



INTERACTIVE VIEW CHART
MANUAL

LCD-3200

Index

1. Before Use	1
1.1 Device Outline	1
1.2 Intended Use	1
1.3 Basic Principle	1
1.4 Device Configuration	2
1.5 Labels and Symbols	15
1.6 Standard Accessories	18
2. Installation	20
2.1 Installation of wall mount bracket	20
2.2 Wiring	26
2.3 Preparation of remote-controller	27
3. Preparation	28
3.1 Booting	28
3.2 MENU function	30
4. Measurement	41
4.1 General Visual Acuity Test	41
4.2 Astigmatic Test	45
4.3 Red/Green and Balance Test	47
4.4 Phoria Test	48
4.5 Color Blindness Test	51
4.6 ETDRS	51
4.7 Contrast Sensitivity	52
5. Program Function	53
5.1 Set	53
5.2 Use	55
6. Slide Function	56
7. Maintenance	57
7.1 Troubleshooting	57
7.2 Cleaning	58
8. Specifications	59
8.1 Classifications	59
8.2 Detailed Specifications	60

1. Before Use

1.1 Device Outline

The ViewChart LCD-3200 is a chart presenting device that displays the charts on the LED display panel. The charts are controlled by a remote controller, the Auto refractor or tablet PC.

- The refraction distance can be set in the range of 4.75 to 26 feet in 0.25 feet increments. The chart size is reduced or enlarged corresponding the set refraction to keep the visual angle same.
- Charts of same visual acuity can be switched at random. It prevents erroneous test result from the patient memorizing the charts.
- The 32 inch large and wide screen allows VA 20/660 charts to be displayed.
- Images or slide shows can be displayed instead of the charts
- The charts can be displayed while the contrast is decreased to test the visual acuity under low-contrast conditions.

1.2 Intended Use

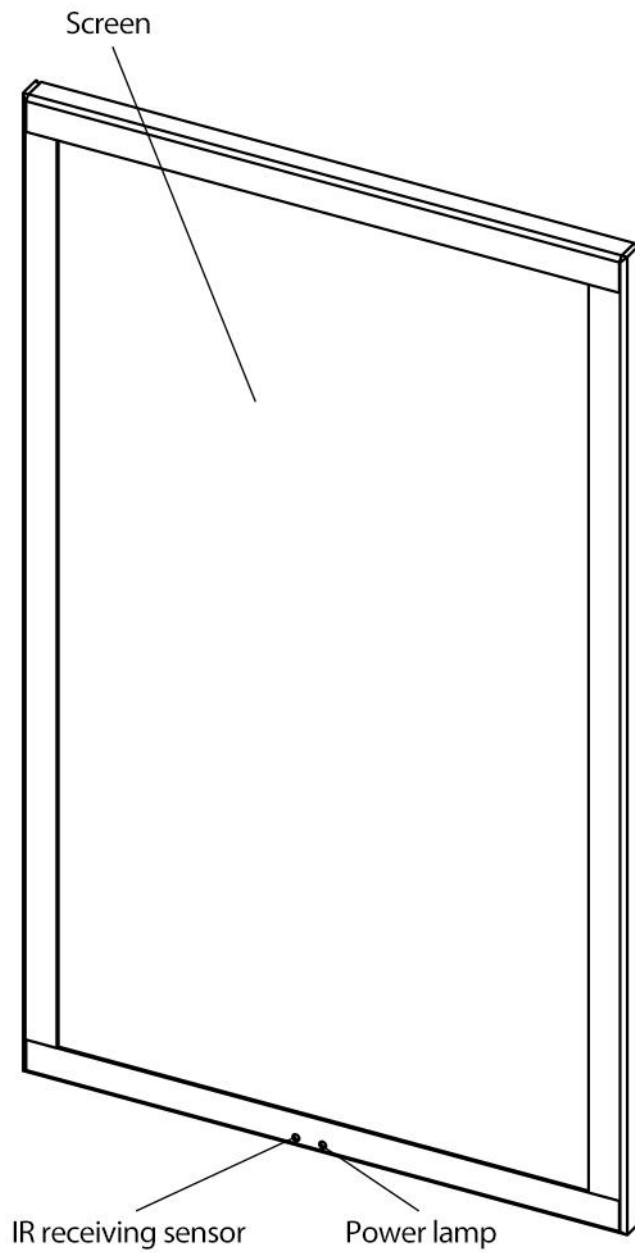
This instrument displays the visual acuity chart to measure patient's eyesight.

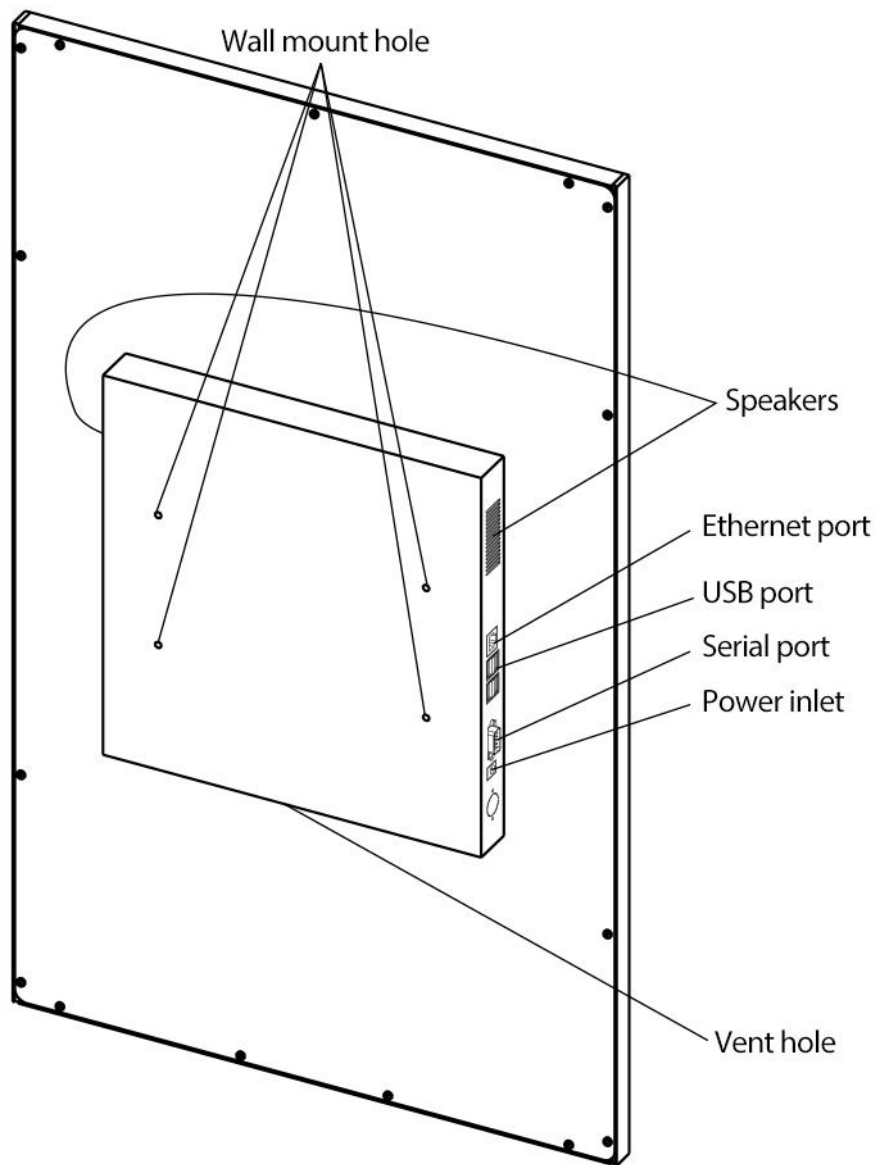
1.3 Basic Principle

The internal software in microprocessor displays the charts stored in flash-memory on the LED panel to the patient according to operation of remote controller.

1.4 Device Configuration

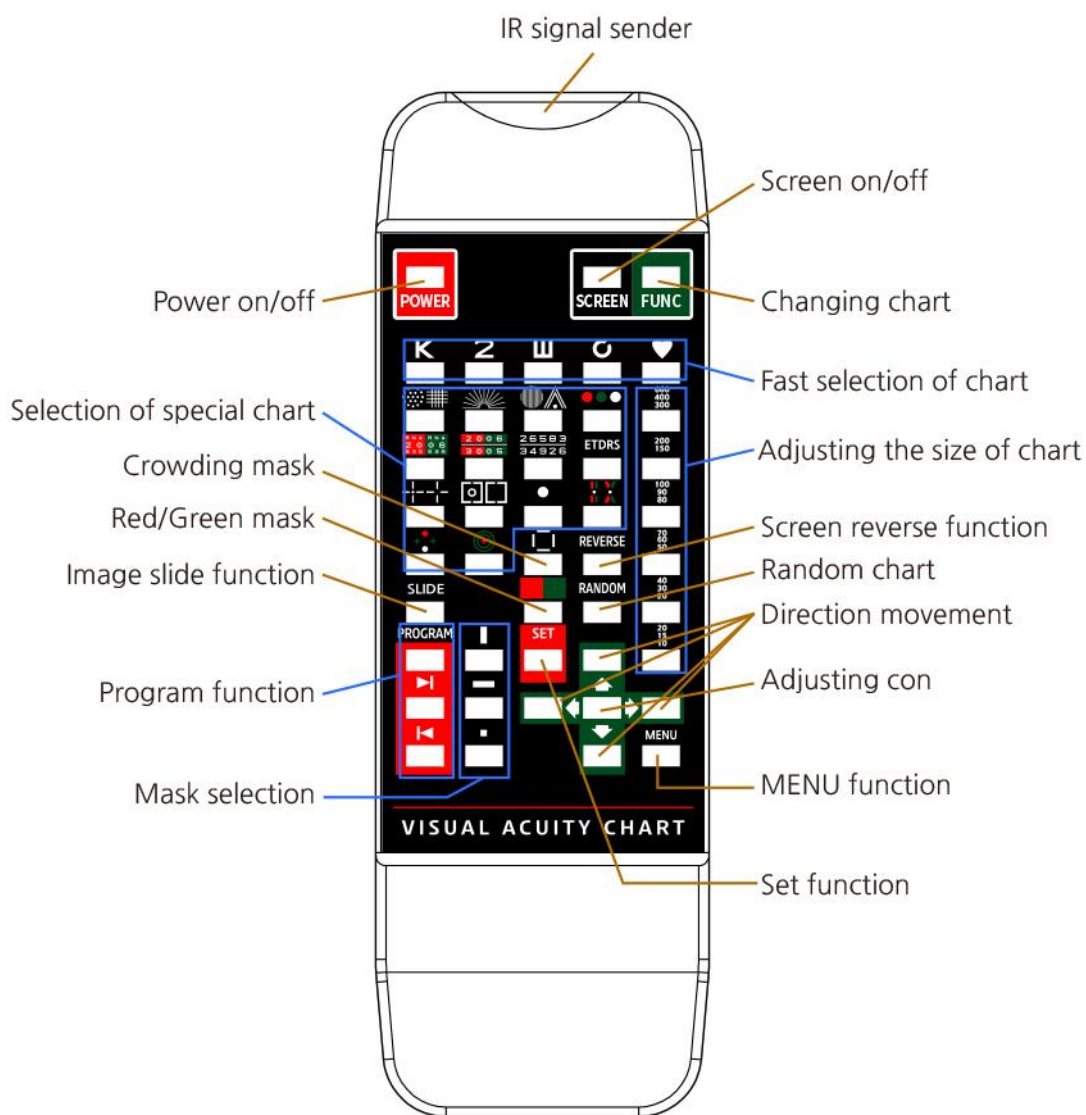
[Main body]





Description	Function
Screen	Displaying the charts or functional information
IR receiving sensor	Receiving IR signal from the remote-controller
Power lamp	Showing power on or off
Wall mount hole	Connecting parts to be mounted for wall mount bracket
Vent hole	Discharging heat of internal parts
Ethernet port	Connecting for using communication with RJ45
USB port	Connecting with USB device
Power inlet	Connecting with power source
Speaker	Making a sound functional alarm
Function buttons	Executing internal functions such as power switch

[Remote-controller]



[IR signal sender]

This part is for sending infrared radiation signal to main body.



Malfunction or error can be occurred in case of dust or stain onto this part.

[Power on/off]

It can turn on or off.

[Screen on/off]




Without power supplying, it can screen on or off only.

[Changing chart]

It enables to choose one of 5 types in VA charts stored basically in the flash-memory sequentially.

[Fast selection of chart]

It enables to select one of 5 types in VA charts stored basically in the flash-memory directly.

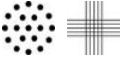













K	Alphabet
2	Numbers
E	E's Snellen
C	Randolt ring
	<p>Children</p> <p>The children charts are consist of 3 kinds. When it is pressed, it will be changed sequentially.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Traditional chart</p> </div> <div style="text-align: center;">  <p>Allen Figure</p> </div> </div>






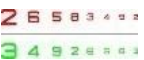








[Adjusting size of chart]







It can adjust the size of chart from VA 20/600 to VA 20/10 for each type of VA chart.














[Selection of special chart]




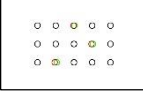

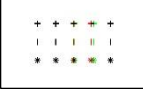


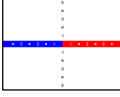
It shows a lot of special charts on the screen.

