



### Caution

Do not mark on the model and other components with pen nor leave printed materials contacted on surface. Ink marks on the models cannot be removed.

MW61

# Digital EYE Examination Simulator

## Instruction Manual



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**Before You Start**

Please read the instruction carefully before use.

**Before Use**

Digital EYE Examination Simulator is designed for hands-on training of eye examination with direct ophthalmoscope. Please do not use this simulator for any purpose other than training of healthcare professionals, and please read the instructions carefully. Any other use, or any use not in accordance with the enclosed instructions, is strongly discouraged

**Product Features**

- 40 cases of fundus cases (including 10 common diseases) are pre-installed for eye examination training.
- Original fundus case can be added to the simulator by users.

**Dos and DON’ Ts**

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>● Do not mark on the simulator with pen or leave any printed materials in contacted with the surface.<br/>Ink marks on the surface will not be removable.</li> </ul> | <ul style="list-style-type: none"> <li>● Remove batteries when not in use for a long time.<br/>In rare cases, battery leakage may occur and cause malfunction.</li> </ul> |
|---|---|

Before your first use, ensure all components listed below are included in the unit.



### Specifications

manikin size: approx. 42×22×38cm, 2kg

### Set includes

- A. 1 manikin head and shoulder
- B. AC adapter
- C. USB Cable
- D. USB (flash) drive
- E. Manual

### Setting of the batteries

The battery box is at the bottom face of the shoulder unit.

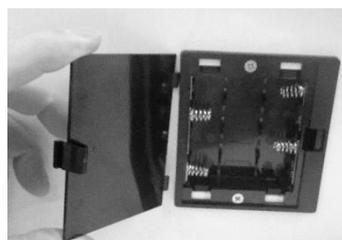
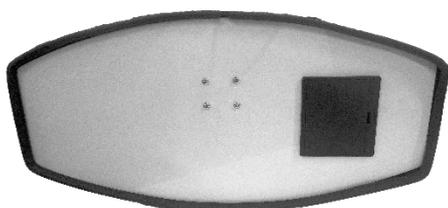
With pushing the tab at the right side of the lid to the left, pull it to open the lid.

Set four size AA batteries in the box. Ensure the direction of the batteries. The position of positive or negative electrodes is indicated in the box.

After setting the batteries, close the lid as the following procedure. Put the two small tabs at the left side of the lid to the indents at the left side of the battery box then push the lid to close.

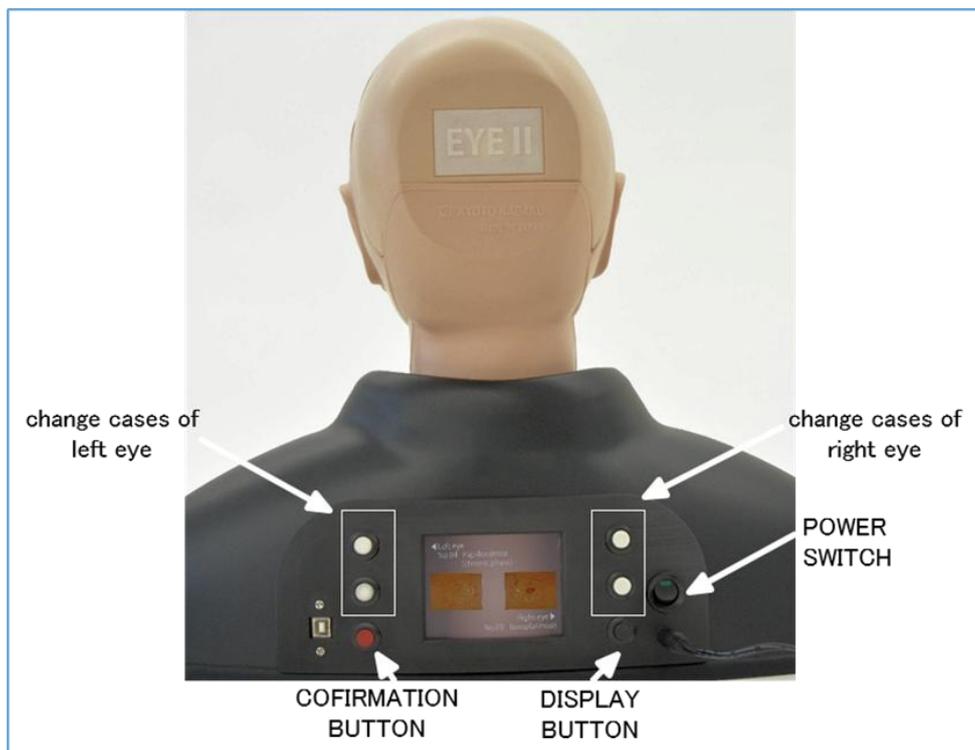
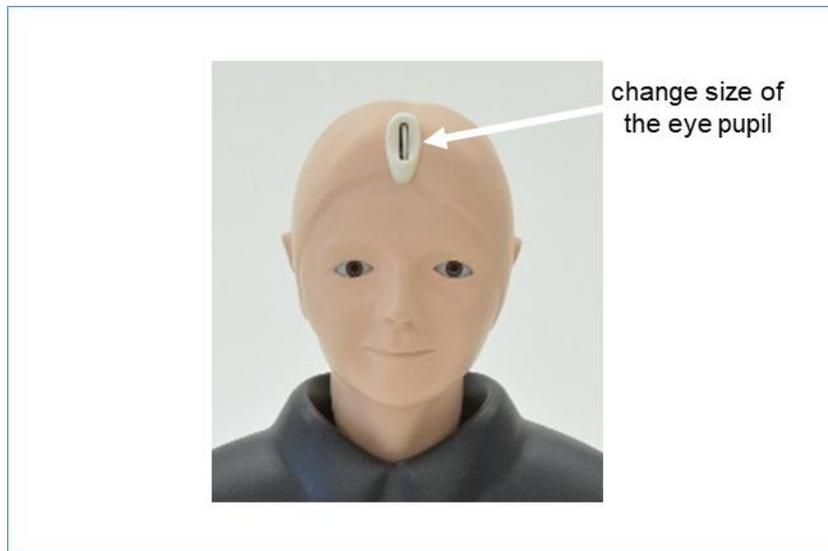
Turn on the power switch when training session begins.

