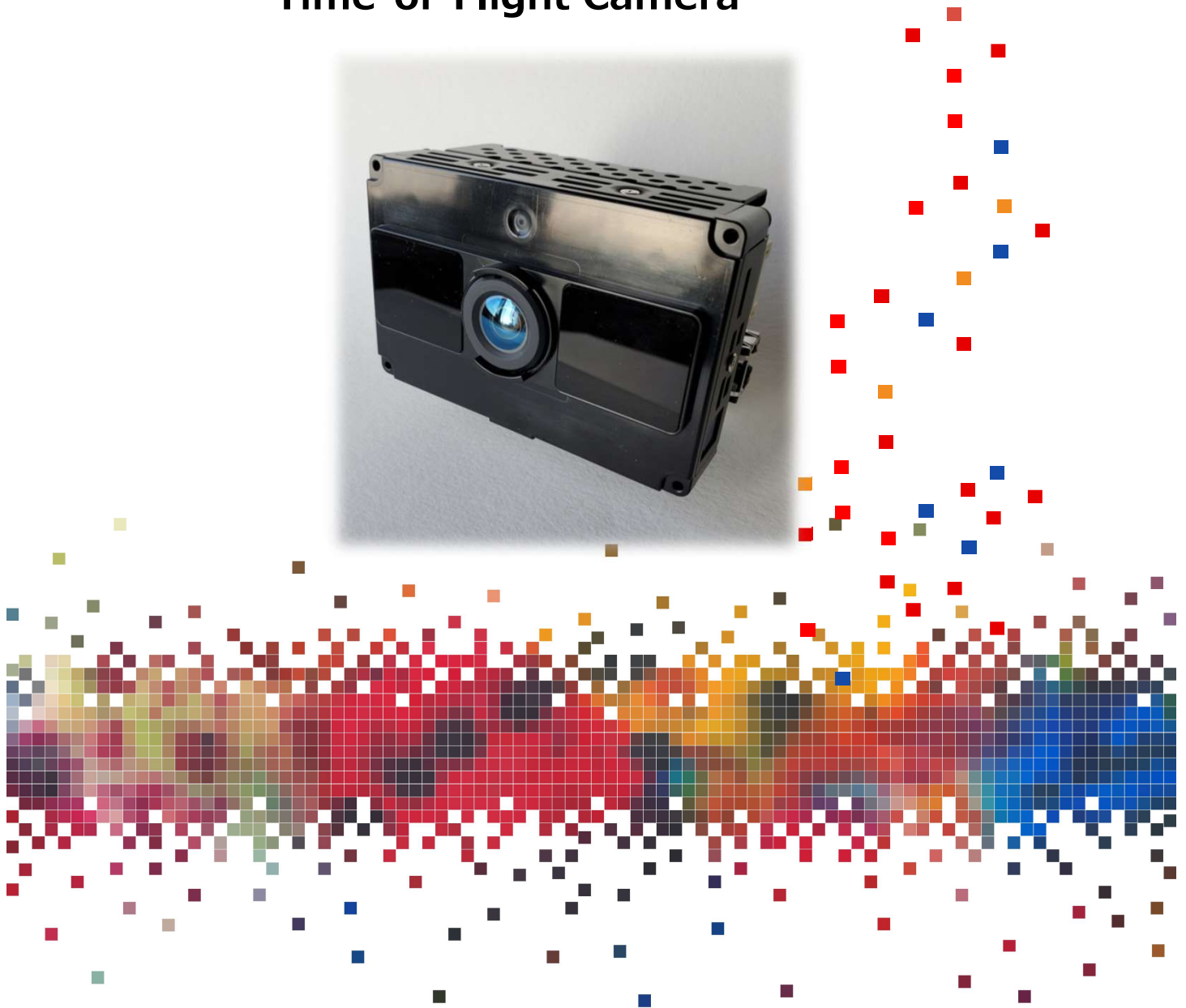


Panasonic

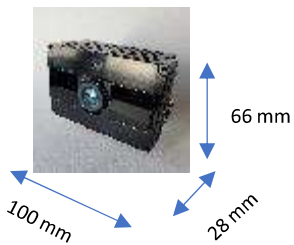
Demonstration Software User Guide

CDM-GC**HC4W**ZA Time-of-Flight Camera



Panasonic

CDM-GCHC4WZA ToF Camera



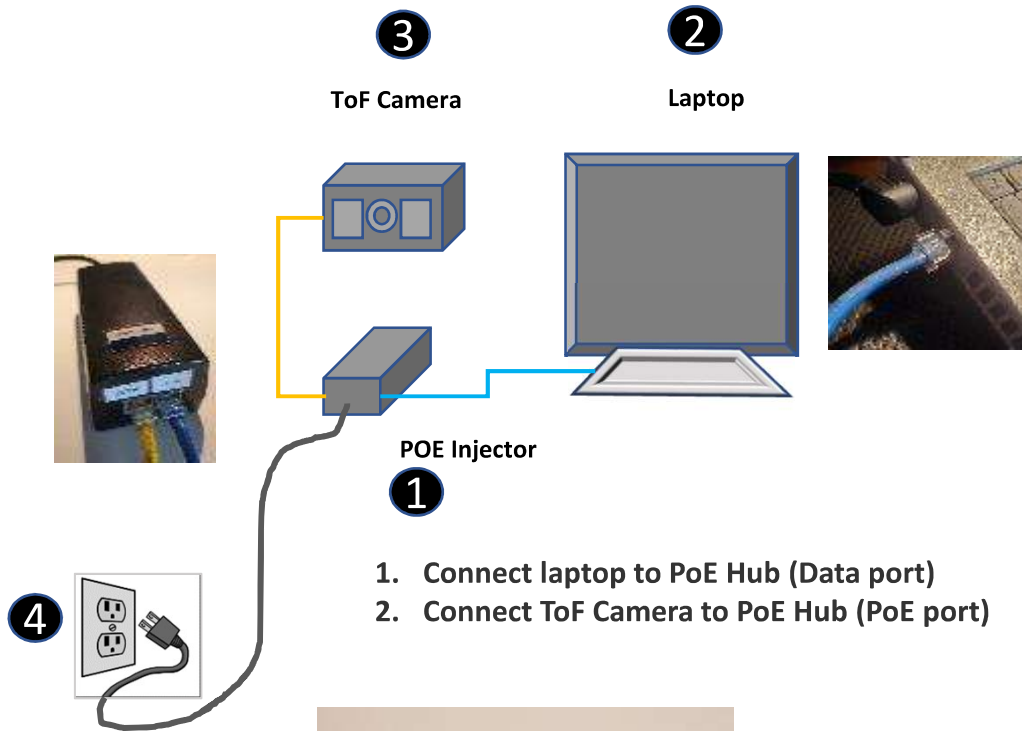
- Size: W100 x H66 x D28
- FOV : (D)106deg x (V)70deg x (H)90deg
- Detection distance: 3m
- Frame rate: 15fps/30fps adjustable
- Interface: I2C; Ethernet
- Current: 1100mA

Ethernet Card attachment:

Ethernet Card



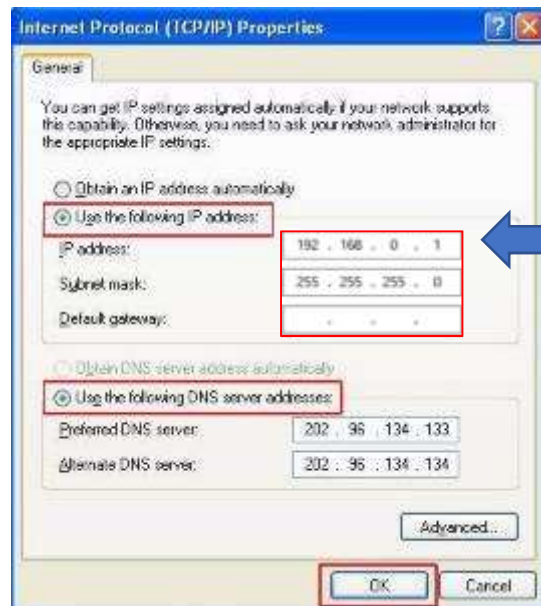
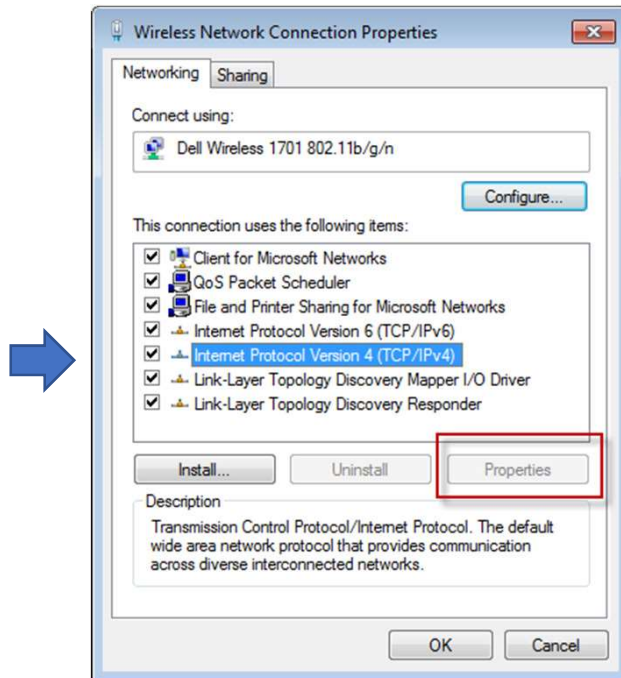
Set Up:



Step 1

For Windows XP:

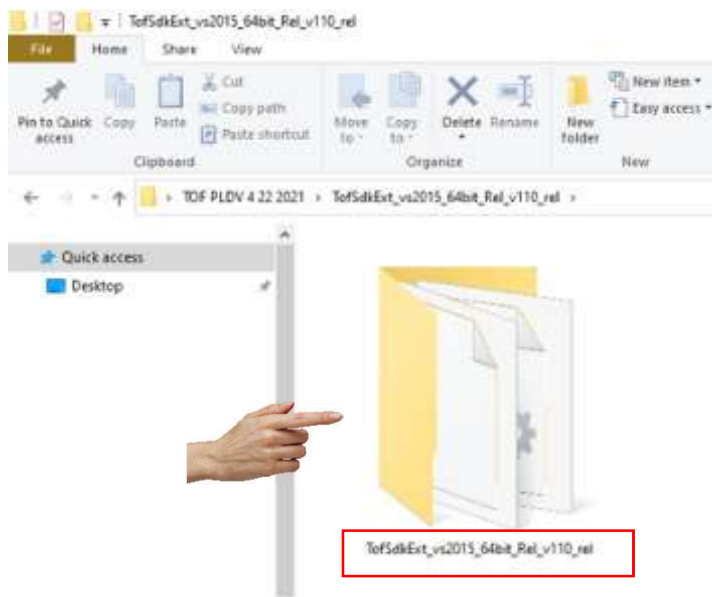
Click **Start->Control Panel->**select and double click **Network and internet connections->**select and double click **Network Connections.**



**Assign the PC IP address 192.168.0.1
subnet mask 255.255.255.0**

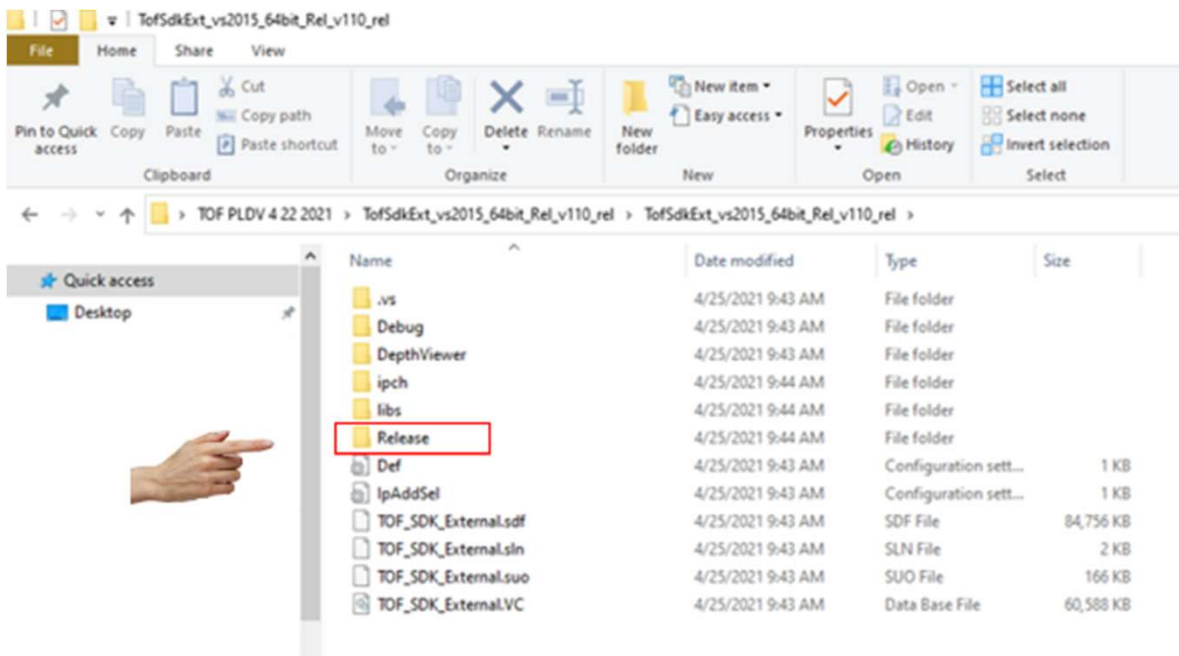
Step 2

Open [ToFSdkExt_vs2015_64bit_Rel_v110_rel] folder.



