Panasonic®

D-IMager

3D Image Sensor

Model No. EKL3104

Display Software User Manual

Version 1.00

2010. 4. 1

Contents

Notice

1. Introduction

This document explains how to use the program for capturing and displaying images from the 3D image sensor developed by Panasonic Electric Works Co., Ltd.

2. Operating Environment

Please use this software in the following environment.

*Compatible OS:

Windows® XP (Service Pack 1, Service Pack 2, Service Pack 3) 32 bit

Windows Vista® SP1 32 bit

*With Windows Vista®, please be aware that the PC will restart when

operation to switch to sleep mode begins.

*CPU: Pentium® 4, Pentium® M 1GHz or more

*Memory: sufficient memory capacity for Windows® XP to operate normally

*Must be equipped with USB 2.0 standard connector

*Device driver used: Dimagerusb.SYS

*A single PC can only support one sensor.

Note 1: The program may not operate due to the Internet environment,
      other applications, etc.

Note 2: The program may not operate correctly if a USB port is being
      used for something other than this product.

3. Program Contents

  *DigiCapUSB.exe : Main package of this software
  *Dimagerdll.dll : Program Contents

  Please place the above two files in the same folder.

4. Functions

This program receives and displays grayscale and range image data via USB from the 3D image sensor. Its specific functions are as follows.

-Switching between image capture/stop
-Display of grayscale images
-Display of range images
-Saving still images (BMP, CSV format)
 Saves the currently displayed grayscale image or range image.
-Saving consecutive images (BMP, CSV format)
 Saves the designated number of consecutively received grayscale images
 or range images.
-Switching of frequency setting
-Switching of sleep mode
-Checking DLL version
-Display of coordinates, distance and brightness of
 click position coordinates
-Display of frame rate
-Switching of Brightness Magnification

5. Explanation of Display Screens

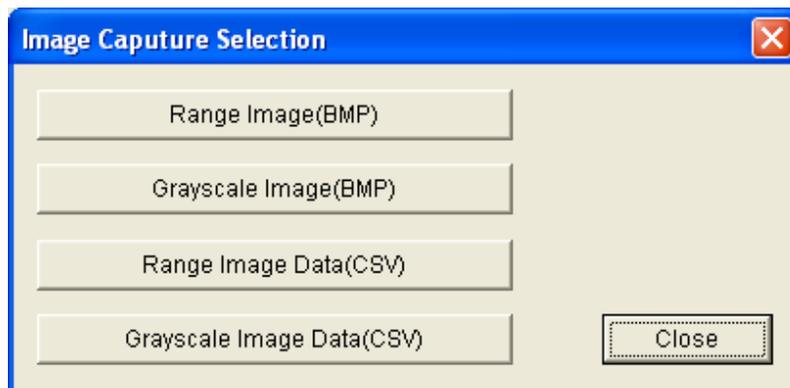## 5.1 Explanation of Each Screen

- START/STOP button: switches between image capture/stop
    Clicking the START button:
        Starts image capture, displays the captured Grayscale Image
        and Range Image, and switches the button to STOP.
        When the STOP button is displayed, then clicked, image capture is
        stopped, and the button switches back to START.

- Save Image button: Saves the currently displayed Grayscale Image or Range Image.
        When this button is clicked, the following dialog box is displayed.
        Note: This is enabled only when image capture is stopped.

        When one of these buttons is clicked, the dialog box for "Save As"
        will be displayed. Input the save destination and file name and save.
        (The content of the display varies depending on whether the OS is
        the English version or Japanese version.)

- Save Consecutive Images button: Saves the designated number of consecutively received grayscale images or range images.
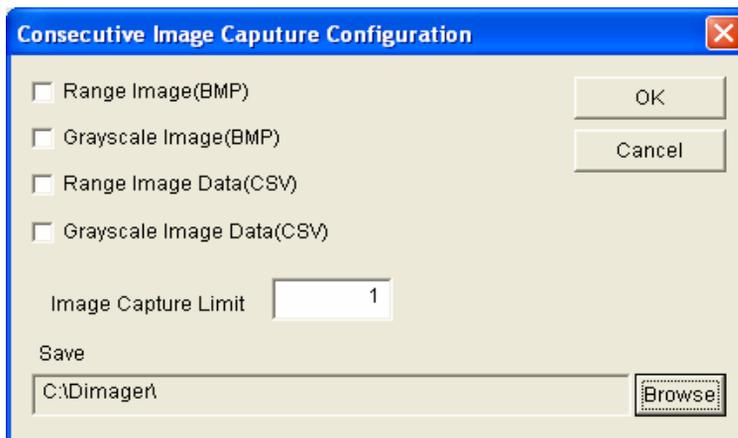 (Check memory when setting. Save processing is performed after securing a buffer for the captured number of images, and a long processing time is required if there are many captured images.)
  When the button is clicked, the following dialog box is displayed. Make the desired settings and click the OK button.

  Note: This is enabled only when image capture is stopped.

<Setting>
-Settings for data to be saved
  Check the check boxes for the type of image you wish to save.

Note: If the Image Capture Limit is set without checking any check boxes, the program will operate without saving any images.

