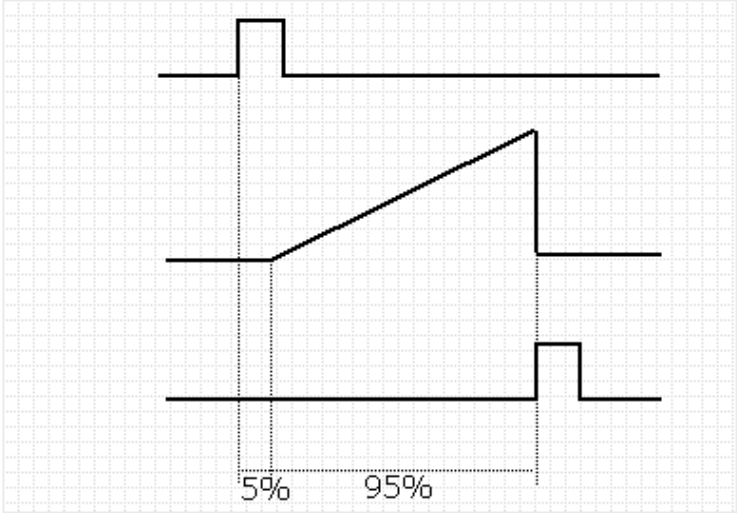
Frequency:



Amplitude:

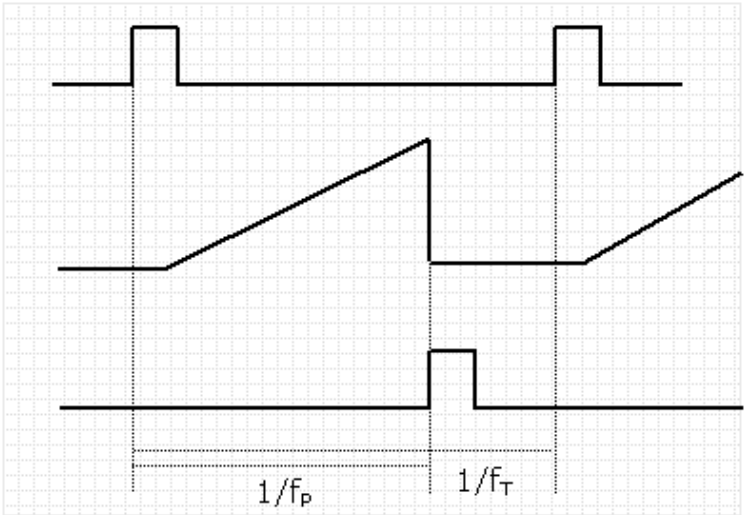


Duty:

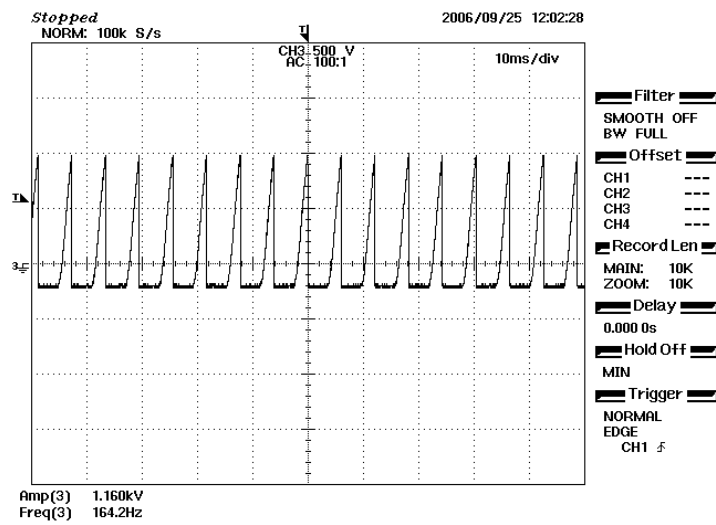


External Trigger:

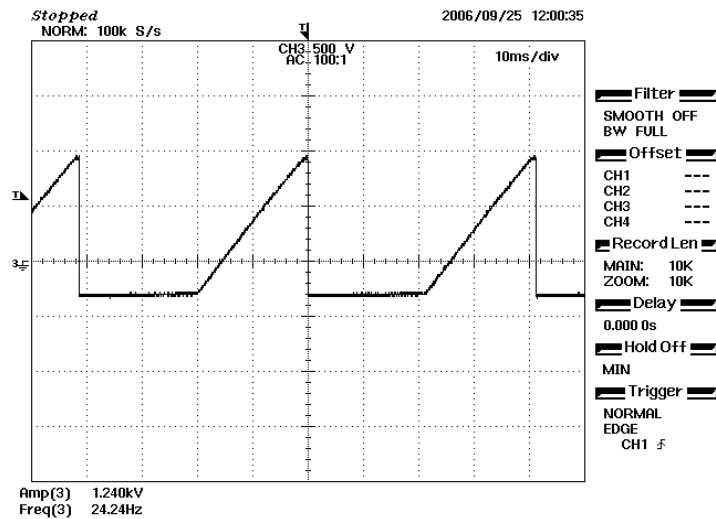
Condition:  
Frequency  $1/f_p$  must be  
larger than the repetition  
rate  $f_r$