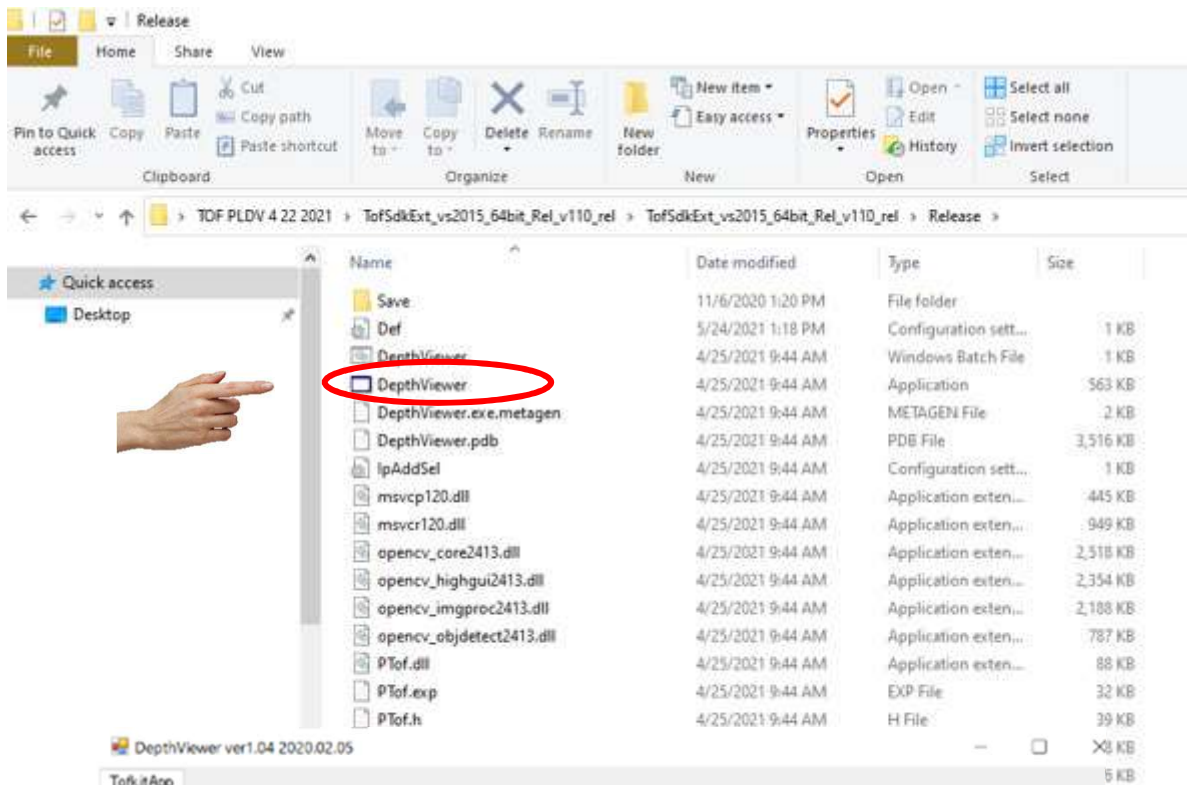
Step 3

Open [Release] folder.



Step 3

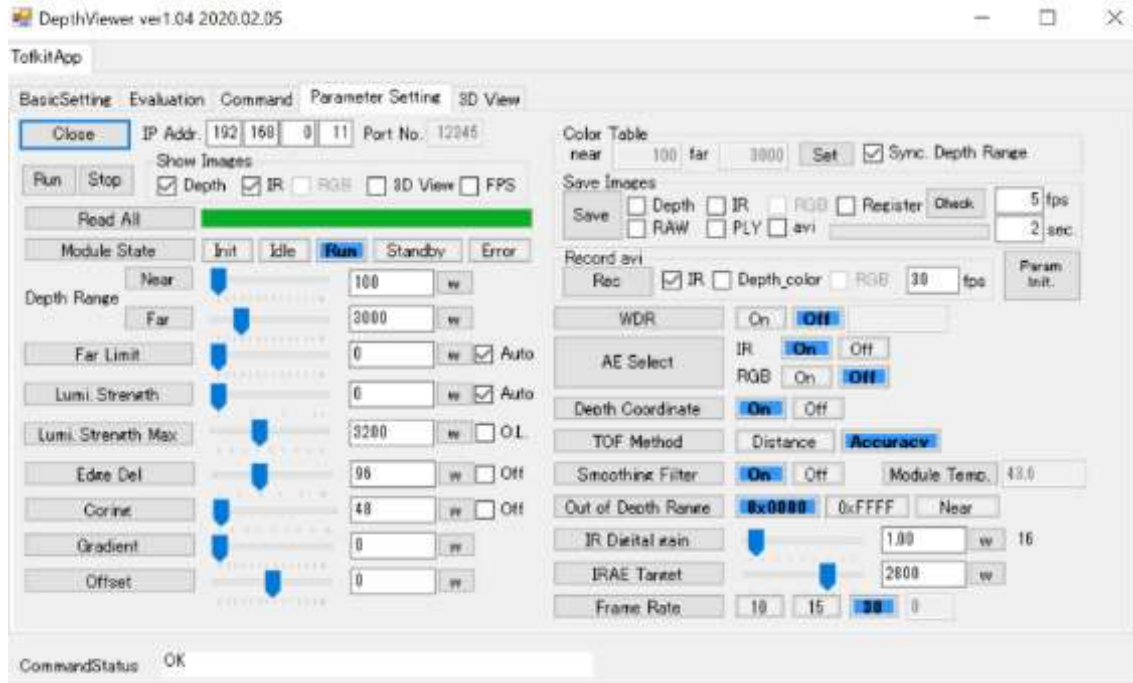
Click on [DepthViewer.exe] application.



Wait 30~50 sec to initialize

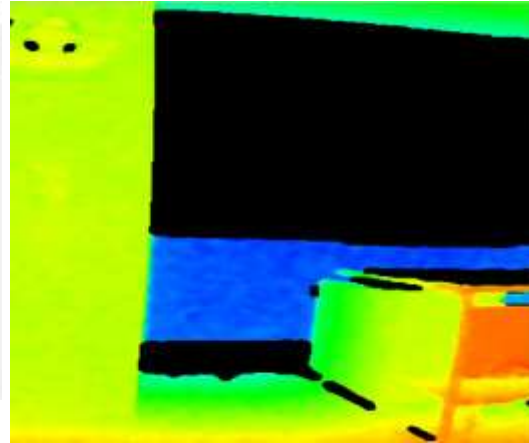
Click on “Open” button, and wait (program initializing), may take a minute or so.

Menu:

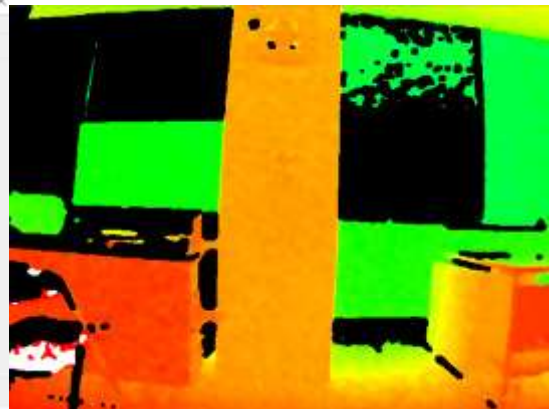
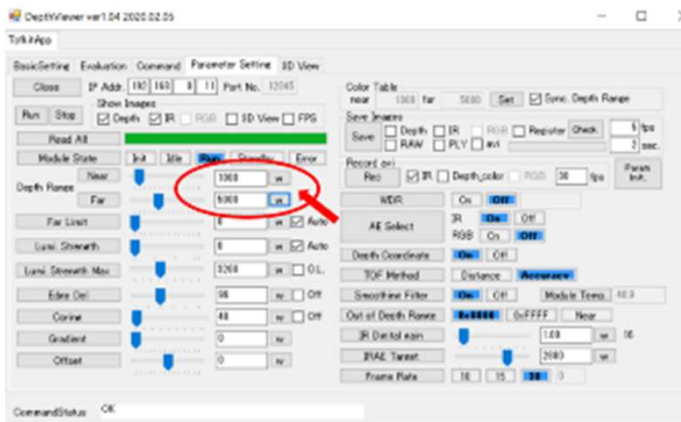


- IP Address: 192.168.0.11 : default IP address
- Run: : start camera operation
- Stop: : stop camera operation
- Depth: : window for depth image will come up on the screen
- IR: : window for IR image will come up on the screen
- RGB: : window for RGB image will come up on the screen
- 3D View: : window for point cloud image will come up on the screen
- FPS: : frame ratio indication is on
- Read All: : read all of parameters
- Module State: : change camera status
- Depth Range: : set detection range
- Far Limit: : set threshold of depth range far
- Lumi Strength: : set luminescence strength
- Lumi Strength Max: : set luminescence strength max
- Edge Del: : arrange edge effect on the object
- Coring : : arrange threshold of small signal removal
- Gradient: : adjust the gradient of depth value
- Offset: : correct offset of depth value
- Color Table: : refer to page 11
- Save Images : : refer to page 19
- Record avi : : ----
- WDR: : adjustable depends on camera
- AE Set : : on/off AE function
- Depth Coord : : on/off depth coordinate transformation
- TOF Method : : ----
- Smoothing Filter : : on/off image correction function
- Out of Depth range : : refer to page 17
- IR Digital gain : : IR digital gain adjustment:
- IRAE Target: : set IR AE target value
- Frame rate : : change frame ratio

Set detection range



Camera starts operating, indicating all of the parameters in the application.



