



AI-Optic Vision Screener



Short Manual



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CONTENTS

Short Manual 1 Getting to Know AI-Optic Vision Screener.....1

1 Packing list.....	1
2 Charging.....	2
3 Power on and off.....	4
4 Screen-off protection.....	5
5 Product appearance.....	6
6 USB port.....	6
7 Daily use.....	6
8 Serial number.....	7

Short Manual 2 Wi-Fi and Settings..... 8

1 Wi-Fi.....	8
2 Settings.....	8
2.1 Language.....	9
2.2 Wi-Fi.....	9
2.3 Factory Settings.....	10
2.4 Time and Time Zone.....	10
2.5 Referral Criteria.....	10
2.6 Screen Off Time.....	11
2.7 System Update.....	11
2.8 Machine ID.....	11
2.9 IP Address.....	11

Short Manual 3 Examination Procedure..... 12

1 Select a referral criterion.....	12
2 Enter the basic information of the Subject.....	12
3 Prepare the examination environment.....	13
4 Check the examination distance.....	13
5 Start examination.....	14
6 View examination results.....	15
7 Operations related to subject information.....	16
7.1 Input the information of a new subject.....	16
7.2 Retrieve the information of an existing subject.....	16
7.3 Save or delete data.....	17
7.4 Exporting Data.....	17

Short Manual 4 Troubleshooting.....19

1 The device cannot be turned on.....	19
2 The device is automatically powered off after power on.....	19
3 The screen suddenly turns off.....	19
4 Common reasons for measurement failure.....	19
4.1 The image is not clear.....	20
4.2 The subject does not look at the camera.....	20
4.3 Glasses are found.....	20
4.4 No pupils are found.....	21
4.5 The brightness value is excessively large.....	21
4.6 The measurement is not completed.....	21
4.7 Eyes are closed or blocked.....	21

Short Manual 1

Getting to Know AI-Optic Vision Screener

This manual gives a brief introduction to the AI-Optic Vision Screener device. For more detailed information about the product, such as the product features, basic operations, technical specifications, and maintenance, service, and warranty information, refer to the paper user manual included with the product. You can also download the electronic user manual by visiting www.ai-optic.com and finding the **Support** section.

1 Packing list

Once you receive the product, make sure that the packaging is undamaged and that all contents are accounted for. If the outer packaging is damaged or anything in the package is missing, contact the AI-Optic Vision Screener distributor.



Figure 1-1 All items in the AI-Optic Vision Screener box

Product Instruction x 1
Type-C power cable x 1
Power adapter X 1
Tripod x 1
AI-Optic Vision Screener x 1

2 Charging

The AI-Optic Vision Screener supports two power modes: Wired mode and Battery mode.

- Wired mode is when the power cable is plugged in and receiving power from an external power source.
- Battery mode is when the device is unplugged from a power source.

Be sure to charge the AI-Optic Vision Screener before using it for the first time. To charge the battery, plug the Type-C connector into the USB port of the device and the Type-A connector into the USB port of a power source or computer.



Figure 1-2 Charging connection

When the screen displays the charging status icon, your device is being charged.

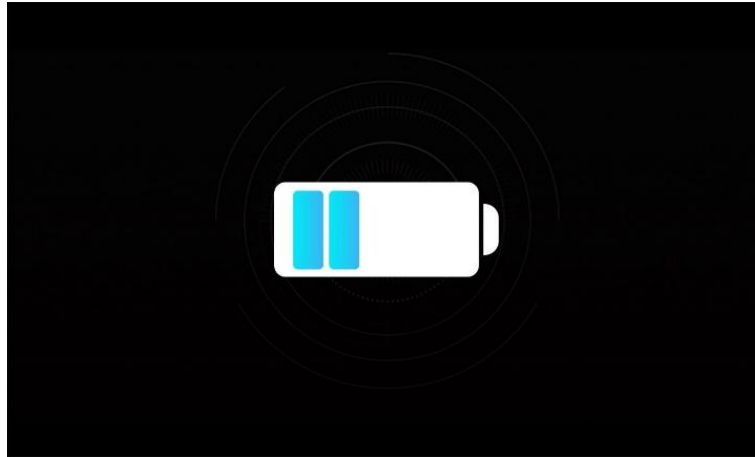


Figure 1-3 Charging status

It takes two hours to fully charge the battery, which holds a two hour charge. When the battery is less than 20%, the system automatically displays a low battery icon, as shown in Figure 1-4. In this case, plug the Type-C connector into the USB port of the device to charge the device.

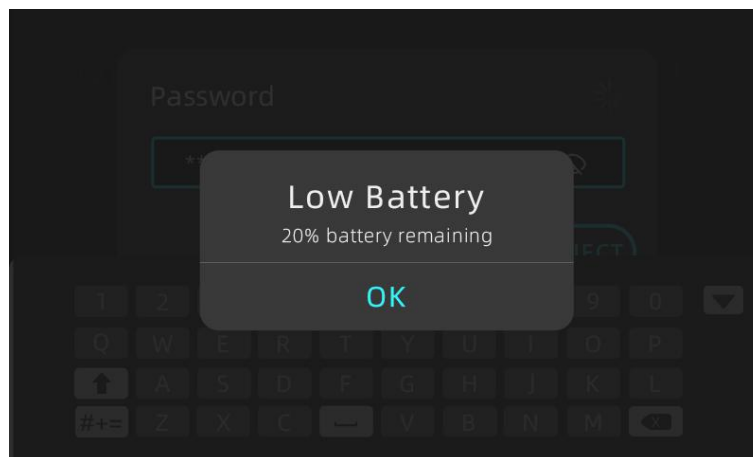


Figure 1-4 Low battery icon

You can use the device even while it is being charged.

