Advantech AE Technical Share Document

Date	2016/01/08	SR#	1-2336675081
Category	■FAQ □SOP	Related OS	N/A
Abstract	ADAM-6000, What's the filter function for digital input		
Keyword	Digital input, Filter, Utility		
Related Product	ADAM-6000 series		

■ **Problem Description:**

The UI of Adam/Apax .NET utility for digital input modules of ADAM-6000 series has the checkbox for "Enable digital filter" (*Figure 1*), what does the digital filter checkbox do?

There is a "Minimum low signal width" and "Minimum high signal width", what do these settings do?
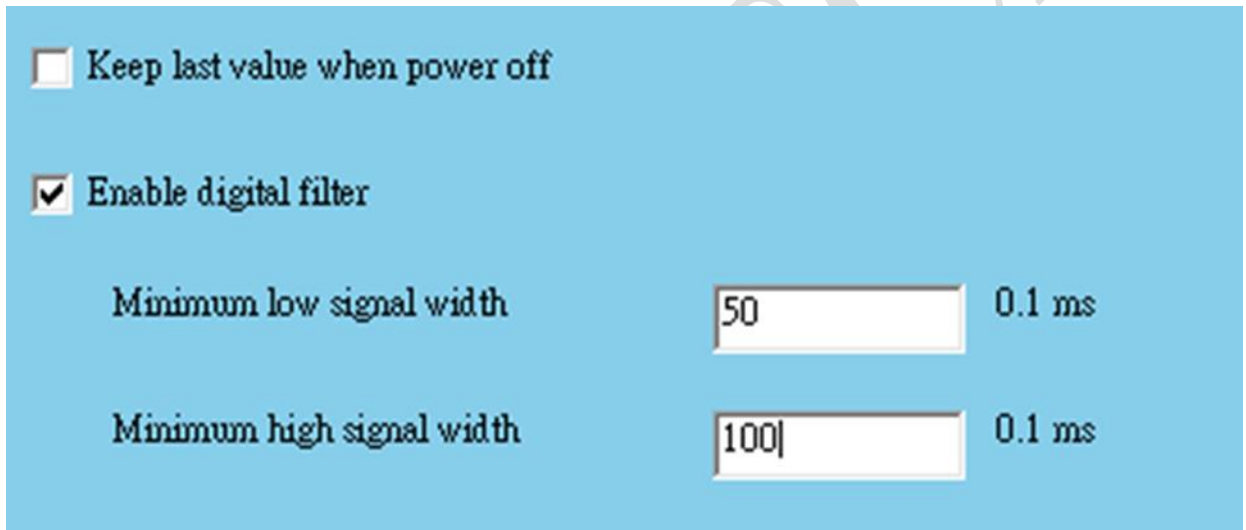

Figure 1

Description:

All ADAM-6000 digital modules support digital filter, so you can enable or disable the filter by click the Enable digital filter check box.
If you enable the filter, you can define the minimum acceptable signal width by the Minimum low signal width and Minimum high signal width text box. (Unit: 0.1 ms) The high frequency noise will be removed by this filter.

The user could consider this function like a built-in "on-delay" or "off-delay" timer. Take the setting of *Figure 2* as an example, the "High" signal maintain less than 5ms and the "Low" signal maintain less than 10ms will be seen as a noise.