※If the batteries are set and the AC adapter is connected, the AC adapter will supply power.



# Operating Instructions

## Buttons and Functions



Following fundus cases are pre-installed in this simulator.

Fundus Cases	
1	Normal fundus
2	Hypertensive retinopathy
3	Diabetic retinopathy
4	Papilloedema (chronic phase)
5	Papilloedema (acute phase)
6	Glaucomatous optic atrophy
7	Retinal vein occlusion (acute phase)
8	Retinal vein occlusion (post retinal laser photocoagulation)
9	Toxoplasmosis
10	Age-related macular degeneration
11	optic disc cupping 1
12	optic disc cupping 2
13	optic disc cupping 3
14	optic disc cupping, Tilted disc (Fuch's Coloboma)
15	optic disc cupping, exudates
16	Drusen 1
17	Drusen 2
18	Optic disc cupping with drusen 1
19	Optic disc cupping with drusen 2
20	Macular Drusen
21	Optic disc hemorrhages
22	Hemorrhages
23	Chorioretinal atrophy 1
24	Chorioretinal atrophy 2
25	Vitreous clouding 1
26	Vitreous clouding 2
27	Vitreous clouding 3
28	Vitreous clouding 4

29	Retinal nerve fiber layer defect 1
30	Retinal nerve fiber layer defect 2
31	Pigmentation
32	Hemorrhages, sheathing of vessel
33	photocoagulation
34	Megalopapilla
35	Epiretinal membrane 1
36	Epiretinal membrane 2
37	Epiretinal membrane 3
38	Conus
39	Macular Degeneration
40	Eye Exudate

# Operating Instructions

## Changing Fundus Cases

- ① Turn on the POWER SWITCH.



Turn on the POWER SWITCH,  
then the LCD panel will turn on.

(It will take some time until LCD panel to turn on.)

- ② Changing Fundus Cases

Use white buttons on the right side to change cases of right eye.

Use white buttons on the left side to change cases of left eye.

All 40 cases are numbered. Press the upper white button to advance the case number of the cases,  
press lower white button to reverse it.

\* Cases can be fast-forwarded by holding one of the white buttons.

② press CONFIRMATION BUTTON at the case to set

① press upper white button to advance the case of right eye

Case of right eye turned from 05 to 06.  
The state bar above the case image will stay yellow during changing cases.

Press CONFIRMATION BUTTON to fix the setting. The state bar above the case image will turn to blue to indicate that the fundus of the simulator is ready for examination.