3 Power on and off

Power on: Press and hold the power button for 2 seconds to turn on the device.

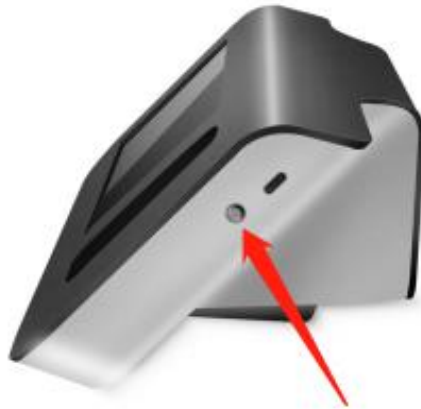


Figure 1-5 Position of the power button

Power off: Tap the **Power off** icon in the navigation bar on the **Home** screen; or press and hold the power button for 4 seconds, and tap **Yes** in the confirmation dialog box that appears.

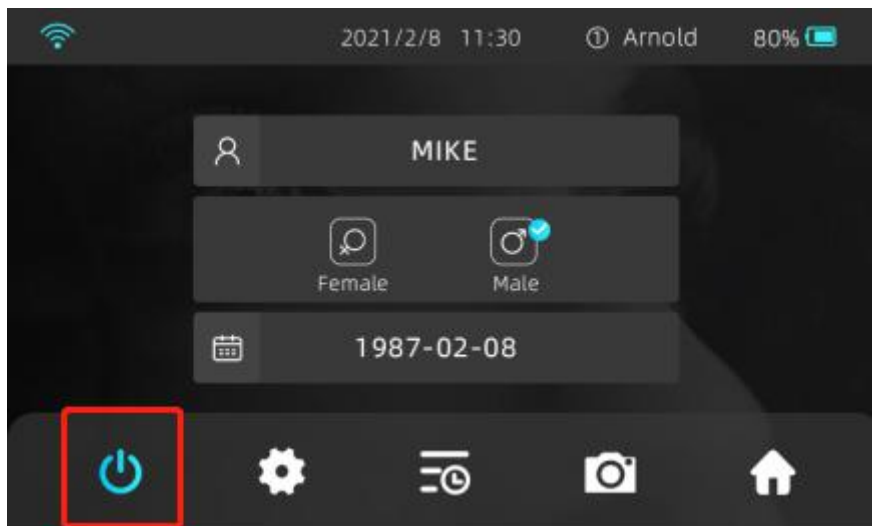


Figure 1-6 Power off button

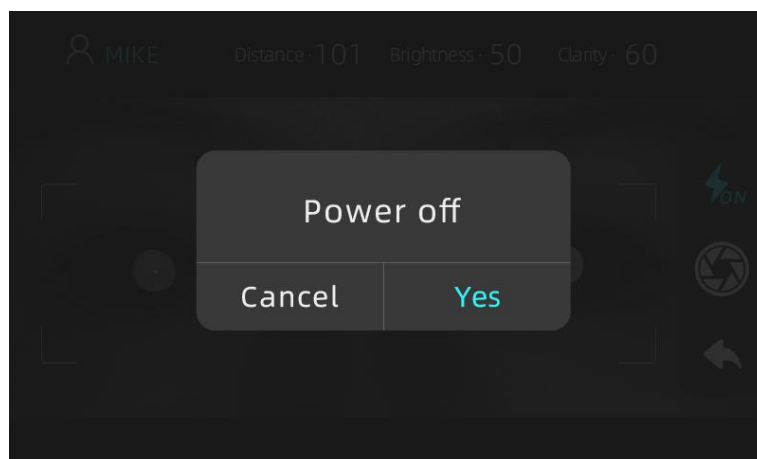


Figure 1- 7 Shutdown confirmation window

If the device does not respond, press and hold the power button for 6 seconds to force a shut down.

4 Screen-off protection

While the device is on, if it goes unused for 5 minutes, the screen automatically turns off. To wake it up, just tap anywhere on the screen.

If the device is idle for 10 minutes, the device is automatically powered off. To use the device, you need to power the device on again.

To change the screen-off protection settings, choose **Settings > Screen Off Time** on the **Home** screen and specify a desired value.

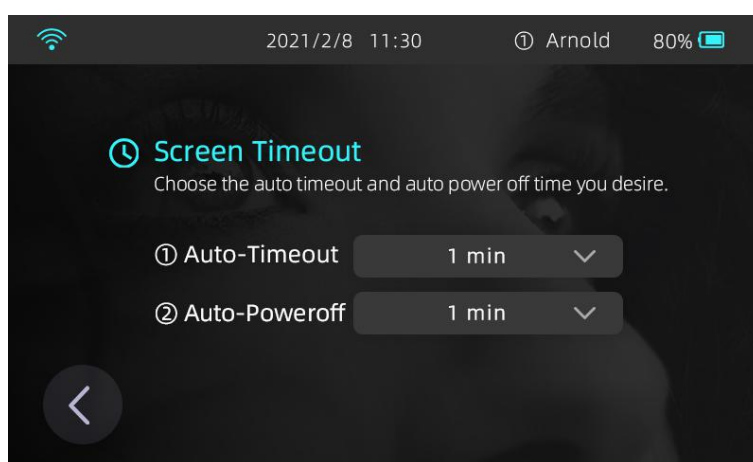


Figure 1- 8 Screen Off Time settings

5 Product appearance

The AI-Optic Vision Screener is equipped with a 7-inch display screen, with a capacitive touch sensor at the rear. To use a specific function, just touch the corresponding icon on the **Home** screen. The screen and touch sensor are protected by a thin glass cover.