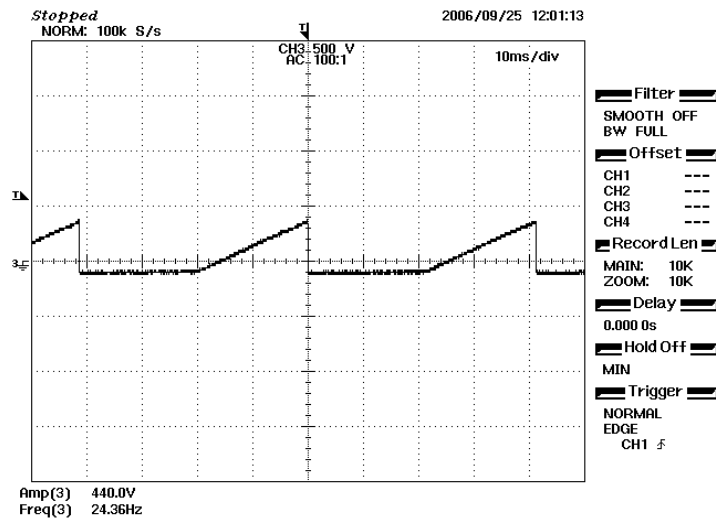
Examples of measured signals:



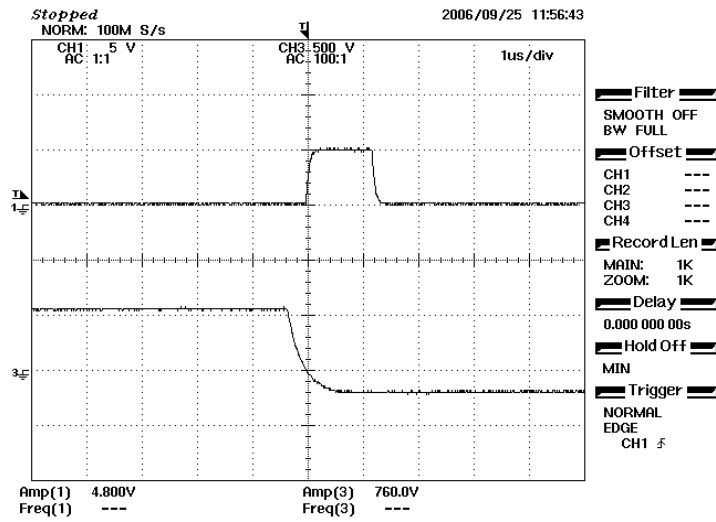
Amplitude = 1.160kV; Frequency = 164.2Hz



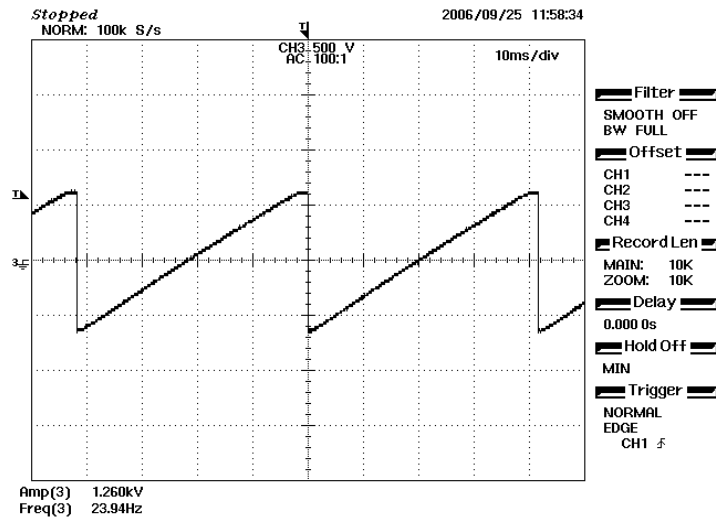
Amplitude = 1.240kV; Frequency = 24.24Hz



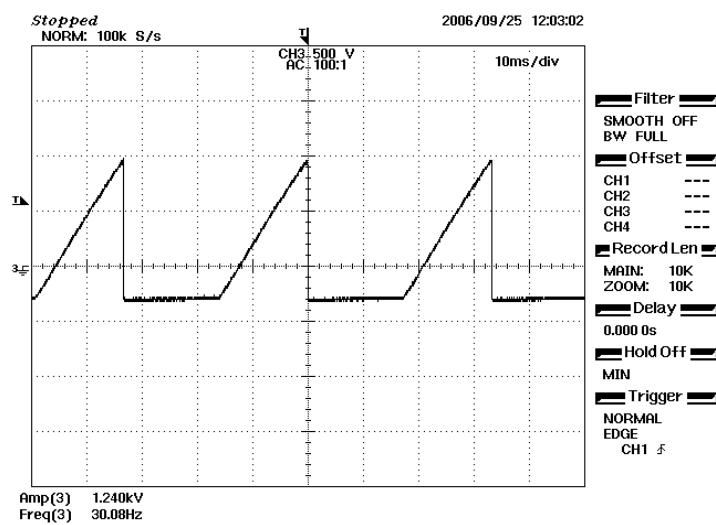
Amplitude = 440V; Frequency = 24.36Hz



Trigger output - TTL Signal 5V; 1.2us;



95% Duty



50% Duty.