



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.

MW80

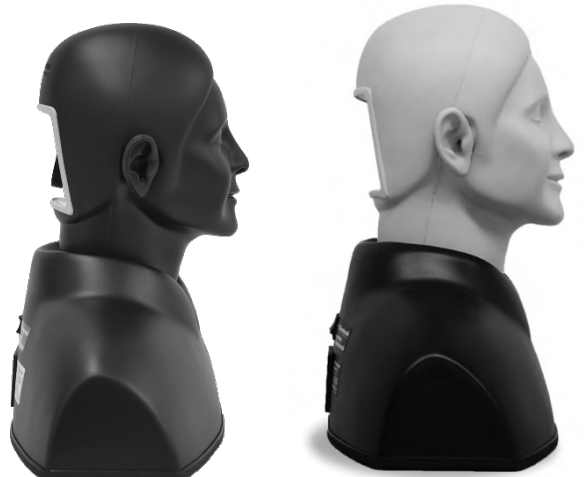
Digital EAR Examination Simulator

Instruction Manual



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Before You Start

Please read the instruction carefully before use.

Before Use

Digital EAR Examination Simulator is designed for hands-on training of ear 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.

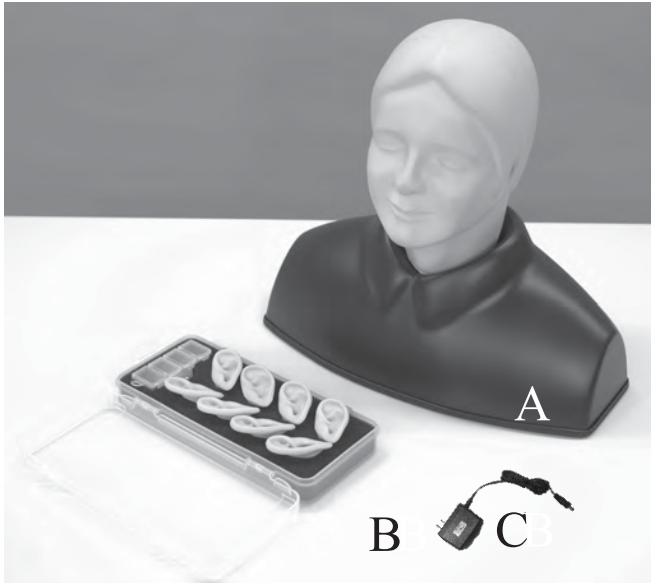
Product Features

- 50 cases of ear cases are pre-installed for ear examination training.
- Original ear cases can be added to the simulator by users.

Dos and DON'Ts

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

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



● **Set includes**

- A. manikin head and shoulder
 - B. 4 types of ear units – 1 pair each
 - Exam Ear (normal)
 - Exam Ear (stenosis)
 - FB Ear (normal)
 - FB Ear (stenosis)
 - 1set of foreign body removal kit
 - simulated ear wax, small toy, small sponge fragments and a spoon
 - C. AC adapter
- *Included Accessories**
- USB flash drive
 - USB cable

*Type of the ear is marked on the rear surface of each ear lobe.



Type	Mark
-Exam Ear (normal)	L/R 1
-Exam Ear (stenosis)	L/R 2
-FB Ear (normal)	L/R 3
-FB Ear (stenosis)	L/R 4

Specifications

manikin size: approx. 42 × 21 × 38cm, 1.5kg

● **Replacement Parts**

11391-010 Ear units and foreign body set for
MW12 and MW80 Light tone



- 4 types of ear units – 1 pair each
 - Exam Ear (normal)
 - Exam Ear (stenosis)
 - FB Ear (normal)
 - FB Ear (stenosis)
- 1 set of foreign body removal kit
 - simulated ear wax, small toy, small sponge fragments and a spoon

11391-010-D Ear units and
foreign body set for MW12 and
MW80 Dark tone



Setting of the ears

To ensure the procedure of attachment and detachment of the ear, refer to the movie before using the model. The movie address is as follow and you can find the movie with the right QR code.