6 USB port

The AI-Optic Vision Screener has a USB power port for intended only for charging, not for data transmission with other devices.

Do not plug any external devices into this USB port. Otherwise, the device may be damaged.



Figure 1-9 Position of the USB port

7 Daily use

When you use the AI-Optic Vision Screener, place it in the way shown in Figure 1-10.



Figure 1- 10 Device with the bottom down and camera facing front

During examination, the device takes a series of photos. The subject must look into the camera; otherwise, the examination could fail.

8 Serial number

The serial number is at the bottom of the product. You will need to provide it in the event that you need to contact our customer service center.



Figure 1- 11 Serial number at the bottom of the product

Short Manual 2 Wi-Fi and Settings

1 Wi-Fi

Once you turn on the power, the system will show a loading screen followed by a Wi-Fi option screen.

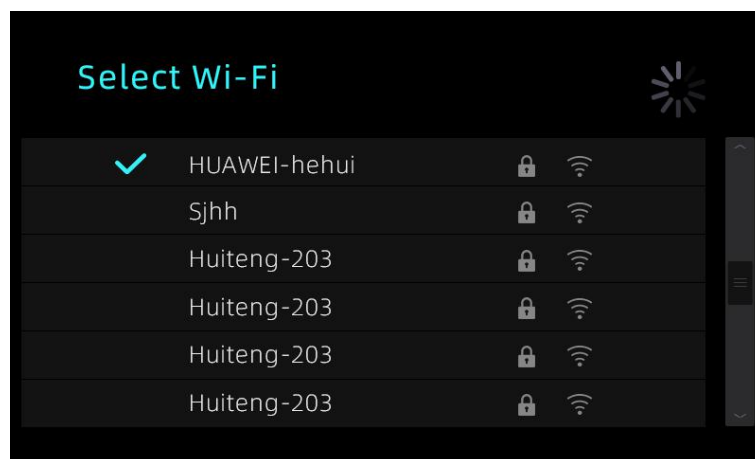


Figure 2- 1 Wi-Fi configuration screen

Select your desired Wi-Fi network, enter the password, and click **Connect** to complete the Wi-Fi connection. To change the Wi-Fi settings, choose **Settings** > **Wi-Fi** on the **Home** screen, select another network, and enter the password to connect to this network.

2 Settings

Tap **Settings** on the **Home** screen to go to the **Settings** screen.

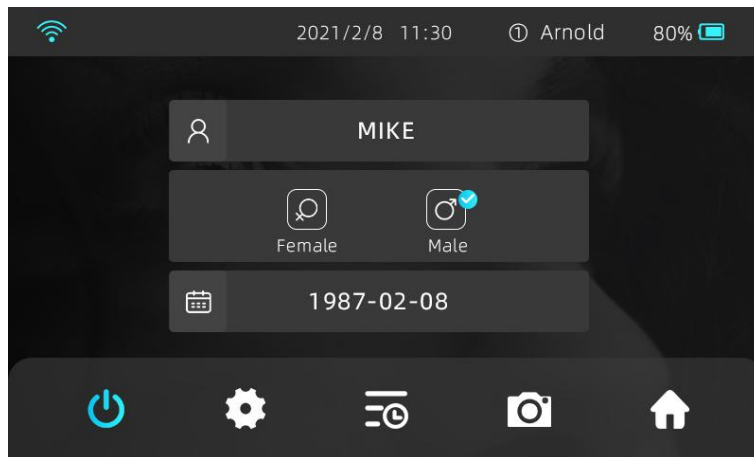


Figure 2-2 Power off, Settings, Retrieval, Camera, and Home icons on the Home screen

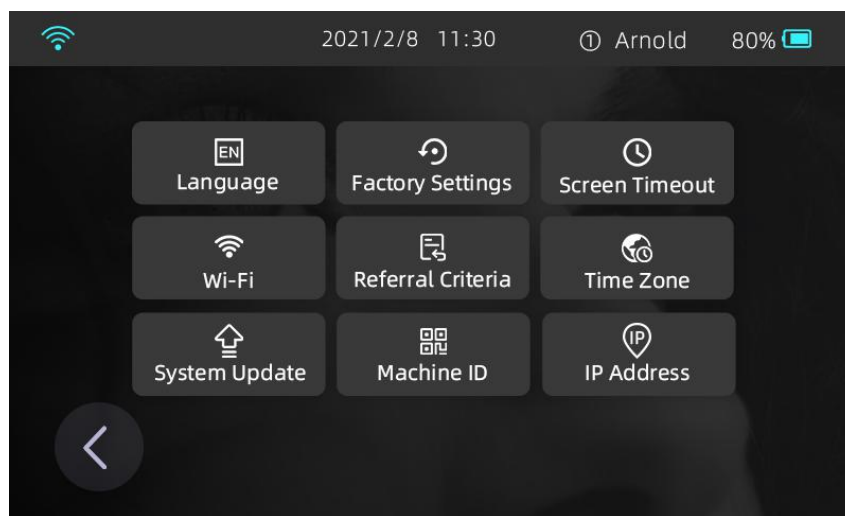


Figure 2-3 Settings screen

You can tap the **Back** icon in the lower-left corner to return to the **Home** screen.

