

USB Photomultiplier , USB Photodiode Operating Procedure:

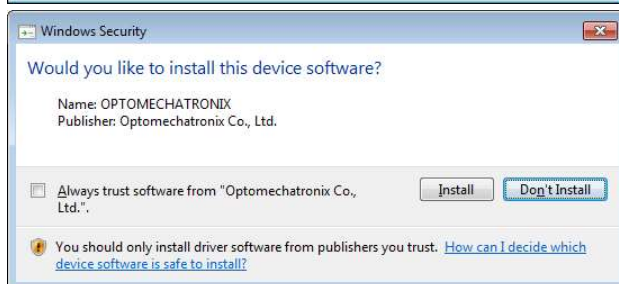
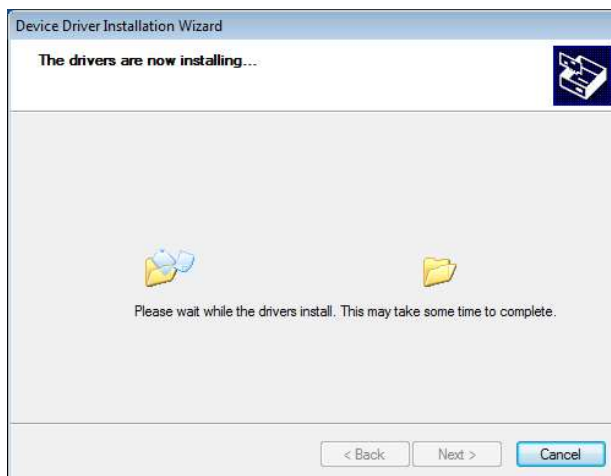
Optomechatronix, Inc.

1. Driver Installation

- Connect USB Photomultiplier (Photodiode) and PC using USB cable.
- USB Photomultiplier (Photodiode) will light green (blue) LED.
- Select appropriate driver applicable PC to be installed then execute “dpinst.exe”.



