

**ADLINK Technical Document**

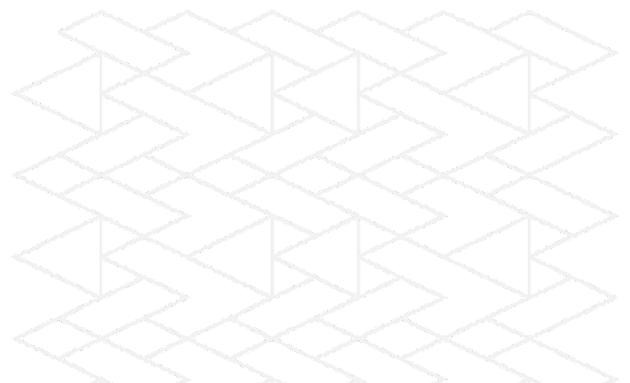
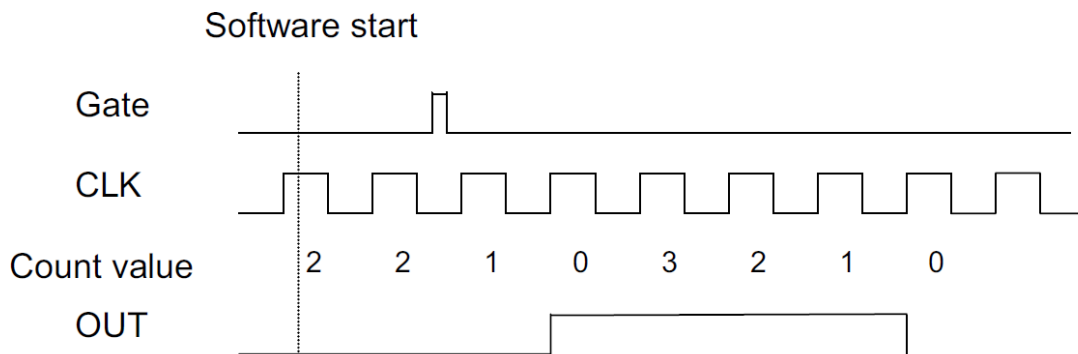
<b>Abstract</b>	How to Source a Single Pulse Out by Trigger		
<b>OS</b>	Windows		
<b>Keyword</b>	GPTC		
<b>Related Products</b>	USB-1210, USB-1901, USB-1902, USB-1903		
<b>Date</b>	2022-01-04	<b>No.</b>	20220104001

- Issue Details:

This document outlines how to source a single pulse out by trigger, one of the several GPTC functions available to users.

- More information:

The counter generates a pulse following every active edge of GPTC\_GATE. After the software starts, every active GPTC\_GATE edge triggers a single pulse with programmable delay and pulse width. Any GPTC\_GATE triggers that occur when the prior pulse is not completed are ignored. Generation of two pulses with a pulse delay of two and a pulse width of four is shown.



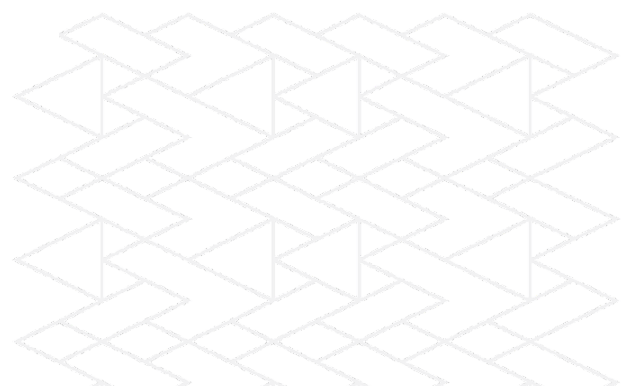
- Solution:

### Step 1: Identify pins

Refer to the user manual and check the pin definitions to find the **GPTC\_OUT** and **GPTC\_GATE** pin numbers. For the USB-1210, the GPTC\_GATE#0 is pin 17, and the GPTC\_OUT#0 is pin 39.

