

Burst Generator

TOMBAK



The board can generate a burst signal from an external trigger or from a software trigger. The burst consist of a specific software adjustable number of pulses. When triggered, the board output a burst signal with an adjustable pulse width, a specific delay and a frequency related to the “PulseIn” input signal.

Main features

Burst size range	[1 - 10 ⁹] pulses
Adjustable pulse width <ul style="list-style-type: none"> ▪ resolution (pulse width [5ns – 510ns]) ▪ resolution (pulse width [511ns – 2⁶²ns]) 	[5ns – 2 ⁶² ns] 2ns 5ns
Adjustable pulse delay <ul style="list-style-type: none"> ▪ resolution 	[70ns – 2 ⁶² ns] 10ps
Input Trigger Voltage <ul style="list-style-type: none"> ▪ Logic Low ▪ Logic High 	[0-0.8V] [1.7-3.3V]
Input PulseIn voltage	30 mV – 3,3V
Output Voltage	1 / 3,3 / 5 Volts (hardware setup)
Output maximum frequency	20 MHz

Timing diagram



Figure 1 : Burst signal of 3 pulses, “Gate-IN” or Soft triggered and “Pulse-In” synchronized

Synoptic

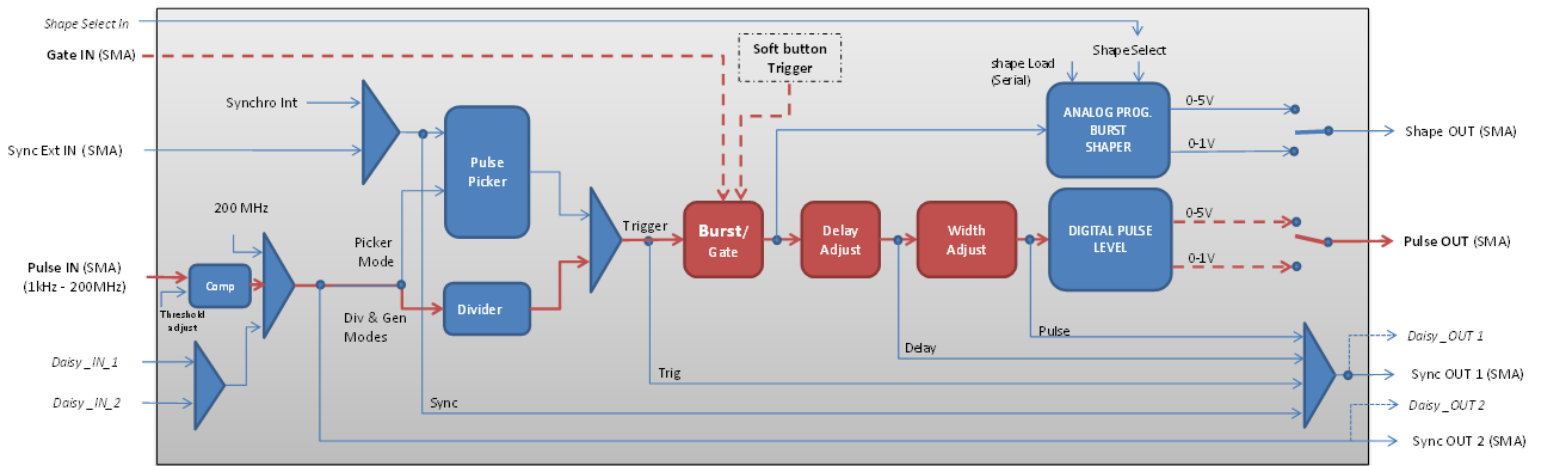
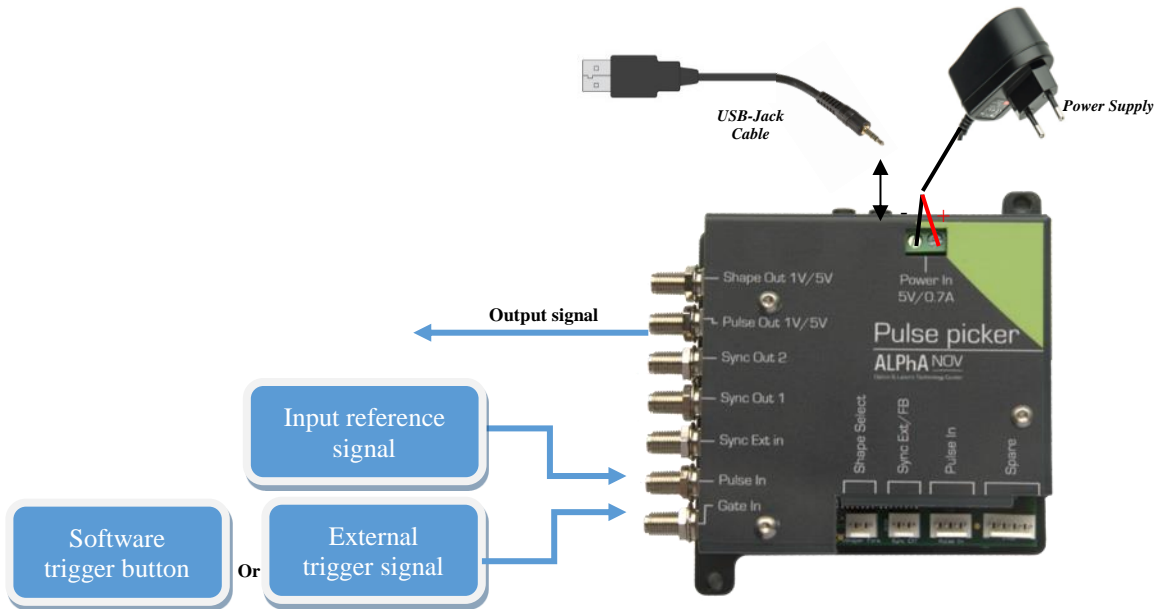