Select next



Select Install

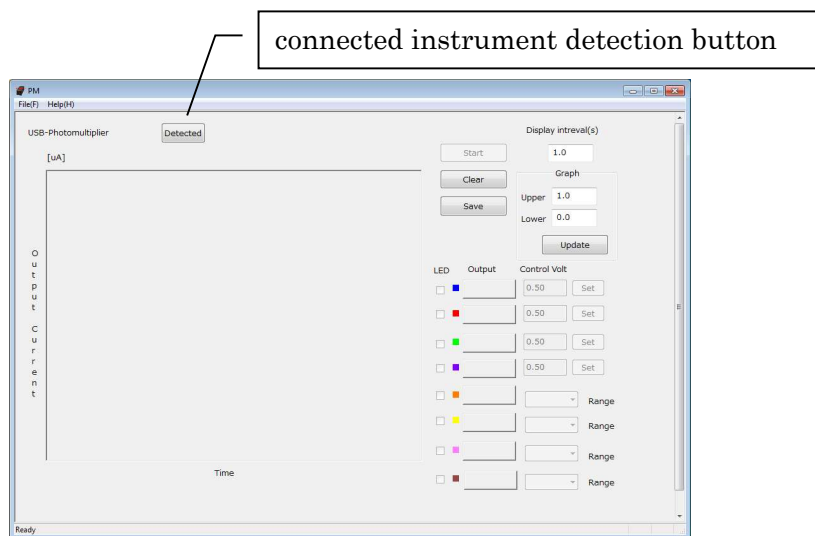


Select complete

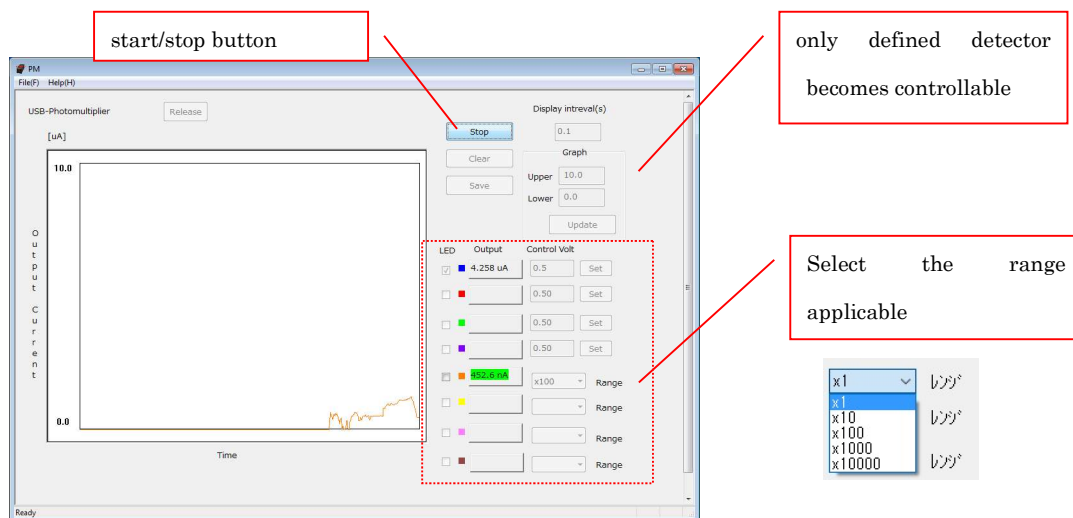
2. Measurement Application

2.1 At first,

Execute PM.exe then select detection button at application screen.

