

Operator's Manual

Excelon-Auto Blocker



Huvitz
Pacing Progress toward People

IMPORTANT NOTICE

This product may malfunction due to electromagnetic waves caused by portable personal telephones, transceivers, radio-controlled toys, etc. Be sure to avoid having the above objects, which affect the normal operation of the product, brought near the product.

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1. Introduction

1.1 System Configuration

- Auto Blocker (CAB-4000)

This product is Auto Blocker CAB-4000, lenses can be checked and blocked in automatically. So the CAB-4000 eliminates the need for manual inspection and blocking of the lens. Also, with the CAB-4000 a frame can be read in simple step.

1.2 Main Features

- This can block all kinds of lenses in which include the normal lens without 3 dot, the bi-focal lens, the multi-focal lens and the lens with 3 dot.
- TFT-LCD (8.4") True color display device and touch screen are harmonized to offer the maximum convenience for everyday use
- Frame Reader Module reads a frame as well as a pattern, and then sends it to the main GUI display module.
- This includes not only the image processing module but also the lensmeter module so that it can block from a normal lens without 3 dot to a multi-focal lens.
- We can design all information for the layout and the edging at one page, and send it to other two edger machines.
- Graphically Designed Test Mode enables the operator to effectively perform the routine maintenance without the technical assistance
- Any shape and material of a frame from rimless to goggles are automatically and precisely scanned with 3D technology ensuring no margin of error

- The Digital Scanning technology can scan a frame shape for a demo lens without a conventional tracer. This provides you an enormous convenience and a time saving.
- A maximum one thousand of frames are memorized in the permanent memory. Therefore, users can retrieve them whenever they want.
- The complete harmony between this blocking machine and edger machines can accomplish the full automation in the edging processes.

1.3 Classification

- Protection against electric shock: Class I(earthed)
- Installation Category: II
- Pollution Degree: 2

2. Safety Information

2.1 Introduction

Safety is everyone's responsibility. The safe use of this equipment is largely dependent upon the installer, user, operator, and maintainer. It is imperative that personnel study and become familiar with this entire manual before attempting to install, use, clean, service or adjust this equipment and any associated accessories. It is paramount that the instructions contained in this manual are fully understood and followed to enhance safety to the patient and the user/operator. It is for this reason that the following safety notices have been placed appropriately within the text of this manual to highlight safety related information or information requiring special emphasis. All user, operators, and maintainers must be familiar with and pay particular attention to all warning and cautions incorporated herein.



WARNING

"Warning" indicates the presence of a hazard that could result in severe personal injury, death or substantial property damage if ignored.



NOTE

"Note" describes information for the installation, operation, or maintenance of which is important but hazard related if ignored.



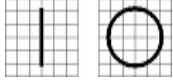



CAUTION

"Caution" indicates the presence of a hazard that could result in minor injury, or property damaged if ignored.

2.2 Safety Symbols








The International Electro technical Commission (IEC) has established a set of symbols for medical electronic equipment, which classify a connection or warn of any potential hazard. The classifications and symbols are shown below.






Save these instructions

	<p>I and O on power switch represent ON and OFF respectively.</p>
	<p>This symbol identifies a safety note. Ensure you understand the function of this control before using it. Control function is described in the appropriate User's or Service Manual.</p>
	<p>Identifies the point where the system safety ground is fastened to the chassis. Protective earth connected to conductive parts of Class I equipment for safety purposes.</p>
	<p><u>Disposal of your old appliance</u></p> <ol style="list-style-type: none"> 1. When this crossed-out wheeled bin symbol is attached to a product it means the product is covered by the European Directive 2002/96/EC. 2. All electrical and electronic products should be disposed of separately from the municipal waste stream via designated collection facilities appointed by the government or the local authorities. 3. The correct disposal of your old appliance will help prevent potential negative consequences for the environment and human health. 4. For more detailed information about disposal of your old appliance, please contact your city office, waste disposal service or the shop where you purchased the product.

2.3 Environment factors

Avoid the following environments for operation or storage:

	Where the equipment is exposed to water vapor. Don't operate the equipment with a wet hand.
	Where the temperature changes extremely. - Operation Temperature: 10 ~ 40°C (Humidity : 50 ~ 80%) - Storage Temperature : -20 ~ 85°C (Humidity : 50 ~ 80%)
	Where the humidity is extremely high or there is a ventilation problem.
	Where equipment is exposed to chemical material or explosive gas.
	Where the equipment is exposed to direct sunlight.
	Where it is near the heat equipment.
	Don't disassemble the product or open. We aren't responsible for it for nothing.

	Don't plug the AC power cord into the outlet before the connection between devices of the equipment is completed. This can generate the defect.
	Where the equipment is subject to excessive shocks or vibrations.
	Be careful not to be inserted dust, especially, metal
	Be careful not to close the fan located on the lateral or backside of the equipment.
	Pull out the power cord with holding the plug, not the cord.

Avoid places where the ambient temperature falls below 10°C or exceeds 40°C for normal operation, or below -20°C or exceeds 85°C for transportation and storage. Humidity should be maintained between 50% and 80% for normal operation, transportation and storage. Avoid environments where the equipment is exposed to excessive shocks or vibrations. And also the normal operation time is as following:

operation time : short term operation max 1min

2.4 Safety Precaution

This equipment has been developed and tested according to safety standards as well as national and international standards. This guarantees a very high degree of safety for this device. The legislator expects us inform the user expressively about the safety aspects in dealing with the device. The correct handling of this equipment is imperative for its safe operation. Therefore, please read carefully all instructions before switching on this device. For more detailed information, please contact our

Customer Service Department or one of our authorized representatives.

- ① This equipment must not be used (a) in an area that is in danger of explosions and (b) in the presence of flammable, explosive, or volatile solvent such as alcohol, benzene or similar chemicals.
- ② Do not put or use this device in humid rooms. Humidity should be maintained between 50% and 80% for normal operation. Do not expose the device to water splashes, dripping water, or sprayed water. Do not place containers containing fluids, liquids, or gases on top of any electrical equipment or devices.
- ③ The equipment must be operated only by, or under direct supervision of a properly trained and qualified person.
- ④ The service technician of Huvitz or the technician authorized by Huvitz may only carry out modifications of this equipment.
- ⑤ Customer maintenance of this equipment may only be performed as stated in the User's Manual and Service Manual. Any additional maintenance may only be performed by the service technician of Huvitz or the technician authorized by Huvitz.
- ⑥ The manufacturer is only responsible for effects on safety, reliability, and performance of this equipment when the following requirements are fulfilled: (1) The electrical installation in the respective room corresponds to the specifications stated in this manual and (2) This equipment is used, operated, and maintained according to this manual and Service Manual.
- ⑦ The manufacturer is not liable for damage caused by unauthorized tampering with the device(s). Such tampering will forfeit any right to claim under warranty.
- ⑧ This equipment may only be used together with accessories supplied by Huvitz.

If the customer makes use of other accessories, use them only if their safe usability under technical aspect has been proved and confirmed by Huvitz or the manufacturer of the accessory.

- ⑨ Only person who has undergone proper training and instructions are authorized to install, use, operate, and maintain this equipment.
- ⑩ Keep the User's Manual and Service Manual in a place easily accessible at all times for persons operating and maintaining the equipment.
- ⑪ Do not force cable connections. If a cable does not connect easily, be sure that the connector (plug) is appropriate for the receptacle (socket). If you cause any damage to a cable connector(s) or receptacle(s), let the damage(s) be repaired by an authorized service technician.
- ⑫ Please do not pull on any cable. Always hold on to the plug when disconnecting cables.
- ⑬ Before every operation, visually check the equipment for exterior mechanical damage(s) and for proper function.
- ⑭ Do not cover any ventilation grids or slits. Immediately turn off and unplug any equipment that gives off smoke, sparks, strange noises, or odors.
- ⑮ Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.
- ⑯ Don't move your hands into the working area during blocking, otherwise you may get a damage in your hands.
- ⑰ Keep to use LAN Port only in the inside building.
- ⑱ This machine might be impaired if used in a manner not specified by


manufacturer and this manual.



WARNING

- Be sure not to move the hands into the working area during blocking. Otherwise, the person may be seriously hurt.
- Be sure not to block without a block in the block holder, otherwise the lens may be broken or scratched.
- Be sure not to block when there is no lens on the lens supporter. Otherwise it may cause the malfunction of the product.
- The equipment should be properly installed and operated based on the instructions on this manual. If the power is turned on without unlocking the locking device like several styrofoams, it may cause the damage to the product and cause the malfunction of the product.
- Do not disassemble the product without the proper training. It may cause the electric shock, serious hurt during the operation or cause the malfunction of the product.
- Be sure the material of lens is matched with the job options selected in the display before starting the edging mode. Otherwise, it may cause the damage to the wheel and shorten the lifetime of wheel.
- The safety beveling for glass lenses should be performed both at front and rear side. Otherwise, it will cause the damage to the human skin.
- The product should be properly installed and maintained at the horizontally leveled place. Otherwise, it may affect the normal operation of the product.

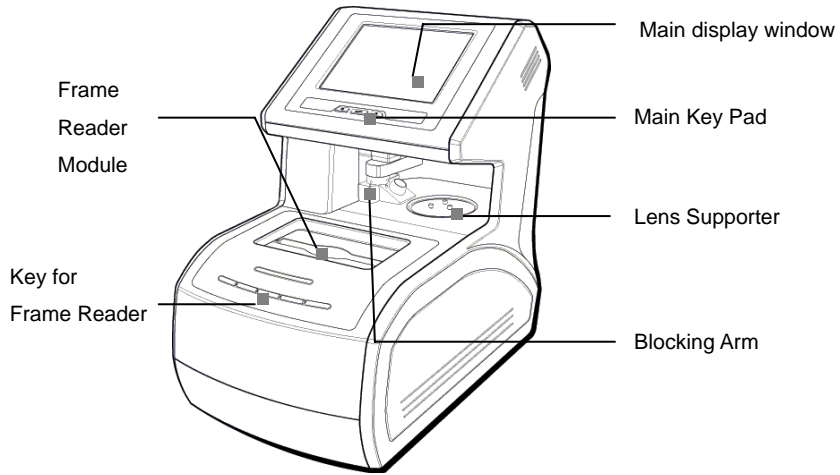
- Be sure that the stylus of frame reader is not interfered with the human body or other objects during the operation. Otherwise, it may cause the hurt or malfunction of the product.
- Do not force on the stylus of frame reader. It may cause the malfunction of the product.

 **CAUTION**

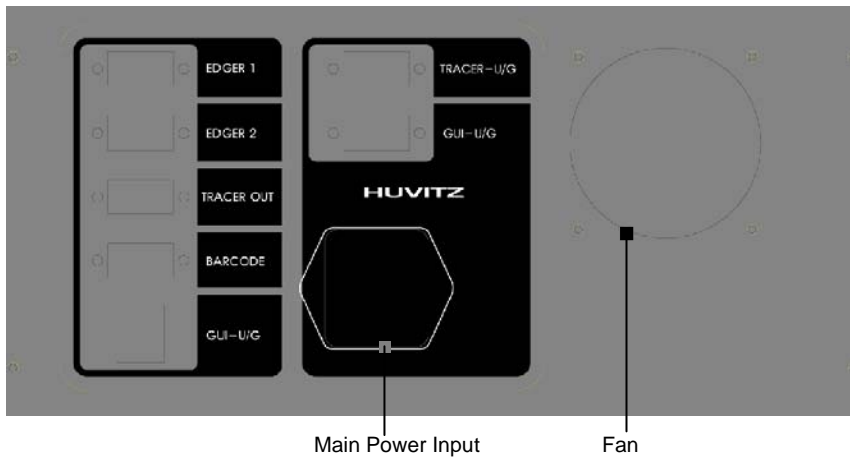
- In case of setting down the equipment, make sure not to be interfered with the obstacles. Setting down the product slowly in order to prevent the hurt of human body or damage to the product.
- When moving the equipment, make sure the locking device and the screw for the cover are properly tightened.
- In case of packaging the equipment, use the recommended packaging material and method in order to prevent the damage during the transportation.
- Be sure to use the standard accessories or tools provided together with the product for the maintenance. Otherwise, it may cause the malfunction of the product.

3. System Configurations

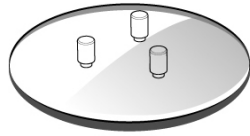
3.1 Front View



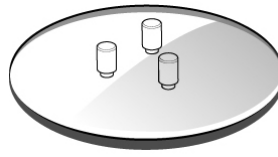
3.2 Rear View



3.3 Standard Accessory (Tool Box)



Lens Supporter



Lens Supporter
for Frame Change



Lens Supporter
For Digital Scanning



Standard Frame



Touch Pen



Standard Pattern



Pattern Holder

 **NOTE**

- Only Use 3M LEAP-III™ as the Block Tape in order to assure the proper axis positioning.
- In case of Super Hydrophobic Lens, use the specialized sticker in order to assure the proper axis position.