-Image Capture Limit: Sets the number of images to be captured (1–999999).
-Save : Click the Browse button, and select the folder to save the captured images in.
  (The content of the display varies depending on whether the OS is the English version or Japanese version.)
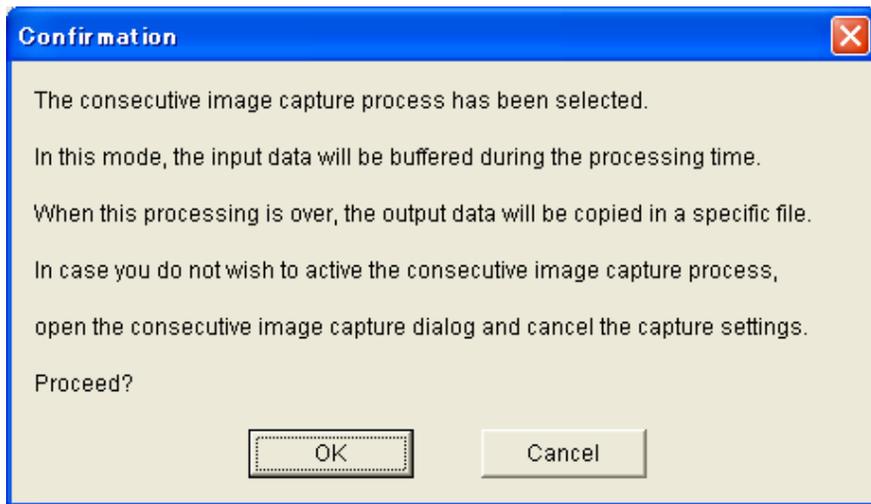 ***File names are assigned automatically, starting from 000000.
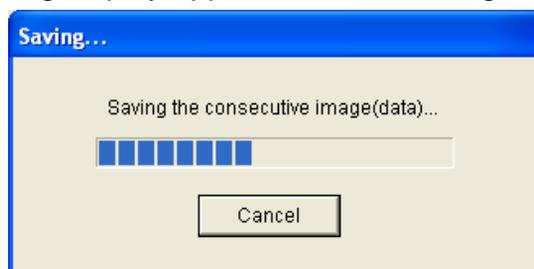 Files can be overwritten, so please be careful.**

Browse For Folder

Output Folder Selection

- Desktop
  - My Documents
  - My Computer
  - My Network Places
  - Recycle Bin
  - devicedriver_091127
  - DigiCapUSB_091127
    - program
    - temp
  - New Folder

[Make New Folder]   [OK]   [Cancel]

<Name of saved data files>
  Range Image (BMP)   :******_kb.bmp
  Grayscale Image (BMP)   :******_nb.bmp
  Range Image Data(CSV)   :******_kb.csv
  Grayscale Image Data(CSV) :******_nb.csv

*If Save Consecutive Images has been set, the following dialog box will be displayed when the START button is clicked. Click OK.

Confirmation

The consecutive image capture process has been selected.

In this mode, the input data will be buffered during the processing time.

When this processing is over, the output data will be copied in a specific file.

In case you do not wish to active the consecutive image capture process,

open the consecutive image capture dialog and cancel the capture settings.

Proceed?

[OK]   [Cancel]

*If Save Consecutive Images has been set, it will automatically stop when the Image Capture Limit is attained.

The following display appears while the image is being saved.

Saving…

Saving the consecutive image(data)...

[Cancel]

* If Save Consecutive Images has been set, and the STOP button is clicked before the set Image Capture Limit is attained, the remaining images are not saved.

- Frequency Setting: Switches between and checks the three types of frequencies.
      (0: Frequency 1 (default); 1: Frequency 2; 2: Frequency 3)
      *This button cannot be clicked while an image is being output.

-Check button for frequency setting: The current frequency setting is displayed to
      the left side of the Check button.
      (If 4 is displayed, the sensor setting value is abnormal.)

*When the software starts up, it reads in the current frequency setting, and
displays that value. Update is not done automatically after software starts up.

-Set button for frequency setting: Switches the frequency setting.
    Choose the frequency setting at the left of the Set button, and then click the
    Set button. The updated result is displayed to the left of the Check button.

- Sleep Mode: Performs ON/OFF control and checking for sleep operation.
      (0: Sleep ON mode; 1: Sleep OFF mode)
      *This button cannot be clicked while an image is being output.

-Check button for sleep setting: The current sleep mode is displayed to
      the left side of the Check button.

-Set button for sleep setting: Switches sleep ON/OFF.
    Switching is done by inputting ON/OFF to the left of the Set button, and then
    clicking the Set button.
    The switching result is output to the Sleep Check screen.

- Reset Settings: Restores frequency setting and sleep operation to their default
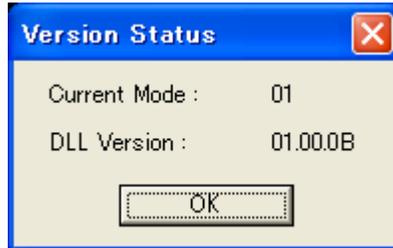   factory settings.