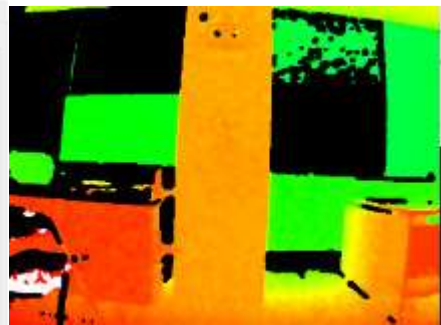
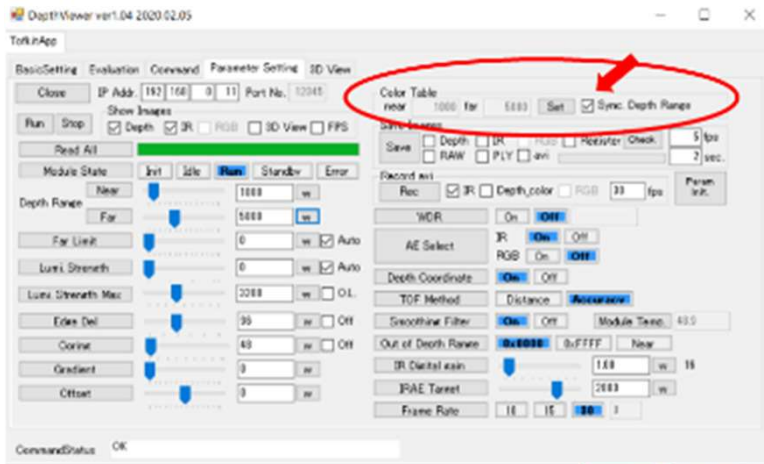
To set the detection range, input value (mm) for “Near” and “Far”, then press “w” button. Detection range will be updated.

Example: input 5000 in “Depth” range “Far” boxes then press “w” ...camera parameters will change.

Default parameters:

- Depth range near : 1000 (mm)
- Depth range far : 3000 (mm)
- Luminescence Strength : 0 (Auto)
- AE select : 1 (on)

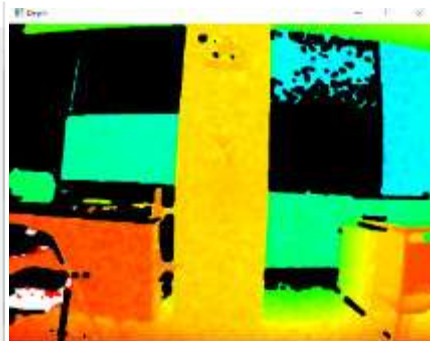
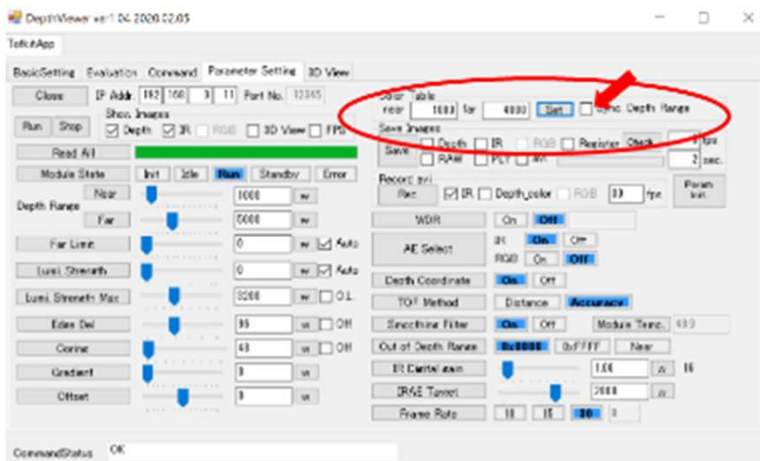
Color indication change



1000 5000

Color indication table synchronizes to depth range setting, check box is marked

Red shows near distance
While Blue shows far distance.



If check box is not marked, user can set color table as shown on left.

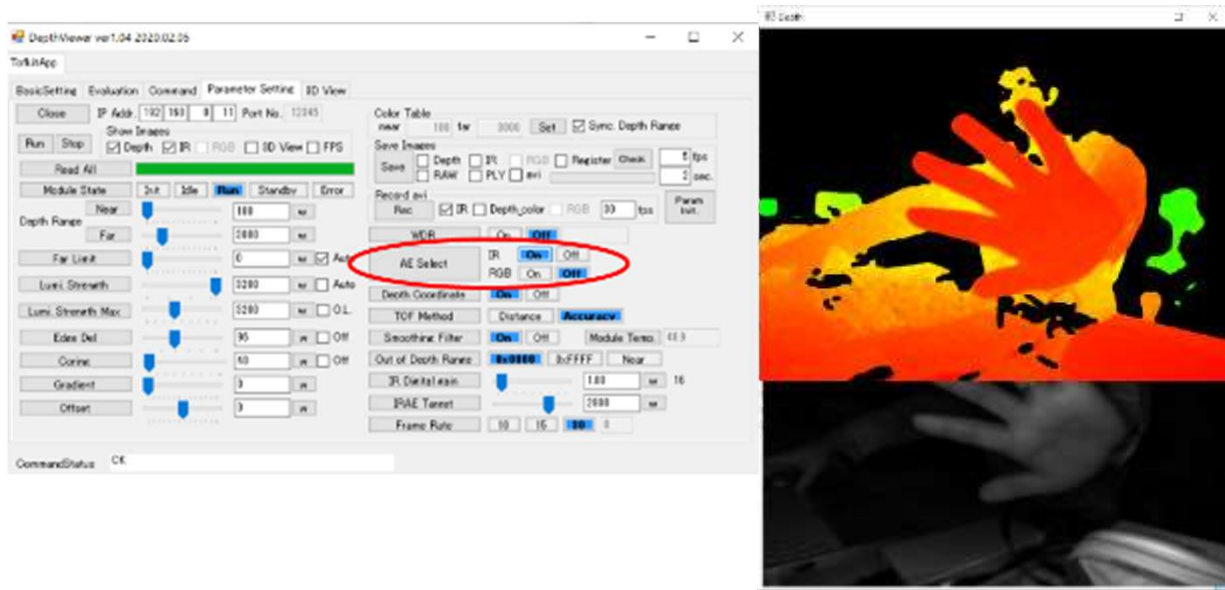


1000 4000

Input value for "Near" (red) and "Far" (blue) distance, then press "Set" button.