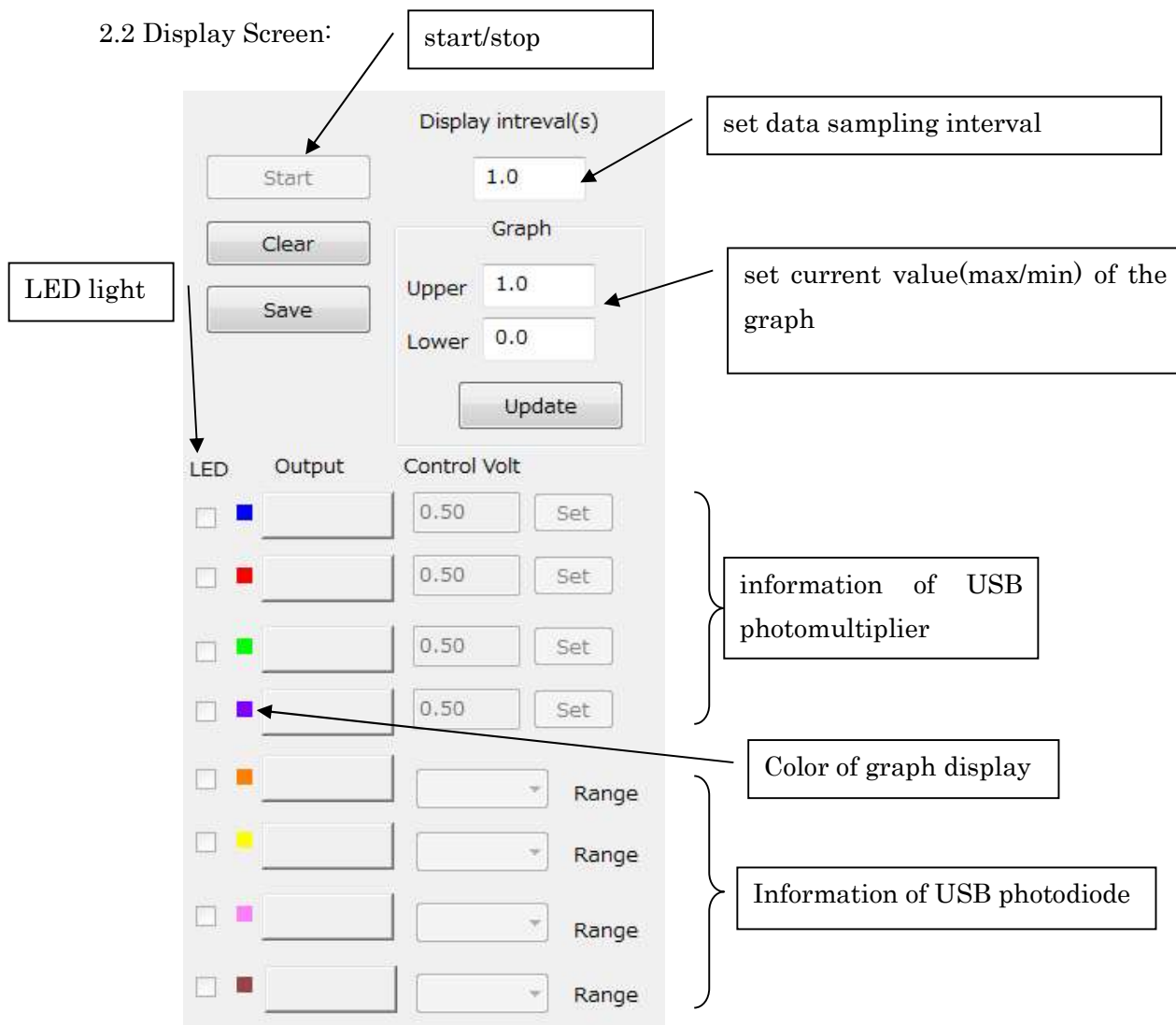


When the driver is properly installed and PC define its function, then the setting button becomes effective.



Maximum 4 USB photomultiplier/photodiode are applicable in parallel.

2.2 Display Screen:



2.3 Measurement function using USB photomultiplier:

When select LED, relative USB photomultiplier will light.

When multiple USB-PMTs are connected, distinguish the appropriate device by monitoring the LED lightening.

Value at data column indicates the output voltage.

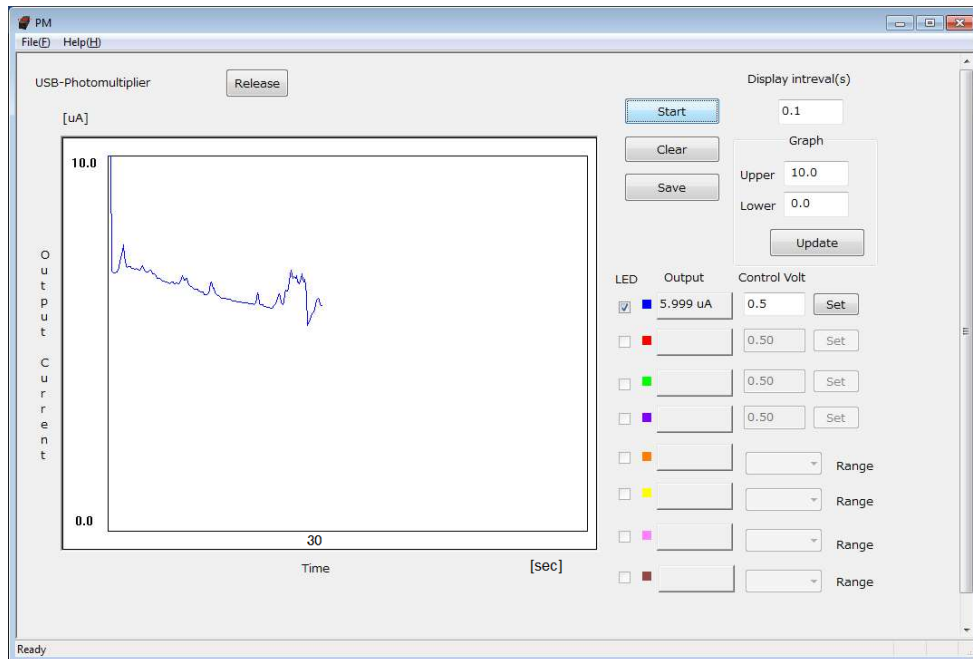
Right hand side of output voltage indicates the control voltage (0.5-1.0V). After entering the value, push the setting button which will validate the function.