2.1 Language

On the **Settings** screen, you can tap **Language** to change the system language. The system supports two languages: English and Chinese.

2.2 Wi-Fi

On the **Settings** screen, tap **Wi-Fi** to go to the **Wi-Fi** configuration screen. Select your desired **Wi-Fi** network, enter the password, and tap **Connect**.

2.3 Factory Settings

On the **Settings** screen, you can tap **Factory Settings** to restore all settings and configurations to default factory settings.

2.4 Time and Time Zone

After the device is connected to the Wi-Fi, the system time is automatically updated.

The AI-Optic Vision Screener uses the international standard date format of YEAR-MONTH-DAY. For example, January 1st 2020 would appear as 2020-01-01.

The default time zone on the device is UTC+0. To change the time zone, tap **Time Zone** on the **Settings** screen and select the country and the corresponding time zone. The system automatically updates the time based on your local time zone.

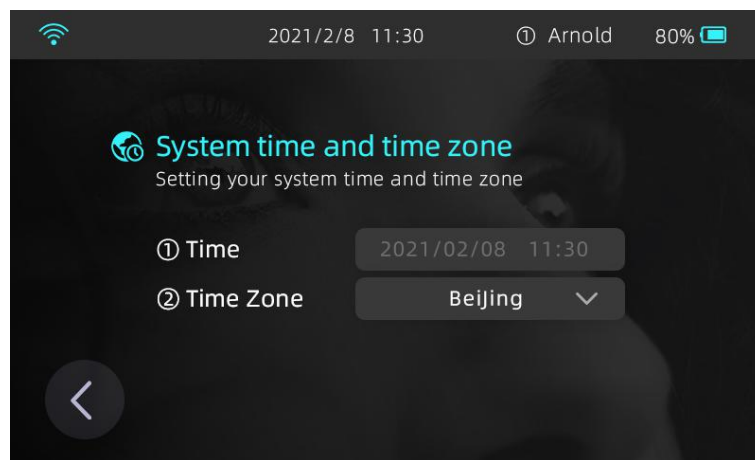


Figure 2-4 Time and time zone settings

2.5 Referral Criteria

The AI-Optic Vision Screener features three examination settings: Arnold, Matta/Silbert, and Arthur2. The default setting is Arnold. The sensitivity and specificity of the Arnold setting is best suited for a routine examination.

If you are in a medically developed country or region, you can choose Matta/Silbert. This option is more sensitive and designed for children to receive an examination.

If you are in a medically underdeveloped country or region, you can choose

Arthur2. This option features high specificity and thus helps reduce unnecessary referrals.

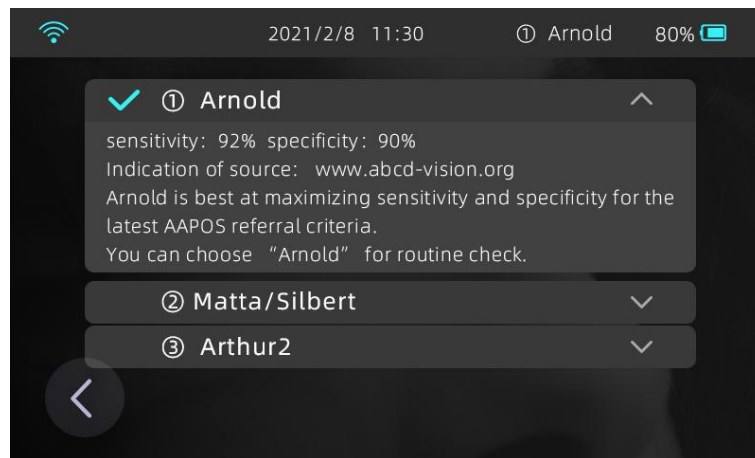


Figure 2-5 Referral criteria

2.6 Screen Off Time

On the **Screen Off Time** settings screen, you can set **Auto-Timeout** and **Auto-Power off**. In the **Auto-Timeout** drop-down list box, tap the down arrow and select a value as required. In the **Auto-Power off** drop-down list box, tap the down arrow and select a value as required.

2.7 System Update

In the system upgrade interface, if you need to check the update, click "Yes", the machine will check whether there is the latest version in the state of networking, if there is, you can download and install the latest software.

2.8 Machine ID

Each AI-Optic Vision Screener has a unique ID. You can click Machine ID on the setting interface and scan the QR code on the screen to obtain the ID.

2.9 IP Address

This is set up before delivery by the manufacturer, and users do not need to make any operation changes.

Short Manual 3 Examination Procedure

The inspection light source of the AI-Optic Vision Screener is infrared light, which is safe for human eyes. Infrared light can avoid causing glare and miosis.

1 Select a referral criterion

The AI-Optic Vision Screener features three examination settings: Arnold, Matta/Silbert, and Arthur2. The default setting is Arnold. The sensitivity and specificity of the Arnold setting is best suited for a routine examination.

If you are in a medically developed country or region, you can choose Matta/Silbert. This option is more sensitive and designed for children to receive an examination.