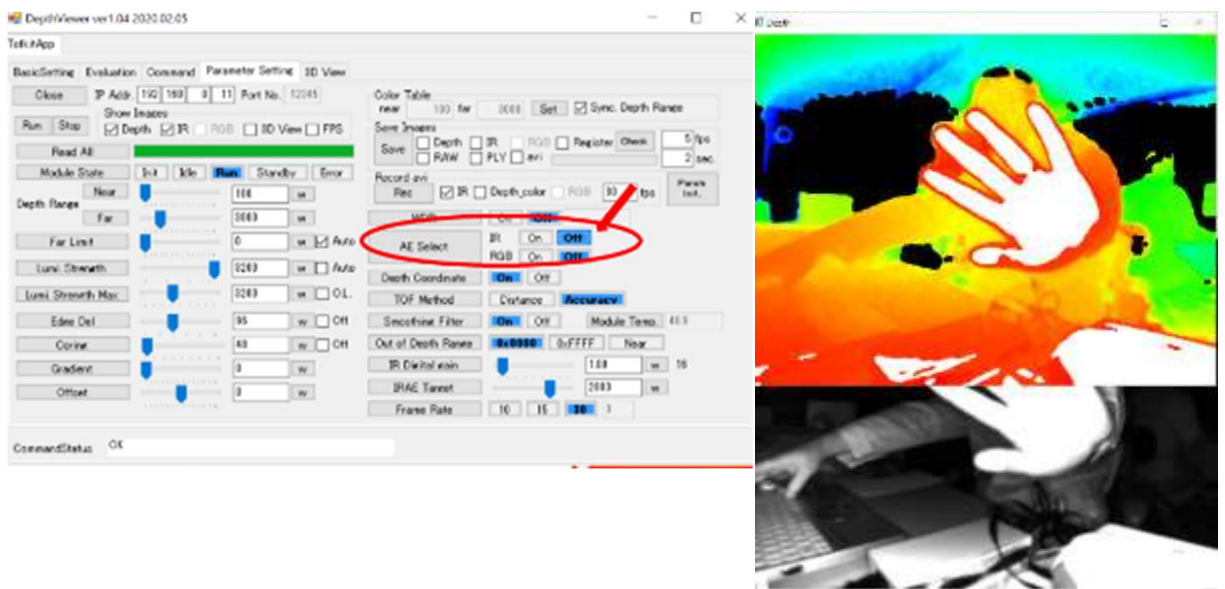
Color table changed.
Red shows near distance
While Blue shows far distance.

Change Auto Exposure (AE) function



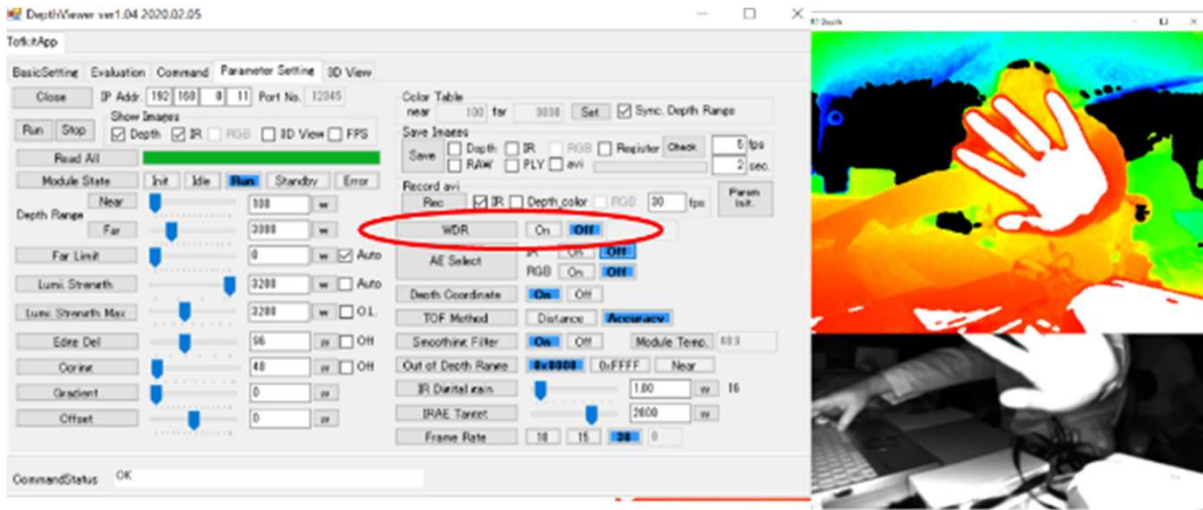
Luminescence strength is adjusted automatically, if AE is (blue means active).

Default setting: AE ON

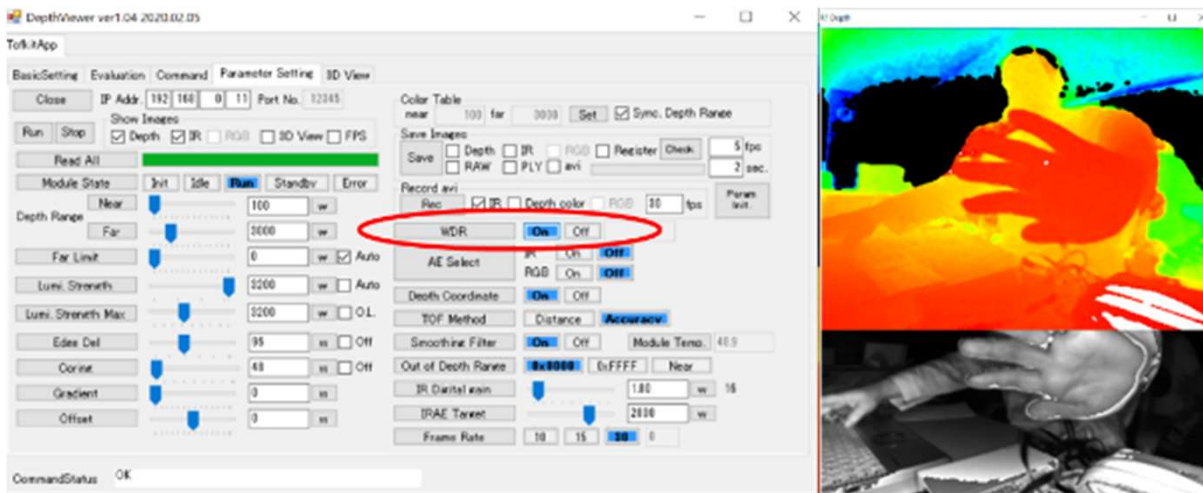


If AE is OFF, for Luminescence strength adjust manually.

WDR function

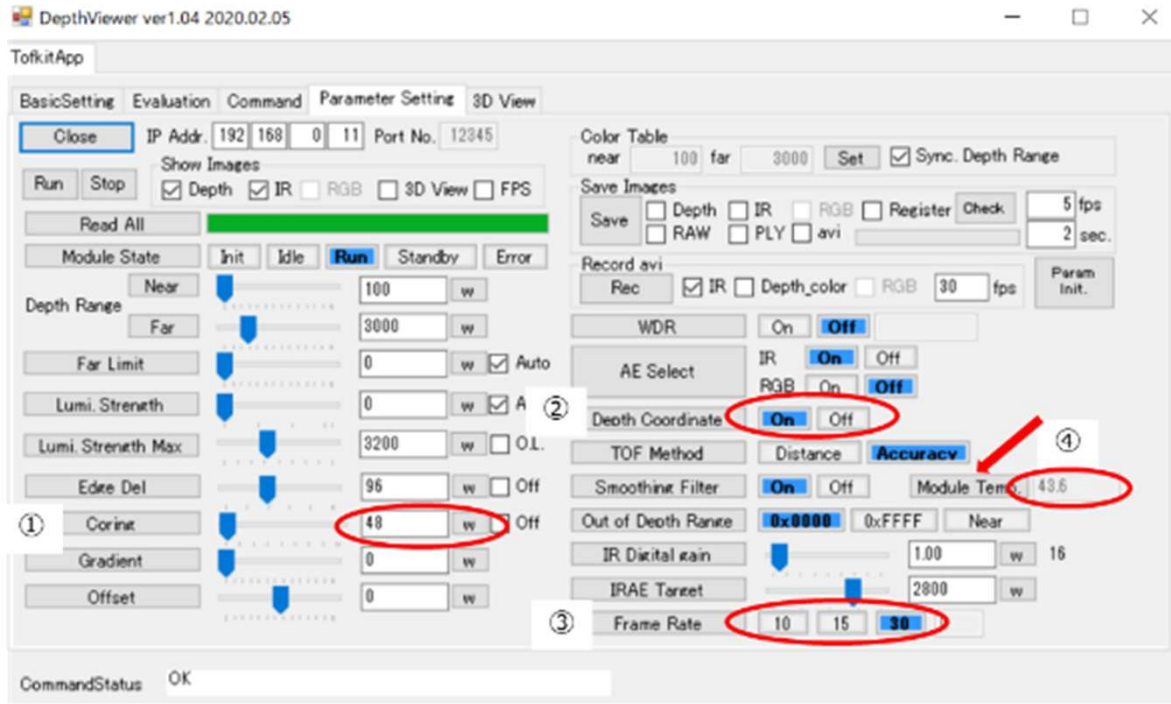


Default setting WDR OFF



Press "ON" button, then WDR is turned on. (Blue means active)