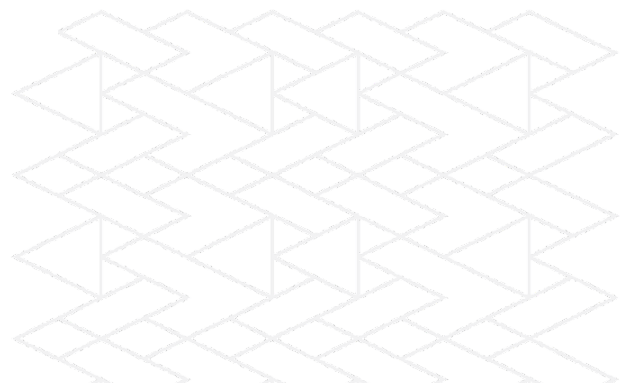
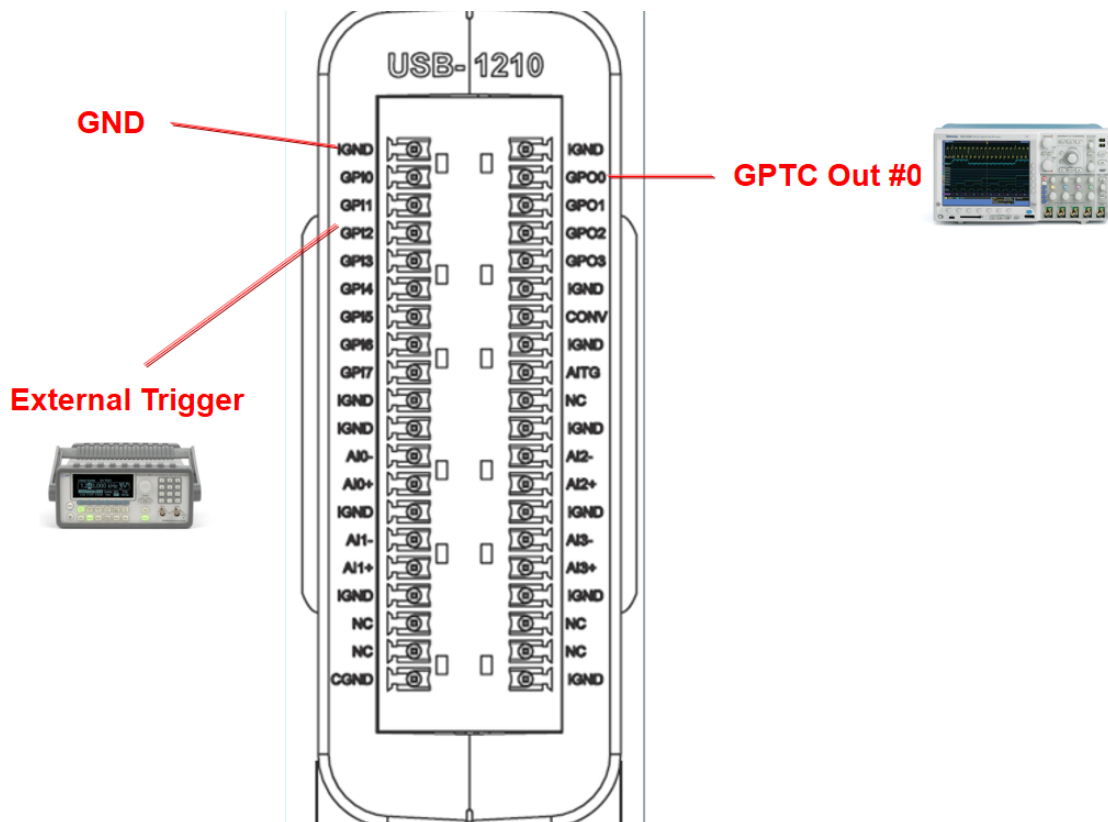
	Pin	Pin	
IGND	20	40	IGND
GPTC_CLK	19	39	GPTC_OUT0
GPTC_UD0	18	38	GPTC_OUT1
GPTC_GATE0	17	37	GPTC_OUT2
GPTC_AUX0	16	36	GPTC_OUT3
GPTC_CLK2	15	35	IGND
GPTC_UD2	14	34	N/C*
GPTC_GATE2	13	33	N/C*
GPTC_AUX2	12	32	N/C*
IGND	11	31	N/C*

	Pin#	Pin#	
IGND	20	40	IGND
GPI0	19	39	GPO0
GPI1	18	38	GPO1
GPI2	17	37	GPO2
GPI3	16	36	GPO3
GPI4	15	35	IGND
GPI5	14	34	N/C*
GPI6	13	33	N/C*
GPI7	12	32	N/C*
IGND	11	31	N/C*



### Step 2: Connect pins

Connect the wires as shown in the diagram below. Apply the trigger source to GPTC\_GATE#0.



### Step 3: Install UD-DASK

Download and install the UD-DASK software kit from the ADLINK website.