		Astigmatic chart for using cross-cylinder #1
		Astigmatic chart for using cross-cylinder #2
		The chart for measuring astigmatic axis
		Amsler grid for diagnosis of retinal disease #1
		Amsler grid for diagnosis of retinal disease #2
		Amsler grid for diagnosis of retinal disease #3
		Metamorphopsia chart #1
		Metamorphopsia chart #2
		Metamorphopsia chart #3
	The chart for measuring astigmatic axis	
		Rotating circle lines for measuring precise astigmatic axis
		Fan & Block chart for measuring convenient astigmatic axis

		Color anomaly charts
		Color anomaly charts for three colors
	Duochrome test chart #1	
	Duochrome test chart #2	
	Binocular balance test chart	
ETDRS	ETDRS: Early Treatment Diabetic Retinopathy Study	
		Cross phoria test with fixation
		Cross phoria test
		Vertical coincidence with fixation
		Vertical coincidence
		Horizontal coincidence with fixation
		Horizontal coincidence

		Dot chart
		Fixation chart #1
		Fixation chart #2
		Fixation chart #3
		Fixation chart #4

		Stereo test for distance #1
		Stereo test for distance #2
		Stereo test for distance #3
		Stereo test for distance #4
		Stereo test for distance #5
		Cyclophoria #1
		Cyclophoria #2
		Cyclophoria #3
		Fixation disparity test #1
		Fixation disparity test #2
		Fixation disparity test #3
		Fixation disparity test #4

		Stereo test for distance #6
		Stereo test for distance #7
		Stereo test for distance #8
		Stereo test for distance #9
		Stereo test for distance #10
		Worth 4 dots
		Torrington chart



The reliability of each charts can be different depending on user's ability and experience.
Prior to use, it needs enough understanding for each charts.

[Crowding mask]

Crowding bars put surrounding specific VA chart.

[Red/Green mask]

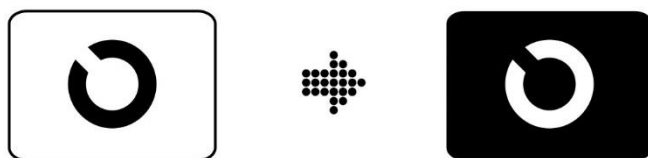
Red/Green color background put behind VA charts.

[Image slide function]

It shows various images and video such as anatomy chart and advertisement to patients.

[Screen reverse function]

It reverses the color between black and white for special measurement.



[Random chart]

It displays random chart in the same VA charts.



[Program function]

It memorizes the chart and order before use. And, it displays memorized chart.




[Direction movement]

Where it needs, it carries out movement of direction for insertion of masks, change of setup, change of special chart and so on.

[Adjusting the contrast of chart]

It increase or decreases the contrast of chart.

[Mask selection]

	It displays vertical one line of the chart.
	It displays horizontal one line of the chart.
	It displays one character of the chart.

[MENU function]





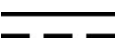







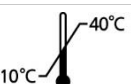

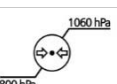

It enters in MENU screen to preset all environmental variables such as measuring distance, brightness and so on.

[Set function]

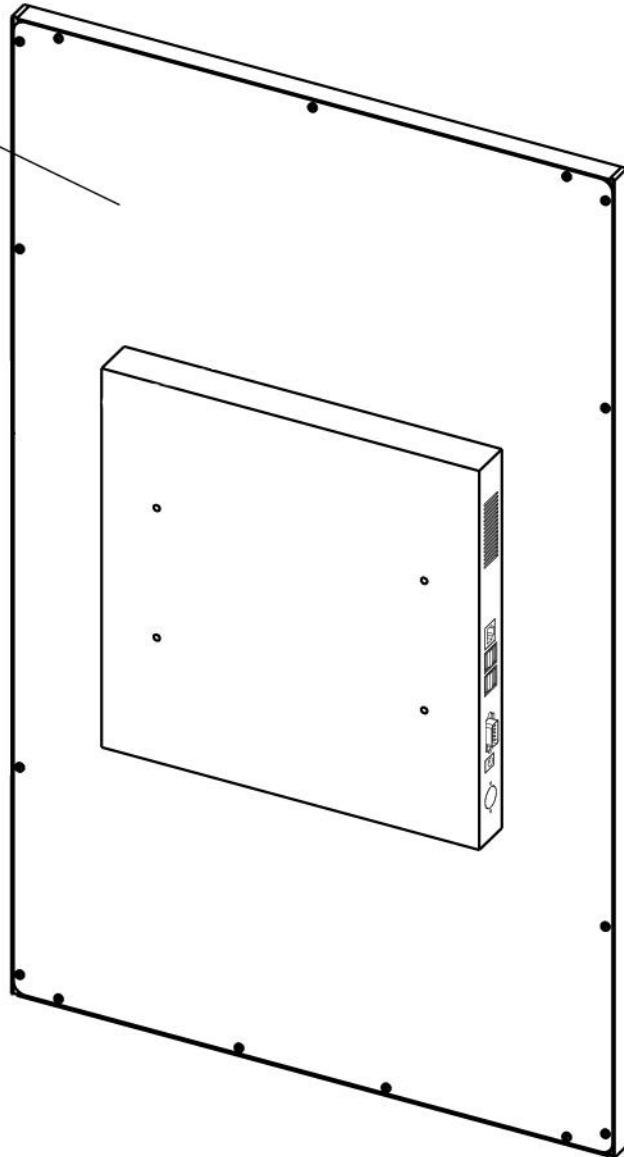
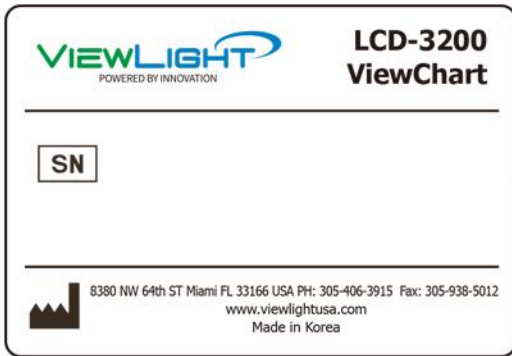
In program function or MENU function, it stores current set values or variables.

1.5 Labels and Symbols

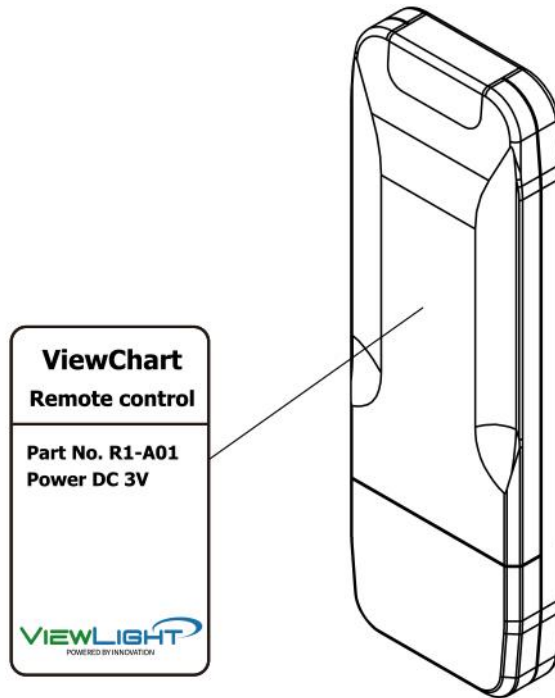
To call attention to operators, some labels and indications are provided on the device. If labels are curling up or characters are fading and becoming barely legible, contact manufacturer or authorized local distributor.

Symbols	Description	Reference
	Operating instructions	ISO 7000:2012-1641
	Caution	ISO 7000:2012-0434A
	General prohibition sign and template for constructing a prohibition sign	ISO 7010:2011-P001
	Type B Applied part	IEC 60417:1998-5840
	Direct current	IEC 60417:1998-5031
	Alternating current	IEC 60417:1998-5032
	Refer to instruction manual/ booklet	ISO 7010:2011-M002
	Date of manufacture	ISO 7000:2012-2497
	Manufacturer	ISO 7000:2012-3082
	Serial number	ISO 7000:2012-2498
	Keep away from rain	ISO 7000:2012-0626
	Use no hook	ISO 7000:2012-0622
	Temperature limit	ISO 7000:2012-0632
	Humidity limitation	ISO 7000:2012-2620
	Atmospheric pressure limitation	ISO 7000:2012-2621
	Waste electrical and electronic equipment	Directive 2012/19/EU ANNEX IX

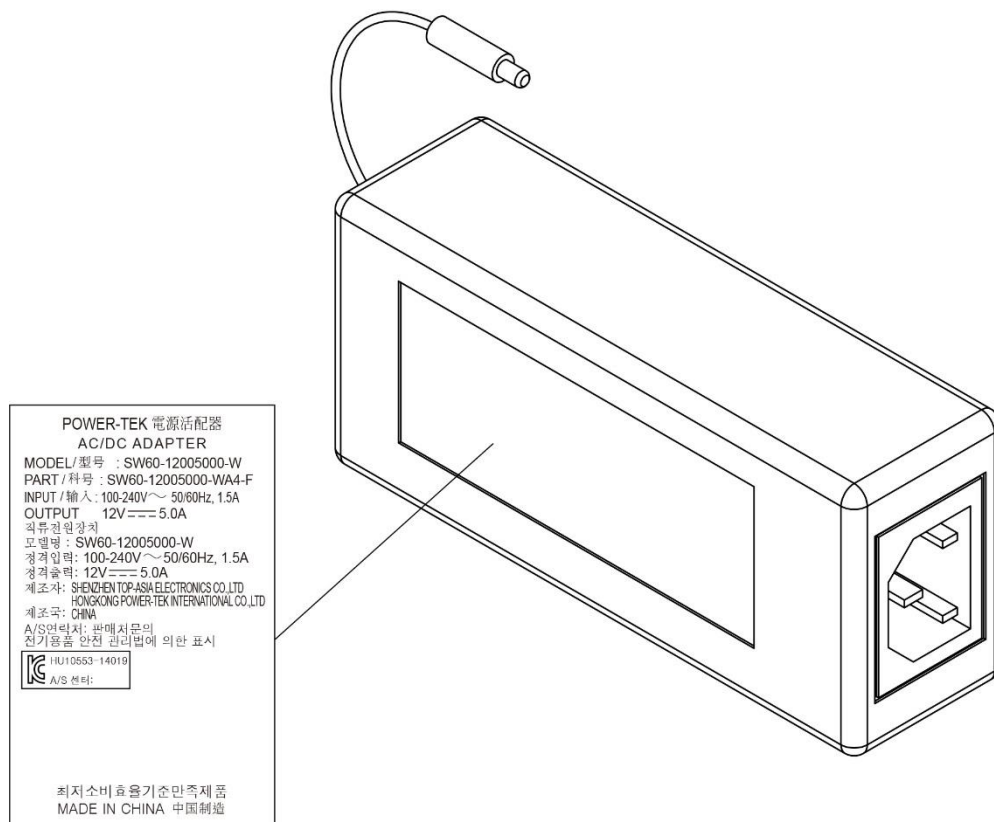
[Main body]



[Remote-controller]

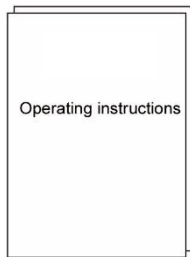


[Power supply]

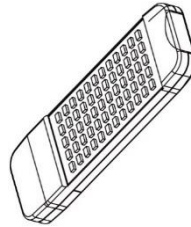


1.6 Standard Accessories

Please check below accessories in the carton box.



