Operation Manual

TSRC-300 CHART PROJECTOR

SCIENCETERA

PRECAUTIONS

1. Avoid following environment for operation and storage:

    1). Expose to direct sunlight or close to heat equipment.
    2). Expose to humid, dusty or poorly ventilated room.
    3). Close to chemical material, metal particles or explosive gas.

2. Safety precautions:

    1). Operate the equipments strictly according to this manual.
    2). Contact to authorized service agency, when there is a problem which can not be fixed according to this manual.
    3). Turn off the power switch or unplug the power plug, when smoke, strange noisy or unknown problem inside the equipments occurs.
    4). Do not disassemble the equipments.

SCIENCETERA CO., LTD

PREFACE

Welcome to choose SCIENCETERA CHART PROJECTOR. Read this manual carefully and handle the equipments correctly，thus the equipment will be operated in the best and lasting performance.
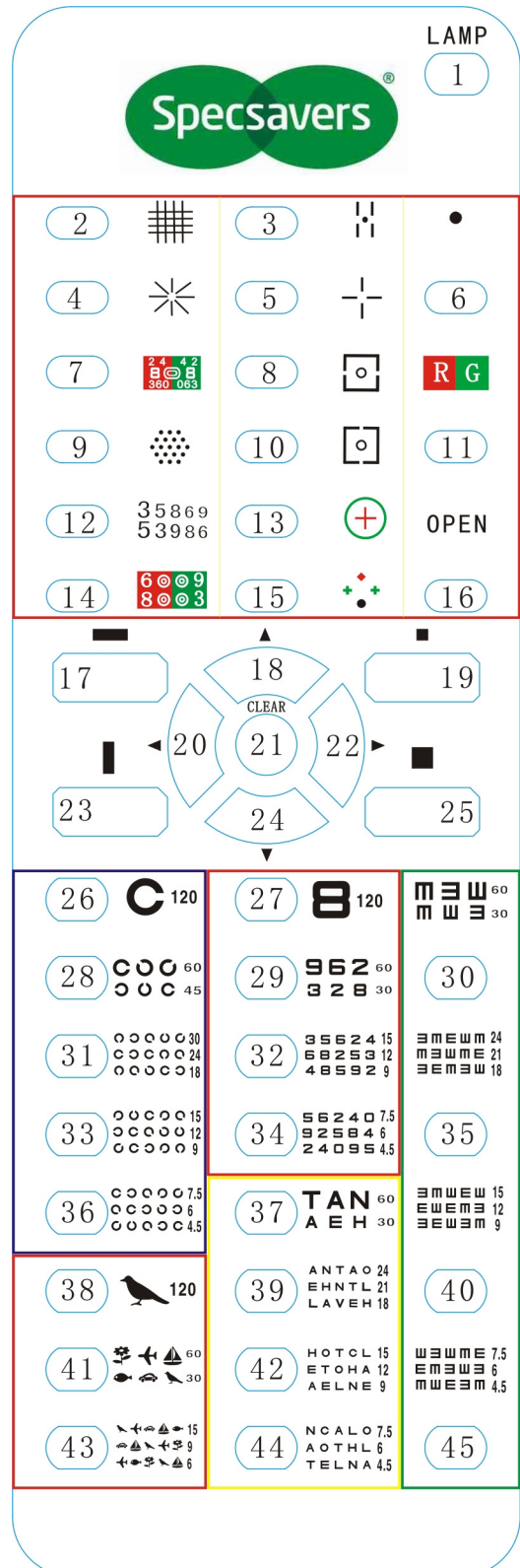
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3.   REMOTE CONTROLLER
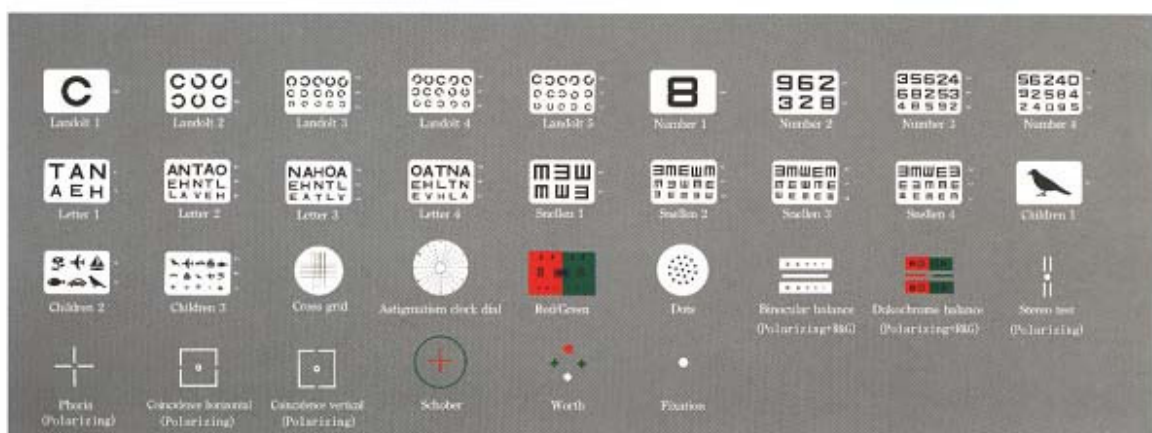
(A)Function of the keys