If you are in a medically underdeveloped country or region, you can choose Arthur2. This option features high specificity and thus helps reduce unnecessary referrals.

2 Enter the basic information of the Subject

Enter the name, gender, and date of birth of the subject.

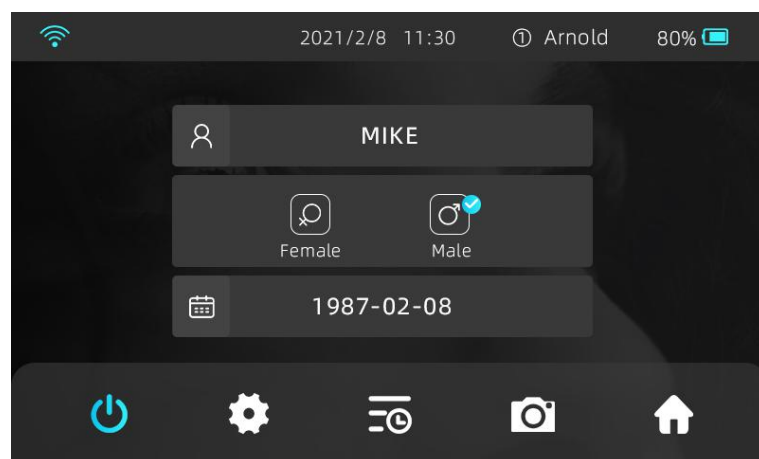


Figure 3-1 Entering subject information on the **Home** screen

3 Prepare the examination environment

To obtain the correct measurement values, we recommend that you perform the examination indoors and avoid direct sunlight during the examination. If the room has lots of windows, try to close as many curtains or blinds as possible.

The brightness value should be 5 or below. If the value is greater than 5, the flash cannot be turned on, and you need to reduce the brightness of the surrounding environment. If the brightness is 5 or below, turn on the flash. Then, you can start the procedure.

The examination environment must be quiet and free from distraction. The subject must hold still during the procedure, so make sure that if the patient is a child that they are able to hold still.

4 Check the examination distance

The recommended examination distance is 3-4 feet away from the device.

First, place the device at eye level of the subject, about 3-4 feet away from their face.

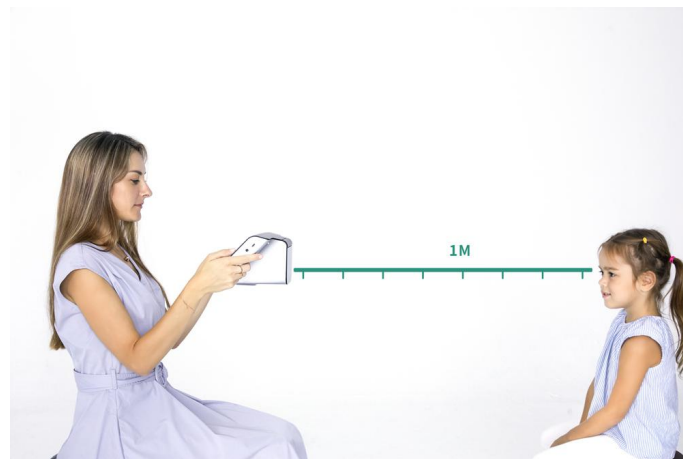


Figure 3-2 Taking photos

Then, adjust the position of both the device and the subject to make sure that their eyes are seen on the screen. Move the device back and forth until a clear corneal reflection point is obtained. Then, you are ready to start the measurement.

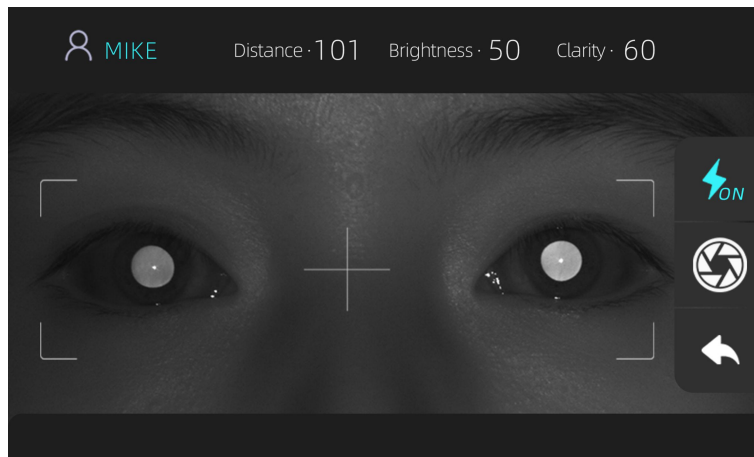


Figure 3-3 Clear corneal reflection points on the screen, with the eyebrows and eyelashes visible

To ensure that results are as accurate as possible, make sure that the subject looks directly into the device during the examination. The subject should sit up straight, with the body facing the camera.

Please remove glasses or contact lenses before starting the exam.

5 Start examination

To start the examination, tap the camera icon on the screen.

During shooting, make sure that the camera is oriented vertically, and keep the camera at eye level of the subject.