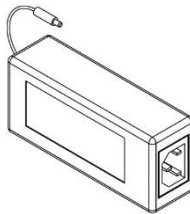
Operating instructions



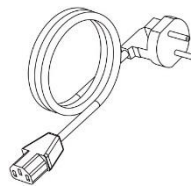
Remote-controller



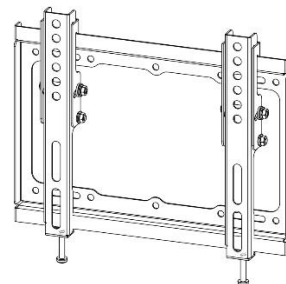
Two pieces of batteries
(IEC R6)



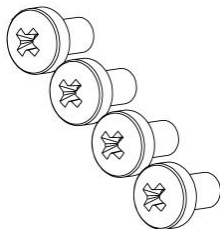
Power supply



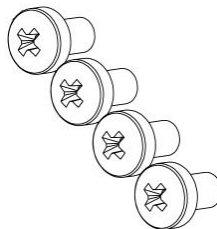
Power cord



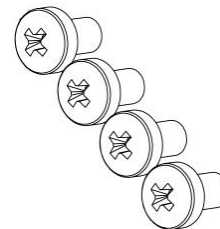
Wall mount bracket



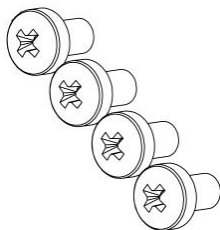
Four pieces of
round head bolt
(M4 x 12L)



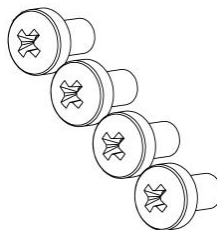
Four pieces of
round head bolt
(M4 x 25L)



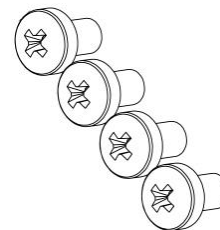
Four pieces of
round head bolt
(M5 x 12L)



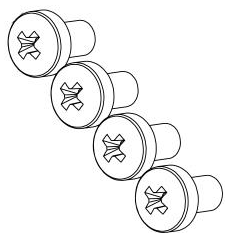
Four pieces of
round head bolt
(M5 x 25L)



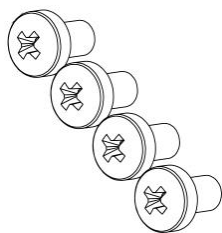
Four pieces of
round head bolt
(M6 x 12L)



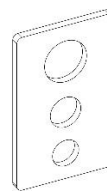
Four pieces of
round head bolt
(M6 x 25L)



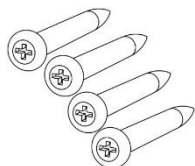
Four pieces of
round head bolt
(M8 x 16L)



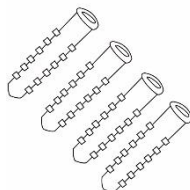
Four pieces of
round head bolt
(M8 x 25L)



Four pieces of
Flat washer



Four pieces of
round tapping screws
(M6 x 50L)



Four pieces of
Anchor block

2. Installation



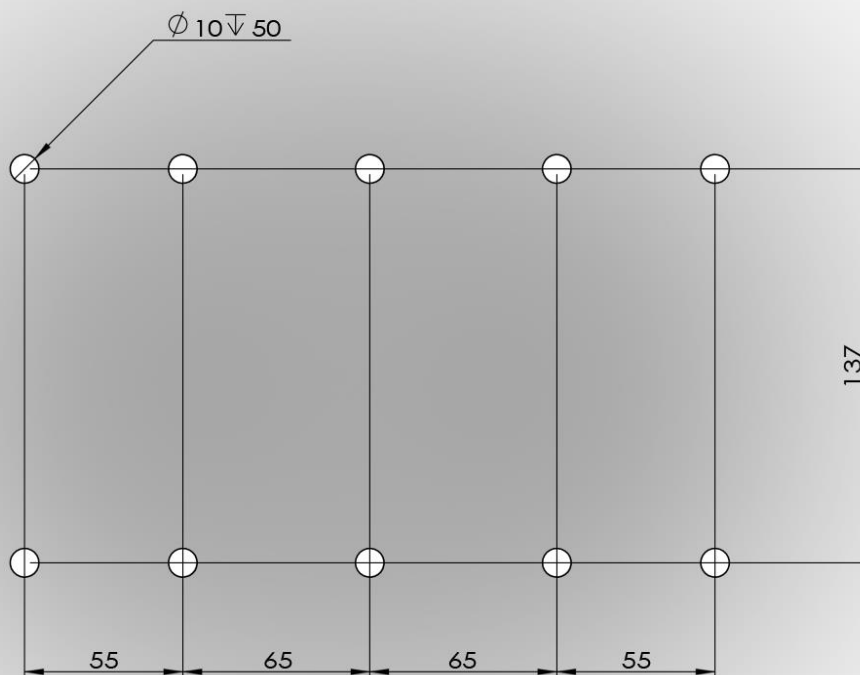
- Install the device on a wall that is sturdy enough to support the weight (5kg).
- Use the wall mount bracket verified and supplied by manufacturer.
- Request for specialist's help as needed.
- Contact manufacturer or authorized local distributor when any problem is occurred during installation





- Never operate the device while installation.
- Do not touch the device with wet hands in order to avoid electric shock.

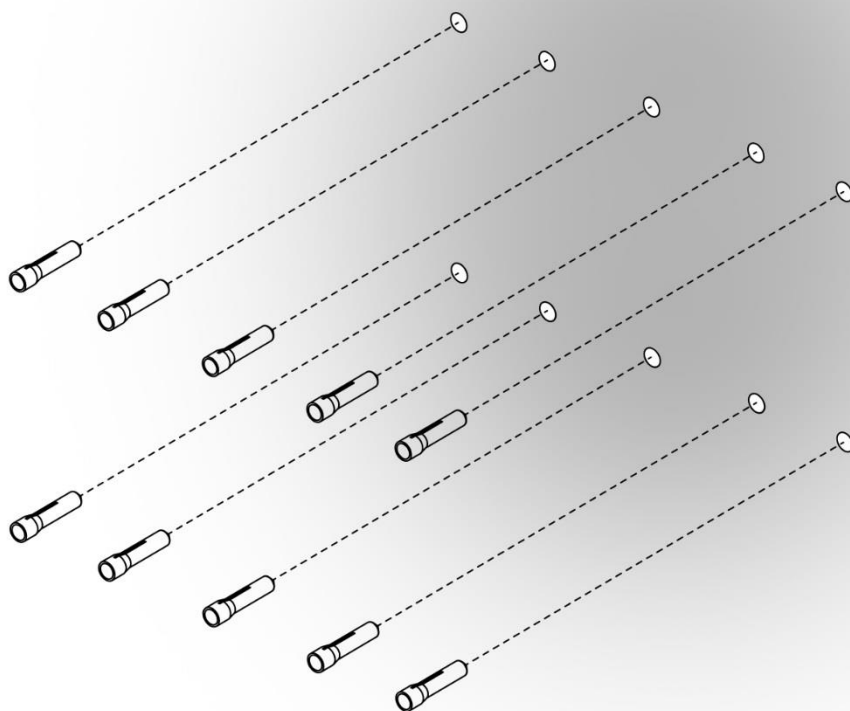
2.1 Installation of wall mount bracket

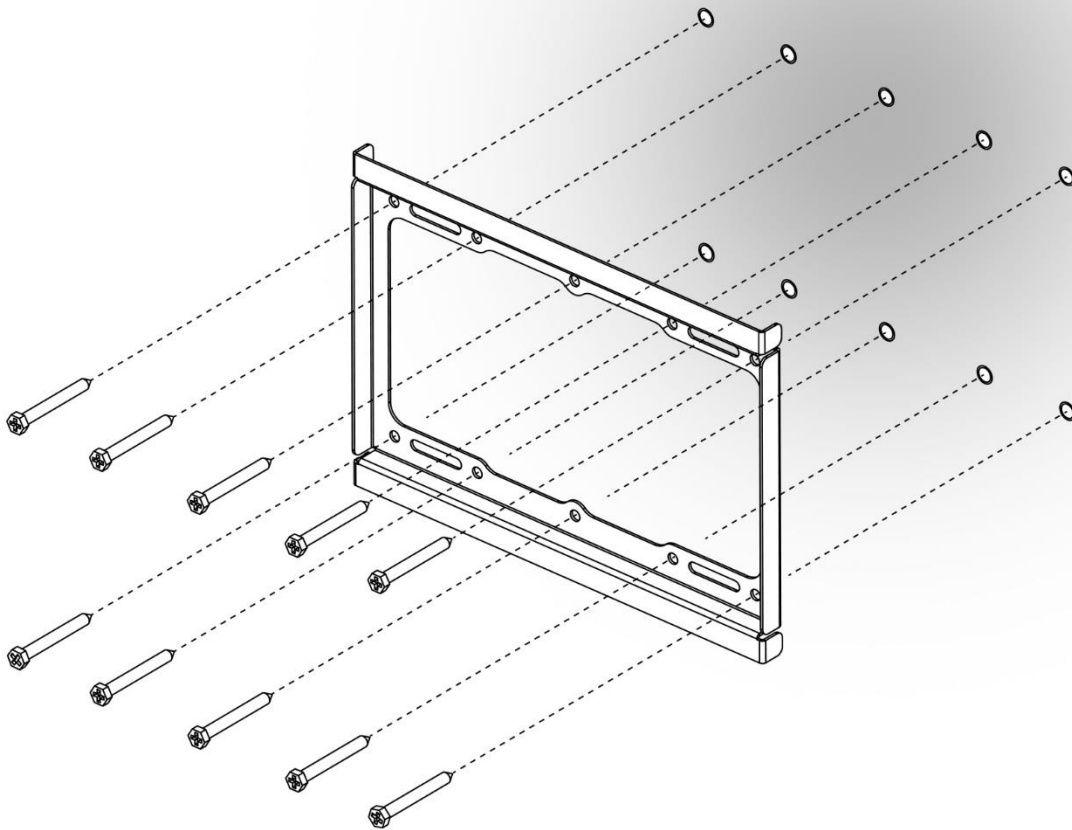
(1) With an electric power drill, drill 4-10 holes - 10mm diameter in sturdy and safe wall as follow.



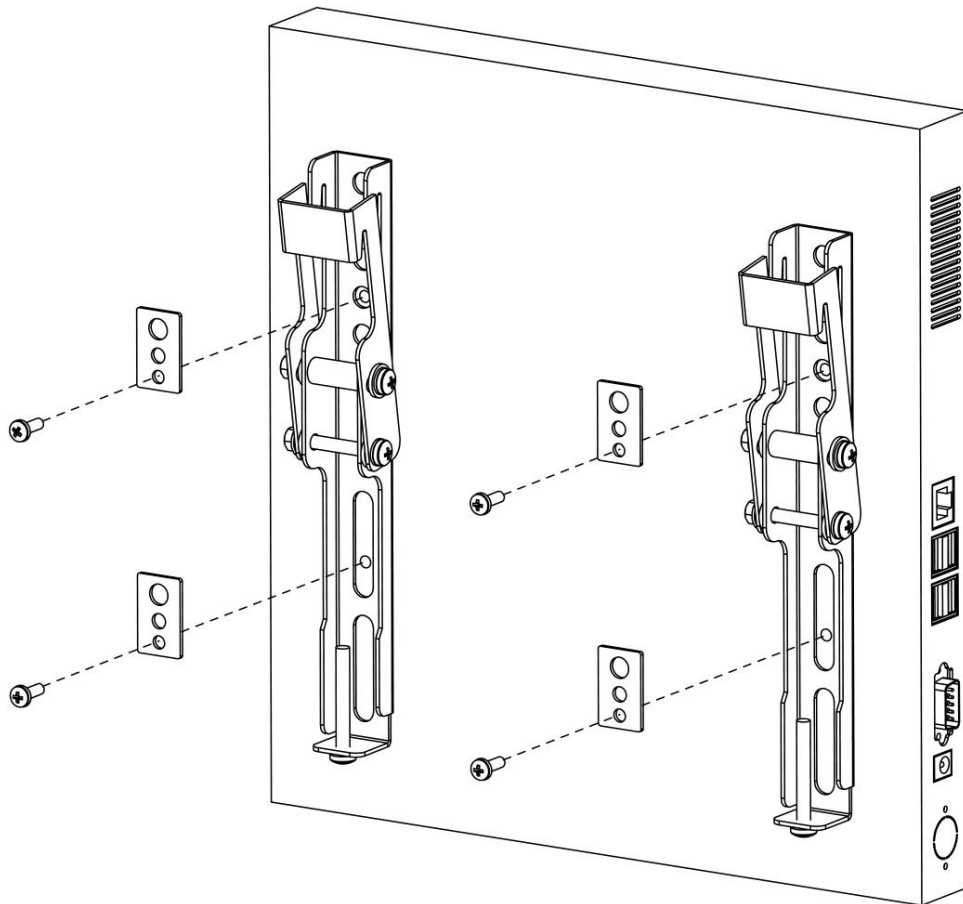
	- Use the wall mount bracket verified and supplied by manufacturer.
	- Never install the wall mount bracket on a flimsy wall. - Do not drill excessively big holes.

(2) Place wall mount bracket (Female) on the place corresponding with drilled holes, and then tighten four round tapping bolts. As needed, put anchor blocks prior to tightening four round tapping bolts.