## Software Download :

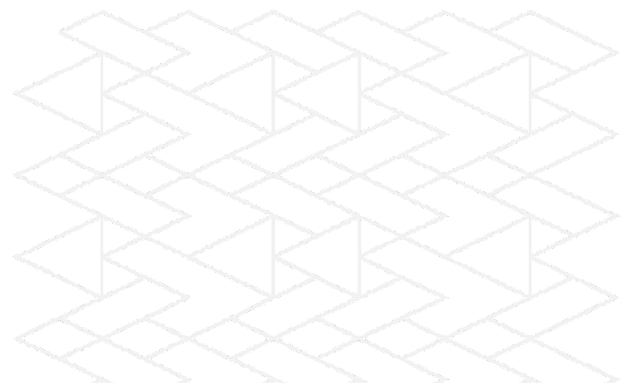
### UD-DASK Driver

Windows 7\10



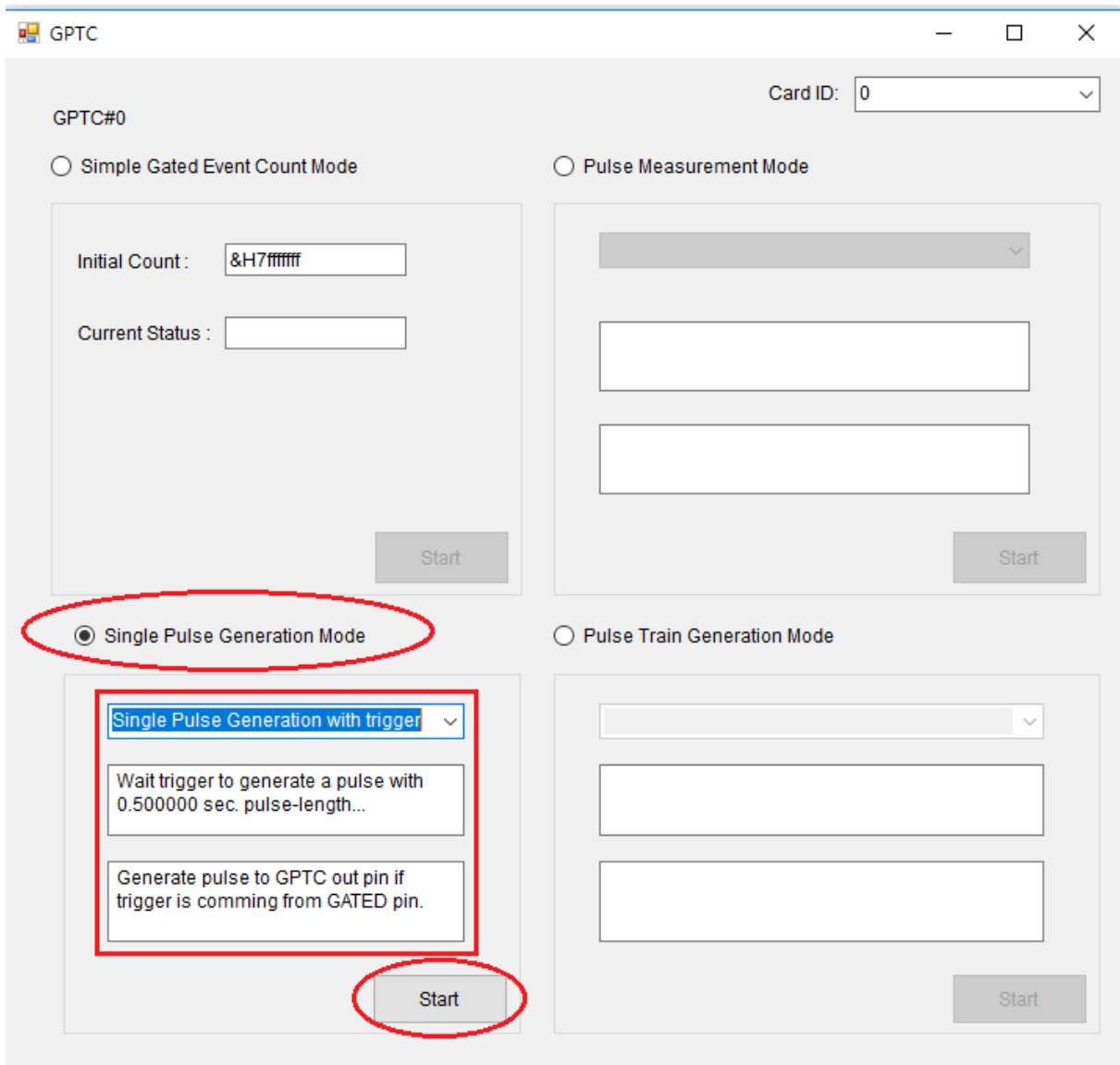
UD-DASK v. 21.07 Windows driver and SDK for ADLINK USB DAQ Series (UD-DASK will be discontinued, please transit to MAPS Core and MAPS/C)

(74.68MB)



**Step 4: Launch sample program**

1. Go to C:\ADLINK\UDASK\Samples\1210\C#\1210GPTC\
2. Run **1210gptc.exe**
3. Select **Single Pulse Generation Mode**
4. From the dropdown, select **Single Pulse Generation with Trigger**



The screenshot shows the GPTC software interface with the following configuration:

- Card ID: 0
- GPTC#0
- Selected Mode:  Single Pulse Generation Mode
- Sub-mode: Single Pulse Generation with trigger (selected in dropdown)
- Initial Count: &H7ffffff
- Current Status: (empty)
- Start button (circled in red)

The interface also shows other modes: Simple Gated Event Count Mode, Pulse Measurement Mode, and Pulse Train Generation Mode, each with its own Start button.

### Step 5: Check scope

Keep all default settings and press the **Start** button.

Example output is shown in the **1210gptc.exe** user interface. This sample will only source a single 0.5s pulse. After the first external signal trigger on GPTC\_GATE#0 there is no further output on this port.