The diagram illustrates the process of changing fundus cases. It shows three stages of the LCD panel display. In the first stage, the left eye is case 27 (Vitreous clouding 4) and the right eye is case 05 (Papilloedema (acute phase)). A yellow state bar is above the right eye image. An arrow points to the upper white button on the right side of the panel, labeled "① press upper white button to advance the case of right eye". In the second stage, the right eye case has advanced to 06 (Glaucomatous optic atrophy), and the state bar remains yellow. An arrow points to the lower white button on the right side, labeled "② press CONFIRMATION BUTTON at the case to set". In the third stage, the state bar above the right eye image has turned blue, indicating the case is set.

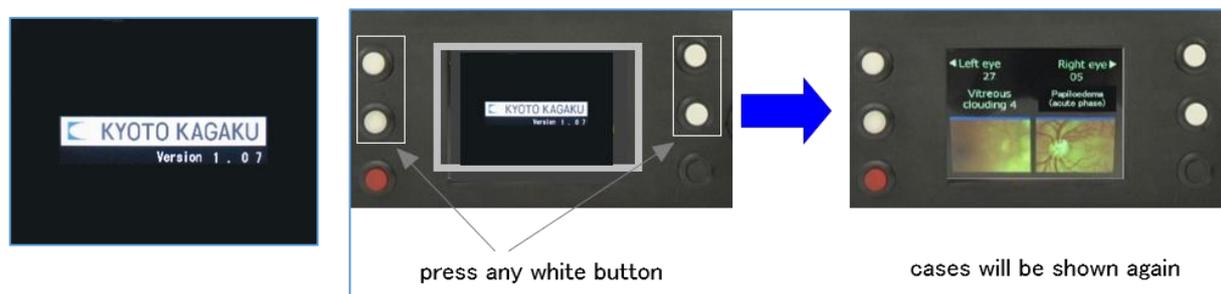
# Operating Instructions

## Using Test Mode

When you wish to hide the case names and images on the LCD panel during test or other situations, press DISPLAY BUTTON to hide the case information.

The LCD panel will display as shown on the left.

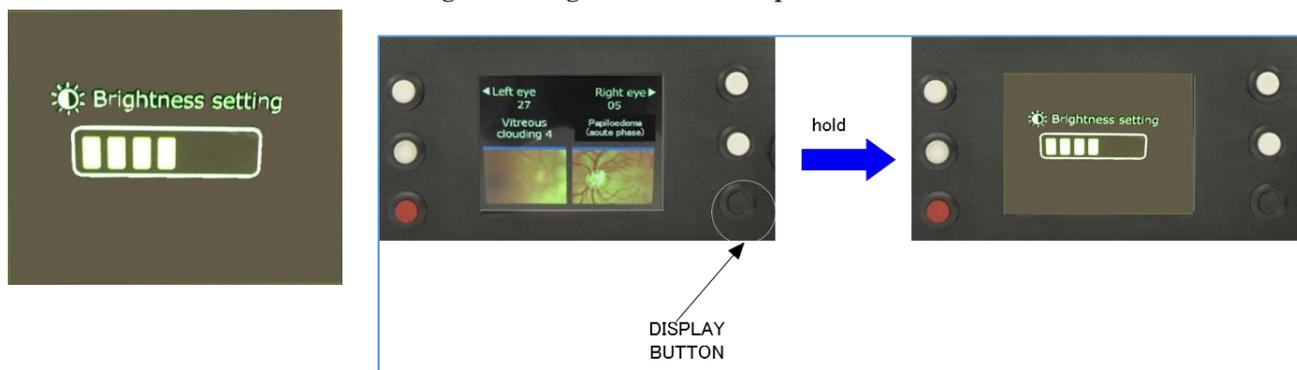
Press any white buttons to show the cases again.