Figure 2 : Main software features used in Burst Generator

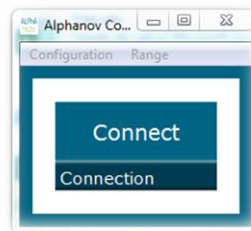
Cabling

1. Plug the USB-Jack cable in the “USB In” connector
2. Plug the power supply to the “Power In” connector to power on the board
3. Burst signal will output on the “Pulse Out” SMA connector
4. Connect the trigger signal that will start the burst to “Gate In” SMA connector
5. Connect the reference signal (i.e. the signal that will drive the burst when triggered) to “Pulse In” SMA connector.



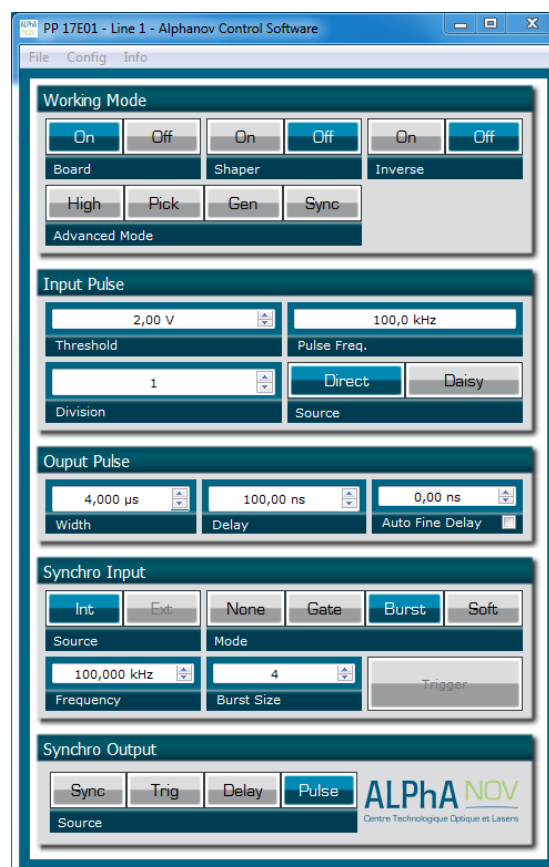
Software configuration

Launch the ALPhANOV Control Software and click on *Connect* to start the Tombak hardware detection. The software automatically detects the Pulse-Picker board.

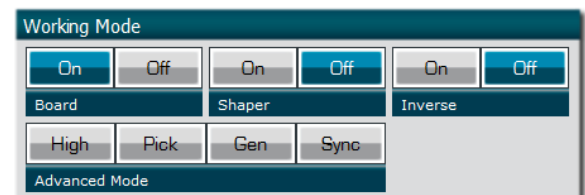


A window will appear for each Tombak connected to the computer.

The main configuration windows must be configured as follow :



- Working Mode window :
 - Set the **Board** button to **ON**
 - Set the **Shaper** button to **Off**
 - Set the **Inverse** button to **Off**
 - Unset all **Advance Mode**



- Input pulse window :

- Configure the **Threshold** voltage so that the input pulse frequency is detected and equal to your pulse generator system
- Set the **Division** factor to **1** (default settings). Division value may be adjusted to divide the input reference signal frequency.
- Set the input pulse **Source** to **Direct**

Input Pulse	
Threshold	2,00 V
Pulse Freq.	100,0 kHz
Division	1
Source	Direct Daisy

- Output Pulse window :
 - Set the output pulse **Width**
 - Set the **Delay** between output and input signals
 - **AutoFineDelay** may be let in auto mode

Output Pulse		
Width	4,000 μ s	Delay
	100,00 ns	Auto Fine Delay
		3,80 ns <input checked="" type="checkbox"/>

- Synchro input windows:
 - **Source** synchronisation is not used in this mode
 - Set **Mode** to Burst
 - **Frequency** is not used in this mode
 - Set the **Burst Size** value to configure the number of pulse triggered

Synchro Input		
Int	Ext	None Gate Burst Soft
Source	Mode	
100,000 kHz	4	Trigger
Frequency	Burst Size	

- Synchro output window (default settings) :
 - Source : Pulse

Synchro Output			
Sync	Trig	Delay	Pulse
Source	ALPhA NOV		
	Centre Technologique Optique et Lasers		