Figure 2

From *Figure 3* to *Figure 5*, we have some example for the relationship between original input and the showed input data after filter function with different parameter setting.
User could take the advantage of this feature to filter out the noise in the environment with the proper setting.
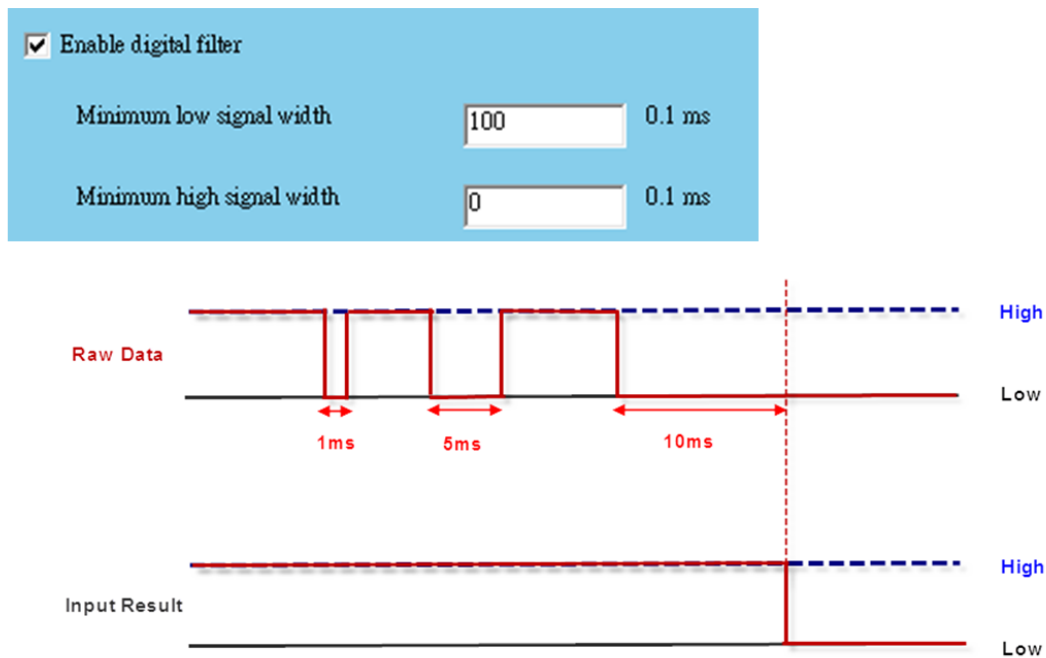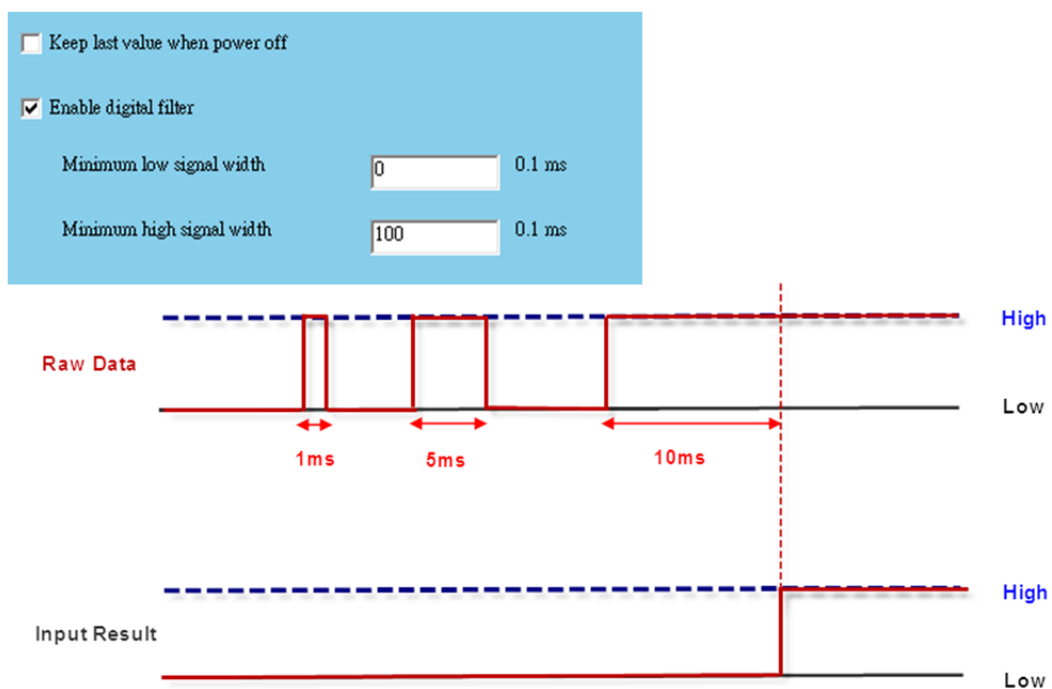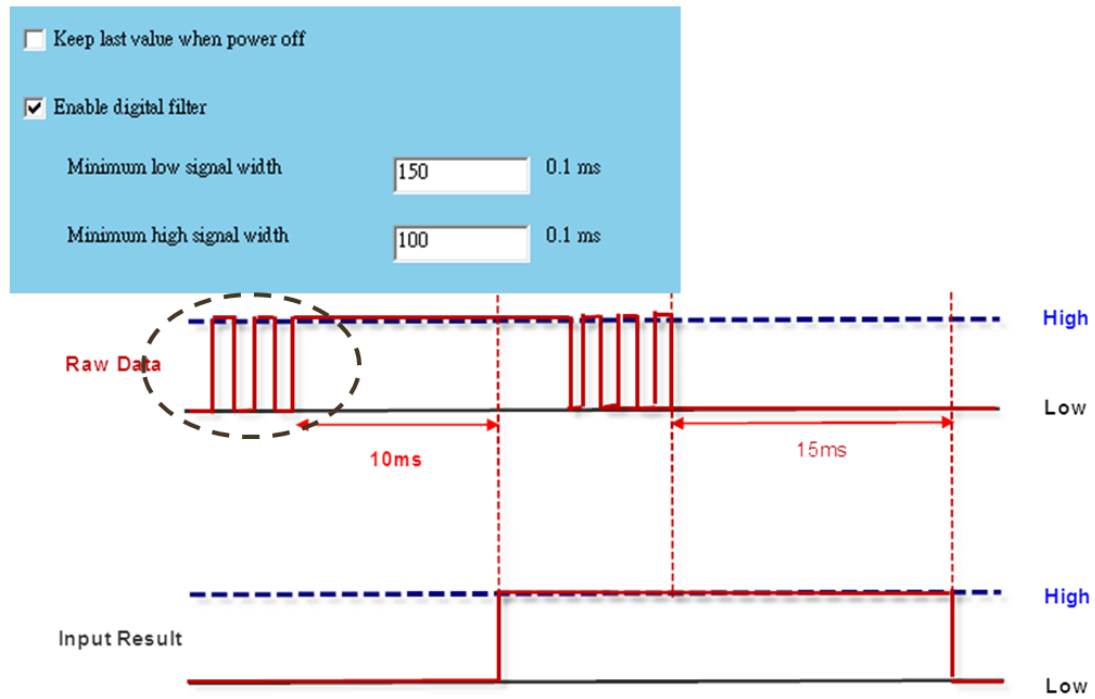
☑ Enable digital filter

Minimum low signal width	100	0.1 ms
Minimum high signal width	0	0.1 ms

Raw Data — High / Low
1ms 5ms 10ms

Input Result — High / Low

Figure 4

☐ Keep last value when power off

☑ Enable digital filter

Minimum low signal width	0	0.1 ms
Minimum high signal width	100	0.1 ms

Raw Data — High / Low
1ms 5ms 10ms

Input Result — High / Low

Figure 3

Figure 5