Vertical axis of the graph is output current [μ A], and horizontal axis is time.

Gain shall be approx. 10^5 at 0.7V and approx. 10^6 at 0.9V control voltage.

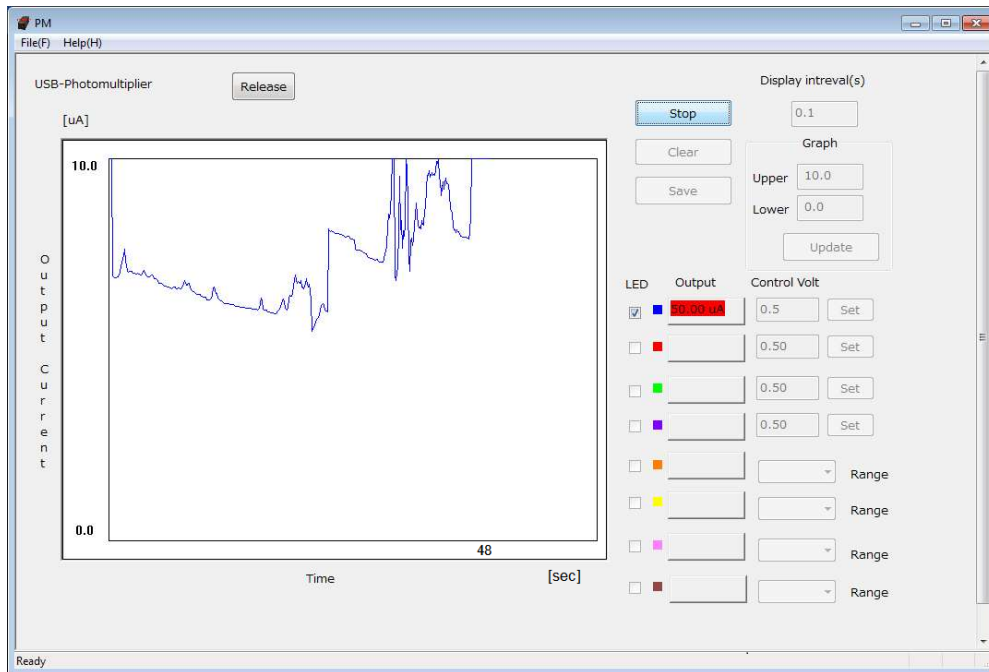
When the scale of the graph (output current) may be required, enter upper and lower limit values then push refresh button.

After the completion of all set-up, start the measurement by pushing measurement start button.



When the measurement shall start, the output current value, in accordance with the incident light strength, will be shown the plotted as graph on the left side.

When the output current exceeds $10 [\mu$ A], output current column becomes red in color. It is recommended to operate the unit that output current should not exceed $10 [\mu$ A] to make accurate measurement.



※ Due to the characteristics of the photomultiplier, the linearity may not be guaranteed between incident light and output current when it exceeds 10 μ A.

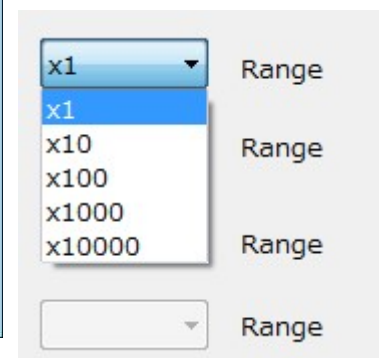
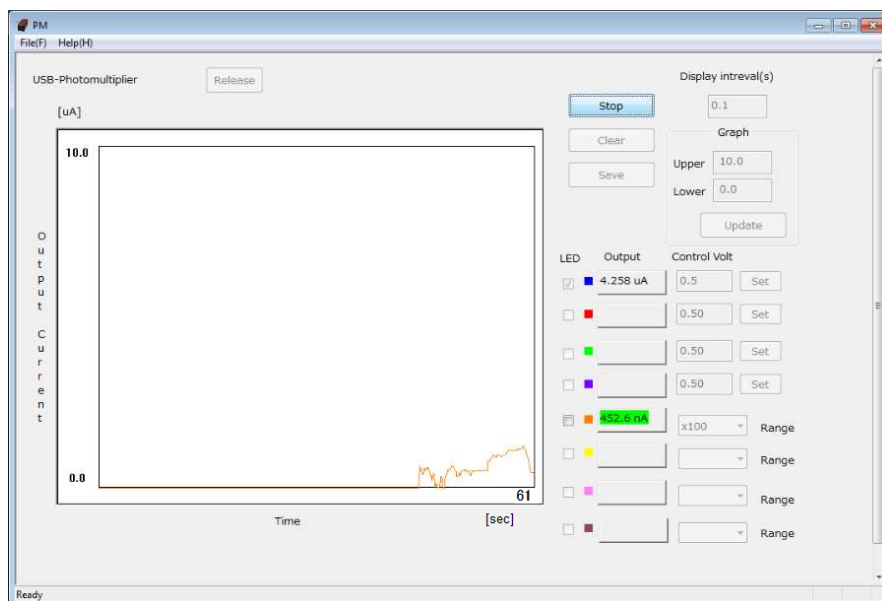
2.4 Measurement function using USB Photodiode (USB-PD):

USB-PD flows the current in proportional to the incident light strength.

When the current value saturated, it turns in red color.

In the contrary, when the current is not enough, it becomes green color.

Depending on the strength of the incident light level, measurement range (x1 – x10000) can be switched to cover wide incident light level.



2.5 Data Storage:

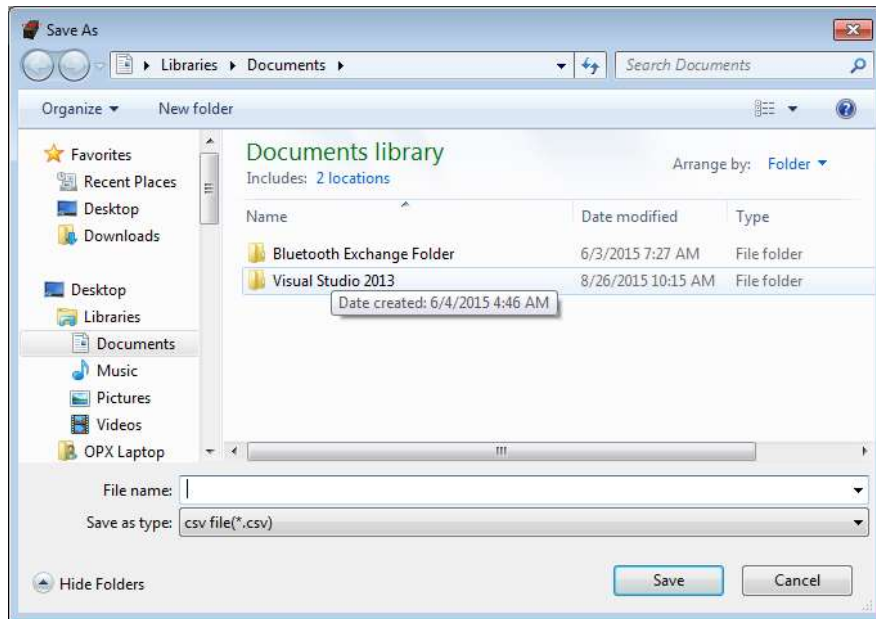
When storage the measurement result, push “data storage” button.

Data will be storage under CSV style.

Create file name then store CSV file.

When data needs to be cleared, push “clear” button.

If not cleared then, by pushing “measurement start” button, measurement data will be added following to the previous data point.



2.6 End Method:

When finishing the program, select “File >> End of Application”.