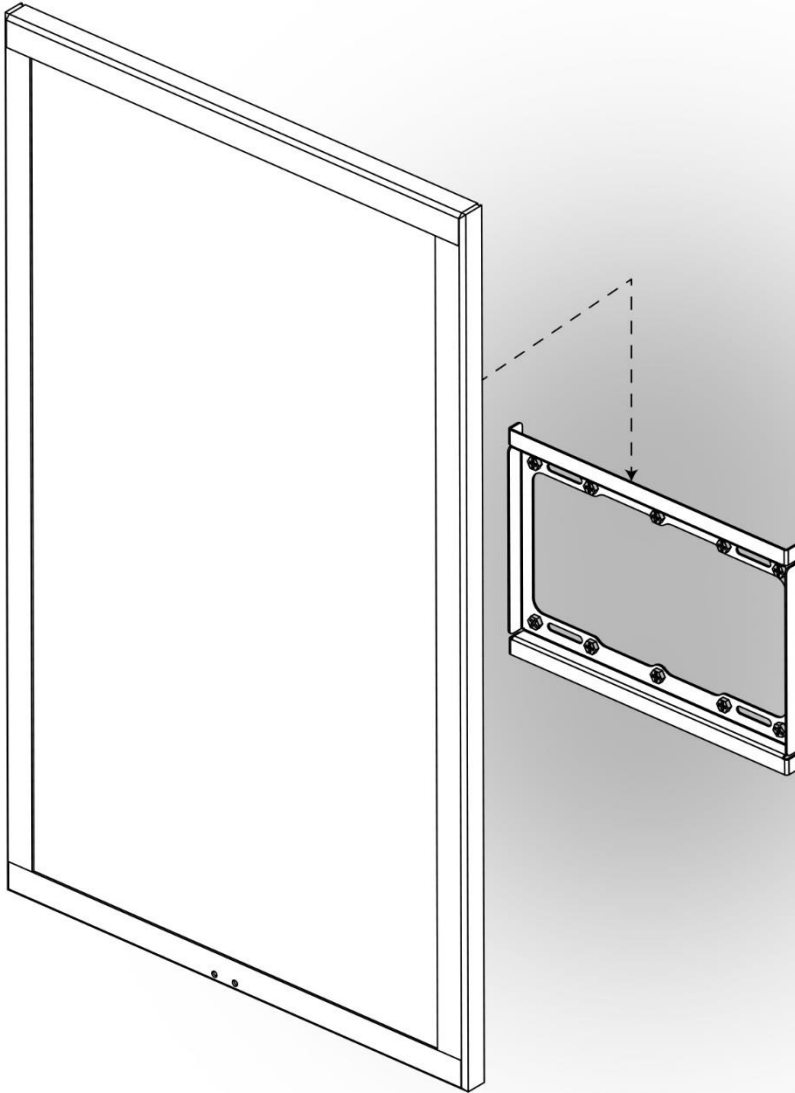




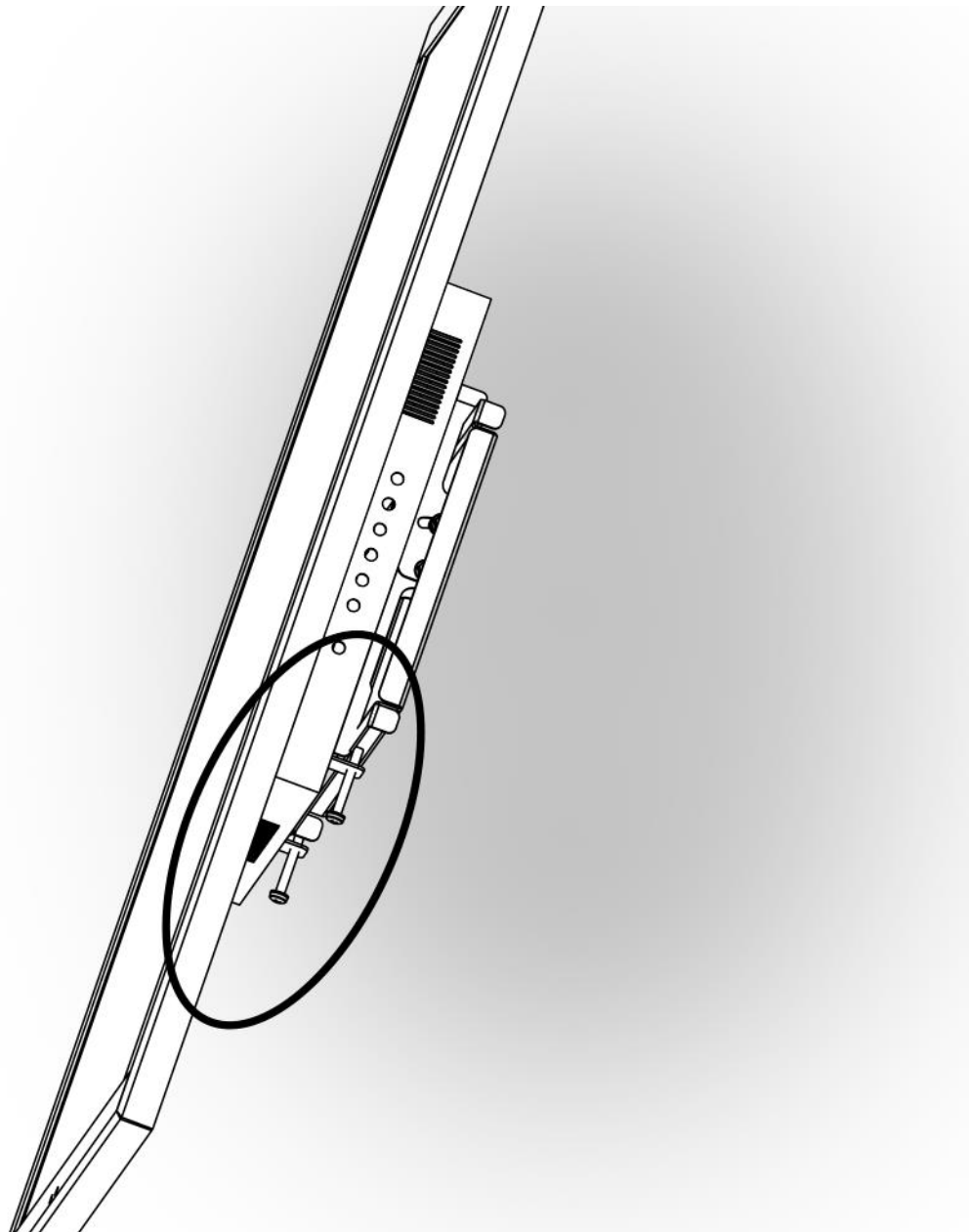
- (3) Place wall mount bracket (Male) on the place corresponding with wall mount holes, and then tighten four hexagon wrench bolts (M4 x 12L).



(3) CAREFULLY, hang the wall mount bracket (Male) into the wall mount bracket (Female) located on the wall.

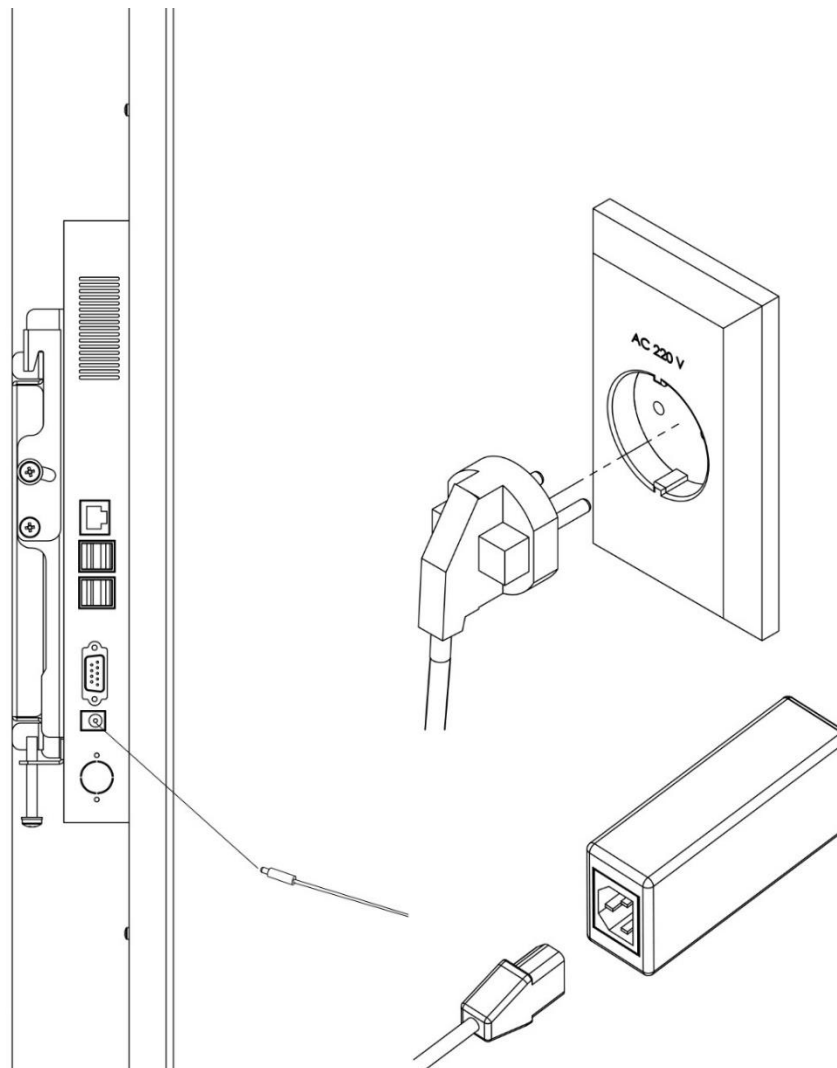


(4) Tighten with round head bolt (M5 x 50L) into wall mount bracket between female and male.



- The device shall be held by two persons.
- After hanging the instrument into the wall mount bracket, check the safety of connection.

2.2 Wiring



- (1) Plug the output connector of power supply in a power inlet of main body.
- (2) Plug the power cord in a socket outlet located on the wall, and then insert opposite part of power cord in a socket located on power supply.



- All electric wires shall be connected firmly.

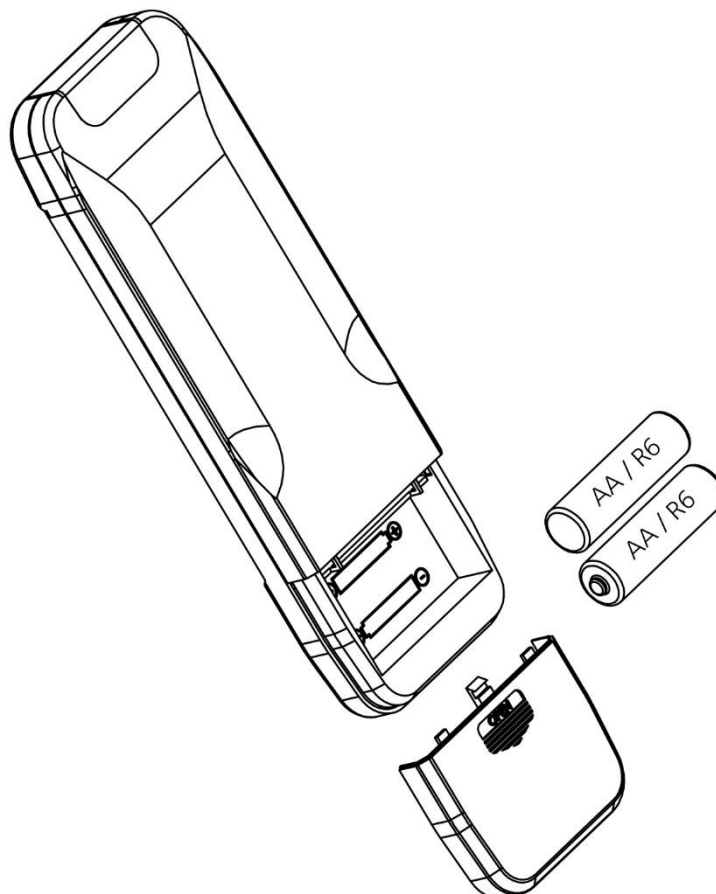


- Never plug the power cord in a socket outlet which does not have any PROTECTIVE EARTH Terminal.

- Do not touch any electric with wet hands in order to avoid electric shock.

2.3 Preparation of remote-controller

- (1) Open a battery cover of remote-controller.
- (2) Put two batteries corresponding with polarity in to battery holes.
- (3) Close a battery cover firmly.



Applicable battery type

International Standard	R6 or LR6
U.S. and Korea	AA
Japan	UM3 or AM3



- Be cautious about the polarity of battery.



- Never use other electric source except applicable battery.

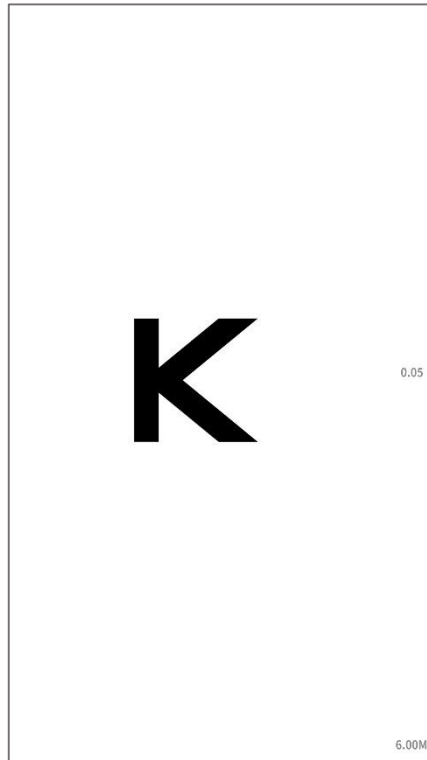
3. Preparation

3.1 Booting

(1) If you plug power cord in a socket outlet, booting is carried out with showing following image on the screen.