Coring, Depth Coordinate, Frame rate, Module Temp.



- ① **Coring**
Input DEC number, when coring effect change is needed.
When changed to small value, coring effect will be low.
- ② **Depth Coordinate Transform**
This function should be turned off, when user makes point cloud based calculations.
- ③ **Frame rate**
Press 10(fps) or 15(fps) or 30(fps) button. Frame rate will change accordingly.
- ④ **Module Temp.**
Press “Module Temp” button, as indicated.

Change “Luminescence Strength Max”

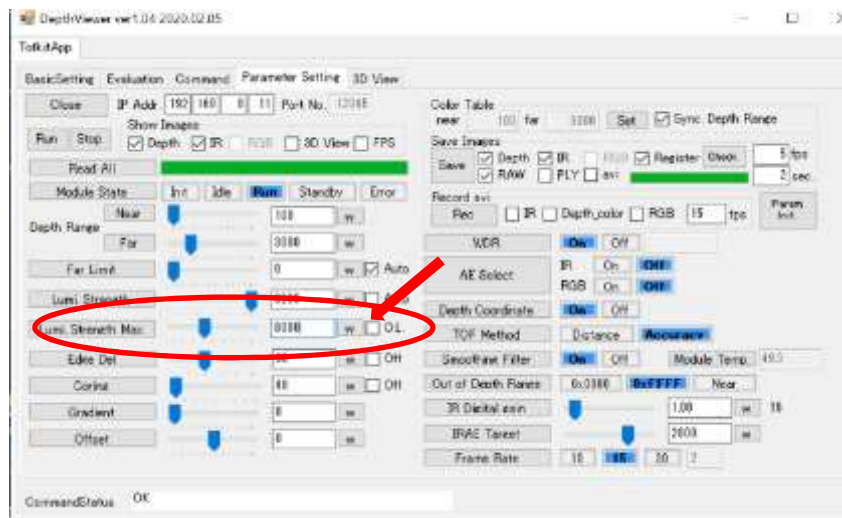
1)



For more luminescence power, the rated value can be increased.
For luminescence strength value > 3200, and detection distance might increase.

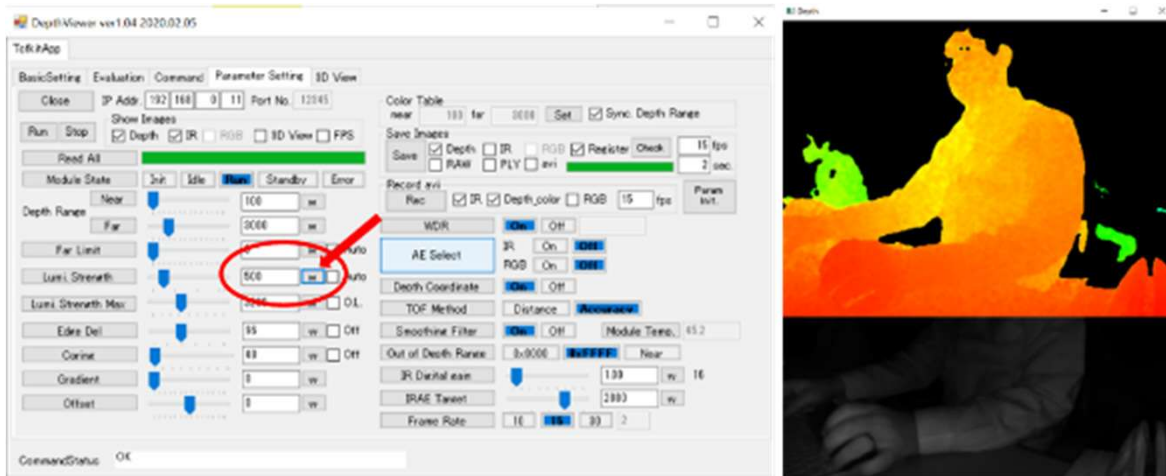
✂Necessary to press “max” button, when inputting parameter.

2)



Input the required value and then press “w”. Max value will be change accordingly.

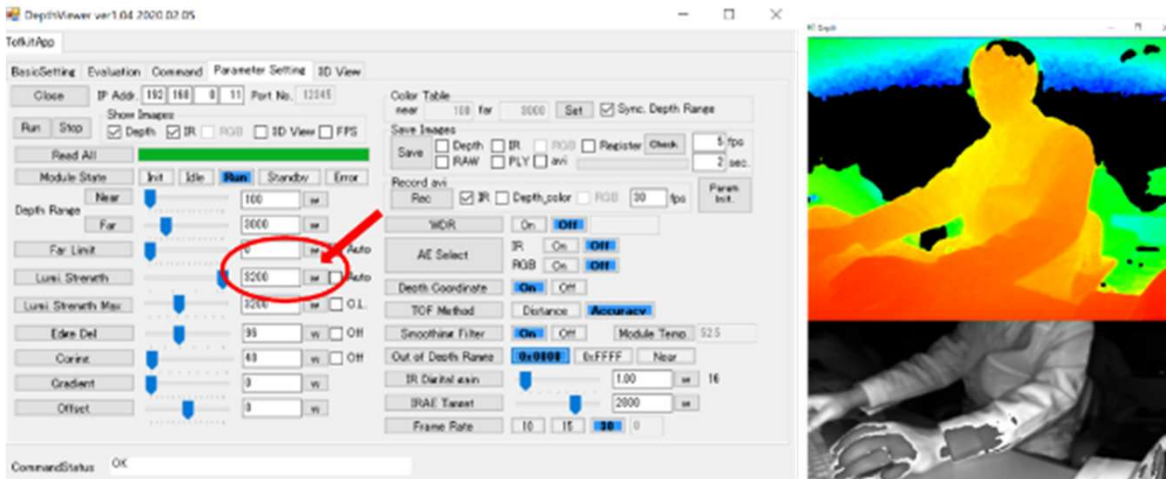
Luminescence Strength



For Luminosity Strength enter value then press “w”.