4. Installation Procedure

4.1 Installation

- ① Remove the shock-absorbing material from the packing box and pull out the auto blocker carefully.
- ② Remove the shock-absorbing material from the blocking arm and the workspace of Stylus.
- ③ Plug the Power Cable into the receptacle at the back of the product and turn on the power to check the initial operation.
- ④ If the initial operation works properly, connect Edger and Auto blocker by using 9-pin D-sub Crossed Interface Cable.

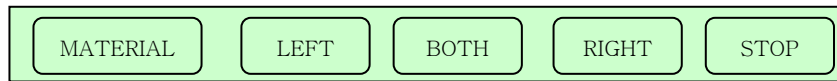


CAUTION

- Be sure to check the voltage selector underneath of the product before the power switch is ON.
- Be sure that the edger system of our company should be set to the blocker type. Otherwise, the transmitted data could be incorrect. Our edging system provides internally two type of external devices which are a tracer and a automatic blocker.

5. Operation

5.1 Frame Reader Module



- MATERIAL
 - Select one of METAL, PLASTIC or OPTYL.
 - Before the frame is traced, choose one of the above items.
 - The specified values are used in Edger for the size adjustment.
 - ☞ If the pattern or the demo lens are placed in the frame reader module, it automatically detects which one is placed on it.

- BOTH
 - Press this button for two eye tracing. This is only for frame tracing.
 - ☞ Usually one side tracing is used for the pattern or a demo lens.

- RIGHT
 - Press this button for right eye tracing.

- LEFT
 - Press this button for left eye tracing.
 - ☞ The one side traced data for pattern or a demo lens is copied symmetrically to the other side.

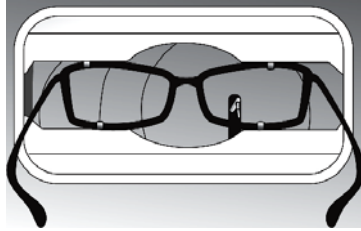
- STOP
 - Press this button to stop tracing.

Operation Tips

- Refer to the messages for the frame reader module which are shown the top of main display with beep sound. These messages enable you to take a next action.
- The data will be automatically transmitted after finishing the tracing.
- In case that the single side (R or L) is traced, the traced data will be automatically duplicated symmetrically to the other side to complete the job.
- Semi-Automatic Tracing Mode will be executed in case of pressing one of these three buttons, 'L', 'B' or 'R' for more than 3 seconds. It will be useful to trace the frame with the lopsided groove.

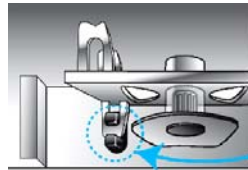
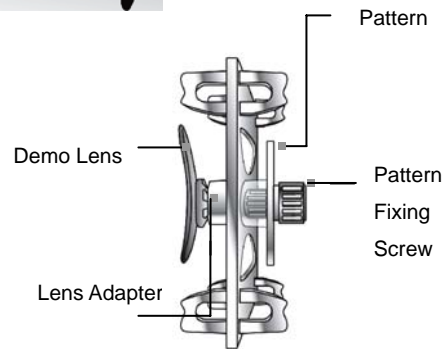
Frame Tracing

- ① Place the frame between the upper grippers and the lower grippers.
- ② Move the frame in order that the bridge of frame is located at the central position between the left and right side grippers.
- ③ Press the FRAME button to select the frame material(METAL,PLASTIC,OPTYL).
- ④ Press the Reading Button (B, R, L)

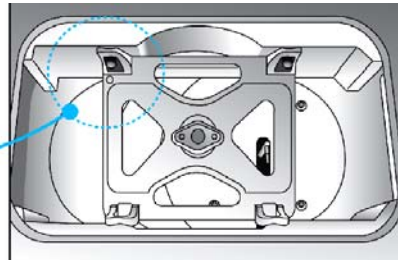


Pattern Tracing

- ① Block the pattern or demo lens at the approximate center of them.
- ② Place it to the Pattern Holder
- ③ Press the Reading Button (R, L)



[How to place the Pattern Holder to Gripper]

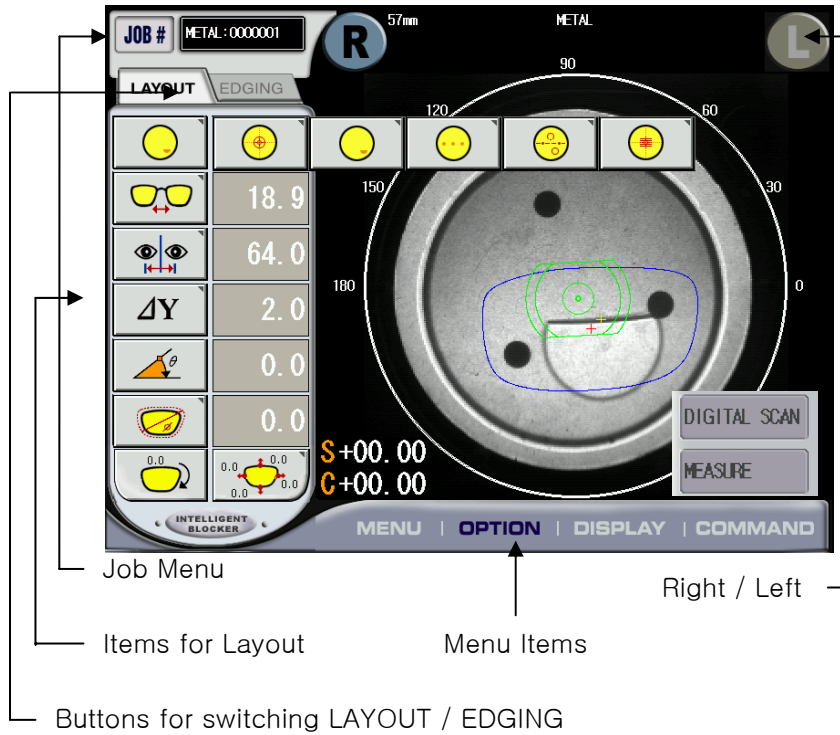


5.2 Blocker Module



BLOCKING

Numeric Pad



5.2.1 Key functions

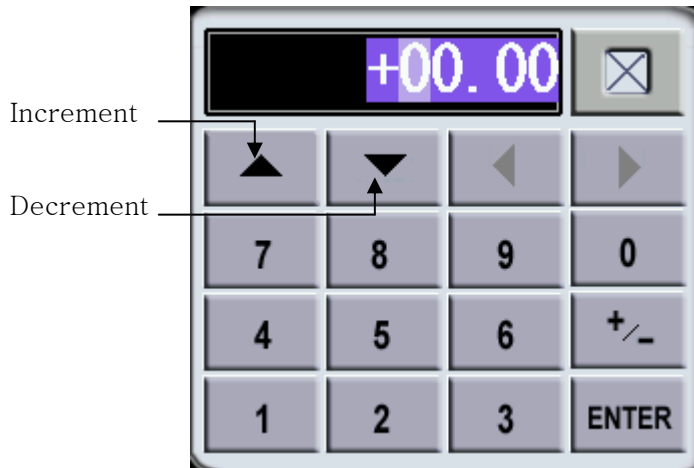
- BLOCK
Press this button to block the lens. If the option for the output to the edger is on, it sends data and then blocks the lens.
- ◀

	Function
Normal Mode	Decrease the led power
Grid Mode	Decrease the size of grid
Dialog Box Mode	Respond with a negative reply.

- ►

	Function
Normal Mode	Increase the led power
Grid Mode	Increase the size of grid
Dialog Box Mode	Respond with an affirmative reply.

5.2.2 Numeric value



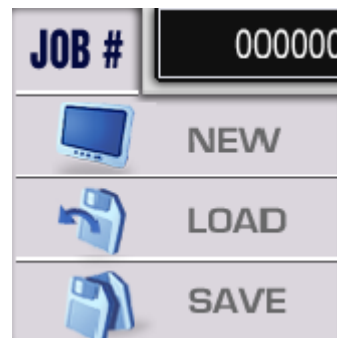
☞ The numeric pad is open if you press the digital value which you want to change.

- ENTER
Press this button to apply the changed value.
- +/-
Press this button to switch the sign of the value.

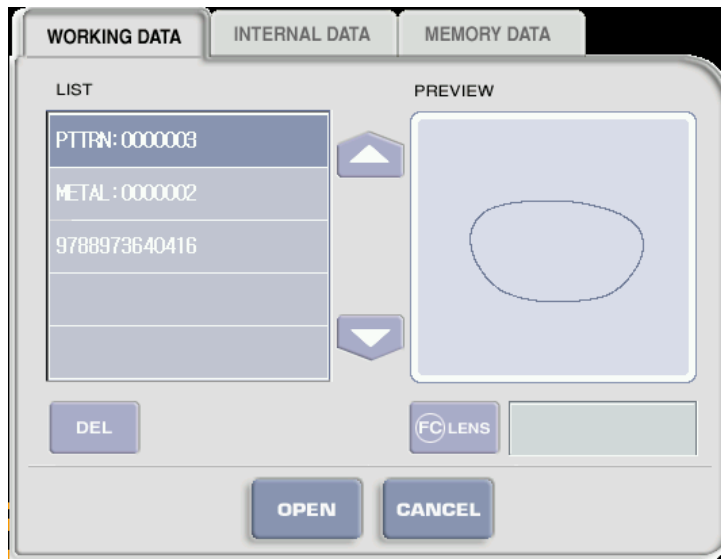
- ▲
Increase the value by the specified step.
- ▼
Decrease the value by the specified step.
- ◀
Move the cursor to the left side.
- ▶
Move the cursor to the right side.

5.2.3 Job Management

- NEW
Create new job.
- OPEN
Open the dialog box for the job management
- SAVE
Save the currently working job

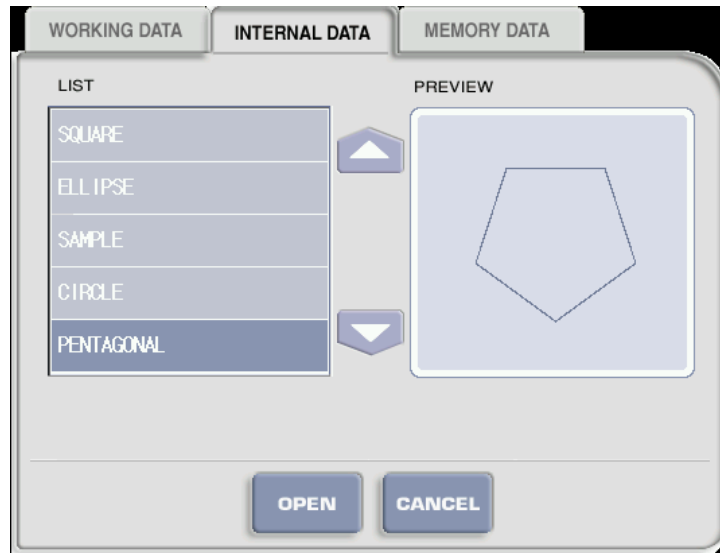


- Dialog Box for the job management
 - Working Job

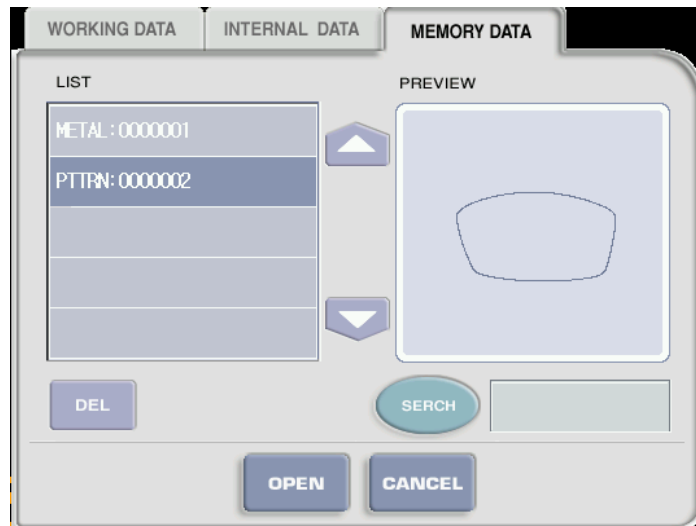


- ☞ Working Job is the job which is being loaded and edited by user. You can create a new working job from the frame reader, internal jobs, and also memory jobs.
- ☞ Maximum 15 working job are stored automatically at the non-permanent memory. That includes all information such as traced data, layout data, edging data, etc. You can retrieve it whenever you want to reuse.
- ☞ In case more than 15 job data is accumulated, this machine will delete the data job according to First In First Out basis.

- Internal Job



- Memory Job



☞ There are SQUARE, ELLIPSE, SAMPLE, CIRCLE, and PENTAGON in the internal

job.

5.2.4 Command Menu

- MENU

- USER MENU
Go into the display of user option.
- FACTORY MENU
Go into the display of factory settings.
- USER MENU
Go into the display of calibration.

- OPTION

- BOX CENTER / OPTICAL CENTER
Choose the style of blocking.
- RL JOINT
Turn on/off the synchronization of both sides' values.
- AUTO LENS TYPE
Turn on/off the automatic recognition of lens type.
- AUTO BRIGHTNESS
Turn on/off the automatic brightness function.


- DISPLAY

- SCALE 1x / 2x
Switch the image scale 1x or 2x.
- C Sign +/-

Transpose the sign of the cylindrical value.

**CAUTION**

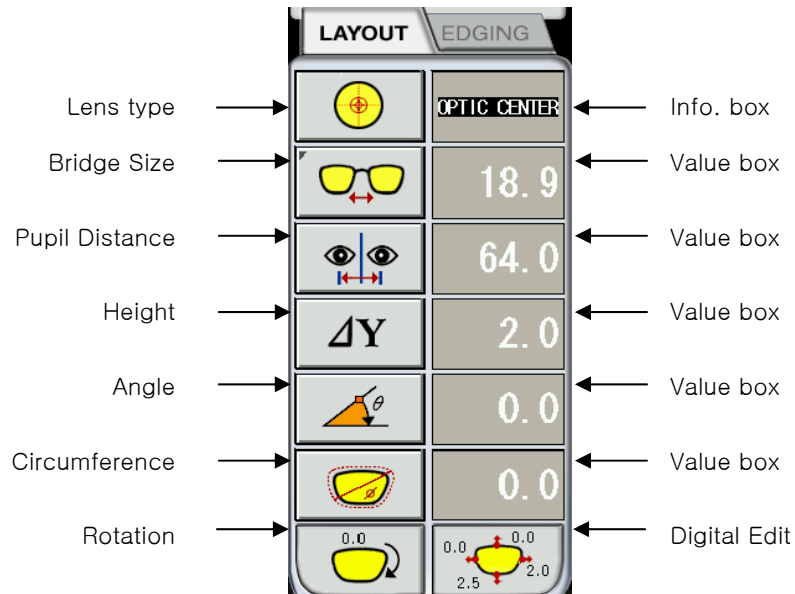
- The CYL sign and the CYL axis of your prescription should be matched with those of the main display. Otherwise, the prescription axis could be incorrect

- GRID
Display or Hide the grid
 - COMMAND
 - MEASURE
Execute the lens analysis about SPH, CYL, AXIS and the center of it.
 - DIGITAL SCAN
Execute the digital scanning.
-  To do the digital scanning, change from the normal lens supporter to the lens support without legs. And then place the lens on it.

5.3 Design of spectacles


5.3.1 LAYOUT

You should specify the lens type, bridge size, pupil distance and the optic height, etc at the layout display.



- Lens type

Choose the type of the lens.

-  - the normal lens without 3 marking spots
- measure sph, cyl, axis and the center of lens


WARNING

- Be sure not to touch the lens after the measurement is completed. Otherwise, the pupil distance isn't correct the lens blocked.
- If the lens move any place a little after finishing the measurement, try to measure it again. That makes the center of lens recalculated.



- the bifocal lens : flat type and blending type
- measure the center and the orientation of the lens



- the normal lens with 3 marking spots
- normally used for the demo lens without the power



- the progressive lens
- measure the eye point and the orientation of the lens



- locate the lens manually.
- the exactly same way as you do in a manual blocker.

- Bridge size / Frame Distance

Set the bridge size or the frame size






- the bridge size
- normally used for the one-side reading, the demo lens and the pattern.



- the frame size
- calculated automatically after reading the frame.



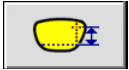
- Pupil Distance

Set the pupil distance

-  - Set the pupil distance for both eyes
- binocular
-  - Set the singular pupil distance for the right eye
- monocular
-  - Set the singular pupil distance for the left eye
- monocular


- Eye Height

Set the Eye Height

-  - Set the delta Y
- Set the offset from the box center.
-  - Set the boxed height.
- OH based on the distance between the optical center and the bottom line of a frame.
-  - Set the mixed height.
- OH based on the intersection with the frame and the vertical line of the optical center.

- AXIS

Set the prescription axis

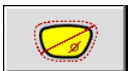
-  - Set the prescription axis

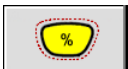
 **CAUTION**

- The CYL sign and the CYL axis of your prescription should be matched with those of the main display. Otherwise, the CYL axis fitted could be incorrect

- Resize : Digital Edit

Set the resize.

-  - diameter enlargement
-

-  - Circumference enlargement
-

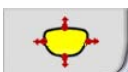
- Rotation : Digital Edit

Set the rotation.

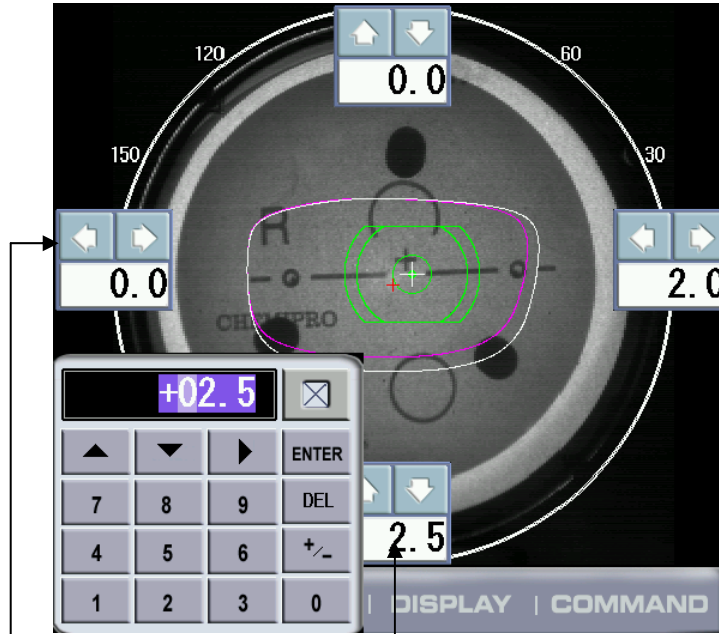
-  - set the rotating angle.
-

- Free Editing

Go into the free editing mode.

-  - Go into the free editing mode.
- Finish the free editing.

- Free Editing Mode

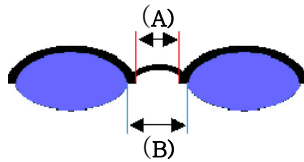



Arrow buttons for resizing

Pop up the Numeric Pad



 **NOTE**

- In case of Two Eye Tracing, the value of FPD will be automatically transmitted and displayed.
- In case of pattern tracing, be sure to change the initial value to the actual Bridge Size.
- Measure the Bridge Size as (B) instead of (A). Remember that the Bridge Size is not from frame to frame, but from lens to lens,





-  The saved frame data is stored in the internal permanent memory. You can retrieve it at the 'Job Management Dialog box'. Maximum 1,000 jobs data can be saved.

 **NOTE**

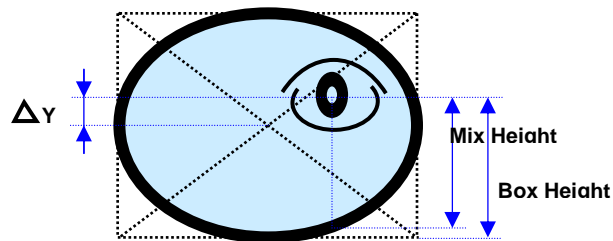
- Be sure to execute Boxing Center for the followings.
 - ☞ PD is in eccentric position
 - ☞ Horizontally Wide Frame
 - ☞ Super Hydrophobic Lens or Ultra Hi-Index Lens
- In case of Layout with Monocular PD   , be sure to cancel Right/Left Synchronization .

Operation Tips

- In case of One Eye Tracing, it is recommended to input the Bridge Size  instead of FPD.
- If you get the tracing data with tilted axis of Pattern (Demo Lens) or if you want to change the axis of rimless frame, the axis rotation () of Digital Pattern will be very much convenient for the Layout Job.



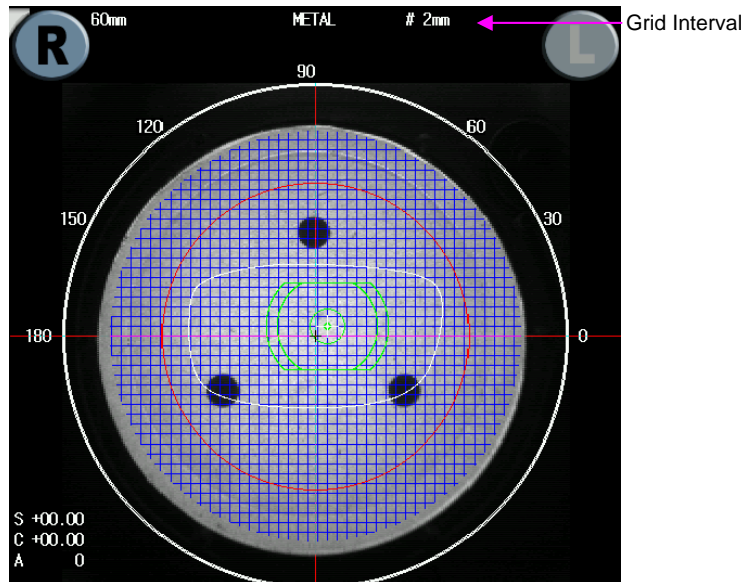
- The exact meaning of the mix height and the box height is as following:



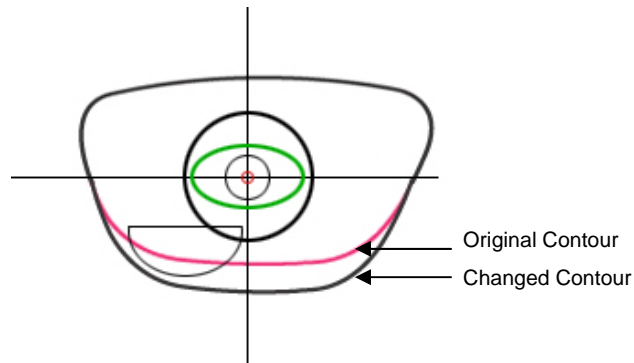
- It is so important to measure the optical height of the patient precisely when edging a progressive lens. Sometimes, too short optical height might cut out the near vision area.
- For the half-framed lens or the rimless lens, the digital pattern provides the convenient reformation. The redesign of the frame shape could be done easily using the digital pattern.
- For the bi-focal lens or the progressive, the digital pattern makes the near vision

area included within the frame. Sometimes too small frame shape might cut out the near vision area. In this case, the digital pattern provides the enlargement of the frame shape.

- ! You can execute the Frame Tracing while designing the layout and the edging. The received frame data is accumulated in the working job pool. You can retrieve it through the job management dialog box.
- ! In the layout mode, if you press DISPLAY >> GRID button, grids will be shown on the screen. Using this grid ruler, you can identify the dimension of each elements such as the size of frame, the distance from the far vision center to the near vision center and the size of near vision area and so on. And also you can change the interval of the grid by pressing ◀ or ▶ keys.



! In digital pattern editing, if you change one of the changeable elements, the original data will be shown with violet color.

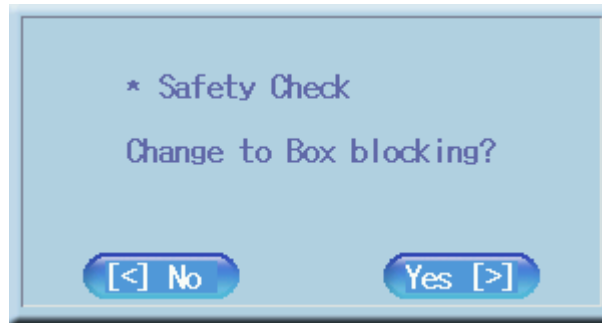


! The following two safety checking is executed before blocking an adaptor in case that the safety checking is on in the configuration settings.

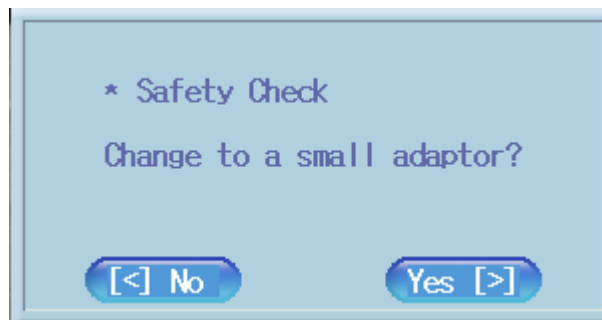
- Lens Adapter interference
- PD eccentricity

! If there is any problem while executing the safety check, warning messages will be displayed with some dialog box. According to the guides of these warning message, you can correct easily the problem. The followings are the meaning and the solution guide of these warning messages.

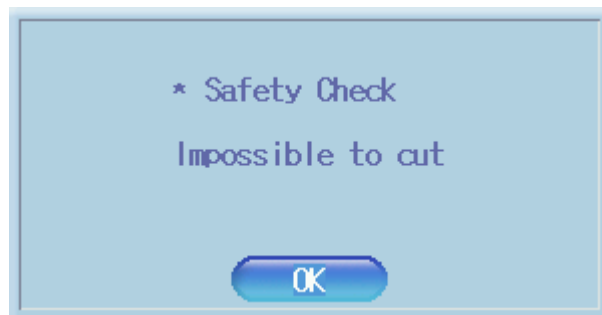
- Lens Adapter Interference (I)
 - ⇒ Use the Boxing center mode instead of the Optical center mode



- Lens Adapter Interference (II)
⇒ Use small lens adaptor.

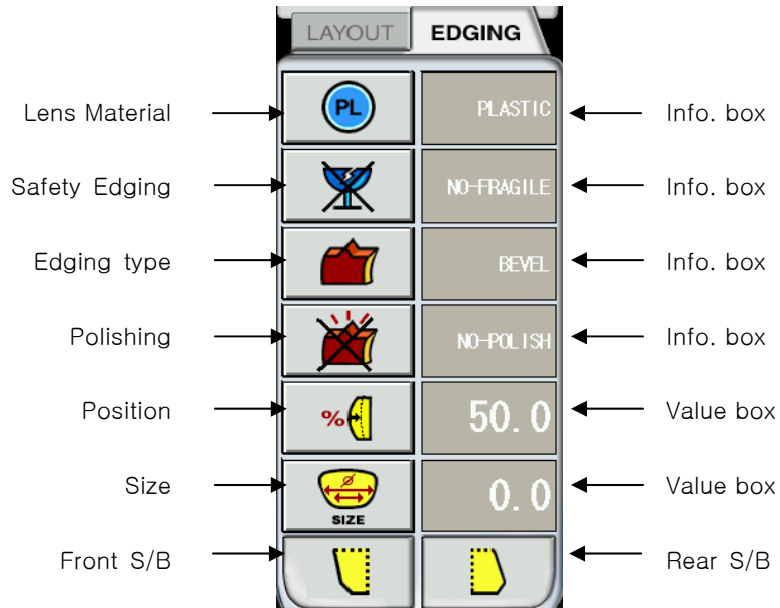


- Lens Adapter Interference (III)
⇒ Edging impossible. Use different frame data.



5.3.2 Edging


You should specify the lens material, the edging type, and the position of edging, etc, at the edging display.






- Lens material

Choose the material of the lens.

-  - plastic
-  - Glass



 Grooving and Polishing is not available for the Glass Lens. Be sure the


material of lens is matched with the job options selected in the display before starting blocking.

-  - Polycarbonate
-
-  - Hi-Index Lens
-
-  - Tri-Vex lens

• Safety Edging

Choose one of the normal edging and the safe edging.

-  - non-safety edging
-
-  - safety edging
- for the fragile lens like a glass material

 Be sure to carry out the Edging Process in Fragile Mode in case the lens may be broken or the axis may be tilted during the edging process.

• Edging Type


Choose one of Beveling, Grooving and rimles.

-  - Beveling
- for a frame
-  - Grooving
- for a half-frame



- Flat Edging
- for a rimless spectacles



In case of Semi-Rimless Edging , the grooving depth and width can be adjusted by changing the default value in "Edging Default" Menu.

• Polishing

Choose one of polishing and non-polishing.



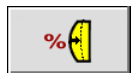
- No polishing



- Polishing

• Edging position

Choose one of the front side %, the front side mm, the rear side mm, and the base curve.



- The front side %
- Ratio (%) from the Front side of the lens



- The Front side mm
- Distance (mm) from the Front side of the lens



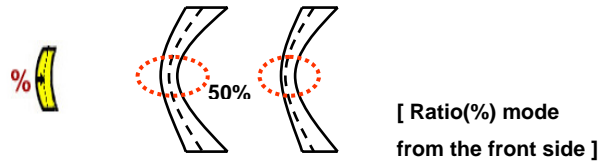
- The rear side mm
- Distance (mm) from the Rear side of the lens



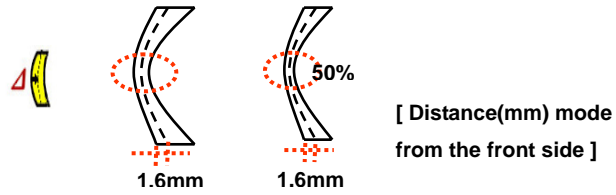
- The base curve
- Adjust the position according to the Lens Base

Operation Tips


- The value of the edging options affects the final output as followings :




- Like the above picture, if the operator use ratio(%) mode from the Front side about a so thin lens, the machining of the thinnest part could be dangerous.

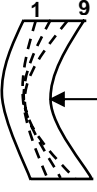


- Using the distance(mm) mode from the front side, you can set the specific distance, However, if the thickness of the thin area is less than the double of the designated value, the machine internally forces it to be machined by the 50% of the thickness at the thin position.



NOTE



Base
Curve



Base
Curve
(-) lens




Base
Curve
(+) lens

[Base curve mode]

- In the base curve mode, base curves of (+) lenses and (-) lenses exist the opposite side of each of them. In this mode, the bevel or grooving line always passes the mid of the thinnest area which is located at the midst zone of (-) lenses and is located at the edged zone of (+) lens. And much bigger position value makes the curve closer to the base curve.



• Size

Set the size adjustment

- 
 - The size adjustment
 - Frame Material, Lens Material and Lens Thickness may affect the quality of Lens Fitting. You can apply some size adjustment using this value in advance.


• Front Safety Beveling

Choose the safety beveling of the front side.

- 
 - The front safety beveling
 -
- 
 - no Safety beveling

- Rear Safety Beveling

Choose the safety beveling of the rear side.

-  - safety beveling(normal)
-  - safety beveling(Large)
-  - no safety beveling

**CAUTION**

- The safety beveling for glass lenses should be performed both at front and rear side. Otherwise, it will cause the damage to the human skin.


**NOTE**

- Press the FC button at CPE-4000 machine to do the job of frame change. That makes the feeler read more inside position than that of designed. You can see the FC icon at the display after doing so

5.4 Blocking

The procedures for blocking are as followings :

- a. Stick the tape on the lens adaptor.
- b. Insert the lens adaptor into the lens adaptor setter.
- c. Press the "BLOCK" key.
- d. First, try to send data to the external edger system if this exporting function is ON.
- e. Block the lens after completing the communication.

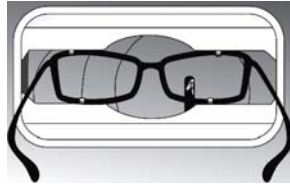
 CAUTION
<ul style="list-style-type: none">• To prevent the distortion of axis, you should put stickers for blocking of hydrophobic lenses. Stickers are provided by lens manufacturers. Otherwise, we do not guarantee the quality of the stickers.• Be sure to use the new Tape or Sticker and remove the wet from the Lens surface.

5.5 Usage for the different types of lenses

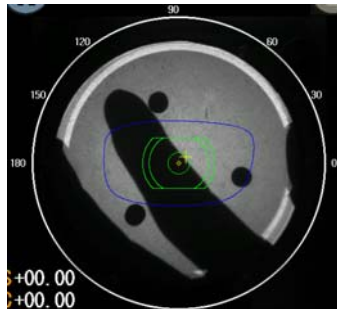
We'll explain you the blocking procedures for the different types of lens such as a normal lens, a bi-focal lens, a progressive lens and an unusual lens from now on. We'll add some tips such as the Digital Scanning, the Digital Pattern and the auto recognition etc, at the same time.

5.5.1 Optic lens

Step 1. Place a frame at the gripper of the tracer module.

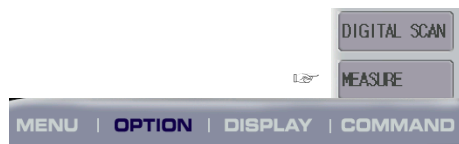


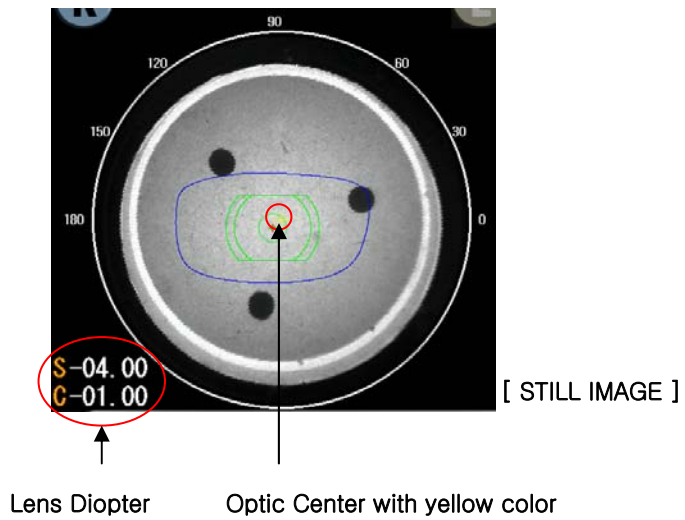
- Step 2. Press one of BOTH or **RIGHT**, **LEFT** keys to start reading.
- Step 3. Press the **NEW** item of **JOB** menu at the main LCD display.
- Step 4. Put a lens on a lens supporter.



[LIVE IMAGE]

Step 5. Press the **MEASURE** button at the **COMMAND** menu to check the optic center and the lens powers after receiving the frame from a tracer module.



**NOTE**

- The live image will be changed to the still image after pressing the **MEASURE** button. That's why that the read frame is always displayed horizontally parallel regardless of the location and the orientation of the lens.

CAUTION

- Make sure that don't touch a lens after finishing measuring it. Even if you did so, make sure to press to the **MEASURE** button again to check the optic center again.

Step 6. Change a PD and an optic height if necessary.

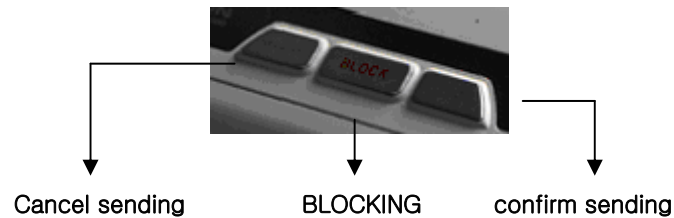
NOTE

- If you press the numeric area of a PD or an optic height one time, the focus is set on there. You can change a PD and an optic height by pressing RIGHT and LEFT arrow keys at this moment. You can see concurrently the effect of changing PD or an optic height. Or, if you press those area one more time, the numeric pad is popped up.

Step 7. Change an edging type if necessary.



Step 8. Press **BLOCK** key, and then press a **RIGHT** key to send the data to an edger.



Step 9. Clamp the blocked lens at a edger and press **START** key to start edging.

Step 10. Repeat from Step 4 to Step 9 for the opposite side lens.

CAUTION

- If there is a job with the same job id when a edger receive a job data from a blocker, the edger just apply with only the data of the active side at the transmitting blocker

5.5.2 Progressive lens including the Digital Scanning

NOTE

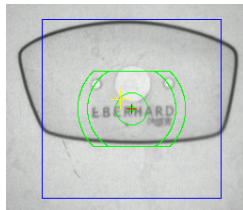
- You can use a pattern jib to read the pattern or the demo lens as you did in the past. But, this paragraph explains you how to use the Digital Scanning, and how convenient it is.

Step 1. Change to the lens supporter for the digital scanning.

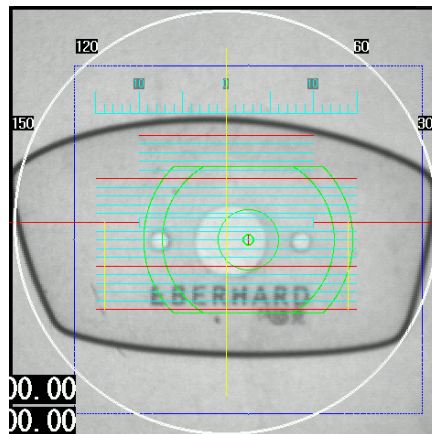
Step 2. Change to the Manual Mode, or load the internal square pattern to put a demo lens horizontally.

NOTE

- You can place a demo lens more accurately horizontal using the horizontal lines in the Manual mode or the square pattern.
- You can place a domo lens accurately at the Manual mode with 2x scale. But, go back to the normal scale to execute the Digital Scanning.
- When you do the Digital Scanning, keep a demo lens horizontally parallel, but, don't care the location of it.



[In a square pattern]

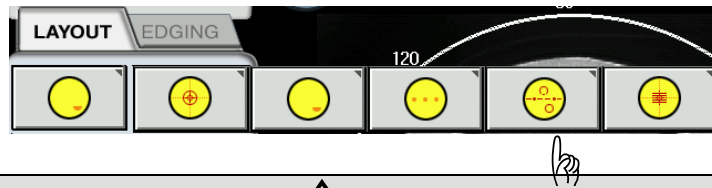


[In Manual Mode with 2x scale]

Step 3. Press DIGITAL SCAN item of the COMMAND menu to read a frame.

Step 4. Change to the normal lens supporter.

Step 5. Put a progress lens on a lens supporter and then change to the Progressive Mode.

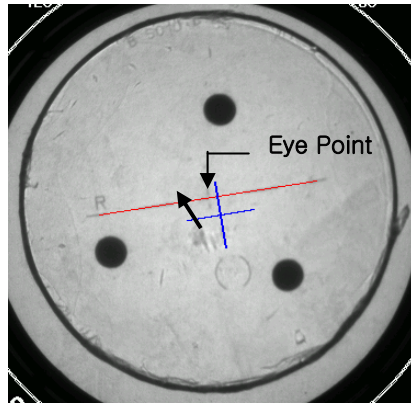


CAUTION

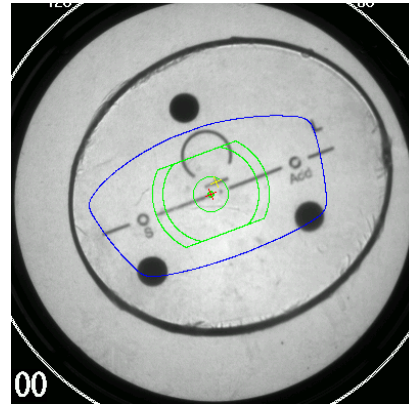
- Put a progressive lens that its far vision area is toward upside. Nowadays, there are a lot kinds of customized progressive lenses, this machine can't decide arbitrary the far vision of that. Therefore this is mandatory for operators.

NOTE

- If there are all components which are a horizontal line, a cross marker for eye point, and an arc for far vision, this machine can detect the eye point of it automatically. There is no need for you to do anything.
- If a cross marker for eye point or an arc for far vision aren't perfect, this machine just show you the horizontal line of it. You can teach the eye point by dragging a cross marker using a finger or a touch pointer.



[Semi-Automatic]



[Automatic Detection]

Step 6. Change a PD and an optic height if necessary.

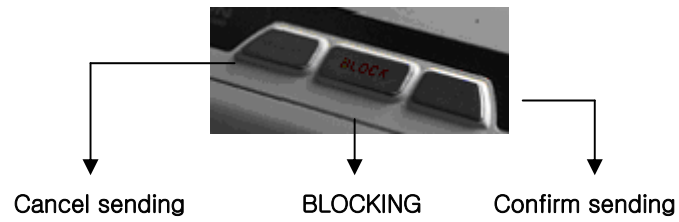
NOTE

- If you press the numeric area of a PD or an optic height one time, the focus is set on there. You can change a PD and an optic height by pressing RIGHT and LEFT arrow keys at this moment. You can see concurrently the effect of changing PD or an optic height. Or, if you press those area one more time, the numeric pad is popped up.

Step 7. Change a edging type if necessary.



Step 8. Press **BLOCK** key, and then press a **RIGHT** key to send the data to an edger.



Step 9. Clamp the blocked lens at an edger and press **START** key to start edging.

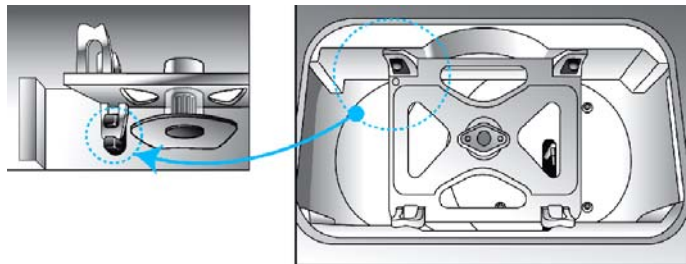
Step 10. Repeat from Step 5 to Step 9 for the opposite side lens

CAUTION

- If there is a job with the same job id when a edger receive a job data from a blocker, the edger just apply with only the data of the active side of the transmitting blocker

5.5.3 Bi-focal lens including the Digital Pattern

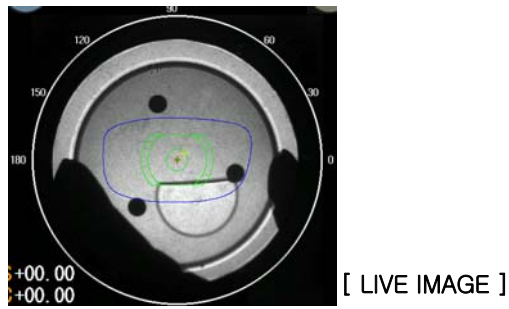
Step 1. Place a frame or a pattern jig at the gripper of the tracer module.



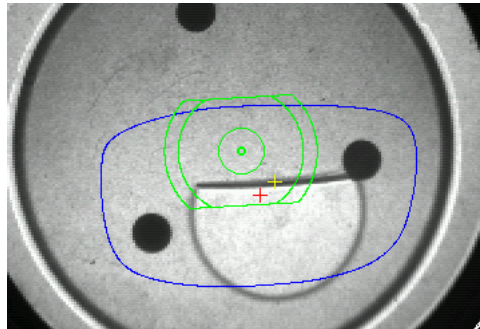
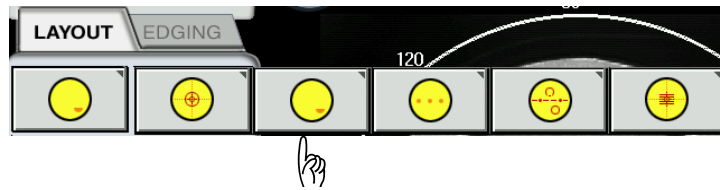
Step 2. Press one of **BOTH** or **RIGHT**, **LEFT** keys to start reading.

Step 3. Press the **NEW** item of **JOB** menu at the main LCD display.

Step 4. Put a lens on a lens supporter.



Step 5. Change to the Bi-Focal Mode.



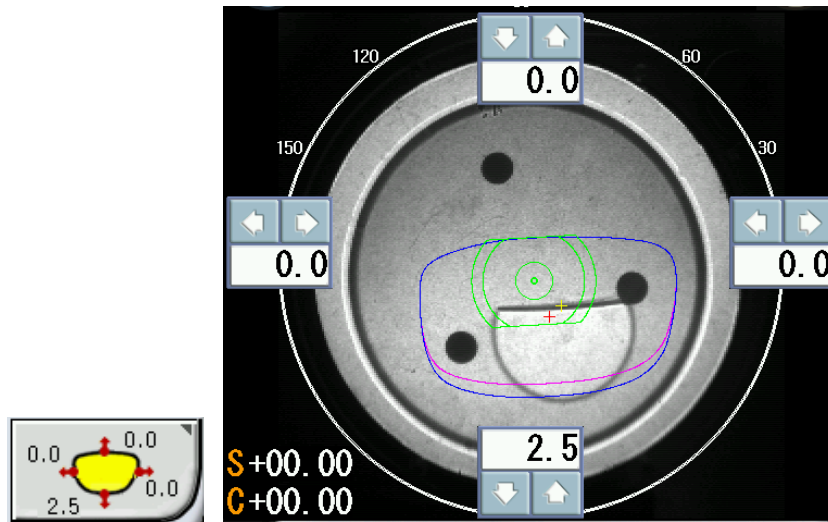
[Optical Blocking for a Bi-focal lens]

Step 6. Change a PD and an optic height if necessary.

! NOTE
<ul style="list-style-type: none"> If you press the numeric area of a PD or an optic height one time, the focus is set on there. You can change a PD and an optic height by pressing RIGHT and LEFT keys at this moment. You can see the effect of changing PD or an optic height concurrently. Or, if you press those area one more time, the numeric pad is popped up.

! CAUTION
<ul style="list-style-type: none"> The Optical Blocking is usually used for a bi-focal lens to prevent a lens tilting during edging.

Step 7. You can change a frame shape using the Digital Pattern if you need.



[Icon of Digital Pattern]

[Digital Pattern]

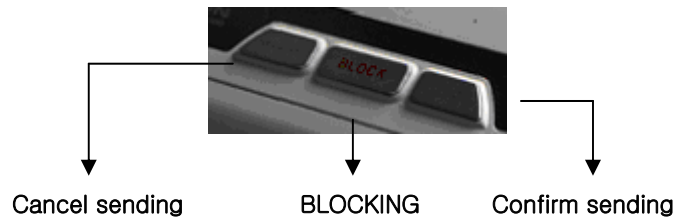
CAUTION

- You can start or finish the Digital Pattern by pressing the icon of the Digital Pattern
- The Digital Pattern enables you to change a frame shape. You can enlarge the shape to include the near vision area of bi-focal lens or progressive lens. Or, You can fit the shape to be in harmony with the face of a patient.
- You can change the shape along 4 directions separately using arrow buttons and a numeric pad.

Step 8. Change an edging type if necessary.



Step 9. Press **BLOCK** key, and then press a **RIGHT** key to send the data to an edger.

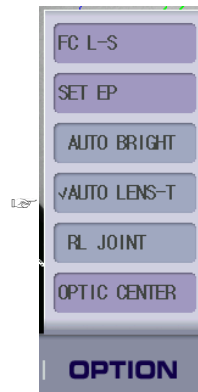


Step 10. Put the clamped lens at a edger and press **START** key to start edging.

Step 11. Repeat from Step 4 to Step 10 for the opposite side lens

5.5.4 Auto recognition of lens type

You don't need to press the button of lens type if you turn on the function of auto recognition.



This machine detects the lens type of a lens with a few seconds, and shows you a prompt message at the top of the display.

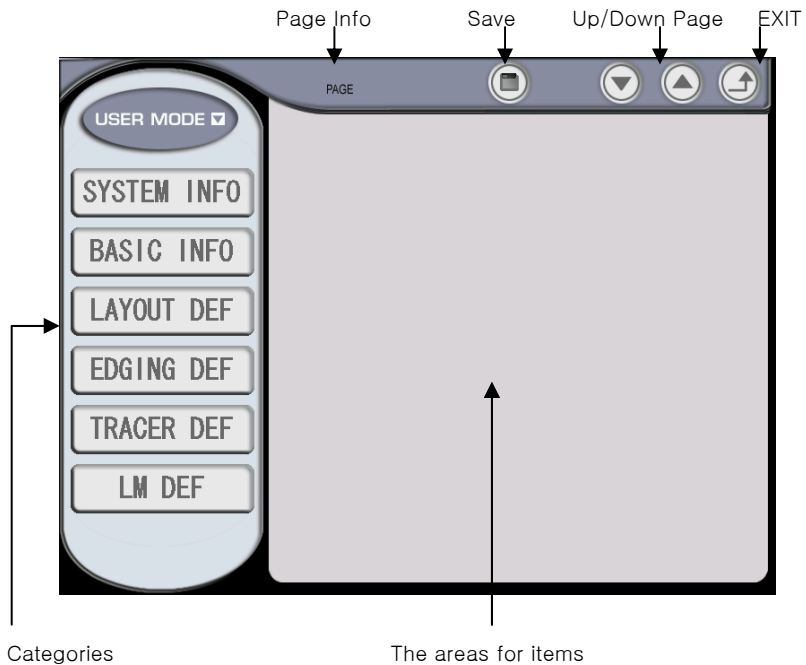


[Prompt Message]

The following procedures for blocking and edging are same with as described previously.

6. User Menu

If pressing MENU >> USER MENU, you can go into the User Menu display. User Menu consists of SYSTEM INFO, BASIC INFO, LAYOUT DEFAULT, EDGING DEFAULT, TRACER DEFAULT and LENS METER DEFAULT.



- Categories
categories for user options.
- The areas for items
The container which includes all items for every category.
- Save
The Save button saves the changed data.

- Up/Down Page
The Up/Down Page enables to move the previous page or the next page if exists.
- EXIT
The EXIT button enables to return to the previous page.

6.1 System Info

S/W Version	Ver 0.00.32
S/W Image Version	0.01.01A
EEPROM Version	03.02.02
Manufacturing ID	07112001
Frame Reader	V1.63 ^071106

- Main S/W Version
The version of the main GUI board
- Image Version
The version of the image resource
- EEPROM Version
The Up/Down Page enables to move the previous page or the next page if exists.
- Manufacturing ID
The identical number of manufacturer

- Frame Reader
The version of a tracer module

6.2 Basic Info

Language	English	▼
Edger1 I/F	On	▼
Edger2 I/F	Off	▼
Auto Brightness	Off	▼
Auto Recognition	On	▼
R/L Joint	On	▼
Grid Display	Off	▼
Safety Check	On	▼
Used Adaptor	NORMAL	▼

- Language
Select the language.
- EDGER1 I/F
Turn on or off the communication with EDGER 1

- EDGER2 I/F
Turn on or off the communication with EDGER 2
- Auto Brightness
Turn on or off the function of the auto brightness for the light source.
- Auto Recognition
Turn on or off the function of the lens recognition which decides automatically the lens type such as normal lens, bi-focal lens, progressive lens and so on.
- R/L Joint
Turn on or off the function of the R/L synchronization.
- Grid Display
Turn on or off the display of grid.
- Safety Check
Turn on or off the Safety Check
- Use Adaptor
Select the type of a adaptor which is being used currently.

Power Save	On 
Waiting Time	3

- Power Save
Turn on or off the Power Save
- Waiting Time
Set the waiting time for the Power Save.

6.3 LAYOUT DEF

PAGE : 1 / 2

Default Side	RIGHT
Default Vision Mode	FAR
Blocking Mode	Boxing Center
PD(Pupil Distance)	
PD Type	BOTH PD
Bridge Size	19.0
Both PD	64.0
Single PD	32.0

- Default Side
Select the default side for a new job.
- Default Vision Mode
Select the default lens type for a new job.
- Blocking Mode
Select the default block mode for a new job.
- PD Type

Select the default input style for the PD value

- Bridge Size
Set the default bridge size for a new job.
- Both PD
Set the default binocular PD for a new job.
- Single PD
Select the default monocular PD for a new job.

HEIGHT	
Type	DELTA Y 
Delta Y	2.0
Boxed Height	10.0
Mixed Height	10.0
Bifocal Blocking Offset	
Vertical	5.0
Horizontal	5.0
Diameter	24.0

- HEIGHT > Type
Select the default input style for the optical height

- HEIGHT > Delta Y
Set the default Delta Y for the optical height

- HEIGHT > Boxed Height
Set the default Boxed Height for the optical height

- HEIGHT > Mixed Height
Set the default Mixed Height for the optical height

- Bi-Focal Blocking Offset > Vertical
Set the default vertical offset for the optical center of bi-focal.

- Bi-Focal Blocking Offset > Horizontal
Set the default horizontal offset for the optical center of bi-focal.

- Bi-Focal Blocking Offset > Diameter
Set the default diameter for the near vision of bi-focal.

6.4 EDGING DEF


(1/5)

Lens Material	Plastic	▼
Edging Type	Bevel	▼
Polish at Bevel	Off	▼
Polish at Rimless	Off	▼

- Lens Material
Set the default lens material
- Edging type
Set the default Edging type
- Polish at Bevel
Set the default setting of Polish for a bevel job
- Polish at Rimless
Set the default setting of Polish for a rimless.

(2/5)


Beveling

Type	Basecurve 
Default Value of Percent	50.0
Default Value of Front	1.6
Default Value of Rear	1.6
Default Value of Basecurve	3

- Type
Set the default setting of the position type for a bevel job
- Default Value of Percent
Set the default value of position for a bevel job

(3/5)

Grooving

Type	Basecurve 
Default Value of Percent	50.0
Default Value of Front	1.6
Default Value of Rear	1.6
Default Value of Basecurve	5
Depth	0.4
Width	0.6

Set the default settings or values for a grooving job.

(4/5)

Safety Beveling

Beveling	Off	▼
Rimless	Off	▼
Type	Front & Rear	▼
Default Value of Front	0.2	
Default Value of Rear Small	0.3	
Default Value of Rear Large	0.5	

Set the default settings or values for a safety beveling job.

(5/5)

Blocking Calibration for a normal lens	
X value in the right side	<input type="text" value="0.0"/>
Y value in the right side	<input type="text" value="0.0"/>
X value in the left side	<input type="text" value="0.0"/>
Y value in the left side	<input type="text" value="0.0"/>
Blocking Calibration for a marked lens	
X value in the right side	<input type="text" value="0.0"/>
Y value in the right side	<input type="text" value="0.0"/>
X value in the left side	<input type="text" value="0.0"/>
Y value in the left side	<input type="text" value="0.0"/>

- Blocking Calibration for a normal lens
Set the value for adjusting the position of blocking for a normal lens. The unit is mm.
- Blocking Calibration for a marked lens
Set the value for adjusting the position of blocking for a progressive lens, a bi-focal lens, and 3-dot lens. The unit is mm.

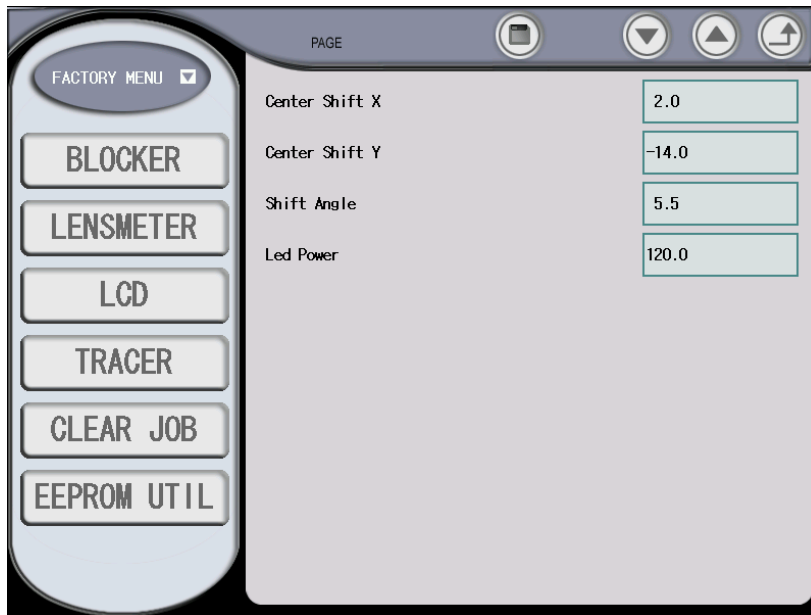
6.5 LENSMETER DEF

Cyl Display Format	MIXED	▼
Lens Supporter	Normal	▼
Diopter Step	001	▼
Valid Diopter	0.08	
Temperature Tol	0.12	
Prism Tolerance	4.0	

- Cyl Display Format
Set the default format for displaying the cylindrical power.
- Lens supporter
Set the default lens supporter which you use.
- Diopter Step
Set the Diopter Step for displaying a lens power.
- Valid Diopter
Set the valid value in displaying a lens power. If the power is less than this value, it'll be shown to 0.00D.
- Temperature Tol
Set the tolerance of the power calculated during start-up.
- Prism Tolerance
Set the prism Tolerance during start-up. The unit is pixel.

7. Factory Menu

If pressing MENU >> FACTORY MENU, you can go into the Factory Menu display. Factory Menu consists of BLOCKER, LENS METER, LCD and TRACER.



7.1 Blocker

- Center Shift X
Set the mechanical offset x of the block adapter. This value is used to adjust a mechanical error. Don't change this value by yourself.
- Center Shift Y
Set the mechanical offset y of the block adapter. This value is used to adjust a mechanical error. Don't change this value by yourself.

- Shift Angle
Set the mechanical angular error of the block adapter. This value is used to adjust a error of a mechanical error. Refer to Section 9.4
- LED Power
Set the LED Power for the observation channel. Don't change it by yourself.

7.2 Lensmeter

Center Shift X	2.0
Center Shift Y	-14.0
Shift Angle	5.5
Led Power	120.0

- Center Shift X
Set the mechanical offset x of the lensmeter center. This value is used to adjust a mechanical error. Don't change this value by yourself.
- Center Shift Y
Set the mechanical offset y of the lensmeter center. This value is used to adjust a mechanical error. Don't change this value by yourself.
- Shift Angle
Set the axis error of the lensmeter. This value is used to adjust a error of a cylindrical axis. Refer to Section 9.6
- LED Power
Set the LED Power for the lensmeter channel. Don't change it by yourself.

7.3 EEPROM

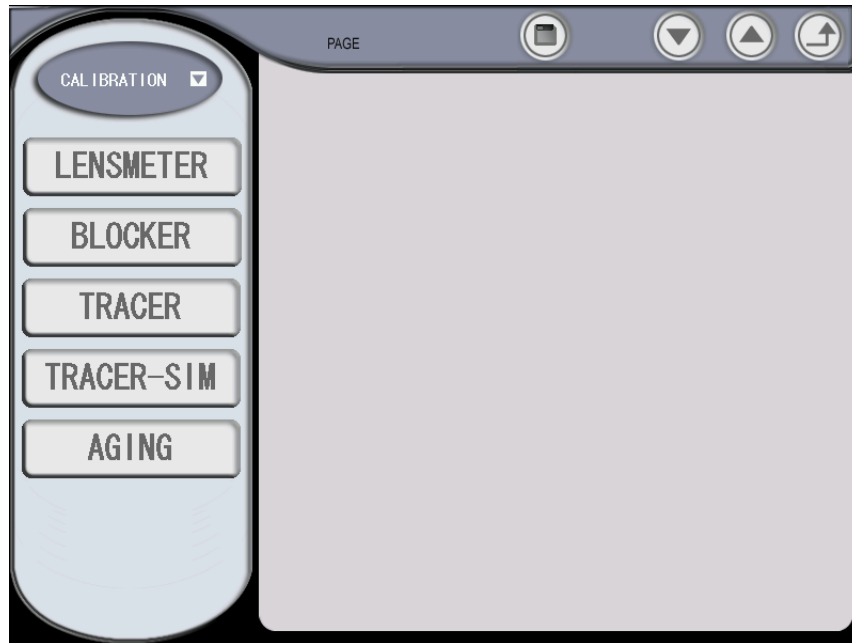
FACTORY BACKUP	[V]
USER BACKUP	[]
BACKUP FACTORY DATA	→
BACKUP USER DATA	→
RESTORE FACTORY DATA	←
RESTORE USER DATA	←

- FACTORY BACKUP
Show if there is a factory backup or not
- USER BACKUP
Show if there is a user backup or not
- BACKUP FACTORY DATA
Save a current eeprom data into the flash memory. Don't press this button by yourself.
- BACKUP USER DATA
Save a current eeprom data into the flash memory. If you want to save a current eeprom data, press this button.
- RESTORE FACTORY DATA
Set the factory backup data to a current eeprom data.
- RESTORE USER DATA

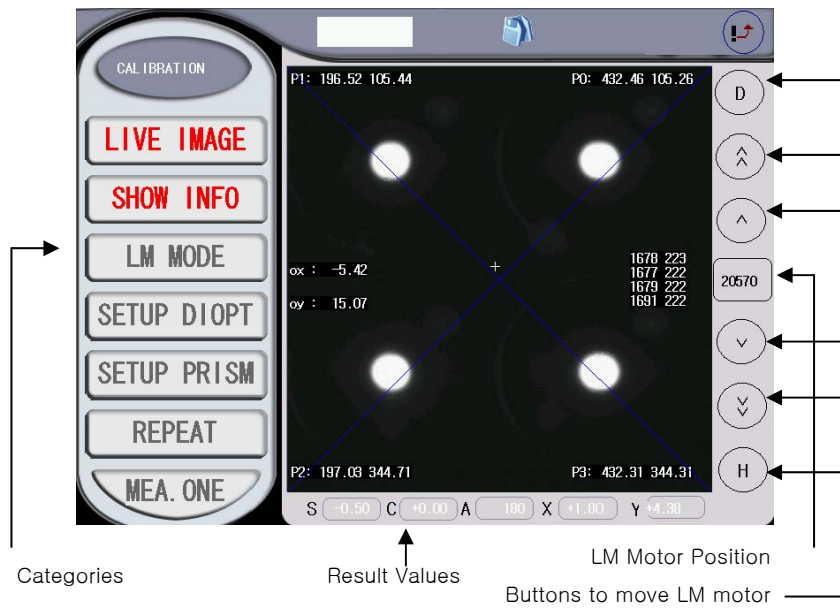
Set the user backup data to a current eeprom data.

8. Calibration Menu

If pressing MENU >> Calibration MENU, you can go into the Calibration Menu display. Calibration Menu consists of BLOCKER, LENSMETER, TRACER, TRACER-SIM and AGING.



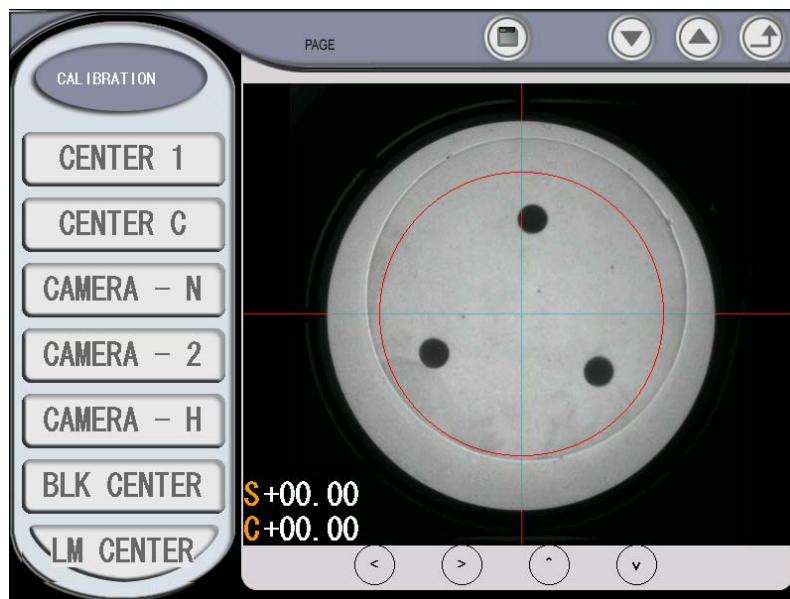
8.1 Lensmeter



- LIVE IMAGE
 - Shows the live image which is captured by the lensmeter camera.
- LIVE IMAGE
 - Shows the live image which is captured by the lensmeter camera.
- LM MODE
 - Calculate SPH, CYL, AXIS and PRISM continuously using the 4 signal points.
 - You can identify the powers of the test lens.
- SETUP DIOPT
 - Calculate some factors to execute the calibration using the lens on the table.

- Press the diopter box after finishing calculating.
- Set the lens diopter and then press 'ENTER' to save the specified diopter.
- SETUP PRISM
 - Set the prism power
- REPEAT
 - Calculates and displays the repeatability of the test lens.
- MEA. ONE
 - Measure just one time after it moves LM motor from the origin to the destination.

8.2 Blocker

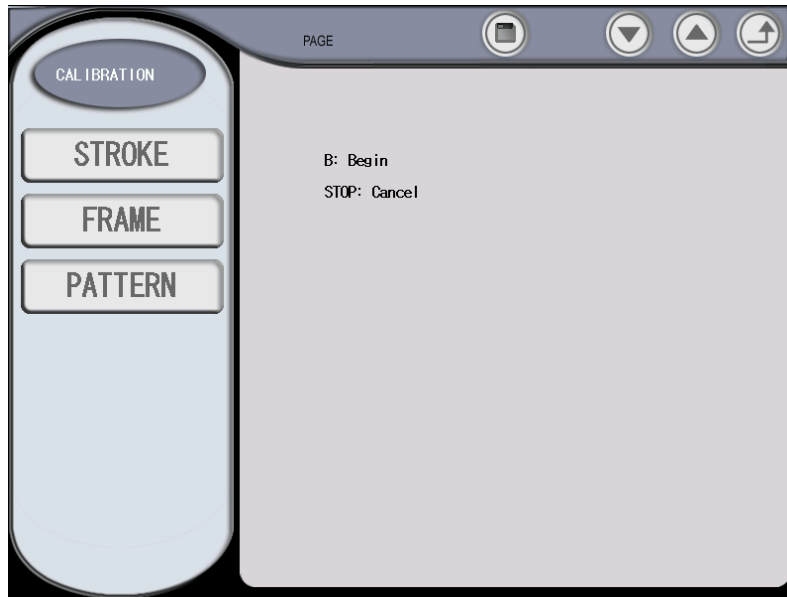


CENTER 1, CENTER 2, CAMERA - N, CAMERA-2 and CAMERA-H are used by the manufacturer or the distributors. Don't use these buttons. BLK CENTER and LM

CENTER are explained in section 9.3 ~ section 9.7.

8.3 TRACER

You can calibrate the tracer module using this page.



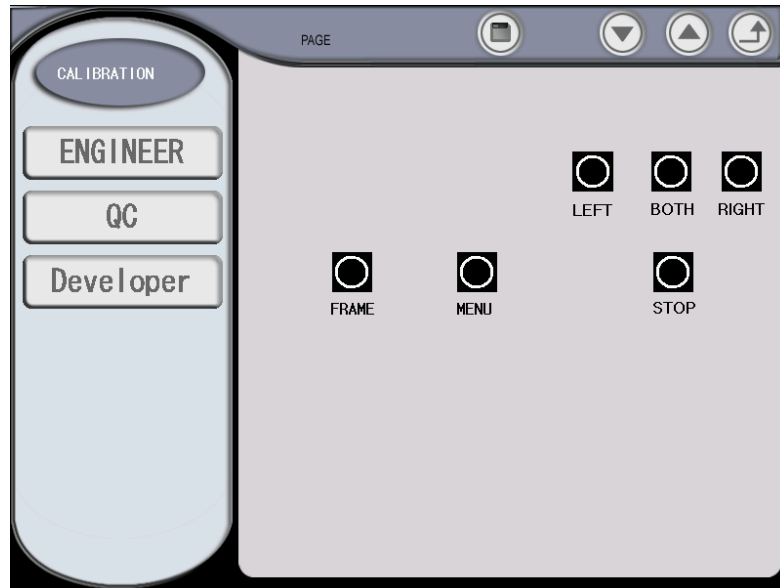
- STROKE
 - Start calibrating the stroke. Follow the instruction shown on the display.

- FRAME
 - Start calibrating the stroke. Set the FRAME jib at the gripper of the tracer module and then follow the instruction shown on the display.

- PATTERN
 - Start calibrating the pattern. Set the Pattern jig at the gripper of the tracer module and then follow the instruction shown on the display.

8.4 TRACER-SIM

This page enables you to check all components of the tracer modules. Follow the instruction on the display.



9. Maintenance

CAUTION

- Don't put anything on the lens supporter while the machine is starting up. Otherwise, it might be malfunctioned.

9.1 "It is needed to setup prism" message

Follow the following procedures if you see "It is needed to setup prism" message at start-up.

Step 1. Go into the Lensmeter Calibration Display by press MENU >> CALIBRATION >> LENS METER

Step 2. Press 'D' button at the left upper side to move the lensmeter block.

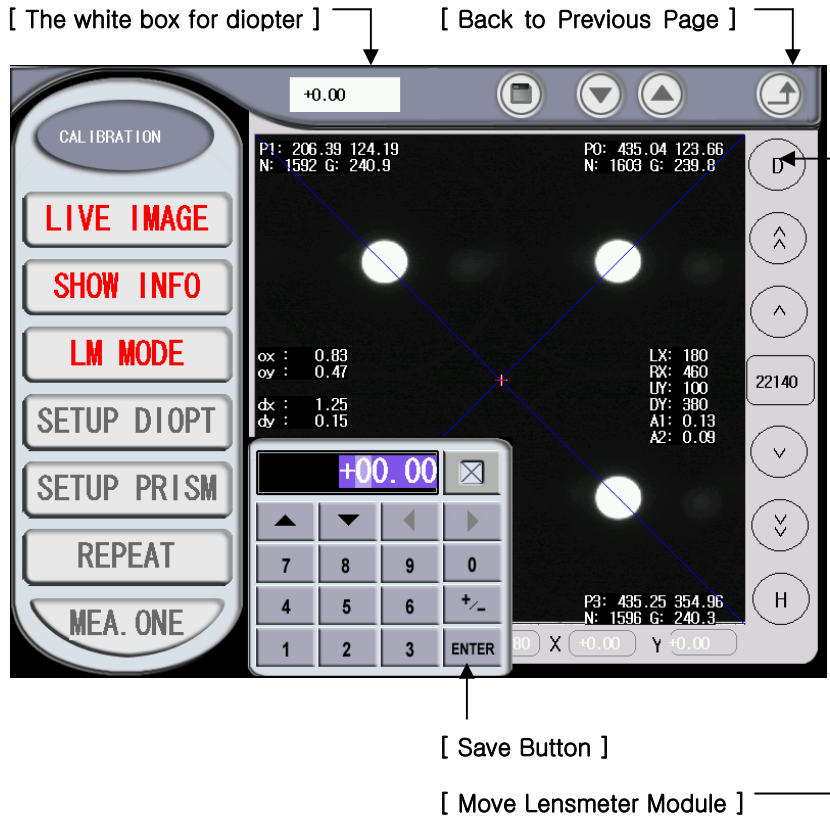
Step 3. Press 3 buttons for Lensmeter functions sequentially which are "LIVE IMAGE", "SHOW INFO" and "LM MODE".

Step 4. Press "SETUP DIOPTER" button to calculate the information of 0 diopter.

Step 5. The white box' at the top will show you 0.00. Press it.

Step 6. Press "ENTER" button at the numeric pad to save.

Step 7. Press the return button twice at the left upper side to go back the Main Display.

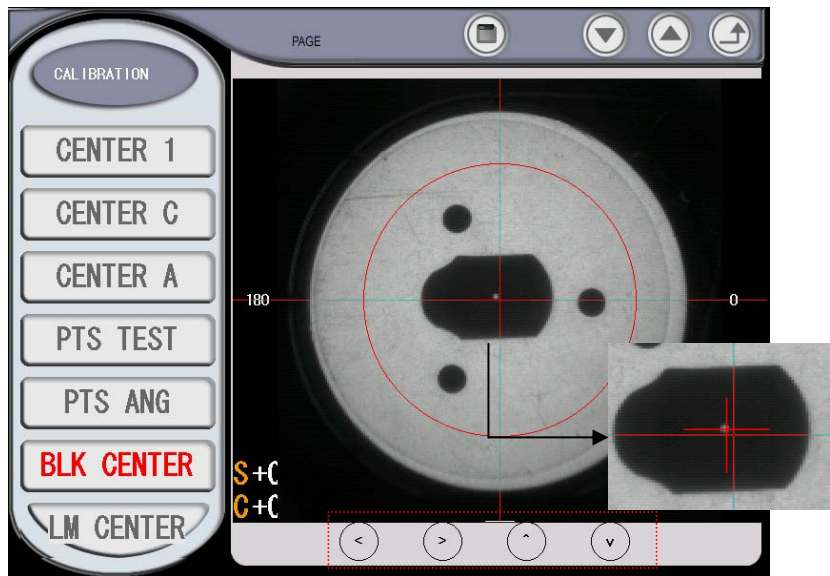


9.2 “Remove the object on the table and then turn off/on” message

Even though there is nothing on a lens supporter, if you see “Remove the object on the table and then turn off/on” message at start-up, be in contact with your local distributor or the Huvitz service department.

9.3 Blocking Position calibration

Although the cross marker of a optic center is correct at the display, if the blocked position is incorrect for lenses marked with 3 dots, progressive lenses or bi-focal lenses, it is needed for you to calibrate the blocking position.



Step 1. Put an adaptor at the adaptor holder.

Step 2. Put the lens supporter for the Digital Scanning on the normal lens supporter.

Step 3. Click “BLK CENTER” button at “MENU > CALIBRATION > BLOCKER” page.

Step 4. If the red cross marker and a center hole of the adaptor aren't coincided as

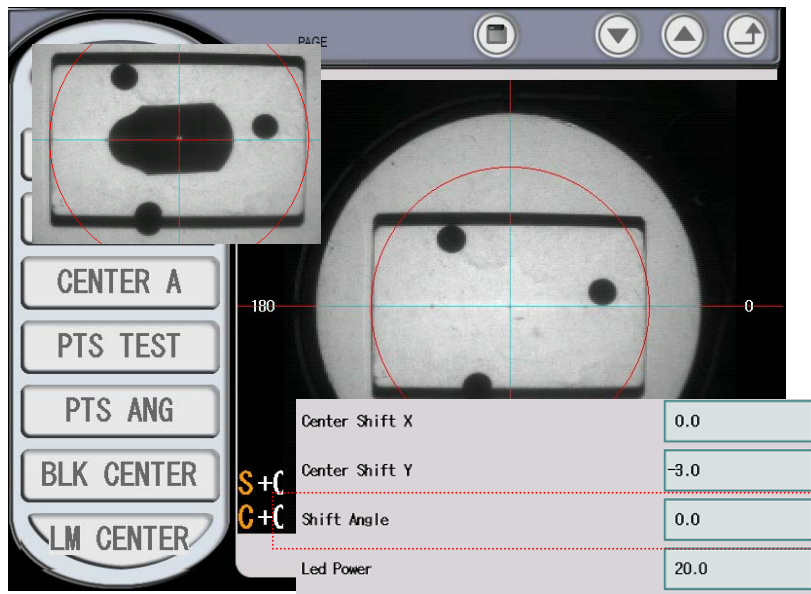
you see in the above picture, move the cross marker to locate the center of the hole using 4 arrow buttons at the bottom.

Step 5. If you moved the cross marker, press the save button at a top area to apply your calibration.

Step 6. If you repeat from Step 1 to Step 4, you can identify whether your calibration is done correctly or not.

9.4 Blocking axis calibration

Although the cross marker of a optic center is correct at the display, if the blocked axis is incorrect for 3 dot marked lenses, progressive lenses or bi-focal lenses, it is needed for you to calibrate the blocking axis.



Step 1. Reset the misaligned angle 0 at "FACTORY MENU>BLOCKER" Step 2. Mark a lens with a cylindrical power using your lensmeter.

Step 3. Go into "Calibration > BLOCKER" page.

Step 4. Put the lens to be placed at the center of the cross and paralleled along the horizontal line.

Step 4. Click "BLK CENTER" button.

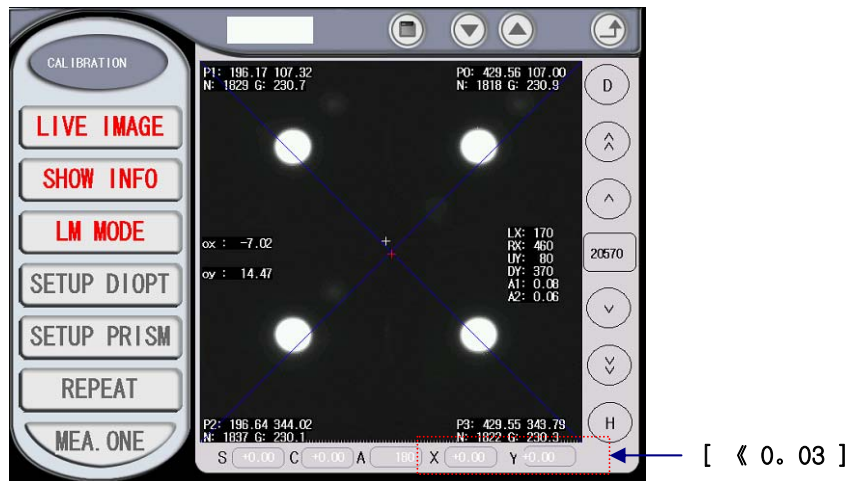
Step 5. Take it out and examine the blocked angle.

Step 6. Go into "FACTORY MENU > BLOCKER" page.

Step 6. Apply the misaligned angle at the "Shift Angle" Step 7. Press the save button to apply to your calibration.

9.5 Calibration of the internal lensmeter's center

Although the blocked position for a 3 dot marked lens, a progressive lens or a bi-focal lens are correct, a PD or an optic height for an optic lens are incorrect , it is needed for you to calibrate the center of the internal lensmeter. .

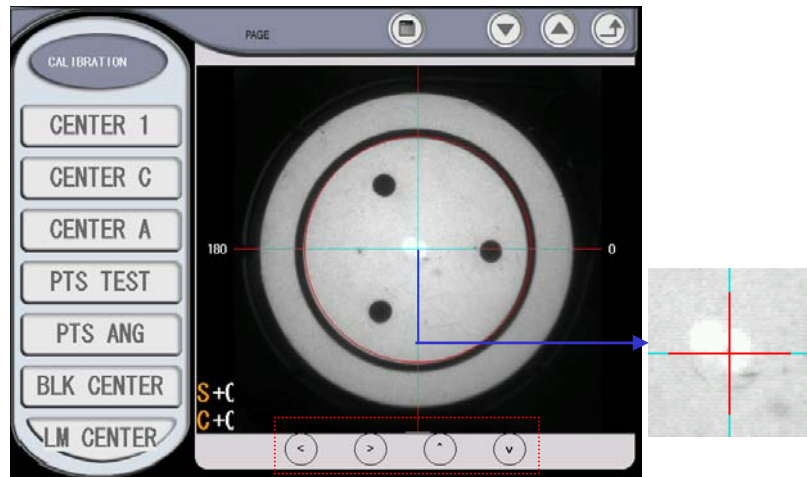


Step 1. Mark a lens with from SPH -1D ~ -3D, CYL=0D using your lensmeter.

Step 2. Go into the lensmeter calibration display clicking "Calibration > LENS METER" buttons

Step 3. Press 'D' button and Press "LIVE IMAGE", "SHOW INFO" and "LM MODE".

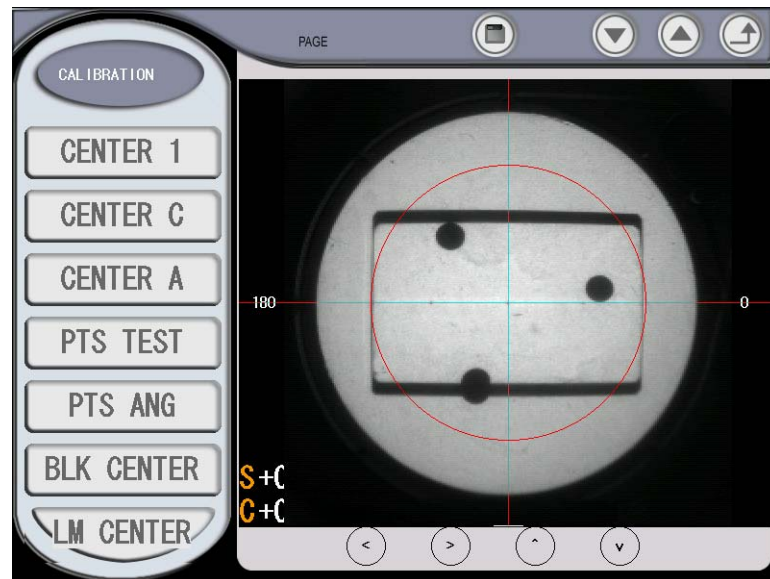
Step 4. Place the lens to be X and Y less than 0.03 at the bottom area.



- Step 5. Go into the blocker calibration display clicking "Calibration > BLOCKER" buttons
- Step 6. Press "LM CENTER" button.
- Step 7. If the center dot and the center of the cross marker aren't coincided, move the cross marker using 4 arrow buttons in a bottom area.
- Step 8. If you moved the cross marker, press the save button at a top area to apply your calibration.
- Step 9. If you repeat from Step 6 to Step 9, you can identify whether your calibration is done correctly or not.

9.6 Calibration of the internal lensmeter's axis

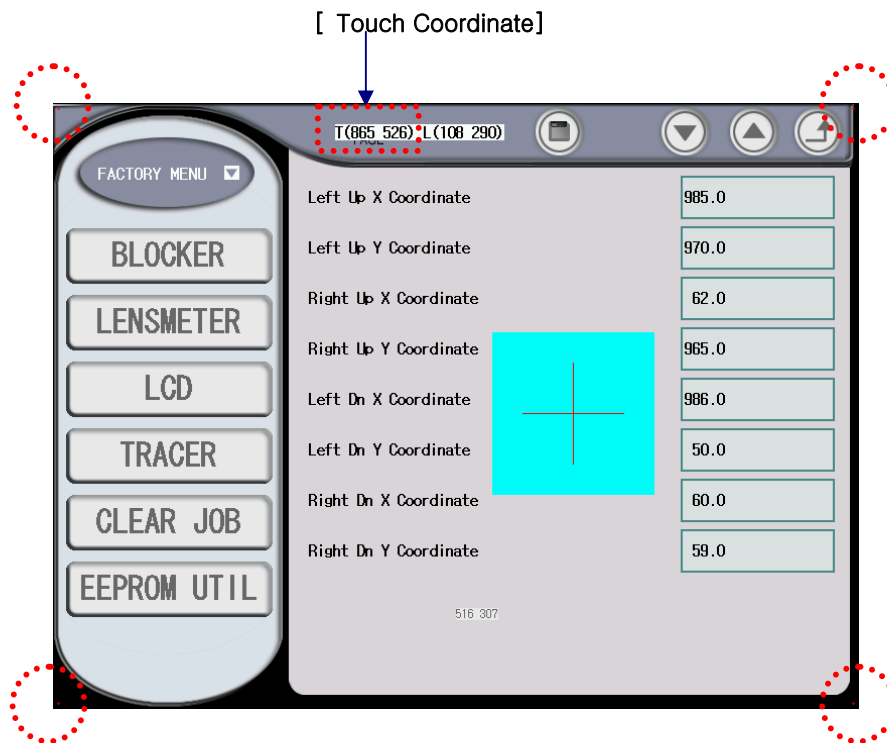
It is needed for you to calibrate the axis of the internal lensmeter if the blocked axis isn't correct for a optic lens.



- Step 1. Reset the misaligned angle 0 at "FACTORY MENU>LENSMETER"
- Step 2. Mark a lens with a cylindrical power using your lensmeter.
- Step 3. Go into the blocker calibration display clicking "Calibration > BLOCKER" buttons
- Step 4. Put the lens to be placed at the center of the cross marker and paralleled along the horizontal line.
- Step 5. Go into the lensmeter calibration display clicking "Calibration > Lensmeter".
- Step 6. Press 'D' button and Press "LIVE IMAGE", "SHOW INFO" and "LM MODE".
- Step 7. Read the cylindrical axis of it.
- Step 7. Apply the angle which is read wrong at "FACTORY MENU > BLOCKER"

9.7 Touch Panel calibration

It is needed for you to calibrate the position of a touch panel if the display of LCD and the position of Touch Panel aren't coincided.

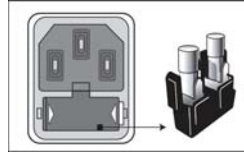


- Step 1. Go into the Touch Panel calibration by pressing "MENU > FACTORY MENU > LCD".
- Step 2. Click each point of 4 corners of LCD panel using a touch pointer.
- Step 3. Enter the touch coordinate at the proper row.
- Step 4. Press 'SAVE' button to apply your calibration.

9.8 Miscellaneous

- To change a fuse

When you are changing a fuse, make sure that it's 250T, 3.15AL. You can find them under the power plug of the backside of the product.



Standard Accessory

Operator's Manual	1
Normal lens supporter	1
Lens supporter for frame change	1
Lens supporter for Digital Scanning	1
Standard Frame (for Frame Reader Calibration)	1
Standard Pattern (for Frame Reader Calibration)	1
Pattern Holder	1

Specification

항목	세부 Spec.	비고
Lens Analysis Unit	<ul style="list-style-type: none"> • Method • Lens diameter • Camera • Display • power measurement • Measurement Unit • Centering accuracy • Accuracy of axis 	<ul style="list-style-type: none"> - Both Projected image and transmitted image - Max: 80mm dia, Min: 18mm - CCD b/w - 10.4inch Color LCD 800x600 - SPH, -20D ~ +15D, CYL: ± 10D - 0.01D - -0.5 ~ +0.5mm - ± 1°
Layout Unit	<ul style="list-style-type: none"> • mode • FPD • PD • ½ PD • Height of O.C • Component 	<ul style="list-style-type: none"> -Single, MULT, PROG - 30 ~ 99.50 (in steps of 0.01 mm) - 30 ~ 99.50 (in steps of 0.01 mm) - 15.0 ~ 49.75 - ± 15.00mm - FPD (or DBL) - PD (or ½ PD) - AXIS (Cylindrical axis angle of the lens) - BS (Bridge Size) - VPD (Dy, Mixed Height, Box Height) - Size (Size compensation Value) - Frame type (Metal, Plastic, Optyl)
Edging Info	<ul style="list-style-type: none"> • Material • Edging Type 	<ul style="list-style-type: none"> - Lens material - Beveling, Grooving, rimless
Blocking	<ul style="list-style-type: none"> • Blocking method • Blocking pressure 	<ul style="list-style-type: none"> - Motorized blocking method - 3kgf
GUI	<ul style="list-style-type: none"> • True Color LCD • User Interface 	<ul style="list-style-type: none"> - 8.4inch 800x600 - Touch pad, several keys

Ext Port	<ul style="list-style-type: none">• Com PORT 1• Com PORT 2• Com PORT 3• Com PORT 4• Com PORT 5• Com PORT 6	<ul style="list-style-type: none">- Edger 1- Edger 2- Tracer Out- Bar Code Reader- Tracer Debugging & Upgrade- Blocker debugging & Upgrade
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Drawings of System

