



# GFT7021

## 40ps to 250ps Pulse Generator

### Features

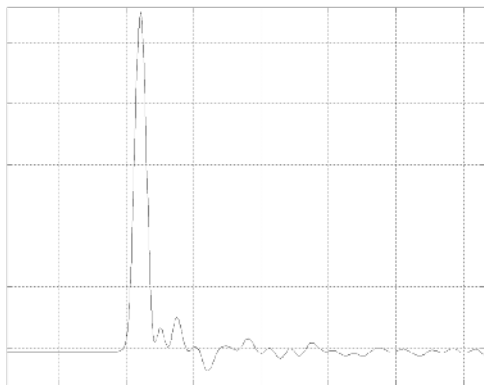
- Generate short pulses  
40 ps to 250 ps tunable width (step of 1 ps)  
>2 V amplitude into 50 Ω
- External clock: Repetition rate up to 3 GHz
- Operate from 110 / 220 V

### Applications

- Driving LN modulator
- RF comb source
- Semiconductor device testing
- Time calibration of instrument

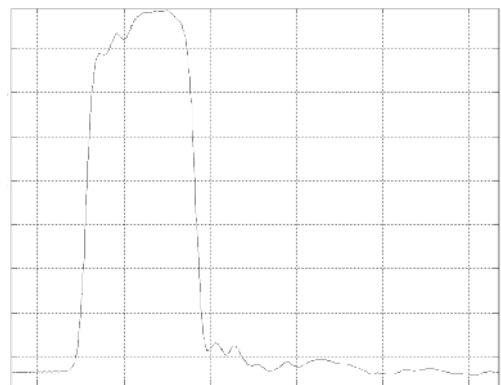


### Typical Output Waveform



*(0.4 V/div, 0.2 ns/div)*

40ps width (FWHM), 2.22V Amplitude



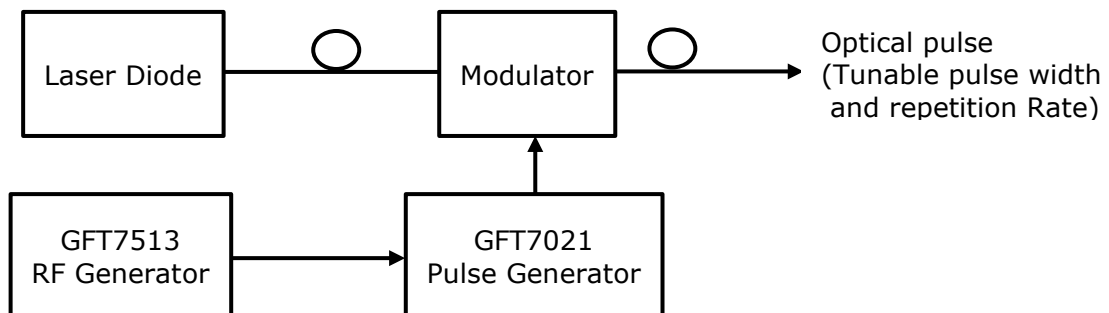
*(0.4 V/div, 0.2 ns/div)*

273 ps width (FWHM) 3.262 V Amplitude

### Description

The GFT7021 is an external clock triggered short pulse generator. This compact module delivers up to 2 V under 50 Ω, 40 ps to 250 ps width pulses.

GFT7021 is ideal solution for generating fast Rise-Time optical pulses by driving LN modulators. The pulse width is simple adjust between 40 to 250 ps thanks to a mechanical knob.



*Typical application: Generating fast Optical Pulse*



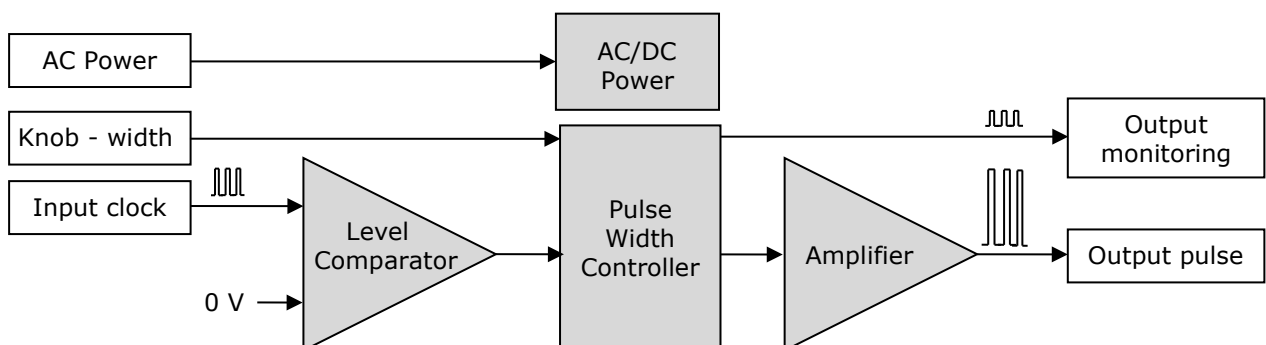
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### Specifications