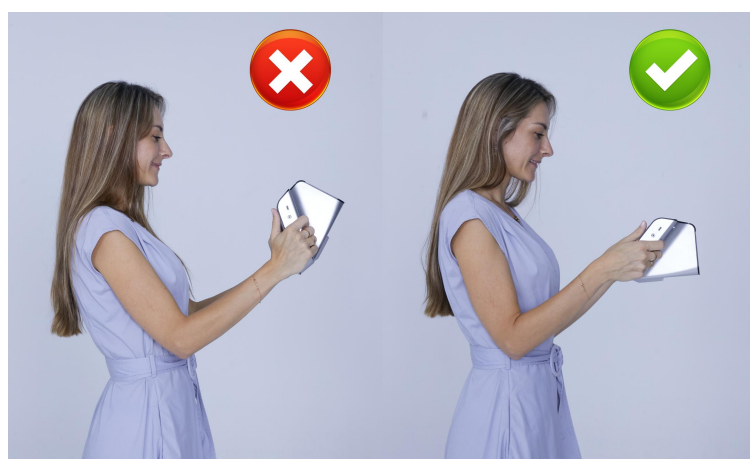


Figure 3-4 Orientation of the AI-Optic Vision Screener during shooting

In addition, in order to improve the stability and accuracy of the measurement, we recommend that customers use the included tripod stabilizing device.

Remind the subject to avoid blinking during the examination, otherwise the examination will fail.

The entire examination process lasts about 5 seconds. After the scan is completed, a dialog box appears, as shown in Figure 3-5. You can tap Result to check the examination results.

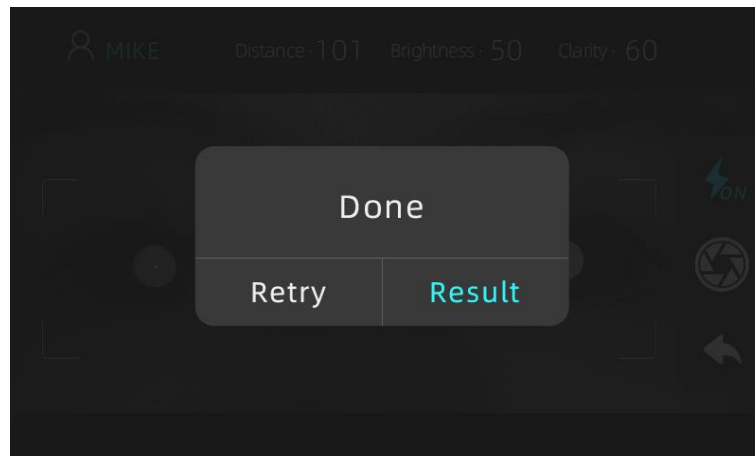


Figure 3-5 Shooting completed

6 View examination results

After the scan is completed, the examination results will be ready within approximately 10 seconds. After you tap Result, the name of the subject, the date of examination, the spherical degrees and cylinder degrees of both eyes, axis and the pupillary distance are displayed.

If the examination result is good, the system displays Passed in green, as shown in Figure 3-6. If any problem is identified, the system displays Referral Required in red, as shown in Figure 3-7.

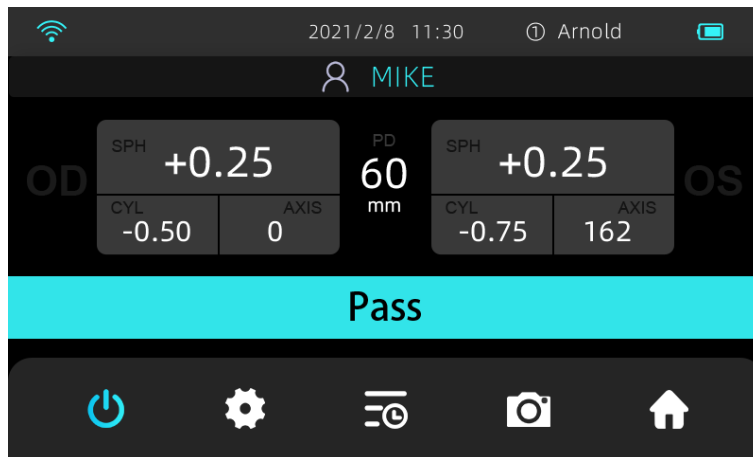


Figure 3-6 Examination completed, with good examination results

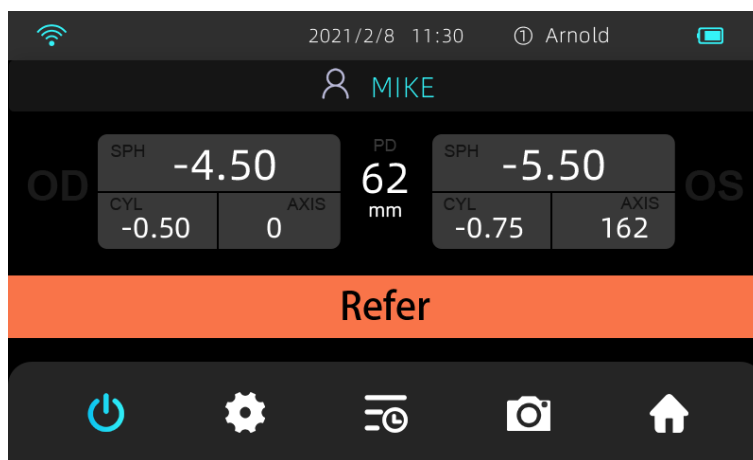


Figure 3-7 Examination completed, with a referral suggestion

After each measurement, you can tap the **Home** icon to return to the **Home** screen.

7 Operations related to subject information

7.1 Input the information of a new subject

You can input the information of a new subject directly on the **Home** screen.