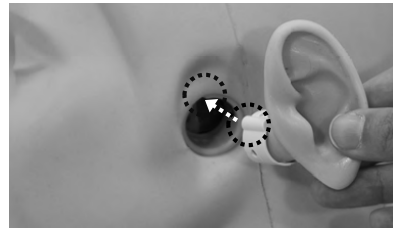
(<https://youtu.be/2G4MPw1V9qI>)



Insert the ear into the opening as shown in the photo below.

Ensure to orient the ear so that the sliding guides on the ear unit and the wall of the opening match together.

To detach the ear, please grasp gently around the base of the pinna and pull straight-out, perpendicularly to the head.



Please note

Please note: Do not mix-up the different types of ears for different trainings:

Examination with an otoscope: Use "Exam Ear"s (mark 1 or 2).

Foreign body removal: Use "FB Ear"s (mark 3 or 4).

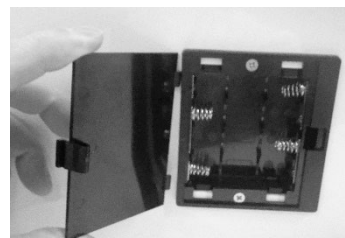
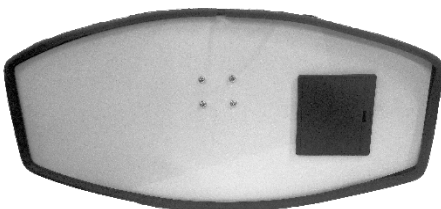
Setting of the batteries

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.



Training Sessions



Flexible neck and ear

The neck can be tilted to simulate positioning of patient's head.
The soft and supple ear allows training in straightening the canal by pulling the ear lobe.



Be sure to use "FB" type external ears.

Put the included ear wax, small toy or a sponge in the ear canal by a small spoon.
Then set the ears to the head.

After use:

Remove all the simulated ear wax, small toys and sponges from the FB Ear. Remove the batteries from the box and store them separately.
For cleaning, wipe the surface of the manikin and ear models with soft cloth moistened with water or alcohol. Dry the manikin naturally and dust the surface with talcum powder.
Do not expose the manikin and accessories to high temperature and high humidity.

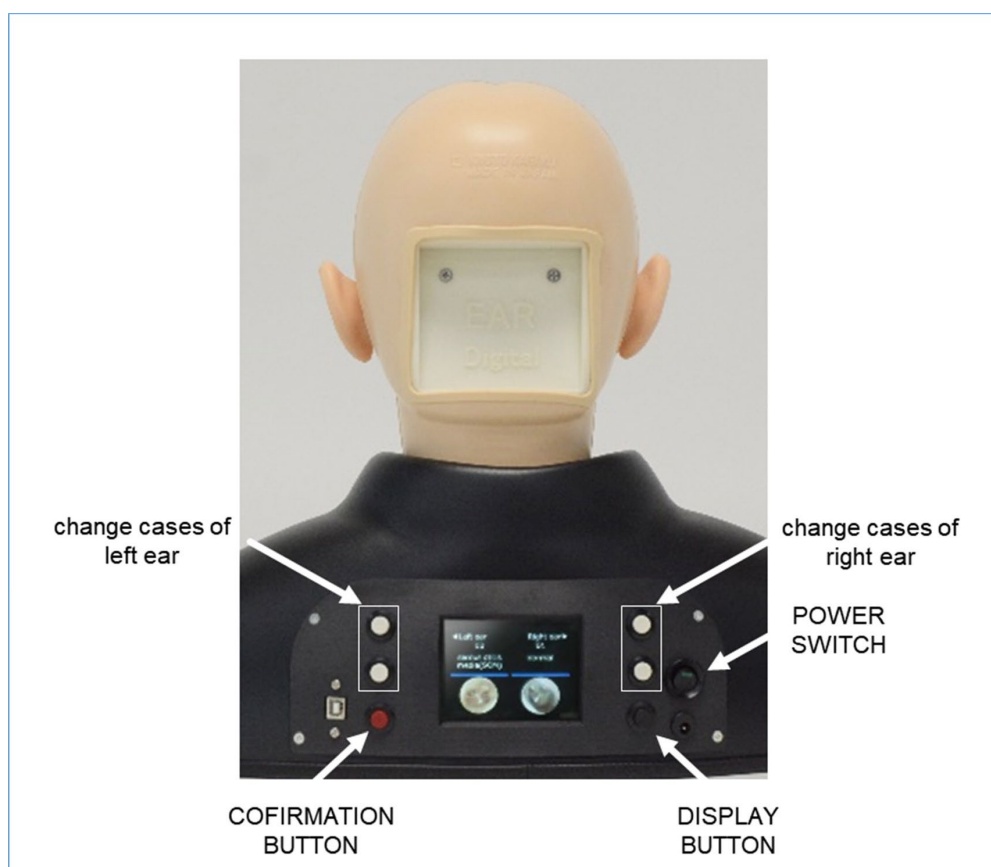
Ear Cases

Ear Cases Pre-installed

The following ear cases from number 1 to 9 are pre-installed in this simulator.
When new cases are added to the system fill the list from the number 10..

Ear Cases	
1	normal tympanic membrane
2	normal tympanic membrane
3	normal tympanic membrane
4	normal tympanic membrane
5	normal tympanic membrane (pediatric)
6	normal tympanic membrane (pediatric)
7	cancer of external auditory canal-adenoid cystic carcinoma
8	cancer of external auditory canal-squamous cell carcinoma
9	cerumen block
10	earwax
11	external auditory canal cholesteatoma
12	external auditory canal exostosis
13	medial meatal fibrosis
14	traumatic tympanic membrane perforation-post myringoplasty
15	seborrheic keratosis of the external canal
16	acute otitis media
17	acute suppurative otitis media (AOM)
18	aerotitis media after myringotomy
19	cholesteatoma
20	cholesteatoma
21	cholesteatoma
22	cholesteatoma
23	cholesterol granuloma of the middle ear
24	chronic otitis media
25	chronic otitis media with perforation
26	chronic otitis media with perforation
27	chronic otitis media with perforation
28	chronic otitis media with perforation
29	eosinophilic otitis media
30	glomus tympanicum tumor

Ear Cases	
31	large tympanic perforation
32	lateral tympanoplasty
33	mucoid otitis media (MOM)
34	otitis media with effusion
35	retracted tympanic membrane
36	serous otitis media (SOM)
37	traumatic tympanic membrane perforation
38	traumatic tympanic membrane perforation
39	tuberculous otitis media
40	tympanic membrane atelectasis
41	tympanosclerosis
42	cochlear otosclerosis
43	congenital ossicular anomaly-malleus bar
44	adhesive otitis media (pediatric)
45	chronic otitis media with perforation (pediatric)
46	keratin cyst of the tympanic membrane (pediatric)
47	otitis media with effusion (pediatric)
48	tympanic membrane atelectasis (pediatric)
49	postoperative ear (cholesteatoma)
50	tympanostomy tube (pediatric)
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60	



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 Ear Cases

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

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

All 9 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.

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

② press CONFIRMATION BUTTON at the case to set

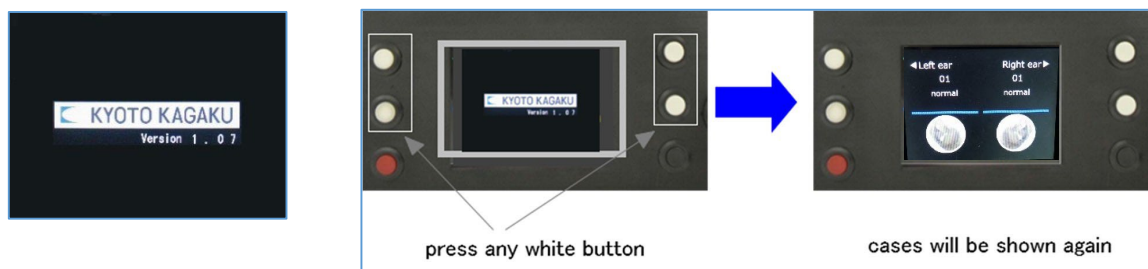
Case of right ear turned from 01 to 02. The state bar above the case image will stay yellow during changing cases.

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

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.



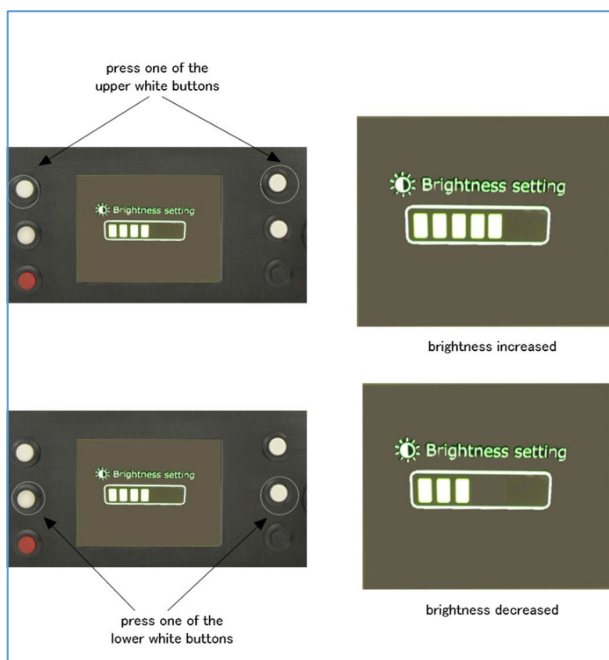
Operating Instructions

Changing the Brightness of LCD Panel

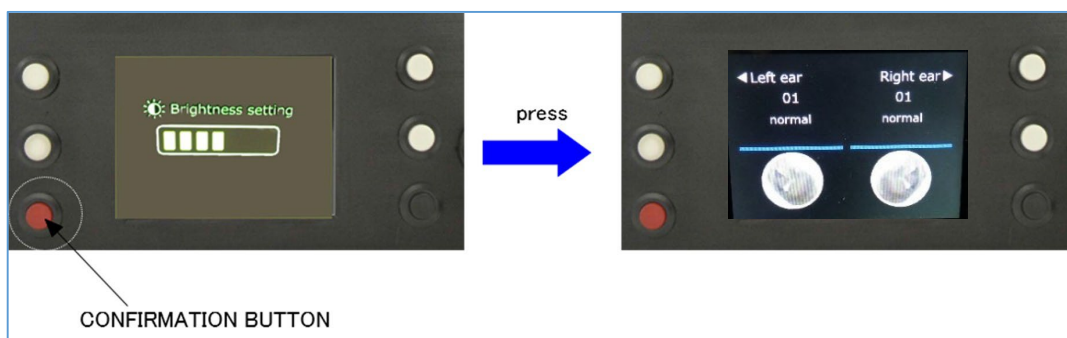
Hold DISPLAY BUTTON to change the brightness of LCD panel.



Press the white buttons to change the brightness.



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



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

- Digital EAR Examination Simulator (included)
- USB memory (included)
- USB cable (included)
- PC with round images of ear 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 ear cases can be added into the simulator by using a PC.

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

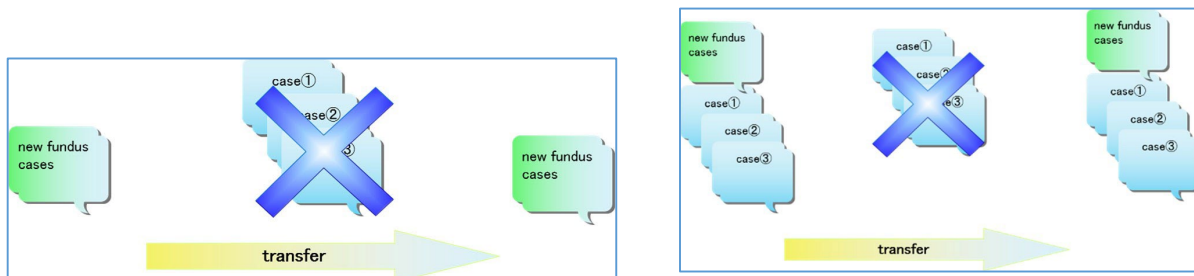
1. Connect the included USB memory to a PC.
2. Run “KKDigital Simulator installer EN.exe”.
3. Run “KKDigital Simulator installer EN.exe” to add ear cases to the simulator.
4. Connect the simulator to the PC by USB cable.
5. Write the ear cases to the simulator.
6. Disconnect USB cable between simulator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

***Caution!**

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

(Pre-installed cases will not be deleted.)

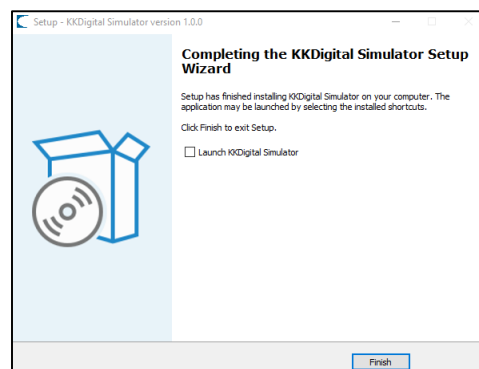
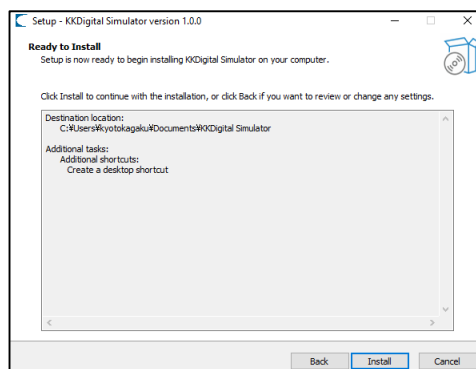
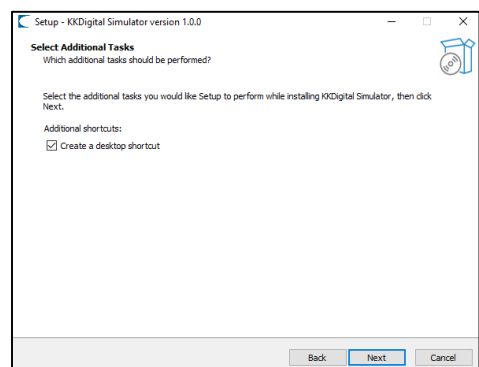
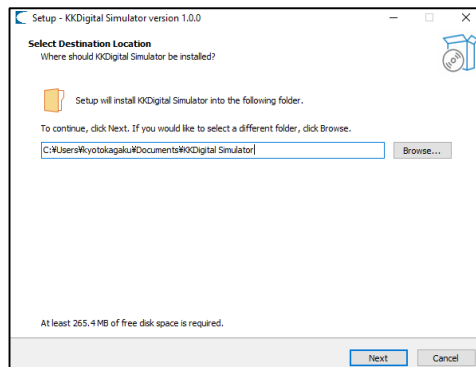
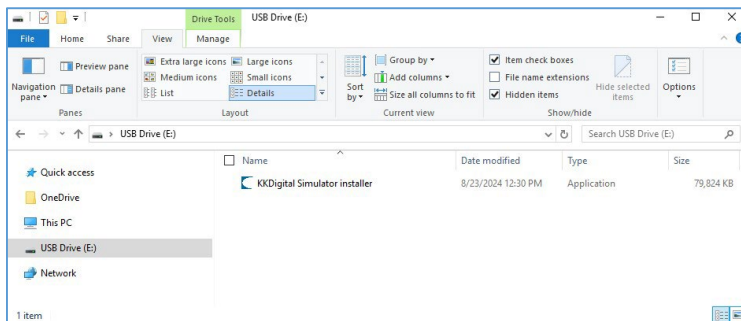
If you want to keep these existing cases, add them again with new ones.



Operating Instructions

Adding Ear Cases by PC

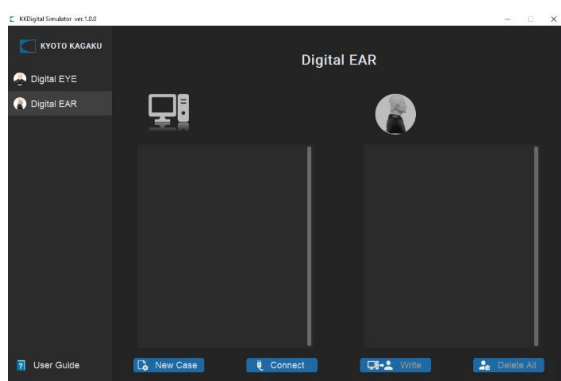
- 1 Connect the included USB memory to a PC.
- 2 Run “KKDigital Simulator installer_EN.exe”. Follow the instructions and click the button.
“KKDigital Simulator_EN.exe” will appear on Desktop.



Operating Instructions

Adding Ear Cases by PC

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

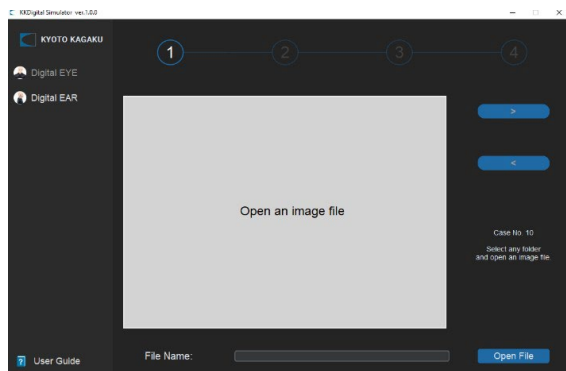


① Select “Digital EAR”.

② Click “New Create”.

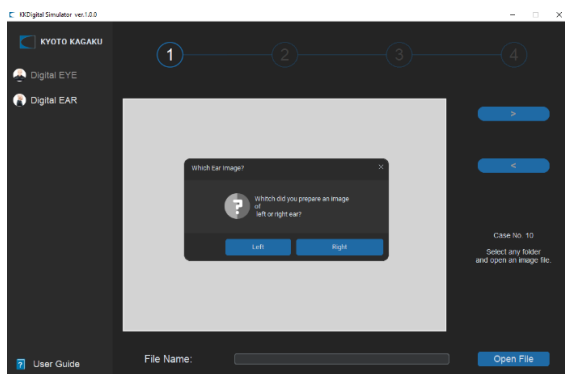
A new case with a respective case ID number will be created. The ID number of new cases are automatically allocated, starting from No. 51. You can create case up to No. 100.

*** NOTE: The files are 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 files (jpg, jpeg, png and bmp) are supported.

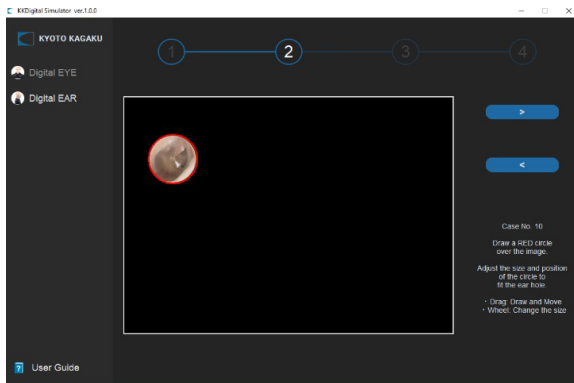


⑤ Select left or right.

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

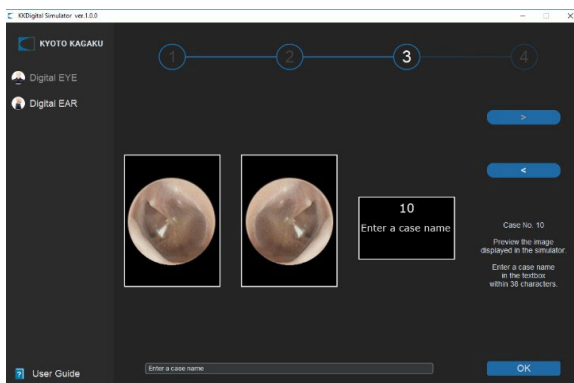
Operating Instructions

Adding Ear Cases by PC



⑥ With the mouse, draw a circle around the area of the ear in the displayed image.

When the circle completes, click ">" to proceed to the next step.

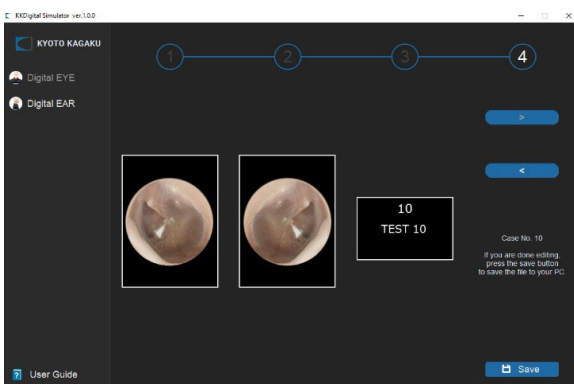


⑦ A preview of the images displayed on the simulator and the text box for the case name will appear.

Enter the case name in the textbox in 38 characters.

*** NOTE: “(”, “)”, “_” and space can be used.**

⑧ Click “OK” to save the case name.

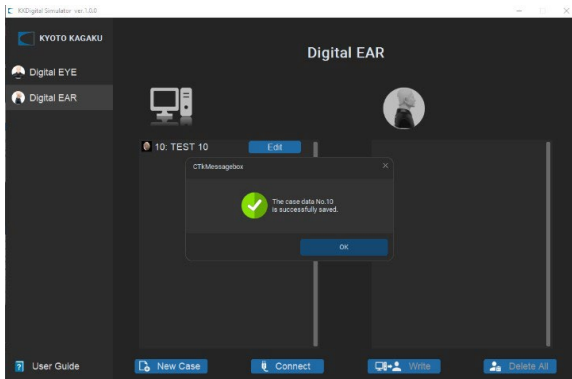


⑨ After checking the preview, click “Save” to save the file to your PC.

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

Operating Instructions

Adding Ear Cases by PC



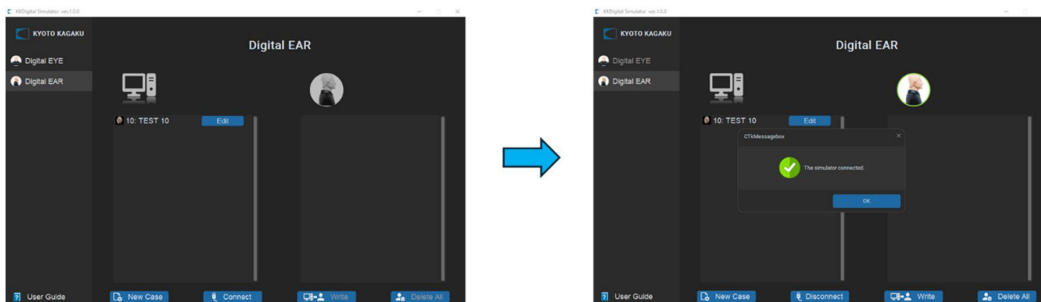
- ⑩ When a case is added, it will be reflected in the software. To edit a case, click “Edit” on the row of the case you want to edit.

*** NOTE: The added cases are not yet transferred 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. Then select “Write” or “Delete All”.



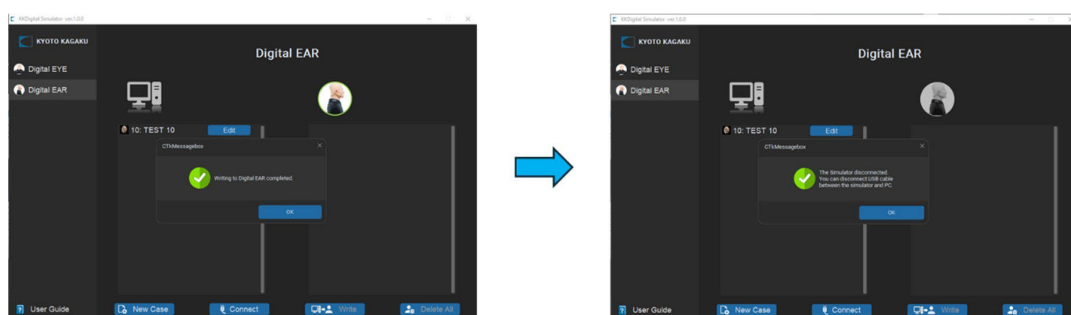
5) Write to ear cases to the simulator or delete ear cases in the simulator

“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.

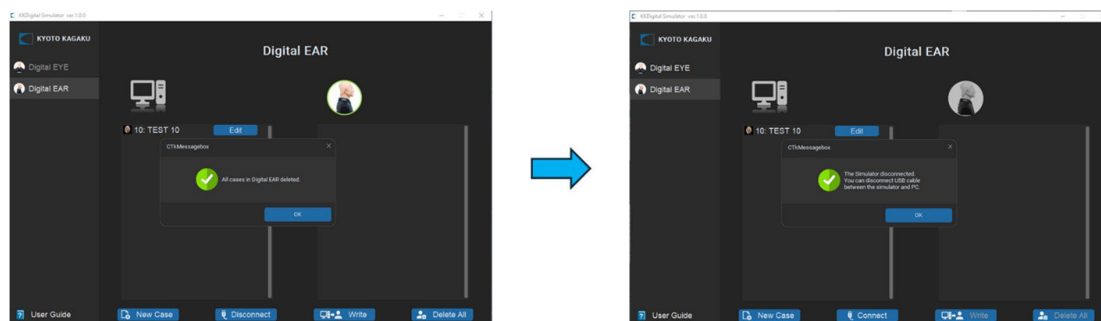


“Delete All”: Delete all the cases in the simulator.

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

After deleting is finished, the simulator is disconnected.

Disconnect USB cable between the simulator and PC.



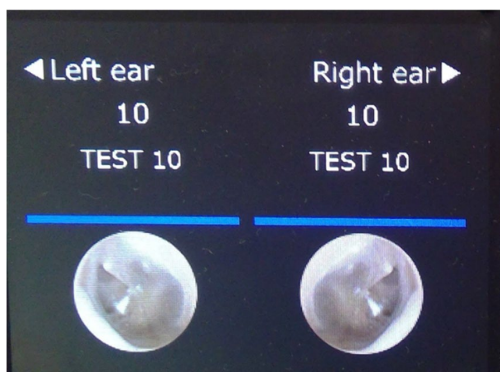
6) Disconnect USB cable between simulator and PC.



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 images.

For this example, the new case transferred is No. 10 with the name "TEST 10".

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

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