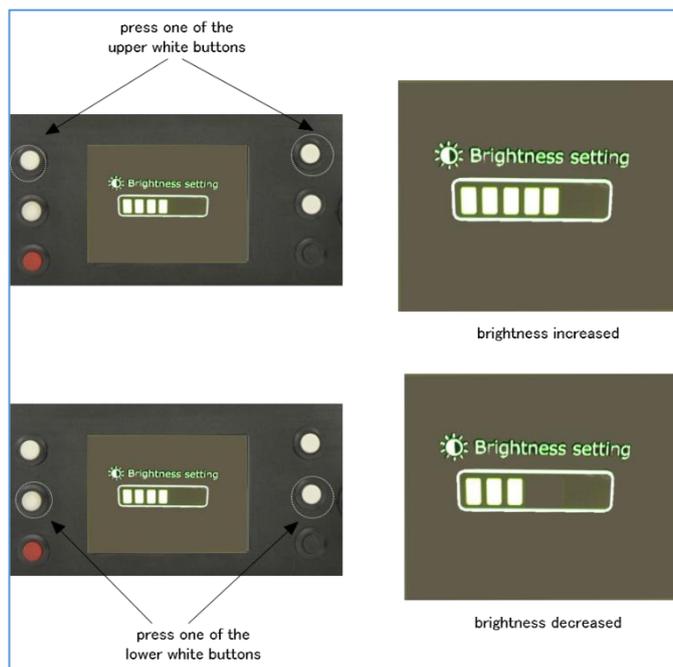
# Operating Instructions

## Changing the Brightness of LCD Panel

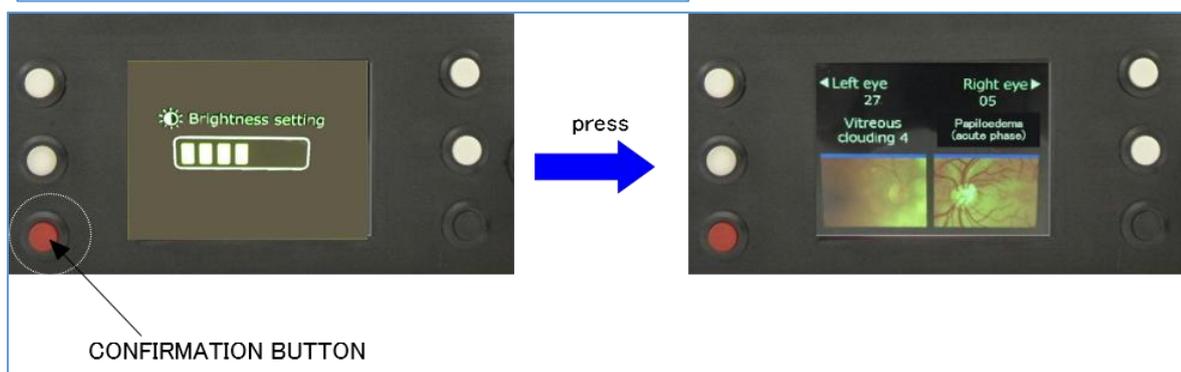
Hold DISPLAY BUTTON to change the brightness of LCD panel.



Press the white buttons to change the brightness.



Press CONFIRMATION BUTTON after setting the brightness, then cases images will appear.



# Operating Instructions

## Adding Fundus Cases by PC

Before you start, make sure you have following items with you.

- Digital EYE Examination Simulator (included)
- USB memory (included)
- USB cable (included)
- PC with round images of fundus in the format of jpeg, jpg, png and bmp.

\*It is recommended to create a dedicated a folder on the PC to store the images to add the simulator and keep it as back up.

Original fundus cases can be added into the simulator by using a PC.

Follow steps below to add new fundus cases. (Check the details from next page.)

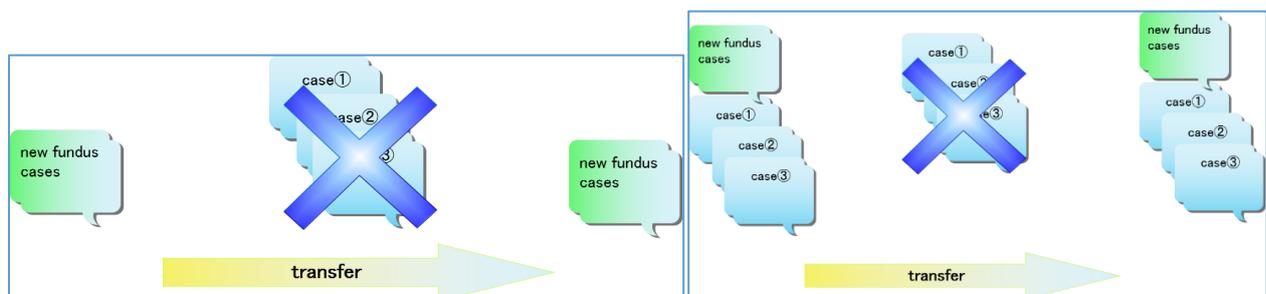
- 1) Connect the included USB memory to a PC.
- 2) Run “KKDigital Simulator installer.exe”.
- 3) Run “KKDigital Simulator.exe” to add fundus cases to the simulator.
- 4) Connect the simulator to the PC by USB cable.
- 5) Write to fundus cases to the simulator.
- 6) Disconnect USB cable between simulator and PC.
- 7) Verify added images on the LCD panel.