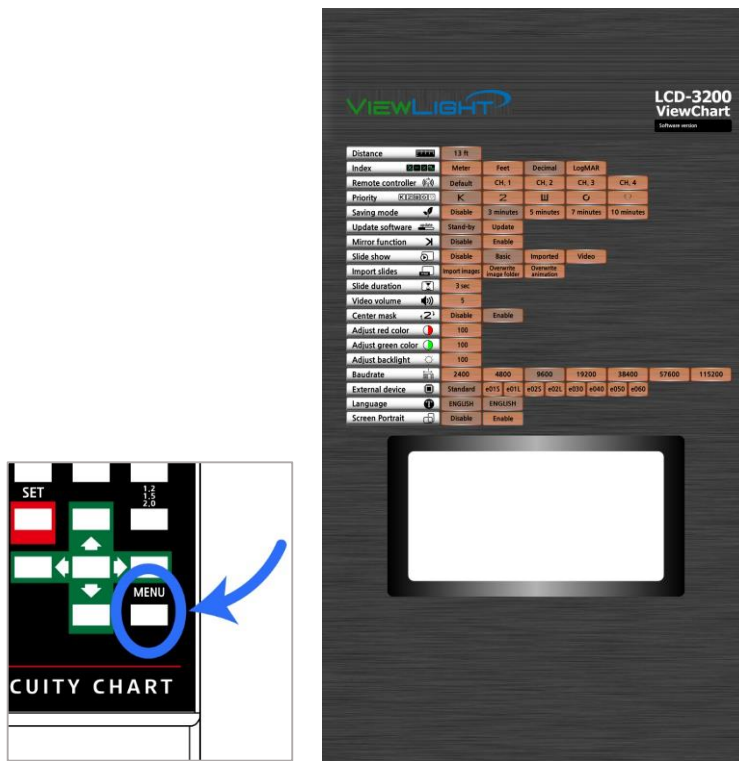
(2) After few seconds, visual acuity chart is displayed on the screen as follow.



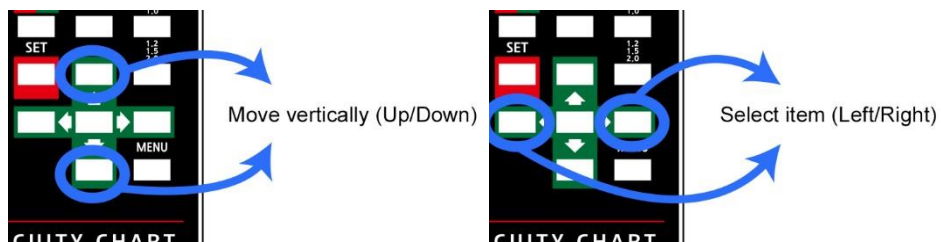
- Do not disconnect power source in the progress of booting.

3.2 MENU function

(1) To go into MENU function, press MENU button of remote-controller.



How to navigate in MENU function.



(2) **[Distance]** Select measuring distance correctly according to the environment of refraction room. Measuring distance can be selected from 4.75 to 26 feet.

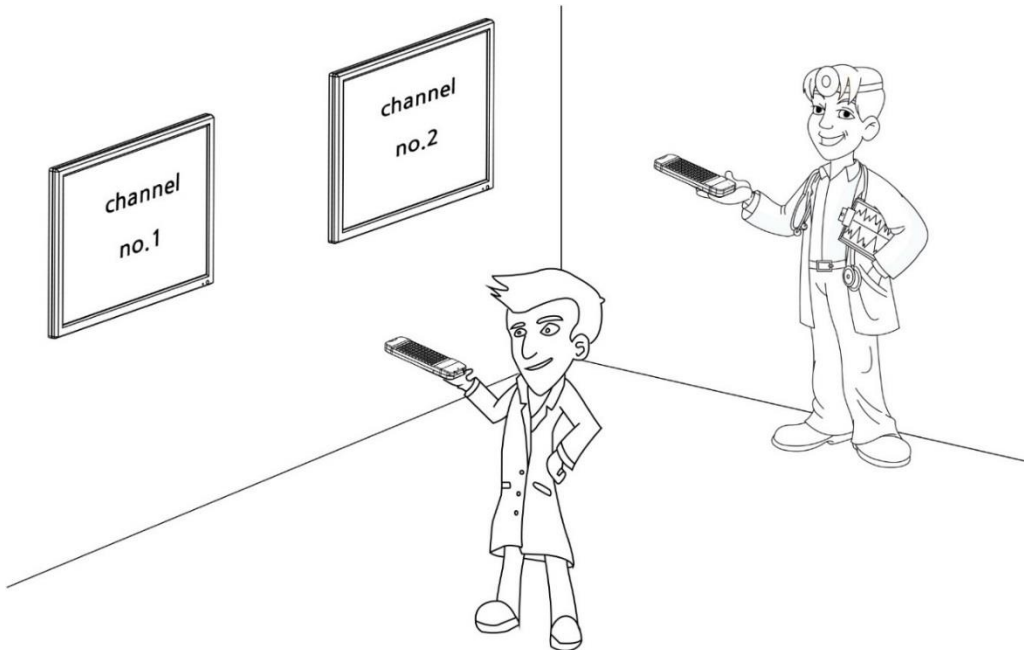


- If measuring distance set improperly, the measurement result may be inaccurate.

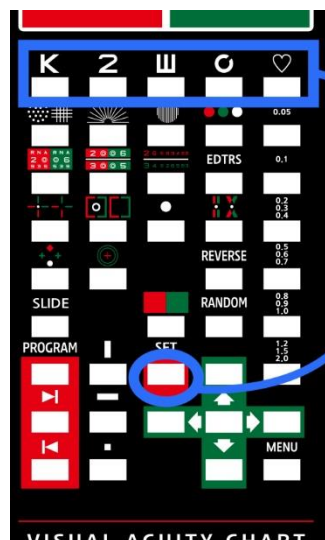
(3) **[Index]** Select the display unit of Visual Acuity.

(4) **[Remote controller]** Select applicable the channel of remote-controller.

This products can be used maximum four devices in the adjacent places without interference of remote-controllers' signals. If more than two devices are used in the room, this article shall be selected.



How to set the channel of remote-controller



While pressing SET button,
press one of **K Z W C** ♡
for three(3) second.

K : default
Z : no.1
W : no.2
C : no.3
♡ : no.4



- Change the channel of MENU function in main body prior to change one of remote-controller.

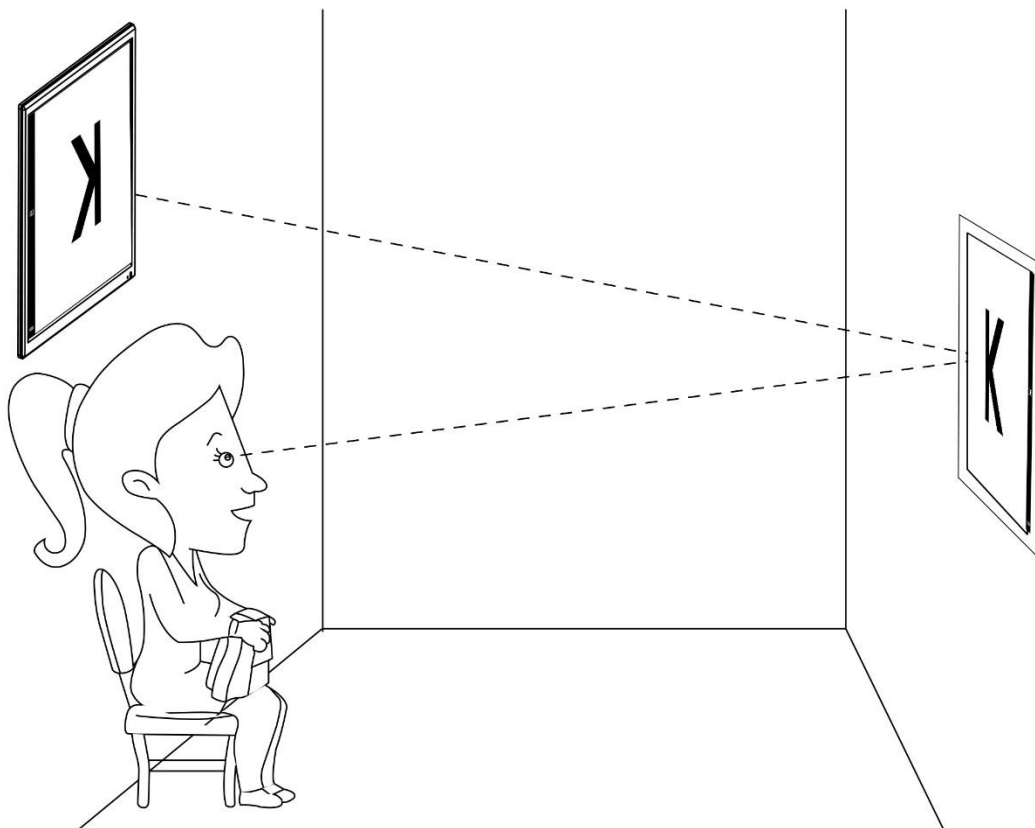
(5) **[Priority]** Select a type of visual acuity chart to be shown firstly on the screen when the power on.

alphabet	numeric	snellen	Landolt	children
K	2	Ш	⊖	♡

(6) **[Saving mode]** Select the duration for entering power saving function.

(7) **[Update software]** Enable to update internal software easily. For more information, consult with manufacturer or authorized local distributor.

(8) **[Mirror function]** In case of usage in the short distance less than 4.75 feet, the chart to be reflected on the mirror can be displayed on the screen.



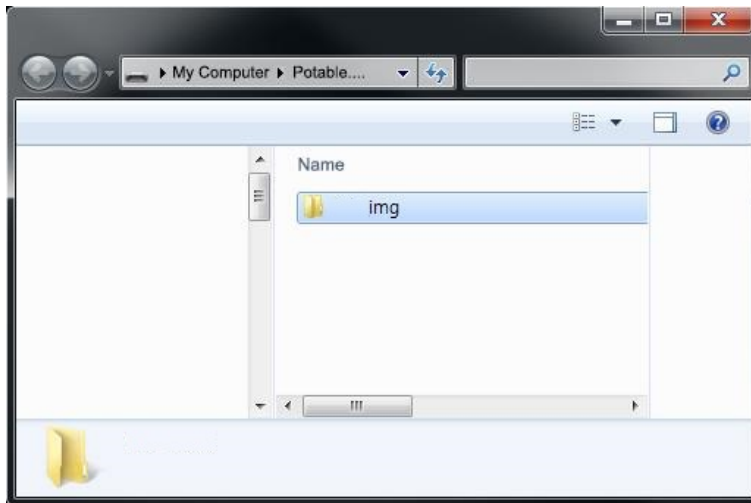
(9) **[Slide show]** Select the images or videos to be shown on the screen in case of executing image slide function.

Disable	Nothing to show
Basic	Display basic images stored in internal flash memory by manufacturer.
Imported	Display images stored in internal flash memory by operator. For this function, please refer to page No.35 – (10) [Import slides] 's explanation.
Video	Display video stored in internal flash memory by operator. For this function, please refer to page No.35 – (10) [Import slides] 's explanation.

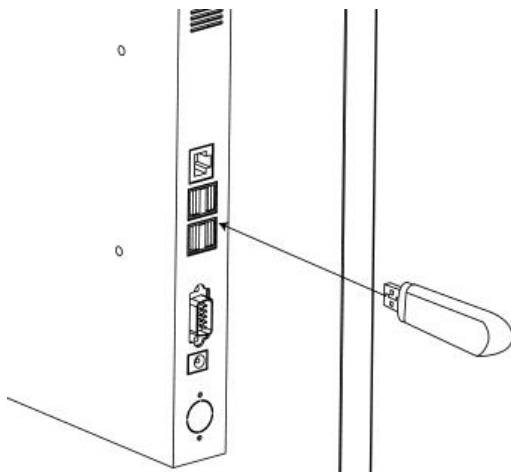
- (10) **[Import slides]** Enables to import new image and video files from external USB Drive or to over-write all image or video files in the internal flash memory.

How to import new images from external USB Drive.

- (a) Make a new folder “img” in the USB drive.



- (b) Copy image files in “img” folder of the USB drive. (c)
Put the USB drive into USB port of main body.



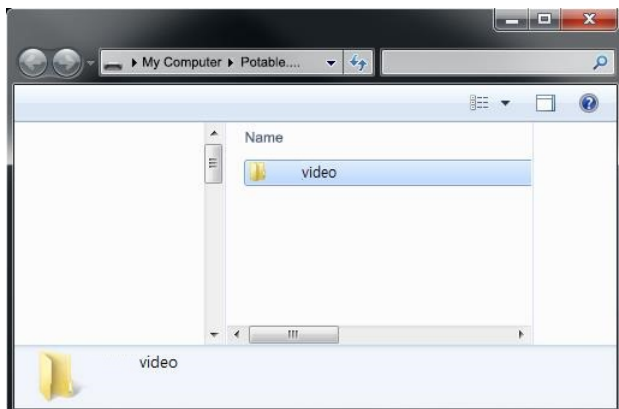
- (d) In the article **[Import slides]** of MENU screen, select “Import images”. And then, press SET button on remote-controller.



- Some of images cannot be displayed due to not-supported image format. For this, consult with manufacturer or authorized local distributor.

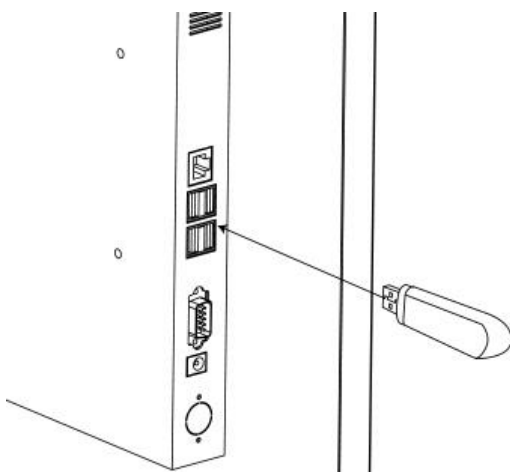
How to erase all video in the internal flash memory and import new video from external USB drive.

(a) Make a new folder “video” in the USB drive.



(b) Copy image files in “video” folder of the USB drive.

(c) Put the USB drive into USB port of main body.



(d) In the article **[Import slides]** of MENU screen, select “Overwrite image folder”. And then, press SET button on remote-controller.

(e) While new video files are being copied, icon will show “Please wait” message. Do not work until this message disappear.









- Some of videos cannot be displayed due to not-supported video format. For this, consult with manufacturer or authorized local distributor.

- Erased video files cannot be restored. You need to be careful before using this function.

(11) **[Slide duration]** Select a duration of slide function. It means that the delay time between image slides.

(12) **[Video volume]** Adjust sound volume from 0 to 15 points.

(13) **[Center mask]** Select the position to display visual acuity chart on the screen in case of activating mask function.

<p>Disable</p>			
<p>Enable</p>			

(14) **[Adjust red color]** Adjust the brightness of red color for all charts.



- For more accurate measurement, adjust this value corresponding with the condition of Red/Green glasses.

(15) **[Adjust green color]** Adjust the brightness of green color for all charts.



- For more accurate measurement, adjust this value corresponding with the condition of Red/Green glasses.

(16) **[Adjust backlight]** Adjust the brightness of backlight on the screen.



- For more accurate measurement, adjust this value harmoniously with surrounding environment.

(17) **[Baudrate]** Select a baud-rate for serial communication with external device such as auto refractor, desktop and so on. For this, consult with manufacturer or authorized local distributor.

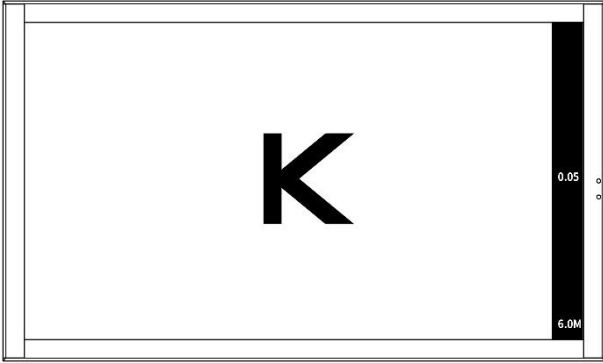
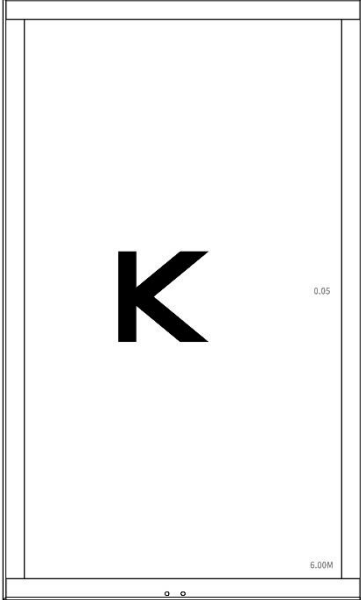


- If a baud-rate sets improperly, serial communication cannot work well. Consult with specialist for this part.

(18) **[External device]** Select a device type using serial communication to connect with external device. For this, consult with manufacturer or authorized local distributor.

(19) **[Language (언어)]** Select a language type for showing MENU function.

(20) **[Screen Portrait]** All information to be displayed on the screen is rotated through 90 degrees in order to use this instrument vertically.

Disable	Enable (default)
	

(21) After presetting all parameters, press SET button on remote-controller. And then, press MENU button.

4. Measurement

4.1 General Visual Acuity Test

(1) In order to select a chart type to be used, press “OPTOTYPE” button or one of “Fast selection of chart” on the remote-controller.



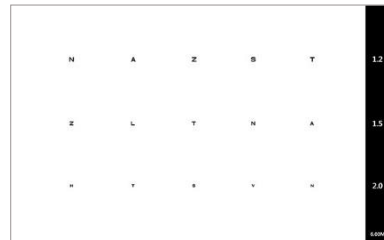
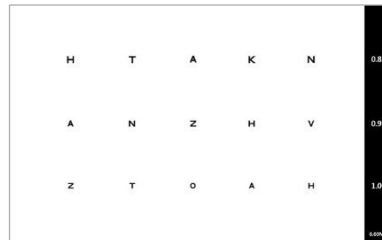
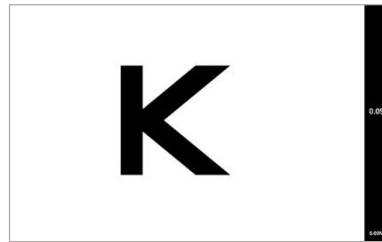
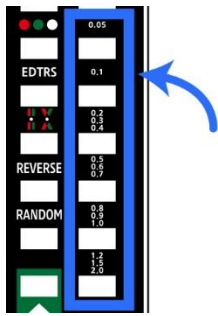
If “OPTOTYPE” button is pressed, a chart type is changed sequentially following order.

K	2	Ш	G	♥	*User chart
Alphabet	Numeric	Snellen	Landolt ring	Children	

* User chart

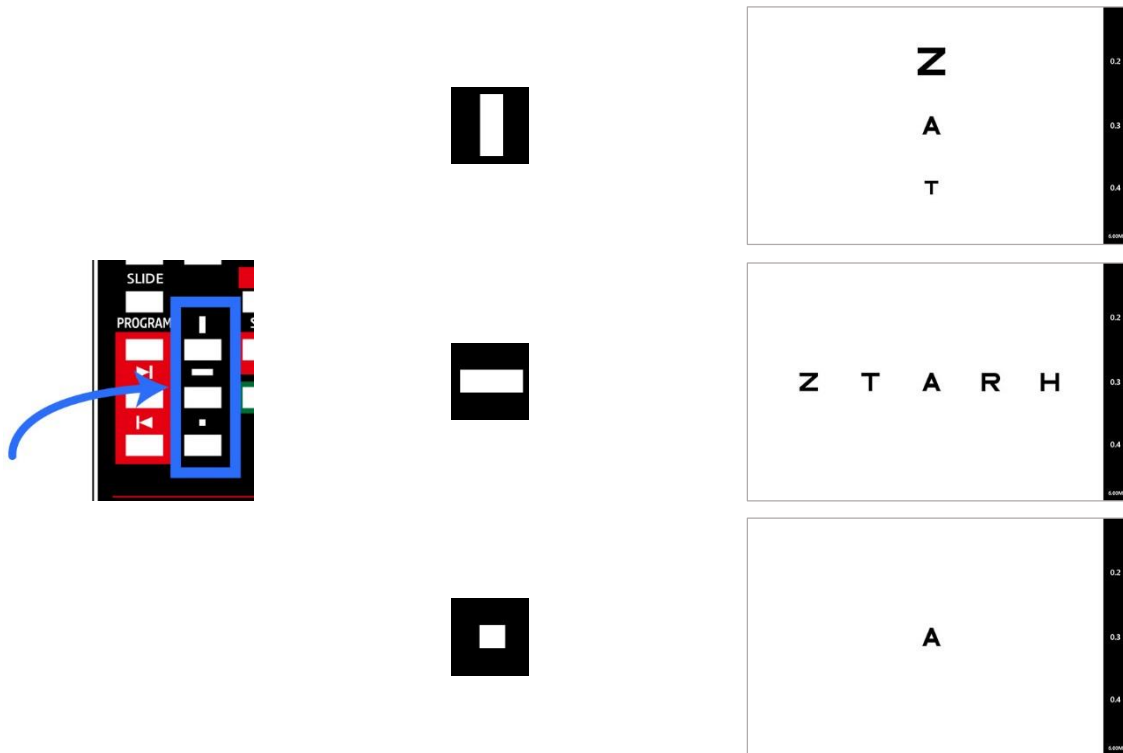
This device can have a specialized chart made by operator or other specialists. For this, consult with manufacturer or authorized local distributor.

(2) Press "Adjusting the size of chart" button to change desired size.

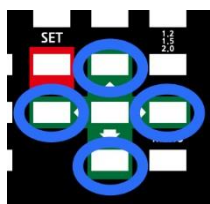


(3) As needed, mask function enables to do comfortable measurement visually for patient.

Press one of "Mask selection" buttons on the remote-controller.



How to use mask function



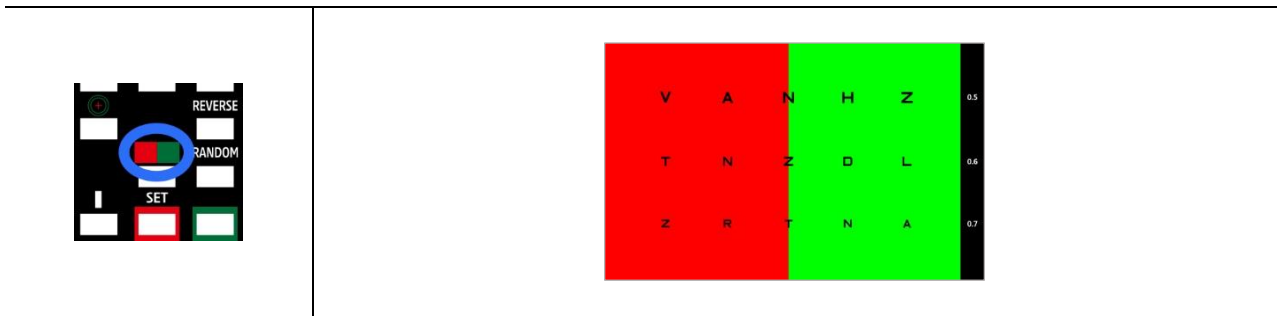
◀ or ▶

Move left or right

▲ or ▼

Move up or down

(3) As needed, red/green mask function can put behind Visual Acuity chart as background.



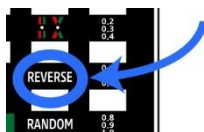
(4) As needed, random chart can be displayed on the screen by pressing “Random chart” button.

What is RANDOM Chart?


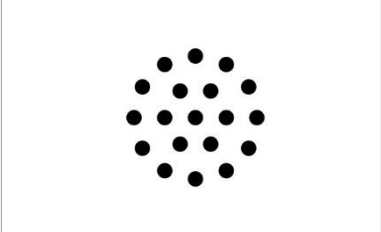
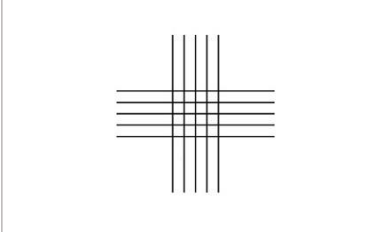
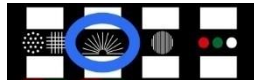
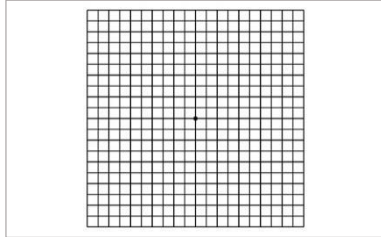
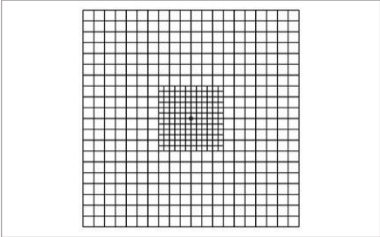
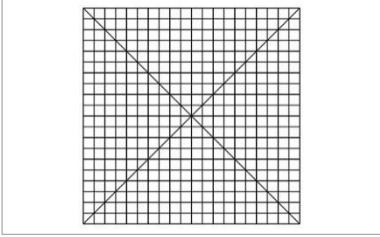
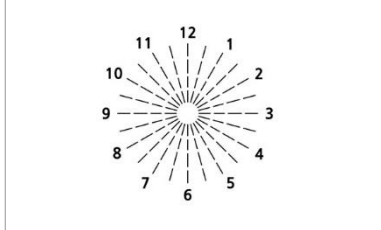
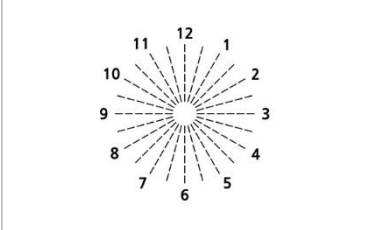
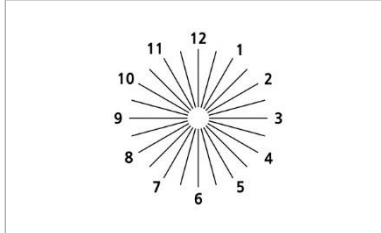
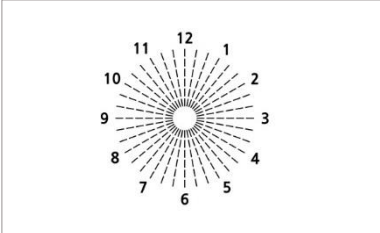
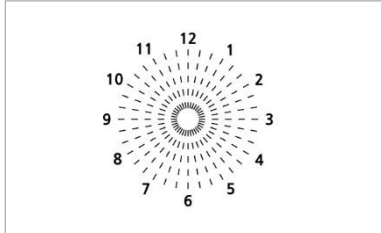
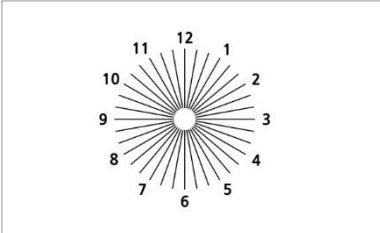
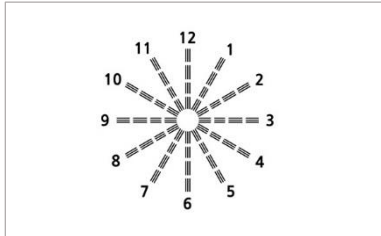
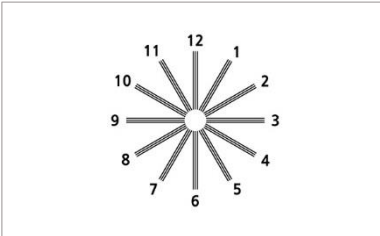
Randomly rearranges letter order at the same VA. This prevents erroneous test result from the patient memorizing the charts.