7.2 Retrieve the information of an existing subject.

Tap the **Retrieval** icon at the bottom of the **Home** screen, to go to the retrieval screen. Enter the name of the subject and verify the date of birth of the subject, to avoid mistakes caused by duplicate names. After the

corresponding name is found, you can view the examination records of the subject or start a new examination.

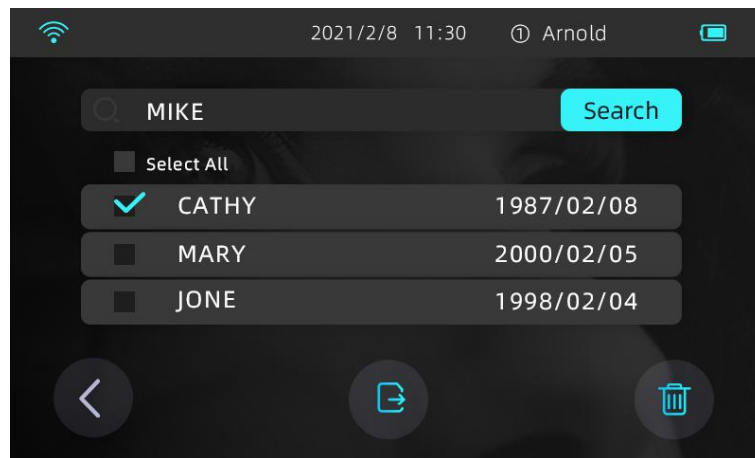


Figure 3-8 Retrieving the information of an existing subject and verifying the date of birth

7.3 Save or delete data

Every time an examination is completed, the AI-Optic Vision Screener automatically saves the examination results by default. To delete a result, tap the **Retrieval** icon on the **Home** screen, enter the name of the subject, find the corresponding entry, and then delete the result.

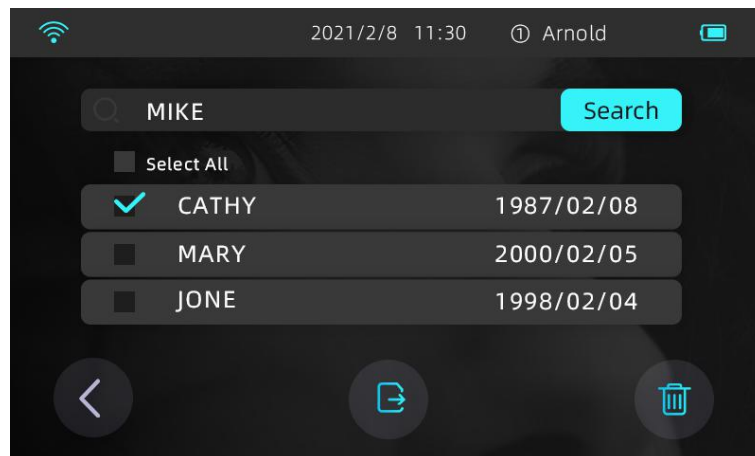


Figure 3-9 Deleting the historical record or starting a new examination

7.4 Exporting Data

After the check, if you need to export the data for easy viewing, you can click the export button in the menu bar below, and then enter the email address to receive the summary email about the data. You can download it as needed.