Default factory settings:
      Frequency setting : Frequency 1
      Sleep operation   : Sleep OFF mode

*The frequency setting and sleep check display screen are not updated.
*This button cannot be clicked while an image is being output.

- Frame rate: Displays the frame rate when running the display program.
                Updated every 2 seconds.
                    *This is not the frame rate for output from the 3D Image sensor.

- Version (V): Displays the 3D image sensor mode and DLL version (xx.xx.xx).

Version Status

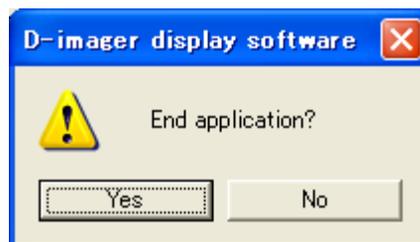|	
Current Mode :	01
DLL Version :	01.00.0B

OK

 - Brightness, Point, Distance: Displays the point coordinates and distance when
 clicking with the pointer on the grayscale image or range image.

-Brightness Magnification : Switching of brightness magnification on the
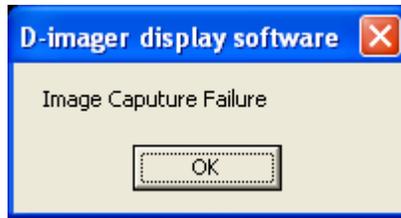grayscale image.

  *This button cannot be clicked while an image is being output.

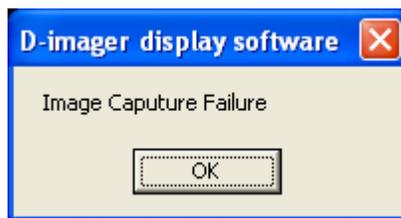 - EXIT (X): Click this to end the application

D-imager display software

⚠ End application?

Yes   No

5.2 Error Display

- This display will appear in absence of a USB connection.
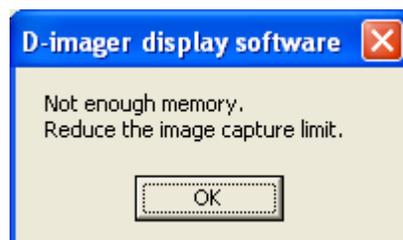 (It will be displayed about 4 seconds after the START button is clicked.)

D-imager display software ☒

Image Capture Failure

[OK]

- The following display will appear if the USB connection is lost during image output (approx. 4 seconds).

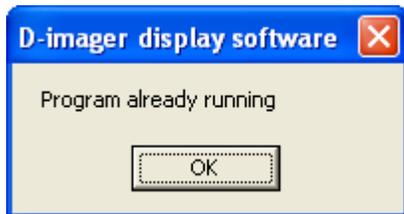**D-imager display software** ☒

Image Capture Failure

[OK]

- The following display will appear if the Image Capture Limit has been set to "0" or null in Save Consecutive Images setting.

D-imager display software ☒

The Image type to be captured has been selected but the image capture limit has not been configured.
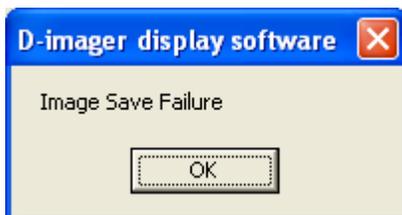
[OK]

- The following display will appear if the memory capacity available in the PC is exceeded because the Image Capture Limit in Save Consecutive Images setting is too high.

D-imager display software ☒

Not enough memory.
Reduce the image capture limit.

[OK]

- The following display will appear if the DigiCapUSB.exe display software is
  started twice.

D-imager display software ☒

Program already running

[OK]

- The following display will appear if a failure occurs during saving with
  the Save Consecutive Images setting.

D-imager display software ☒

Image Save Failure

[OK]

- The following is displayed if Dimagerdll.dll cannot be found when
  starting up the software.
  (The content of the display varies depending on whether the OS is the
   English version or Japanese version.)

DigiCapUSB.exe - Unable To Locate Component ☒

❌ This application has failed to start because Dimagerdll.dll was not found. Re-installing the application may fix this problem.

[OK]

5.3 Others

- If the 3D image sensor is in Sleep ON mode and the START button is clicked, it is necessary to stop it by clicking the STOP button.
(The 4 second stop due to Image Capture Failure will not occur.)

- If the USB is disconnected during image output, the STOP button cannot be clicked. (You will have to wait for the display of "Image Capture Failure" (Approx. 4 seconds).)

- If the Set button for Frequency Setting or Sleep Mode has been clicked, please perform the next operation after checking that the value to the left of either of the Check buttons has changed.

- When the Reset Settings button is clicked, the displays for Frequency Setting and Sleep Mode are not updated. Therefore, please perform the next operation after checking using each Check button that the values have changed.

- "Frame rate" indicates the display frame rate of the display software. There are cases where it is not the specified frame rate due to the load of other applications, etc.

5.4 Precautions

When starting up this software in Windows Vista®, please change the settings so that the OS will not enter sleep mode.
(If the OS enters sleep mode, the PC will restart, so do not to allow the software to switch to sleep mode.)