### **\*Caution!**

**Every time when you import additional fundus cases, the “original fundus cases folder” inside of the simulator is overwritten. In other words, each time new fundus case images are added, the previously added cases will be deleted.**

**(Pre-installed cases will not be deleted.)**

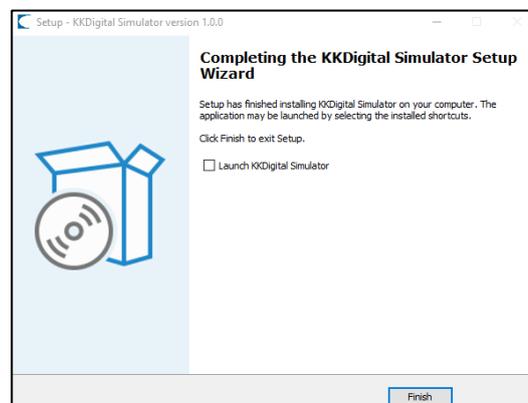
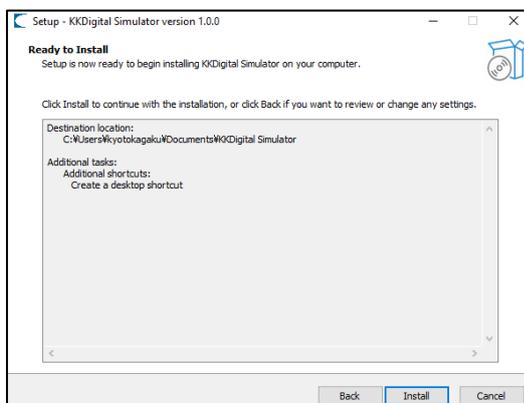
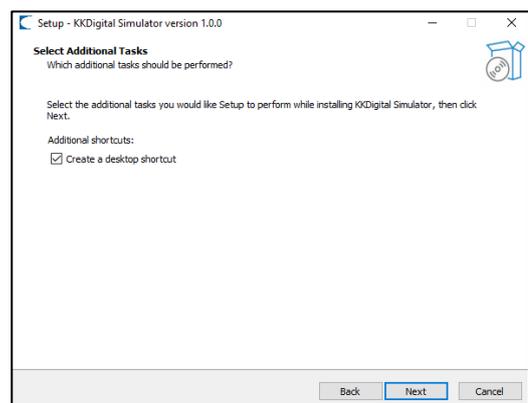
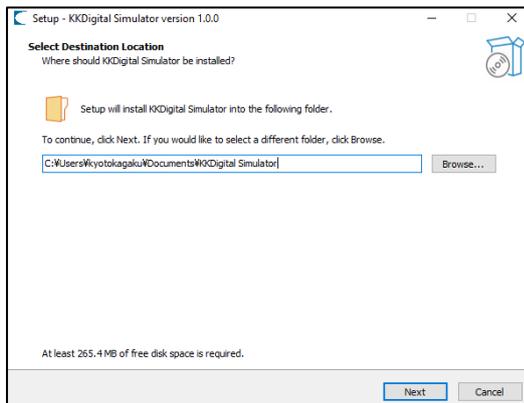
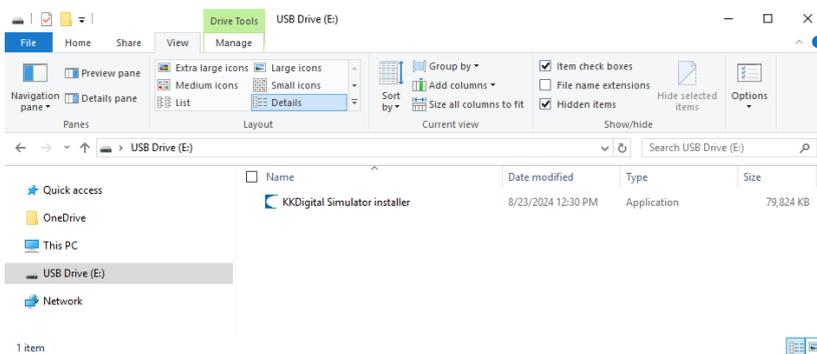
**If you want to keep these existing cases, add them again with new ones.**



# Operating Instructions

## Adding Fundus Cases by PC

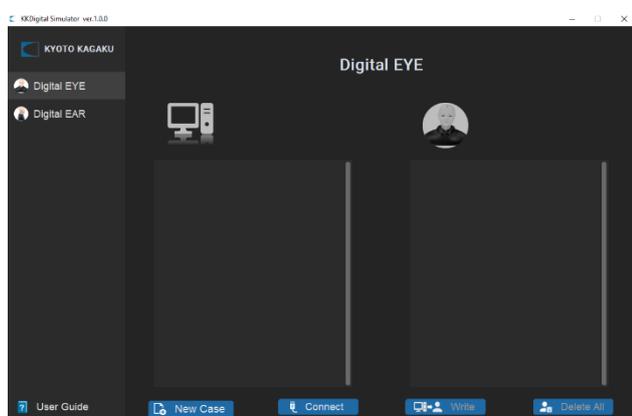
- 1) Connect the included USB memory to a PC.
- 2) Run “KKDigital Simulator installer.exe”. Follow the instructions and click the button. “KKDigital Simulator.exe” will appear on Desktop.



# Operating Instructions

## Adding Fundus Cases by PC

3) Run “KKDigital Simulator.exe” to add fundus cases to the simulator.



Select “Digital EYE”.

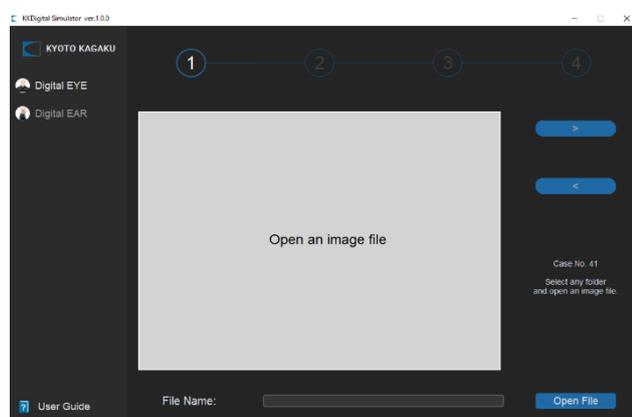
② Click “New Create”.

A new case with a case number will be created.

The number of cases begins with No. 41. You can create case up to No. 100.

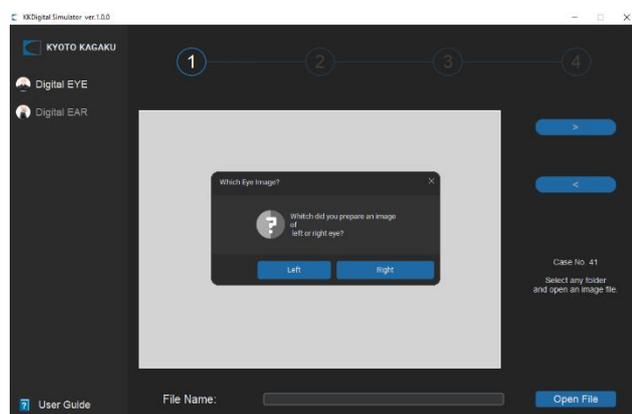
**\* NOTE: The file is not saved during the process.**

**Proceed to the end to save the data.**



③ Click “Open File”.

④ Select the image you want to add. Four types of images (jpg, jpeg, png and bmp) are supported.

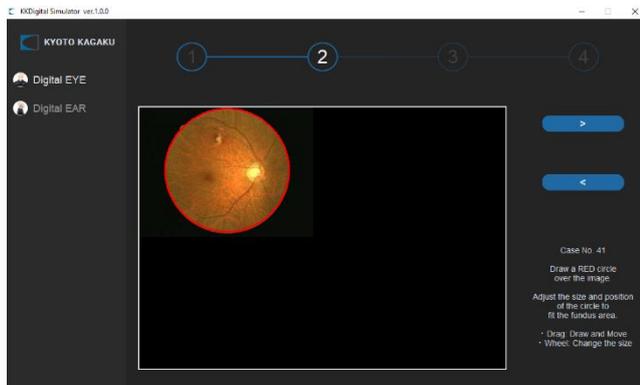


⑤ Select whether the image is of left eye or right eye.

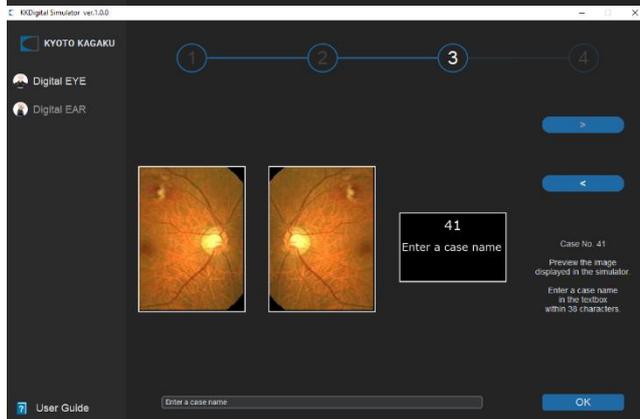
**\* NOTE: The “Left” image will be reversed to the following process.**

# Operating Instructions

## Adding Fundus Cases by PC



- ⑥ Use the mouse to draw a circle around the area of the fundus in the displayed image. When you have finished drawing the circle, click “>” to proceed to the next step.

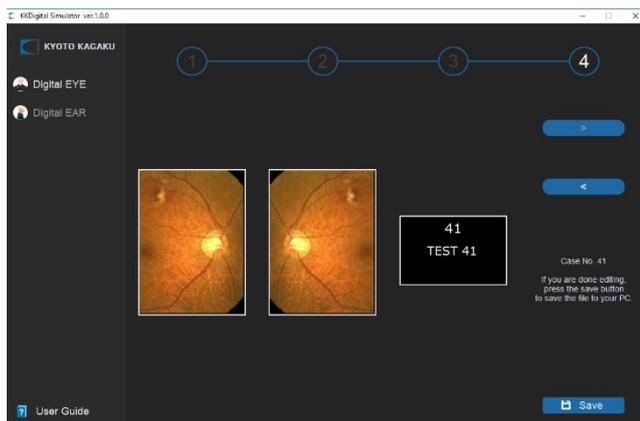


- ⑦ A preview of the images displayed on the simulator and the text box for the case name will appear.

Enter the case name in the textbox within 38 characters.

**\* NOTE: You can use “(,)”, “\_” and space.**

- ⑧ Click “OK” to save the case name.

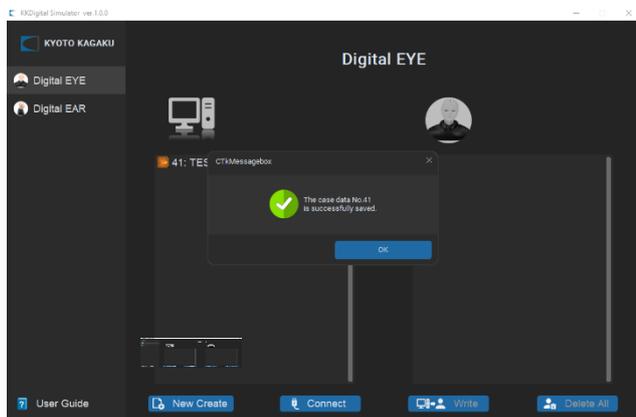


- ⑨ After checking the preview, click “Save” to save the file to your PC.

**\* NOTE: To change the image or case name, click “<” to return to the previous step.**

# Operating Instructions

## Adding Fundus Cases by PC



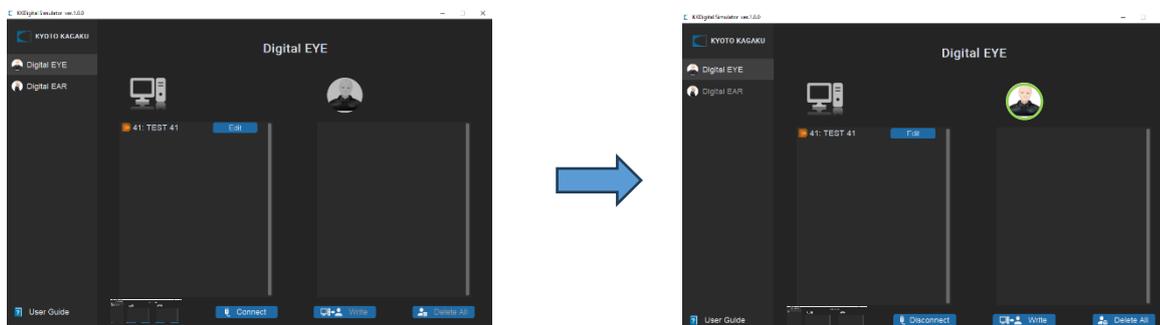
⑩ When a case is added, it will be reflected in the software. To edit a case, click “Edit” on the row of the case you want to edit.

**\* NOTE: The added cases are not yet reflected in the simulator.**

4) Connect the simulator to the PC by USB cable.



Click “Connect” to connect the simulator and the software. Once the simulator is connected to the software, the simulator icon will light up after the message. Select “Write” or “Delete All”.



# Operating Instructions

## Adding Fundus Cases by PC

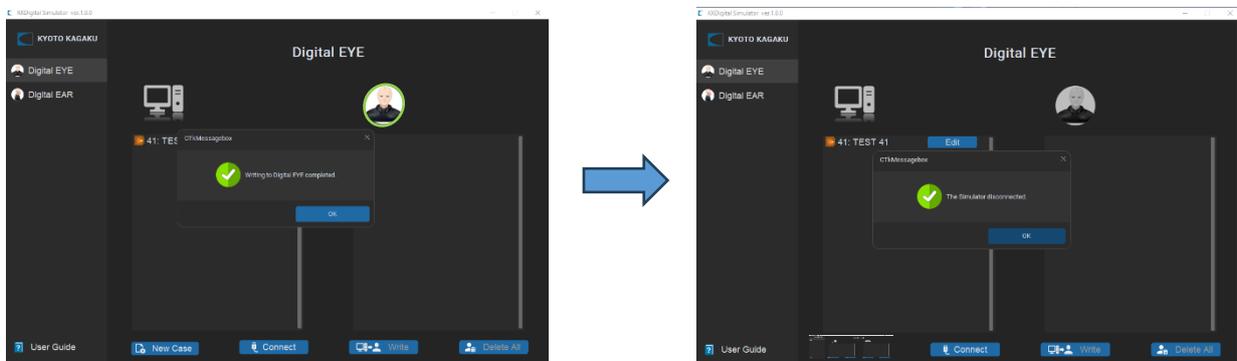
5) Write to fundus cases to the simulator or delete fundus cases in the simulator

“**Write**”: Write all the created cases in the PC to the simulator.

**\* Caution: When writing new cases, the previously added cases in the simulator will be overwritten.**

After writing is finished, the simulator is disconnected.

Disconnect USB cable between the simulator and PC.

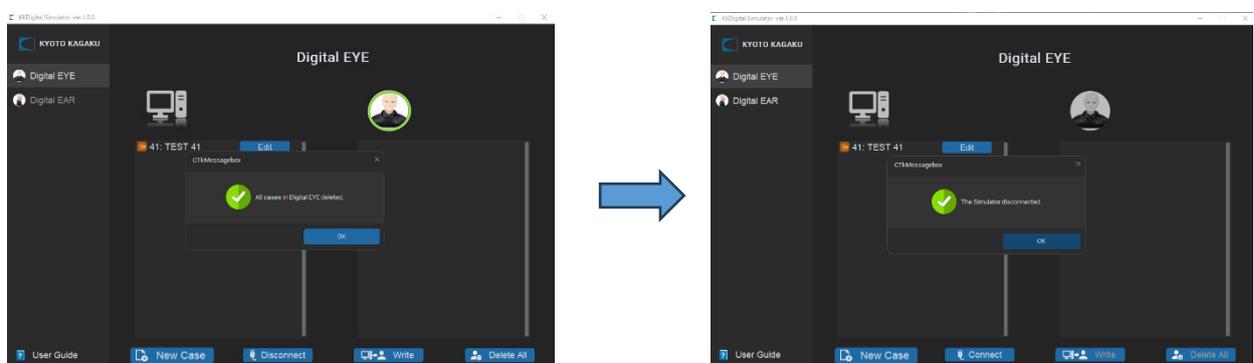


“**Delete All**”: Delete all the cases in the simulator.

**\* NOTE: Default cases will not be deleted.**

After deleting is finished, the simulator is disconnected.

Disconnect USB cable between the simulator and PC.



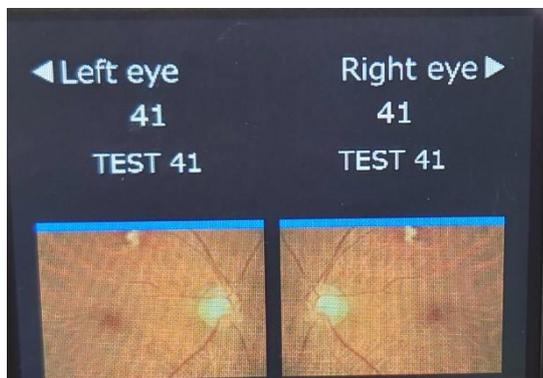
6) Disconnect USB cable between simulator and PC.



Disconnect USB cable from PC.

The LCD panel will show the sign as the image in the left .

7) Verify added images on the LCD panel.



Wait a while till the LCD panel turn to the transferred image

For this example, the new case transferred is No. 41 with the name “TEST 41”.

(Software will automatically mirrors right eye image to generate left eye image during transfer.)



**For inquiries and service, please contact your distributor or KYOTO KAGAKU CO., LTD.**

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