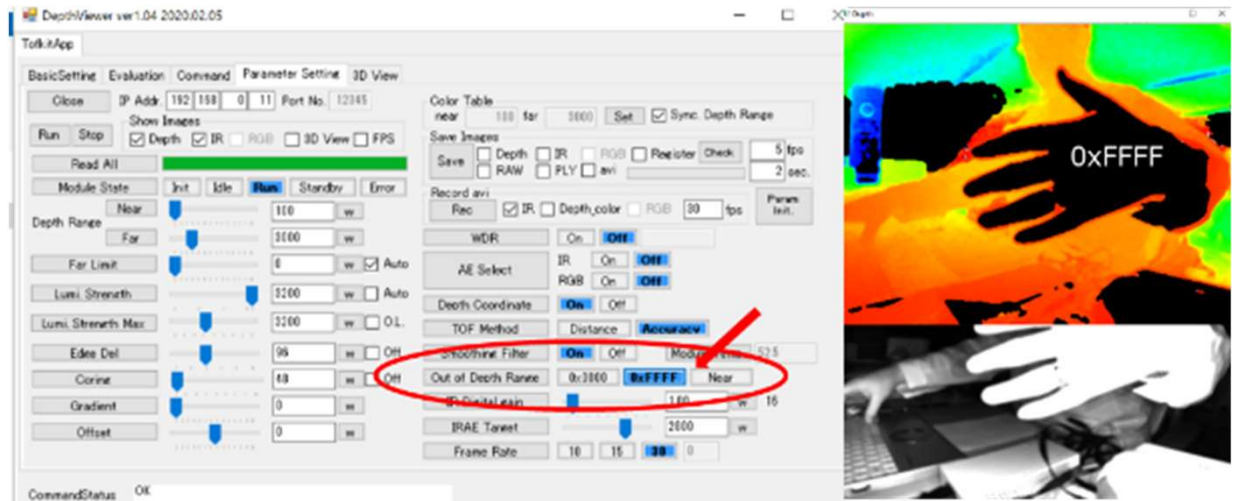
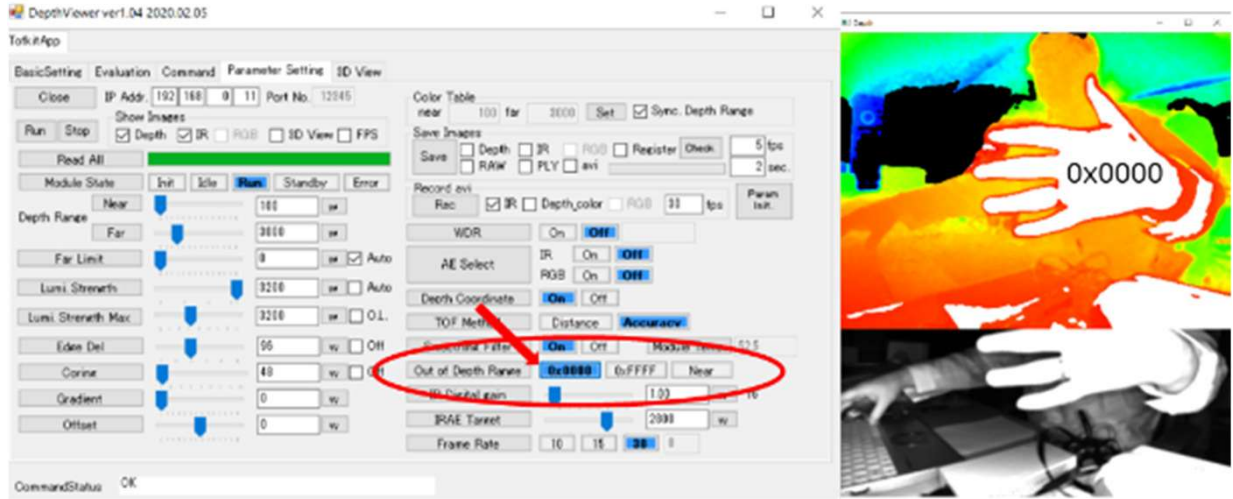
Default = 0 Auto

*If strength change is necessary, IR AE function should be turned off.

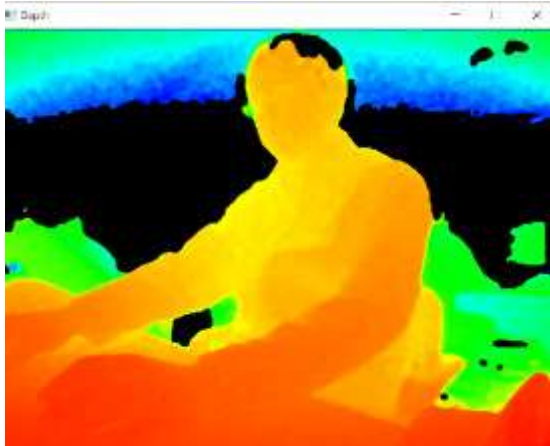
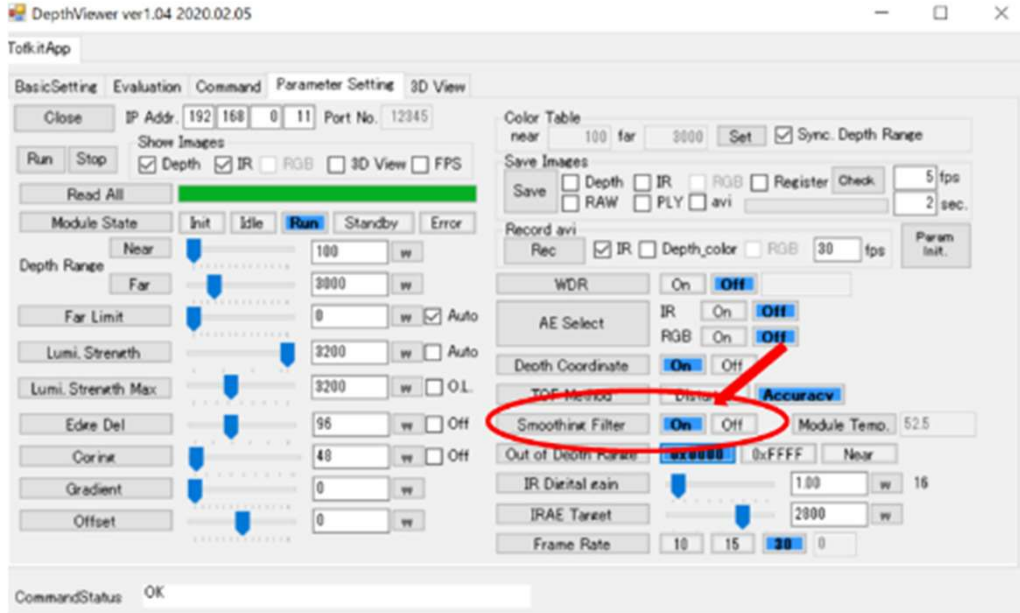


Out of Depth Range

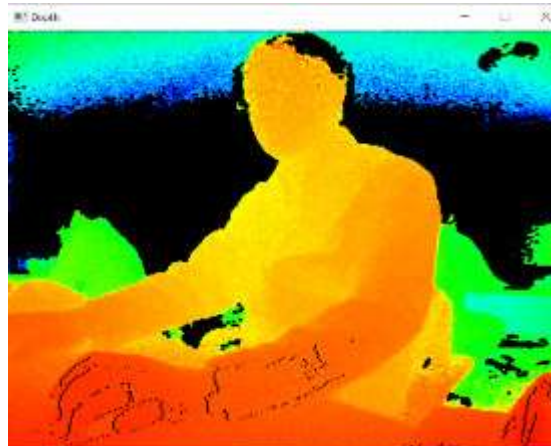
User can select "Out of Depth Range".