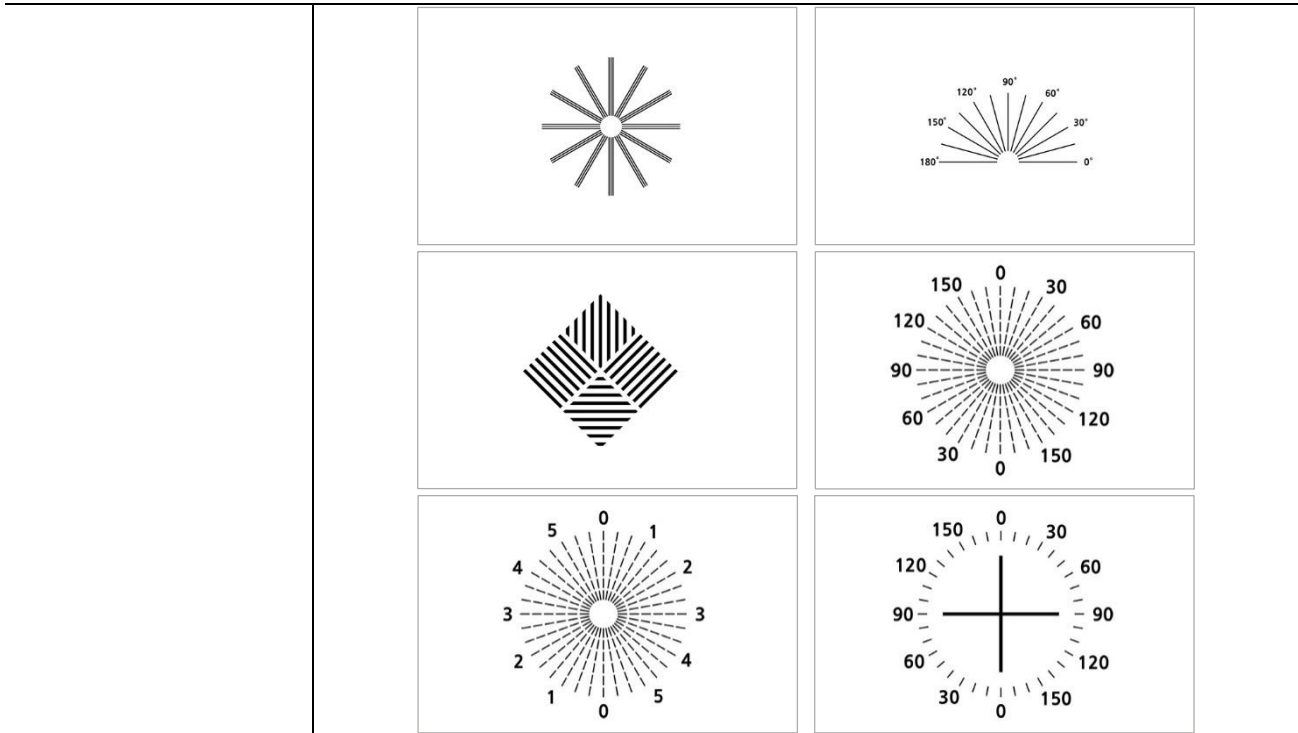
Tips!

By pressing “Screen reverse function” button on the remote-controller, the color between charts and background is changed. Make the best use of this function according to refraction environment.

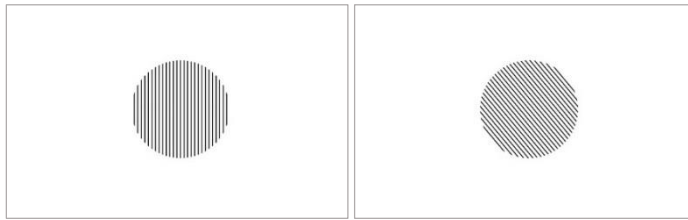


4.2 Astigmatic Test

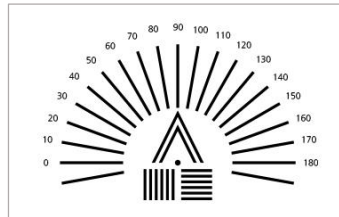
			
			
			
			
			
			
			



The chart can be rotated for 10 degree by pressing ◀ or ▶ button.

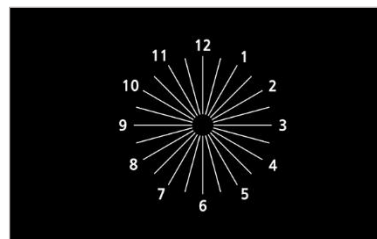
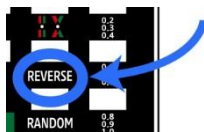


The chart can be rotated for 10 degree by pressing ◀ or ▶ button.






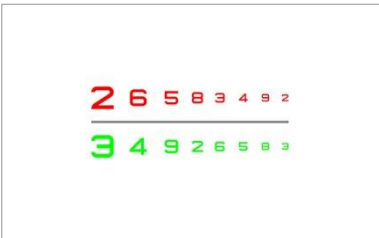


By pressing “Screen reverse function” button on the remote-controller, the color between charts and background is changed. Make the best use of this function according to refraction environment.

Tips!

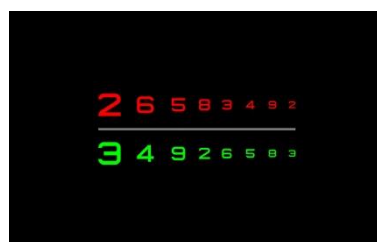
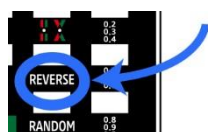


4.3 Red/Green and Balance Test


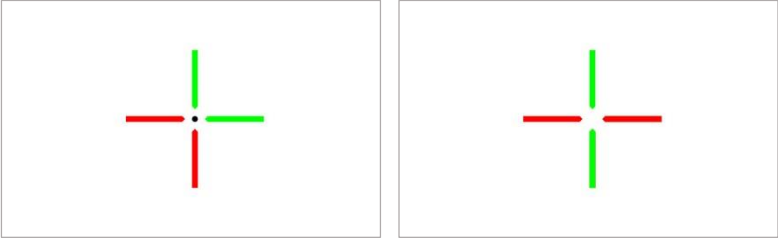
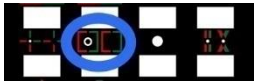
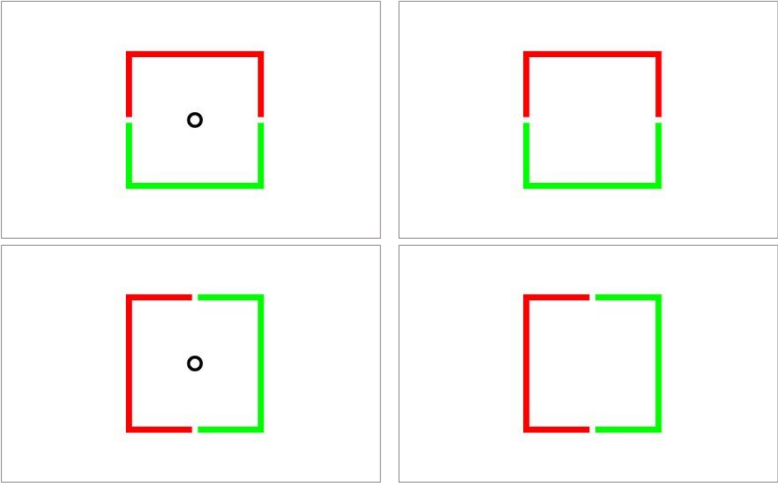

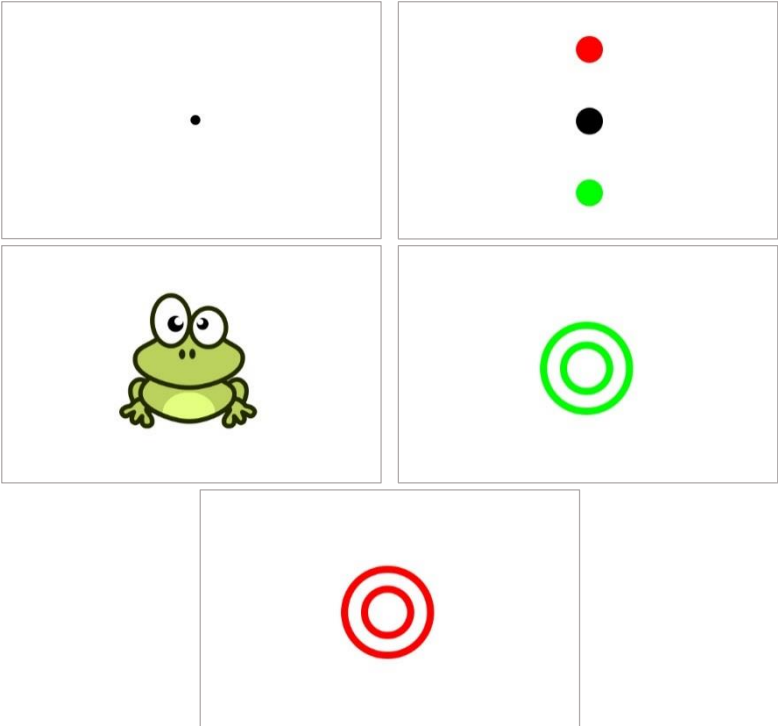
	
	
	

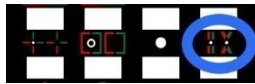
Tips!

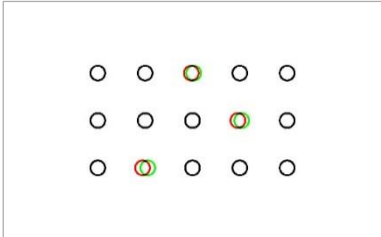

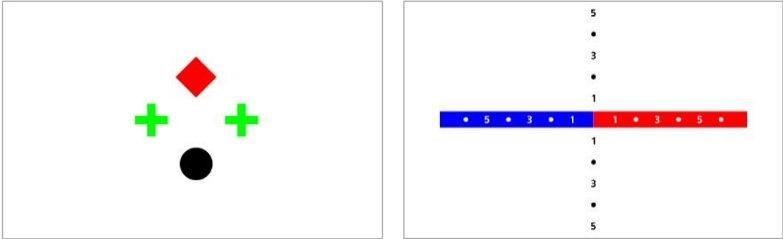

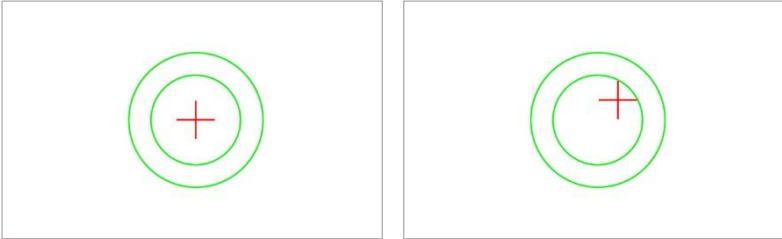
By pressing “Screen reverse function” button on the remote-controller, the color between charts and background is changed. Make the best use of this function according to refraction environment.

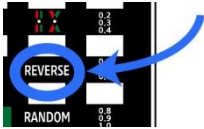
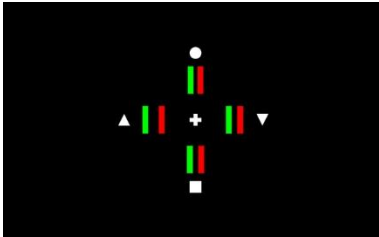


4.4 Phoria Test

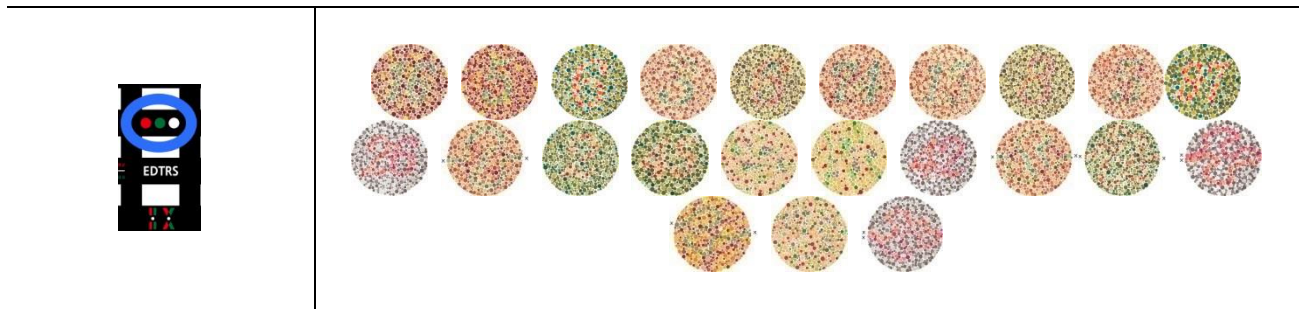
	
	
	



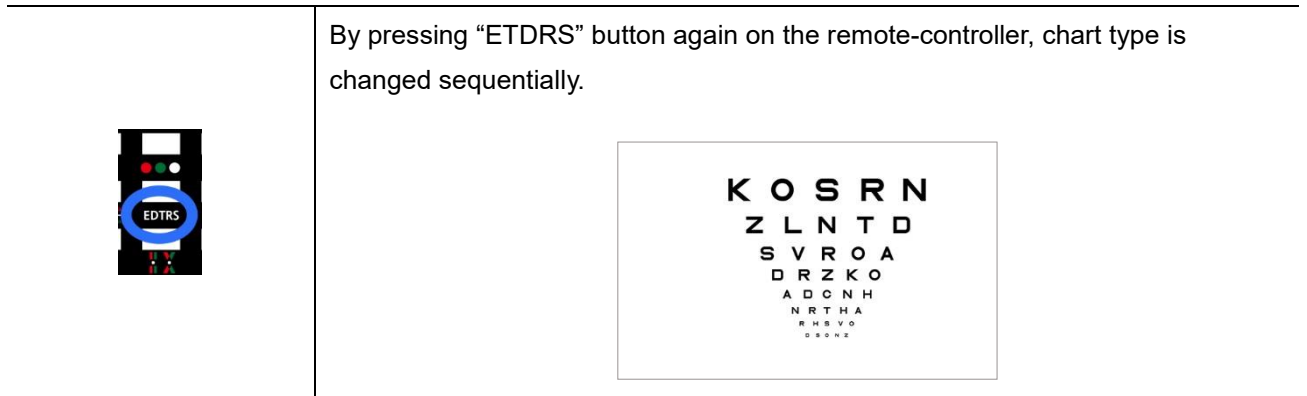
	
	
	<p>By pressing "Direction movement" button on the remote-controller, central red-cross mark can be moved.</p> 

<p>Tips!</p>	<p>By pressing "Screen reverse function" button on the remote-controller, the color between charts and background is changed. Make the best use of this function according to refraction environment.</p>  
---------------------	--

4.5 Color Blindness Test

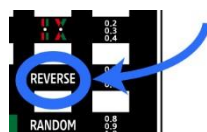


4.6 ETDRS

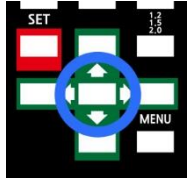


Tips!

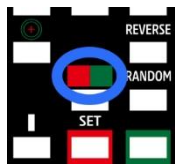
By pressing “Screen reverse function” button on the remote-controller, the color between charts and background is changed. Make the best use of this function according to refraction environment.



4.7 Contrast Sensitivity



By pressing a button located center of direction movement buttons, the contrast of visual acuity chart can be adjusted.



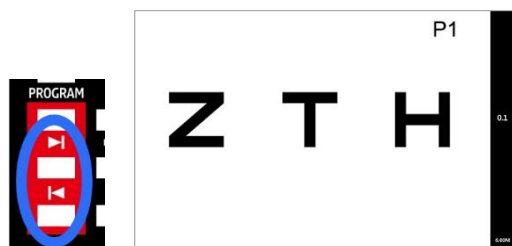
By pressing "Red/Green Mask" button, the contrast of visual acuity chart can be restored to 100%.



5. Program Function

5.1 Set

- (1) Press ► button on the remote-controller. Program number (from P1 to P5) will be displayed on the top of screen. By pressing ◀ or ▶ button, choose program number.



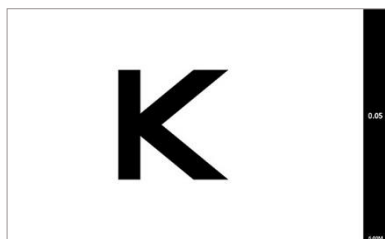
- (2) Press PROGRAM button. "START" message will be displayed on the top of screen.



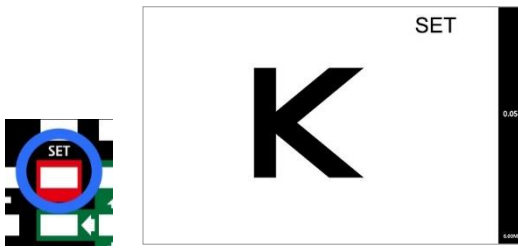
- (3) Press ◀ or ▶ button. Chart number will be displayed on the top of screen. By pressing ◀ or ▶ button, choose chart number.



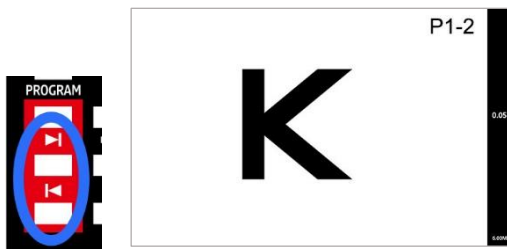
- (4) Using the remote-controller, display any chart to be stored by program.



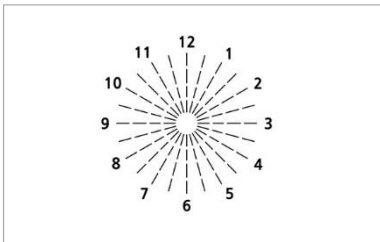
(5) Press SET button to store into program.



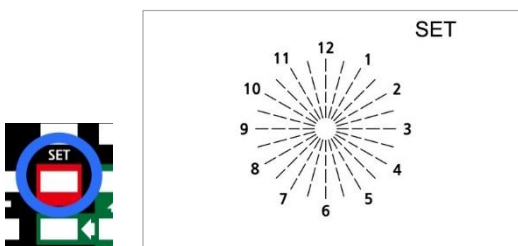
(6) Press ► button to change the chart number.



(7) Using the remote-controller, display any chart to be stored by program.



(8) Press SET button to store into program.

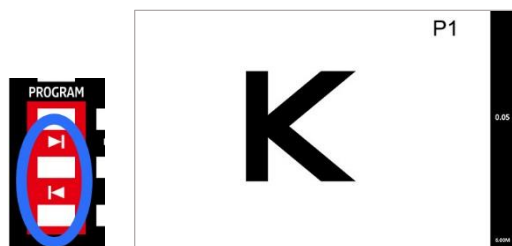


(9) Carry out the process as above description from (5) to (7) repeatedly until chart number 10.

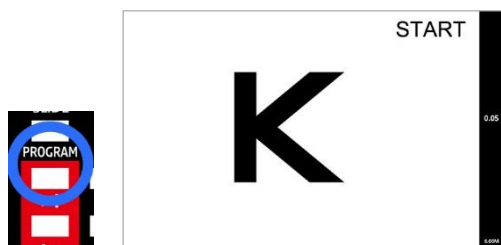
(10) Press PROGRAM button to escape.

5.2 Use

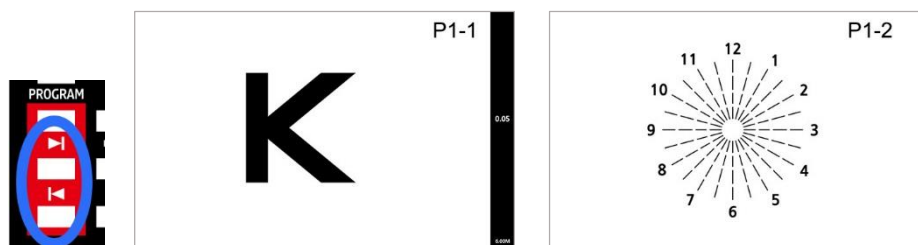
- (1) Press ► button on the remote-controller. Program number (from P1 to P5) will be displayed on the top of screen. By pressing ◀ or ▶ button, choose program number.



- (2) Press PROGRAM button. "START" message will be displayed on the top of screen.



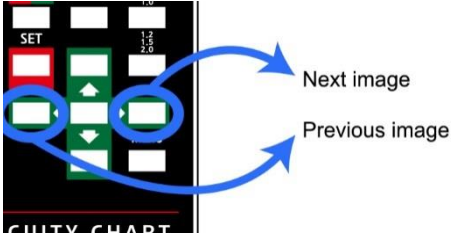
- (3) Press ◀ or ▶ button. Chart number will be displayed on the top of screen. By pressing ◀ or ▶ button, choose chart number.



- (4) If ◀ or ▶ button is pressed, charts stored in program are displayed sequentially with chart number on the screen.

6. Slide Function

(1) Press “Image slide function” button on the remote-controller. By pressing “Direction movement” buttons, images can be changed and displayed on the screen.



(2) If “Image slide function” button is pressed again, other type of slide image or video will be displayed on the screen.

Default image	Imported image	Imported video
Display basic images stored in internal flash memory by manufacturer.	Display images stored in internal flash memory by operator. Refer to page 35 – [Import slides]	Play videos stored in internal flash memory by operator. Refer to page 35 – [Import slides]



- Some of images cannot be displayed due to not-supported image format.
- Some of videos cannot be played due to not-supported video format.
- For this, consult with manufacturer or authorized local distributor.

7. Maintenance

7.1 Troubleshooting

In the event that the device does not work correctly, please check the problem according to the following table before contact manufacturer or authorized local distributor.

Event	Recommended action
The screen does not light up even though the power on.	Check that the power cord is connected to a socket outlet firmly.
The chart is displayed improperly on the screen.	Switch off. After 3 minutes, turn it on again.
The remote-controller does not work.	Replace batteries in the remote-controller. Refer to the page No.27 – 2.3 Preparation of remote-controller.
The remote-controller does not work even though batteries are replaced.	Set a channel of the remote-controller. Refer to (4) [Remote controller]
The chart is blurry.	Adjust the brightness of backlight properly. Refer to (16) [Adjust backlight]
The screen is unclear.	Clean the screen. Refer to 7.2 Cleaning

7.2 Cleaning

Do not touch the LCD panel as much as possible because its surface is specially coated. If the LCD panel becomes dirty, the chart may become difficult to read. In such an occurrence, clean the LCD panel.



- Turn the power off and unplug the power cord from a socket outlet before cleaning.
- Wiping with tissue paper by damage the LCD seriously.
- In case of cleaning, excessive force or loading may result in failure.
- Do not leave water drops on the device. If the device is splashed with water, immediately wipe with absorbent cotton or a soft cloth.
- Never use an organic solvent such as paint thinner.

- (1) Turn the power off.
- (2) Unplug the power cord from a socket outlet.
- (3) Lightly wipe the LCD with a soft and clean cloth or absorbent cotton.

8. Specifications

8.1 Classifications

[Classification under the provision of 93/42/EEC (MDD)]

The ViewChart LCD-3200 is classified as a Class I device.

[Form of protection against electric shock]

The ViewChart LCD-3200 is classified as a Class I device.

A Class I device provides protection against electric shock and does not rely on basic insulation only, but which includes additional safety grounding of accessible conductive parts in the fixed wiring in such a way that accessible conductive parts cannot become live in the event of a failure of the basic insulation.

Use a power outlet which is equipped with a grounding terminal.

[Degree of protection against harmful ingress of water or particulate matter]

IPX0

The ViewChart LCD-3200 provides no protection against ingress of water or particulate matter with harmful effects. Avoid splashing water or other liquids on or near the device.

[Degree of safety in the presence of a flammable anesthetic mixture with air, or a flammable anesthetic mixture with oxygen or nitrous oxide]

The ViewChart LCD-3200 should not be used in the presence of a flammable anesthetic mixture with air, or a flammable anesthetic mixture with oxygen or nitrous oxide caused by leakage or a discharge.

[Degree of suitability for use in an oxygen rich environment]

The ViewChart LCD-3200 is not intended for use in an oxygen rich environment.

[Method(s) of sterilization recommended by the manufacturer]

The ViewChart LCD-3200 does not have any part to be sterilized.

[Mode of operation]

Continuous operation

[Mode of transport]

Stationary equipment

8.2 Detailed Specifications

Display	32inch QHD LCD (1440 x 2560 pixels)
Active display area	(W)20.4 x (H)12.8 inch
Brightness	Maximum 300cd/m ²
Measuring distance	4.75 – 26 feet (0.25 feet step)
Processor	Amlogic ARM® Cortex®-A53(ARMv8) 1.5Ghz QuadCore Mali™-450 MP2 GPU (OpenGL ES 2.0/1.1)
Memory	SD Memory 8GB 90MB/s
Operating system	Google's Android Embedded system
Power supply	DC 12V 6A
Control	Remote controller or serial communication
Multi-control channel	Max 4 channels
External interface	4x USB, 1x RS-232, 1x Ethernet(10/100)
Standard Accessory	Wall mount bracket
Optional Accessory	Floor stand, Red Green Glasses, WI-FI Module
Dimension & weight	(W)22.4 x (H)14.7 x (D)2.1 inch, Approximately 8.8 lbs