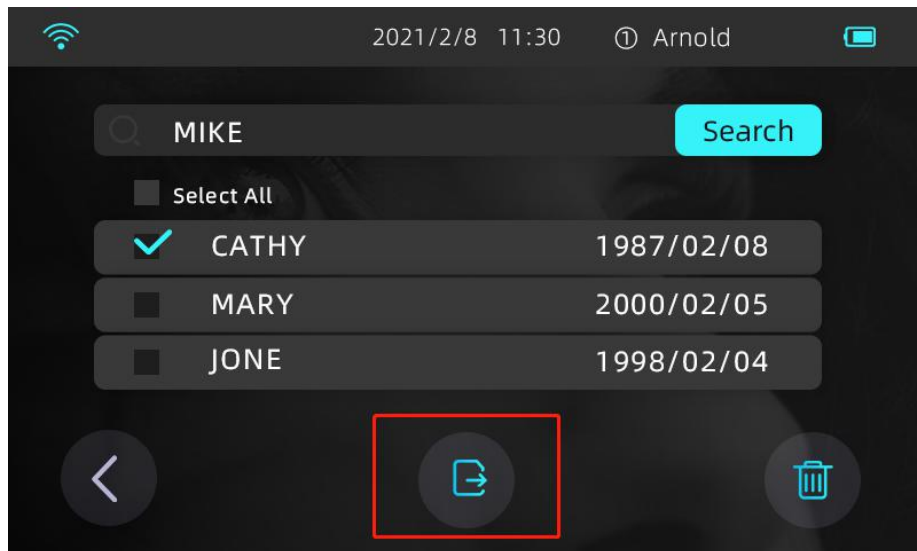


Figure 3-10 Click the Export Data button

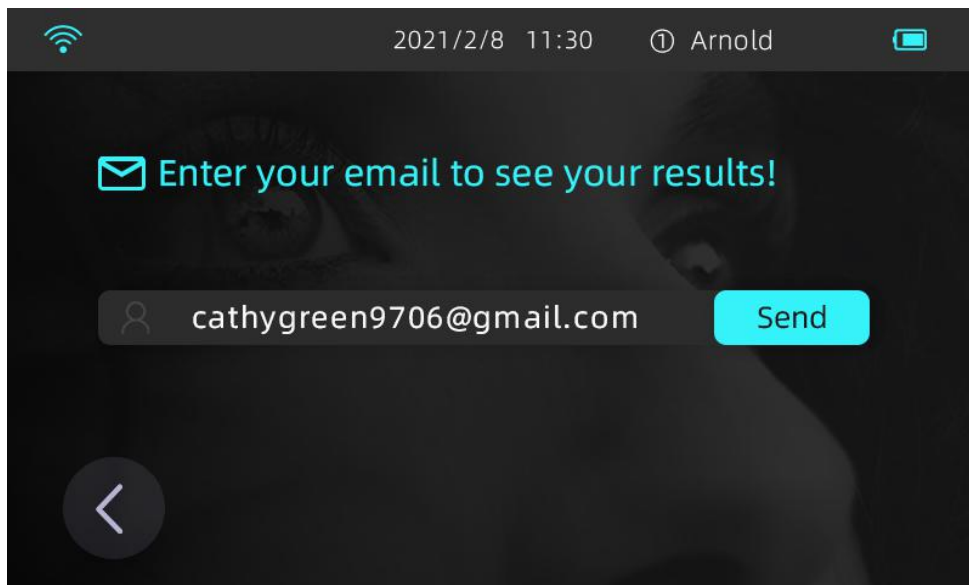


Figure 3-11 Enter your email address

Short Manual 4 Troubleshooting

1 The device cannot be turned on

If your device cannot start, check the power supply first to make sure it is plugged in. Connect the power adapter to the power source and press the power button again to see if the device can start.

2 The device is automatically powered off after power on

Connect the charging cable first. The system will show the charging status on the screen. Restart in about 30 minutes.

3 The screen suddenly turns off

The screen will automatically turn off when the device is idle for a specified period. This is to save power. You can touch the screen to wake it up. If the screen does not wake up, the device is powered off. You just need to power on the device again.

Note: You can tap **Screen-off Time** on the **Settings** screen to change the automatic screen-off or power-off time.

4 Common reasons for measurement failure

When the scan fails during examination, check the following possible causes in sequence.

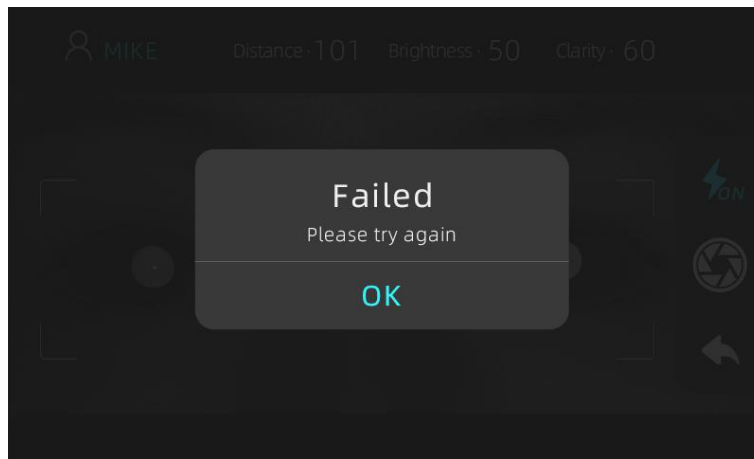


Figure 4-1 Shooting failed

4.1 The image is not clear

Cause: If the image is not clear, it's because the measurement distance is too far or too close.

Solution: We recommend that you place the device about 3 feet away from the subject. Adjust the distance between the device and the eyes of the subject to ensure that the eyes of the subject can be seen on the screen. Then, move the device back and forth until a clear corneal reflection point is obtained and the eyelashes and eyebrows of the subject can be clearly seen on the screen. When the measurement distance displayed on the screen is 95-105 cm, you can start measuring.

4.2 The subject does not look at the camera

Cause: When the subject is not facing the device, or looking away from the camera during the examination.

Solution: Remind the subject to turn their body towards the camera, and look directly into the lens. Sit up straight, and try not to move or blink during the examination.

4.3 Glasses are found

Cause: The subject has not taken off the glasses during the examination.

Solution: Ask the subject to remove the frame glasses and restart the examination.

4.4 No pupils are found

Cause: The subject has organic eye diseases such as corneal scars, turbid refractive media, cataracts, keratoconus, or retinal detachment, or the pupils of the subject are blocked by their cap, eyelashes, or hair.

Solution: Proceed to the referral process in case of any eye disease. Make sure their hair or eyelashes are not blocked the eyes.

4.5 The brightness value is excessively large

Cause: When the surrounding environment is too bright, the brightness value on the screen is too high.

Solution: Close the curtains or blinds to block out external sunlight. Incandescent lights tend to affect the performance of the examination, but fluorescent and LED lights are okay. If the brightness value on the screen is less than 5, tap the flash icon to turn on the flash.

4.6 The measurement is not completed

Cause: If the subject closes their eyes or blinks frequently during the measurement process, the process can read as incomplete. This can also happen when the Wi-Fi network is unstable.

Solution: Remind the subject to remain still and avoid frequent blinking. If the issue is with the Wi-Fi, connect to another network and restart the examination.

4.7 Eyes are closed or blocked

Cause: When the subject closes their eyes or their eyes are blocked by hair or other things, the examination will fail.

Solution: Remind the subject to avoid frequent blinking or remove obstructions in front of their eyes.