<b>Input Clock</b>	
Signal Shape	Sine or Square
Sensitivity	> -20 dBm
Internal termination	50 $\Omega$
Threshold	+ 0 V
Repetition rate	1 MHz to 3 GHz
Connector	SMA
<b>Output pulse</b>	
Pulse shape	Impulse
Width (FWHM)	Tunable 40 ps to 250 ps continuously with the knob (resolution $\ll$ 1 ps)
Rise Time	< 30 ps
Amplitude	> 2 V pp into 50 $\Omega$
Frequency stability	10 ppm (additive)
Insertion Delay	< 5 ns
Jitter RMS	< 2 ps
Connector	K – compatible SMA
<b>Output monitoring</b>	
Amplitude	400 mV / 50 $\Omega$
Width	40 ps to 250 ps
Connector	K – compatible SMA
<b>General</b>	
Size (W x H x D)	270 mm x 82 mm x 202 mm
Power Supply	AC 90 to 240 V / 10 W max

### Functional overview



*Block diagram*

The “Level Comparator” allows to detect the rising edge of the input clock to trigger the programmable width controller.

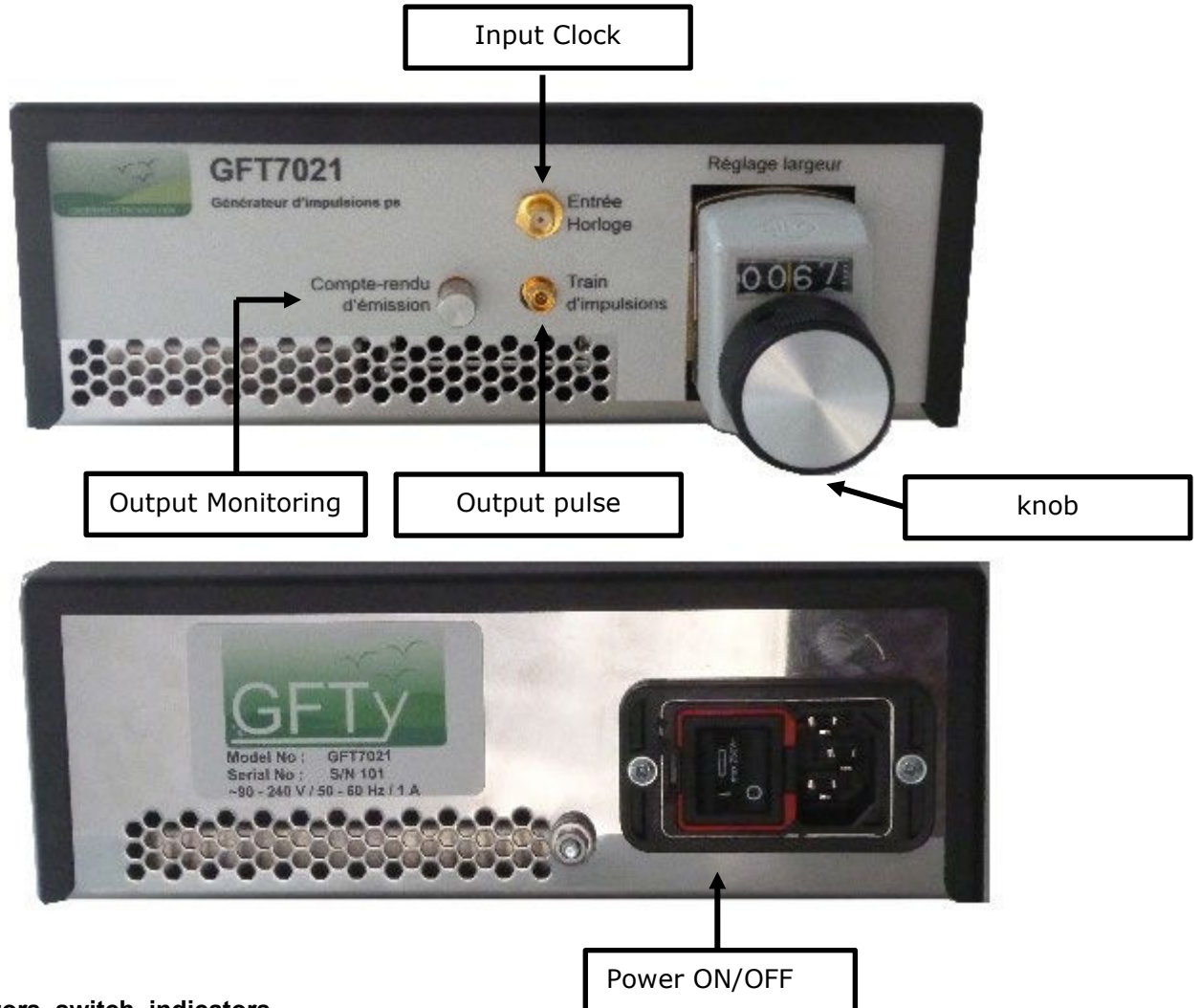
The “Pulse Width Controller” calibrates the width of the output pulse. Value of the width may be adjusted with the front panel knob.

The high speed “Amplifier” calibrates the amplitude of the output pulse. This amplifier is specially designed to drive an external 50  $\Omega$  load.

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### Front and Rear panel view



### Connectors, switch, indicators

Front Panel	
Input Clock	SMA connector
Output pulse	K connector
Output Monitoring	K connector
Knob	Tune pulse width

Rear Panel	
Plug	AC power plug (90 - 240 V)
I/O	Power ON /OFF switch

### Ordering information

Model	Description
GFT7021	40ps to 250ps Pulse Generator