Smoothing Filter



On



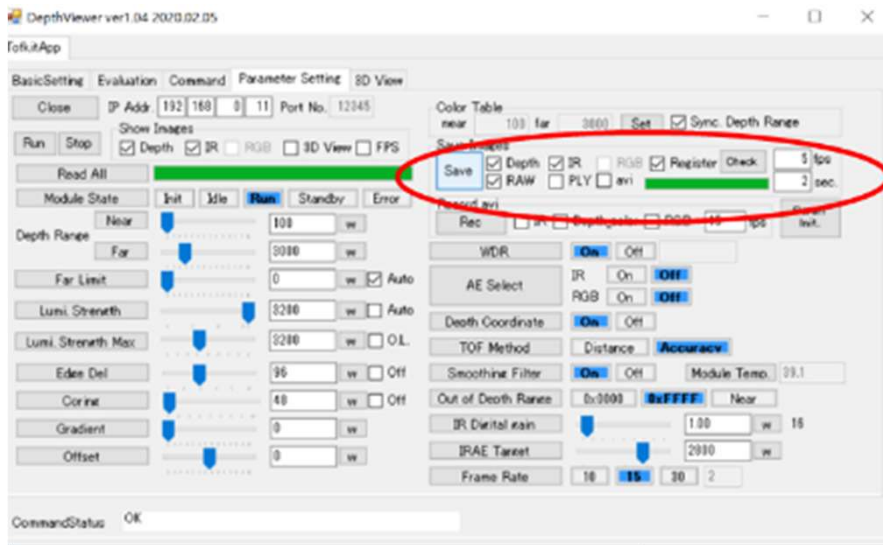
Off

User can select Smoothing Filter function.

Default setting = On

Continuous Save Image

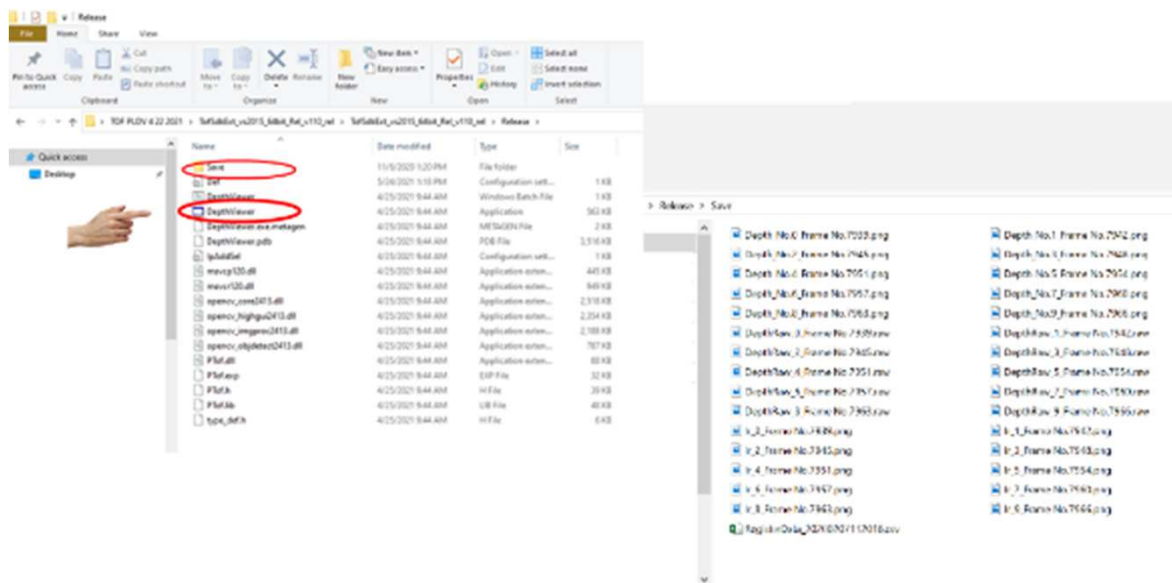
Save Image



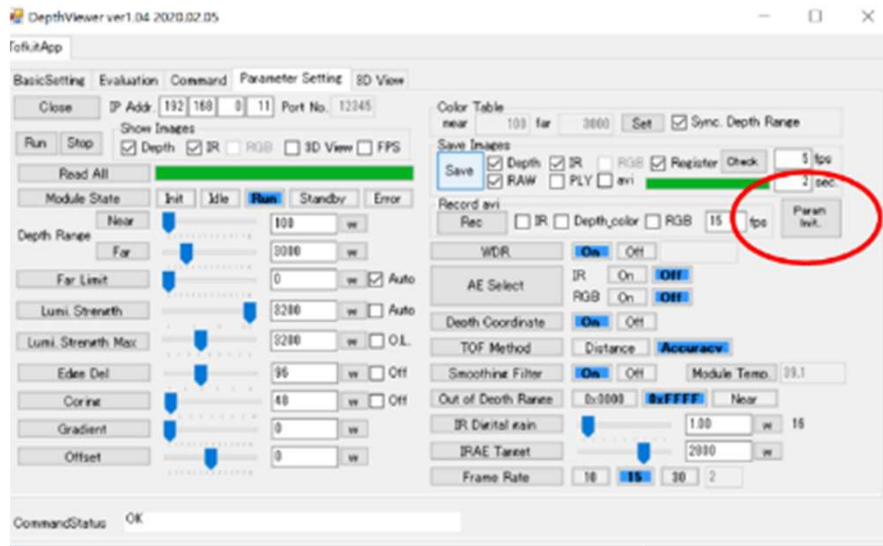
Select necessary data
 Set how much data do you will need.
 Ex) 5fps, 2sec = 5 pcs/sec x 2 sec = 10pcs of data are saved

Save folder will be made at the same folder.
 And user can find saved datas as below.

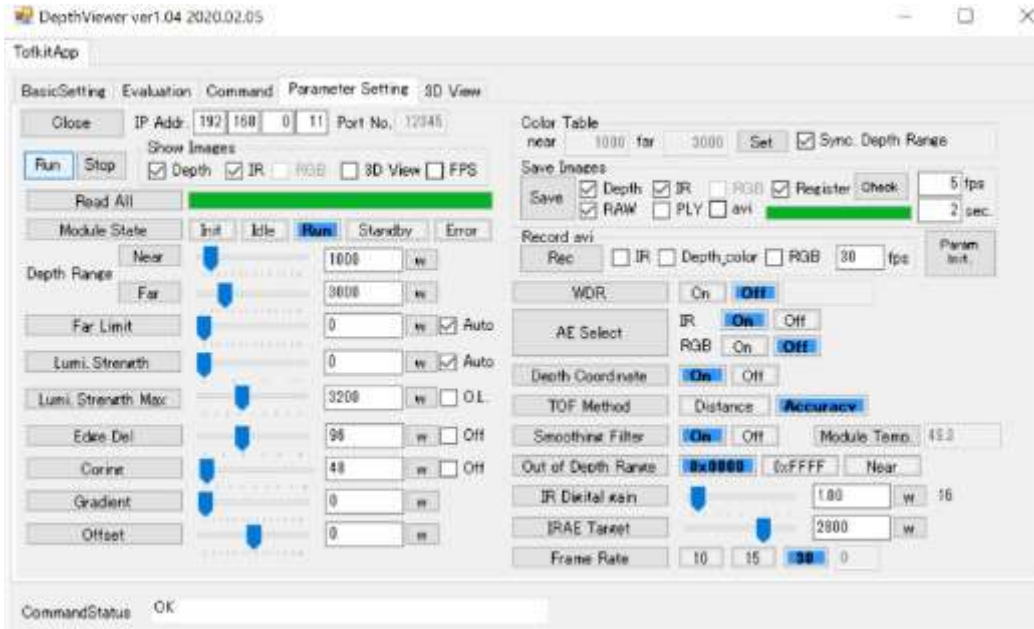
Press "save" button, then start to save image data.



Camera parameter initialize



User can initialize camera parameters, if needed.
Press “Param ini”, then all of camera parameters will reset to default status.



Save Movie

“Save Movie Function”
Currently Not Available

ToF Camera RGB, IR and Depth Images:

