

# User's Manual

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Type: ECP-5200



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**WARRANTY**

## **ECP-5200**

Thanks a lot for your buying of the chart projector  
(Model Name : ECP-5200) from EZER

### **IMPORT NOTICE**

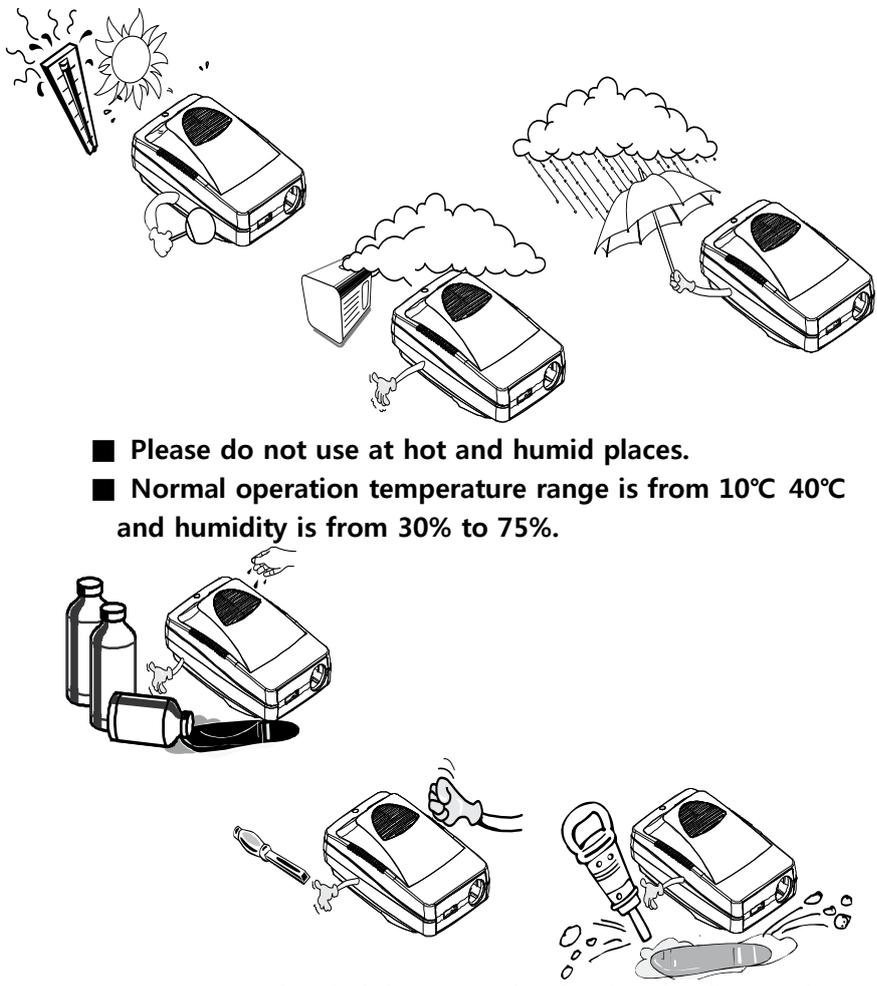
Please use the chart projector after you read this manual.

It is not allowed to add the any factors which will be  
caused machine problems.

This manual contains information necessary for correct  
and effective operation of chart projector a ECP-5200 and  
provides specifications and procedures for operation and  
maintenance.

Please keep this manual and read it whenever necessary.

**ENVIRONMENT FACTORS**



■ Please do not use at hot and humid places.  
 ■ Normal operation temperature range is from 10°C 40°C and humidity is from 30% to 75%.

■ Do not use chemical detergents for cleaning the dirt on the case  
 ■ Do not give the shock and open the case without any purpose

## SAFETY SYMBOLS



■ Attention, Consult Accompanying Documents



■ Type B Applied Part



■ EU Certification



■ Protective earth (ground)



■ Off (Power : Disconnection from the mains)



■ On (Power : Connection to the mains)



■ Alternating current

Disposal of Waste Products, Residues, etc.

Disposal of Waste Products, Residues, etc according National Code.

Potential Electromagnetic or other interference.

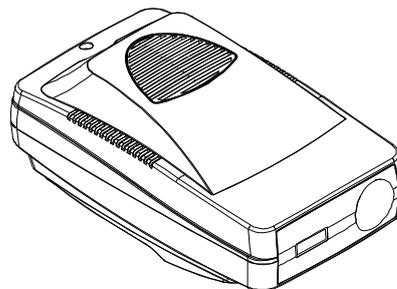
Do not use this product in strong magnetic fields, such as near motors.

Do not place heavy objects on the case, or block the ventilation holes.

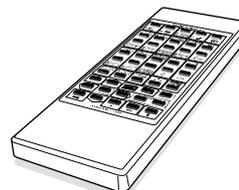
1. GENERAL DESCRIPTION

■ 86Cž(### Chart Projector consists with main body, remote controller and screen.

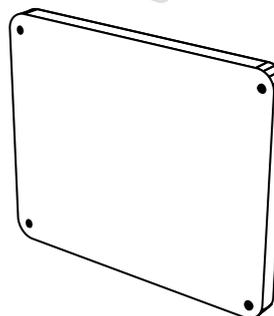
1. Main body



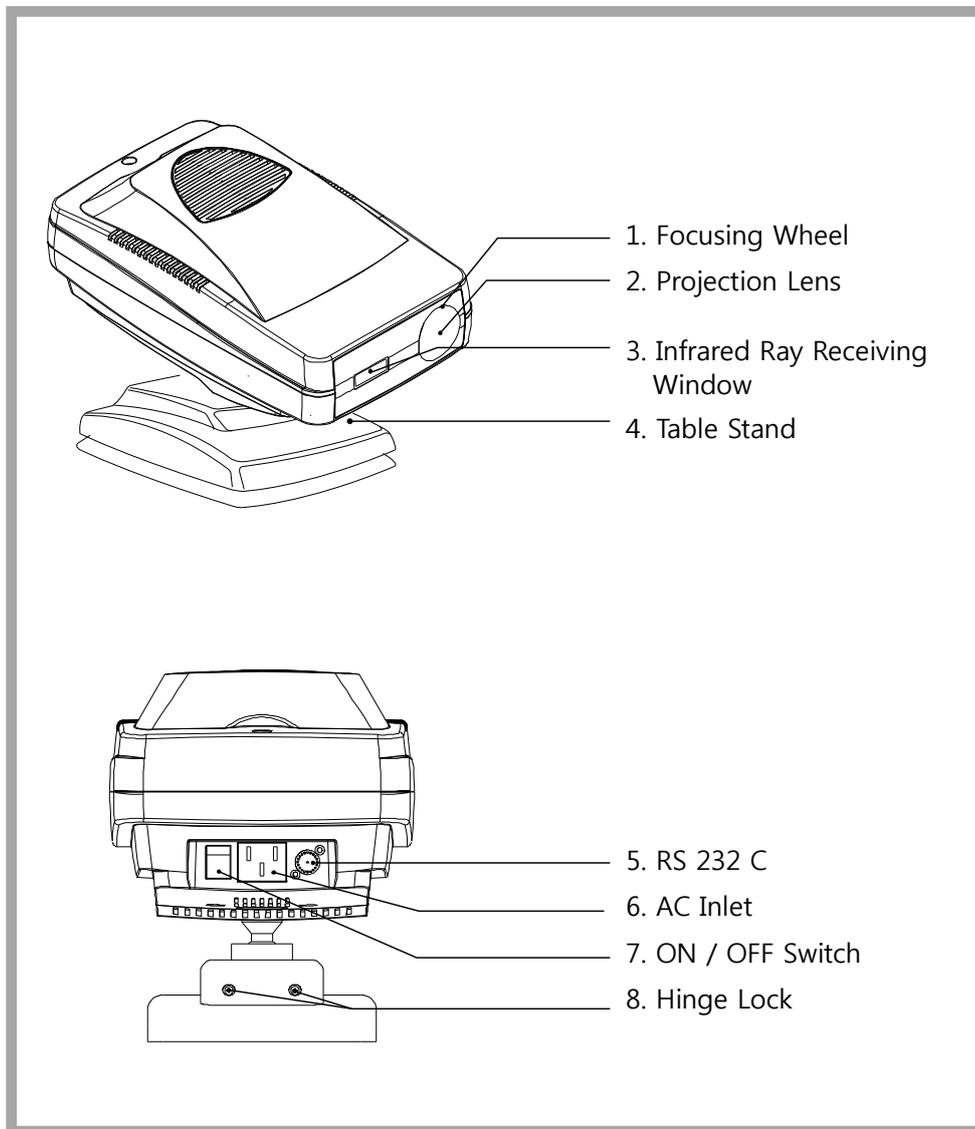
2. Remote controller



3. Screen



## 2. DESCRIPTION OF PARTS



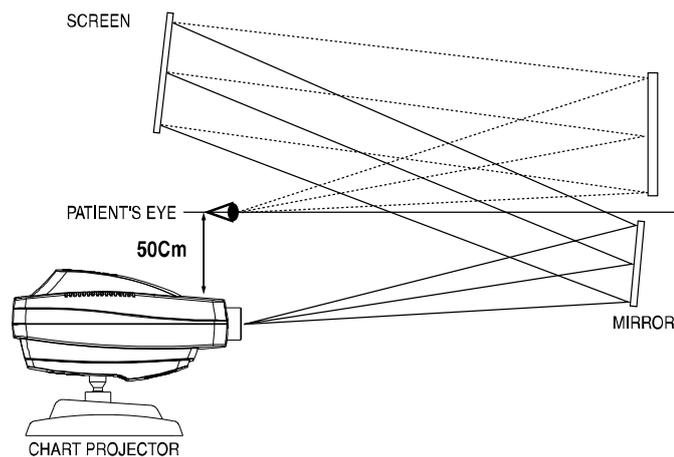
### 3. INSTALLATION

#### 3-1. Adjustment of Distance

1. Place chart projector within 1.5 ~ 10m from screen.  
(5m is standard)
2. Measure the distance between patient and screen including reflection.

#### 3-2. Positioning the projector

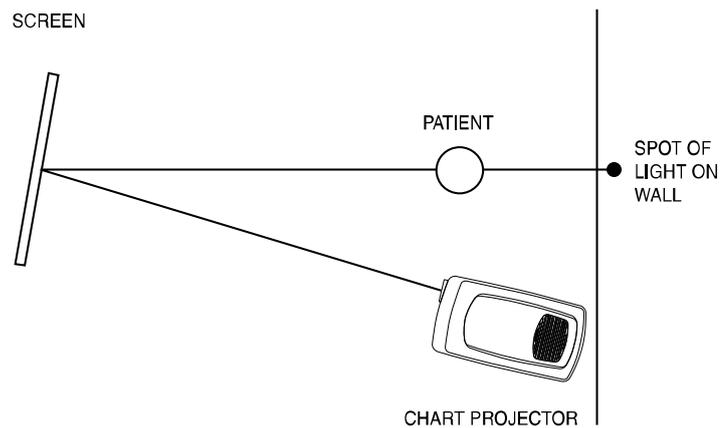
Determine the distance from patient to screen within 1.5 ~ 10m and place the projector at same distance from the patient to the screen. The mirror can be used to obtain longer distance in a small indoor as follow.



### 3-3. Positioning the screen

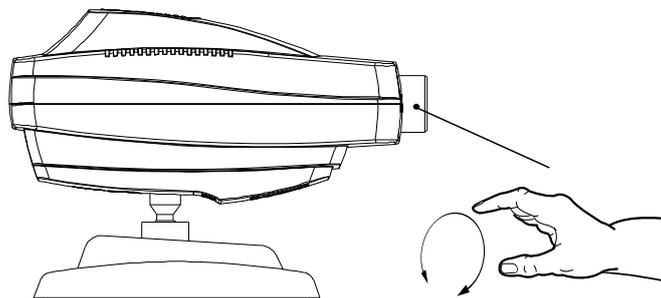
Install screen where you want within 1.5 ~ 10m from chart projector in order to adjust projection angle for the brightest and clearest image, hold a mirror on the screen and tilt the screen until projected spot of light is directed to patient.

The screen is made for bright reflection.



### 3-4. Adjustment of Focus

1. Project the chart of 0.05 alphabet "E"
2. Adjust the correct focus, tuning the focus wheel until the chart of 0.05 alphabet "E" is viewed clearly within the respective distance range.



**4. OPERATION**

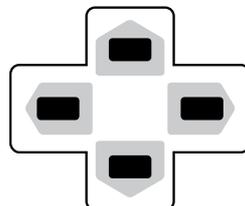
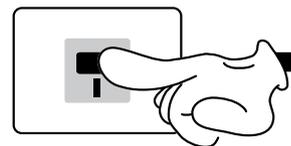
1. Power on chart projector. Within 3 seconds, the projection lamp is on and "E(0.05)" chart shall be viewed.
2. Adjust the correct focus. (Page 5)
3. Changing the chart. Press the chart button to be wanted on the remote controller.



**4-1. Isolation of visual acuity chart**

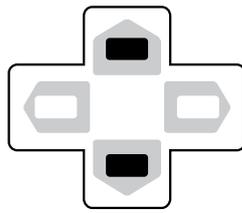
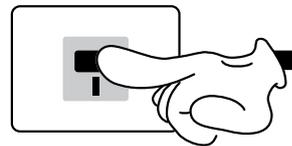
**1. How to use Vertical line mask.**

- 1) To use vertical line mask,
- 2) To move the position left or right,  
To move the position up or down.



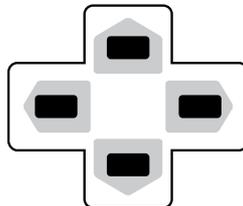
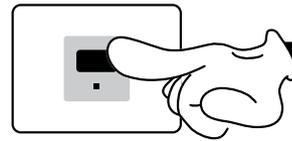
**2. How to use Horizontal line mask**

- 1) To use horizontal line mask.
- 2) To move the position up or down.



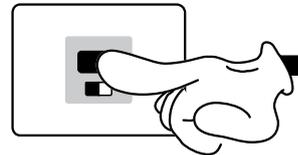
**3. How to use Single letter mask**

- 1) To use single letter mask.,
- 2) To move the position left or right,  
To move the position up or down.



**4-2. How to use Red/Green filter mask**

1) Press Red/Green filter mask button.



※ Releasing the Red/Green filter mask :  
Press Red/Green filter button one more and the Red/Green filter mask is released.

T D V A H	1.2
L O N H T	1.5
K E Z F R	2.0

T D V A H	1.2
L O N H T	1.5
K E Z F R	2.0

**4-3. How to use program mode 1**

1) Press LAMP button and power off lamp.

2) Press LEFT PROGRAM button

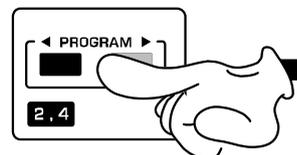
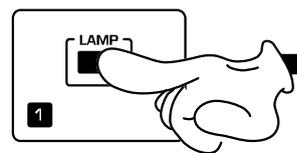
**about 6 seconds.**

3) Press the selected chart buttons one by one to store every selection.

4) Press LEFT PROGRAM button

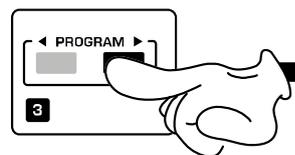
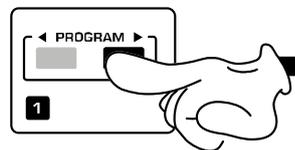
**about 6 seconds** and this mode is completed.

Maximum 30 charts can be stored in this program mode.



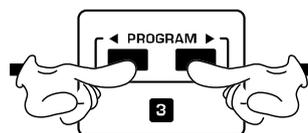
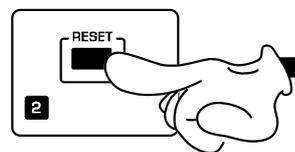
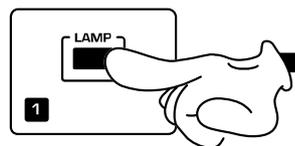
#### 4-4. How to use program mode 2

- 1) Press RIGHT PROGRAM button **about 6 seconds**.
- 2) Press the selected chart buttons one by one to store every selection into memory.
- 3) Press RIGHT PROGRAM button **about 6 seconds** and this mode is completed.  
Maximum 30 charts can be stored in this program mode.



#### 4-5. Programmed operation

- 1) Press LAMP button and lamp lights.
- 2) Press RESET button and the program mode 1 starts with first chart. (Press RESET button once again so that the program mode 1 changes Program mode 2)
- 3) Press PROGRAM button and the chart is changed forward or backward.



## 5. MAINTENANCE

**CAUTION**

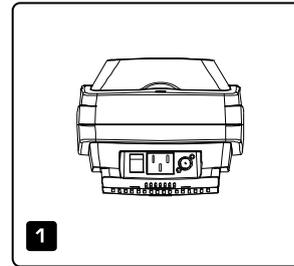
Turn off power and pull out power cord.

### < Projection lens >

Remove dusts with a bluish blower, if not clean enough, wipe with lens cleaning paper

### < Case and screen >

Remove dusts with a dry and soft cloth, if not clean enough, immerse a soft cloth in neutral detergent, wring it well and wipe the parts finish the cleaning with a dry and soft cloth.

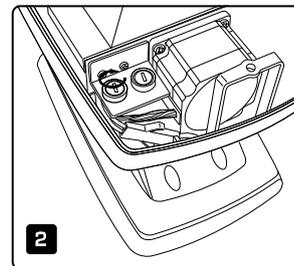


1

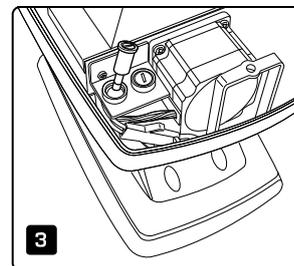


### 5-1. Replacement of fuse

- 1) Open upper case by releasing the fixed screw on upper case
- 2) Press fuse holder and turn anticlockwise.
- 3) Replace the fuse and return it with fuse holder to the socket.  
※ Press and turn it clockwise.



2



3

**NOTE**

Equivalent Fuse Specification : 250V, T 800mAL

**CAUTION**

Turn off power and pull out power cord.

### 5-2. Replacement of lamp

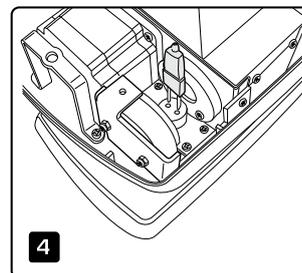
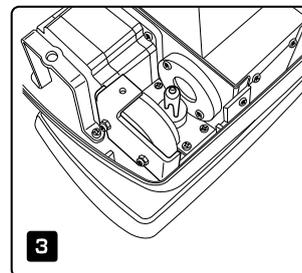
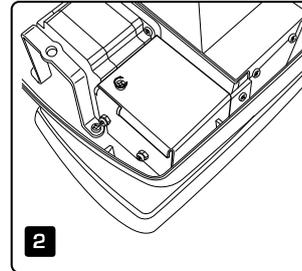
Be sure to power off and pull out the power cord and cool down heat for **about 5 minutes** before replacement of lamp.

- 1) Open upper case by releasing the fixed screw on upper case (Page 10 – pic 1)

**CAUTION**

Do not touch with wet hands.

- 2) Press fuse holder and turn anticlockwise.
- 3) Replace the fuse and return it with fuse holder to the socket.
- 4) Press and turn it clockwise.



6. CHART DESCRIPTIONS

6-1. A Type

E 0,05	9 0,05	0,1	≡ ME 0,1 m WE 0,15	
FRA 0,1 HDN 0,15	592 0,1 386 0,15	0,2 0,4	w MEW 0,2 m WE 0,3 E WE 0,4	
KNVHO 0,2 LRF AZ 0,3 DT CEN 0,4	89259 0,2 53899 0,3 88992 0,4	0,6 0,8 1,0	EMWEM 0,5 WESE 0,6 EWE 0,7	
THFOZ 0,5 NETDP 0,6 ALVAH 0,7	28389 0,5 35926 0,6 82899 0,7		WEMWE 0,8 EMSEW 0,9 MEWM 1,0	
HVNAO 0,8 LKZCE 0,9 CTFDK 1,0	88992 0,8 28999 0,9 38289 1,0		EWSUM 1,2 WMEW 1,5 EWE 2,0	
TDVAH 1,2 LONHT 1,5 KEZFR 2,0	88995 1,2 23899 1,5 35299 2,0		2 9	

6-1. A Type

E 400	9 400	200	≡ ME 200 m WE 150	
FRA 200 HDN 150	592 200 386 150	100 70	w MEW 100 m WE 80 E WE 70	
KNVHO 100 LRF AZ 80 DT CEN 70	89259 100 53899 80 88992 70	50 30 20	EMWEM 60 WESE 50 EWE 40	
THFOZ 60 NETDP 50 ALVAH 40	28389 60 35926 50 82899 40		WEMWE 30 EMSEW 25 MEWM 20	
HVNAO 30 LKZCE 25 CTFDK 20	88992 30 28999 25 38289 20		EWSUM 15 WMEW 12 EWE 10	
TDVAH 15 LONHT 12 KEZFR 10	88995 15 23899 12 35299 10		2 9	

6. CHART DESCRIPTIONS

6-3. C Type

<b>C</b> 0.05	<b>9</b> 0.05	0.1	0.1 0.15	
<b>FRA</b> 0.1 <b>HDN</b> 0.15	<b>592</b> 0.1 <b>386</b> 0.15	0.2 0.4	0.2 0.3 0.4	
<b>KNVHO</b> 0.2 <b>LRF AZ</b> 0.3 <b>DT CEN</b> 0.4	<b>89259</b> 0.2 <b>59699</b> 0.3 <b>68692</b> 0.4	0.6 0.8 1.0	0.5 0.6 0.7	
<b>THFOZ</b> 0.5 <b>NETDP</b> 0.6 <b>ALVAH</b> 0.7	<b>26389</b> 0.5 <b>35926</b> 0.6 <b>82699</b> 0.7		0.8 0.9 1.0	
<b>HVNAO</b> 0.8 <b>LKZCE</b> 0.9 <b>CTFDK</b> 1.0	<b>86382</b> 0.8 <b>26959</b> 0.9 <b>38269</b> 1.0		1.2 1.5 2.0	
<b>TDVAH</b> 1.2 <b>LONHT</b> 1.5 <b>KEZFR</b> 2.0	<b>86635</b> 1.2 <b>26966</b> 1.5 <b>35298</b> 2.0		1.2 1.5 2.0	

6-4. D Type

<b>E</b> 0.05	<b>26388</b> 0.2 <b>35928</b> 0.3 <b>82699</b> 0.4	0.1	0.2 0.3 0.4	
<b>FRA</b> 0.1 <b>HDN</b> 0.15	<b>86382</b> 0.5 <b>26959</b> 0.6 <b>38269</b> 0.7	0.2 0.4	0.5 0.6 0.7	
<b>KNVHO</b> 0.2 <b>LRF AZ</b> 0.3 <b>DT CEN</b> 0.4	<b>86635</b> 0.8 <b>26966</b> 0.9 <b>35298</b> 1.0	0.6 0.8 1.0	0.8 0.9 1.0	
<b>THFOZ</b> 0.5 <b>NETDP</b> 0.6 <b>ALVAH</b> 0.7	<b>3ME</b> 0.1 <b>MWE</b> 0.15		1.0 1.2 1.5	
<b>HVNAO</b> 0.8 <b>LKZCE</b> 0.9 <b>CTFDK</b> 1.0	<b>WME3W</b> 0.2 <b>M3WME</b> 0.3 <b>EWME3</b> 0.4		1.2 1.5 2.0	
<b>TDVAH</b> 1.0 <b>LONHT</b> 1.2 <b>KEZFR</b> 1.5	<b>EMW3M</b> 0.5 <b>WE3ME</b> 0.6 <b>3WE3M</b> 0.7		1.2 1.5 2.0	
	<b>W3MWE</b> 0.8 <b>EM3WE</b> 0.9 <b>MEW3M</b> 1.0			

6. CHART DESCRIPTIONS

6-5. E Type

Ш 0,05	9 0,05	☪ 0,05	○○○ 0,1 ○○○ 0,15	☼
ШИБ 0,1 КШЫ 0,15	592 0,1 386 0,15	☪☪☪ 0,1 ☪☪☪ 0,15	○○○○ 0,2 ○○○○ 0,3 ○○○○ 0,4	☼
МННЕИ 0,2 ЫМБШН 0,3 БЫННМ 0,4	88258 0,2 53688 0,3 88592 0,4	☪☪☪☪ 0,2 ☪☪☪☪ 0,3 ☪☪☪☪ 0,4	○○○○ 0,5 ○○○○ 0,6 ○○○○ 0,7	☼
ИНШМК 0,5 НШНБ 0,6 КНБШ 0,7	26388 0,5 35828 0,6 82688 0,7	●	○○○○ 0,8 ○○○○ 0,9 ○○○○ 1,0	☼
НШМБ 0,8 БКМН 0,9 КНБШ 1,0	88882 0,8 26888 0,9 38288 1,0	⊕	○○○○ 1,2 ○○○○ 1,5 ○○○○ 2,0	☼
МНБШ 1,2 ШННМ 1,5 ИМШН 2,0	88888 1,2 29888 1,5 88288 2,0	⊕ +	☼☼☼☼ ☼☼☼☼ ☼☼☼☼	☼
☐	☐	☐		

## 7. SEPCIFICATIONS

Projection Distance	1.5~10m
Projection Magnification	30 X (in 5m refraction)
Number of Chart	32
Chart Rotation Speed	1 frame average 0.2sec
Mask & Filter	Open 1. Horizon line 5. Vertical line 5. Single isolation 15. Red/Green 1.
Power Supply	AC 220~230V, 50/60Hz
Lamp	6V/20W halogen, 100hours lifetime
Power Consumption	0.2A at 220V
Power Saving	6 min
Tilt Angle	±20°
Dimension & Weight	197(W) X 335(D) X 163(H), 5.6kg
Accessories	Remote Control/ Power Cable/ Dust Cover/ Battery/ Fuse/ Spare Lamp/ Table Stand/ RS-232C(Interface)/ Screen(410X280mm for 5m distance)
Optional Accessories	Wall Mount Bracket/ Adaptor/ Red-Green glasses/ Polarized glasses/ Screen(500X400mm for 6m distance)
Environmental Conditions	
Operation	-10°C to +40°C / 30% to 75%RH / 700hPa to 1060hPa
Transport/Storage	0°C to +55°C / 20% to 90%RH / 600hPa to 1200hPa

Specifications and design are subject to change without prior notice for improvement.

**WARRANTY**

EZER warrant this product against defects in materials and workmanship for a period of **1 year** from the date of original retail purchase.

**Purchase Information**

**Model Number**

\_\_\_\_\_

**Serial Number**

\_\_\_\_\_

**Purchase Date**

\_\_\_\_\_

**EZER**

9990 NW 14th Street Unit # 105 Doral, FL 33172

Phone: 786.621.0521

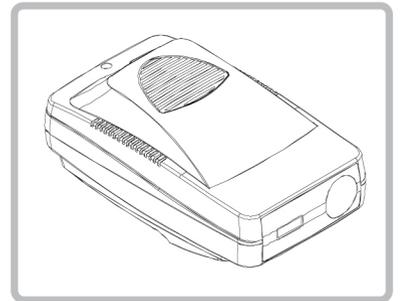
Fax: 786.621.1842

Email: [info@usophthalmic.com](mailto:info@usophthalmic.com)

*A new form of uplifting Chart Projector.*

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# ECP-5200



## **EZER**

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**EZER**

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