1) **Key4: lamp on/off (power key)**
2) **Keys1, 2, 3: childred charts**
3) **Keys5,6,7,8:"E"snellen charts.**
4) **Keys9, 10, 11, 12: letter charts**
5) **Keys13, 14, 15, 16: number charts**
6) **Keys17,18,19,20,21:"C"Landolt charts**
7) **Key22: mask for single horizontal line**
8) **Key23: mask for single vertical letter**
9) **Key24: mask for single letter.**
10) **Key25: mask for big single letter**
11) **Key28: up**
12) **Key29: left**
13) **Key30: down**
14) **Key31: right**
15) **Key32: mask removal**
16) **Key33: cross grid**
17) **Key34: astigmatism clock dial**
18) **Key35: red/green chart**
19) **Key36: dots**
20) **Key37: binocular balance chart**
21) **Key38: dukochrome balance chart**
22) **Key39: Stereo test**
23) **Key40: phoria**
24) **Key41: coincidence horizontal**
25) **Key42: coincidence vertical**
26) **Key43: schober**
27) **Key44: worth**
28) **Key45: fixation**
29) **Key46: red/green over existing chart**
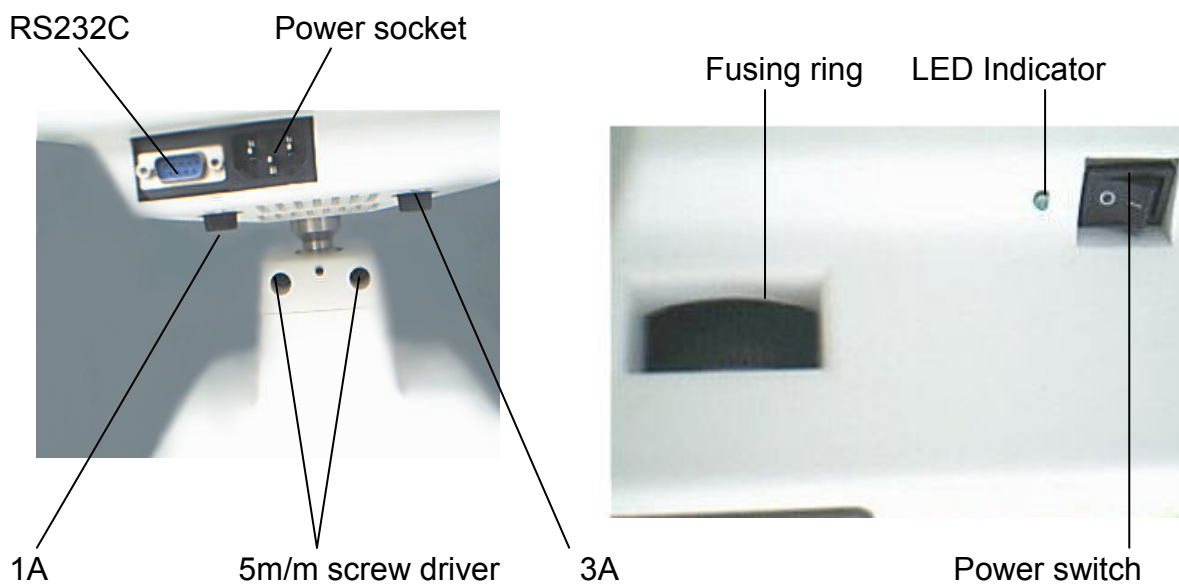30) **Key47: mask removal**

(B)THE INSTRUCTION OF REMOTE CONTROLLER

(1) Keys 2,5,9,14 and 18 need to work with key 25 to convert chart .

(2) Keys 3, 6, 7, 8, 10, 11,12, 15,16,19,20 and 21 need to work with keys 22,23 and 24.

(3) To remove the convert chart, press key 32 or key 47.

(4) While making the keys 1~21 (Except key 4) plus the red/green filters, choose anyone among keys 1~21 (Except key 4), then press red /green key (46), will appear up red / green.

(5) Keys37 and 38 are polarizing filters, also can plus red/ green key (46), then it will show polarizing filters + red/ green filters. Keys39, 40, 41 and 42 are polarizing filters.

(6) Key34 measure Axis, key34 add key 46 become red/ green filters.
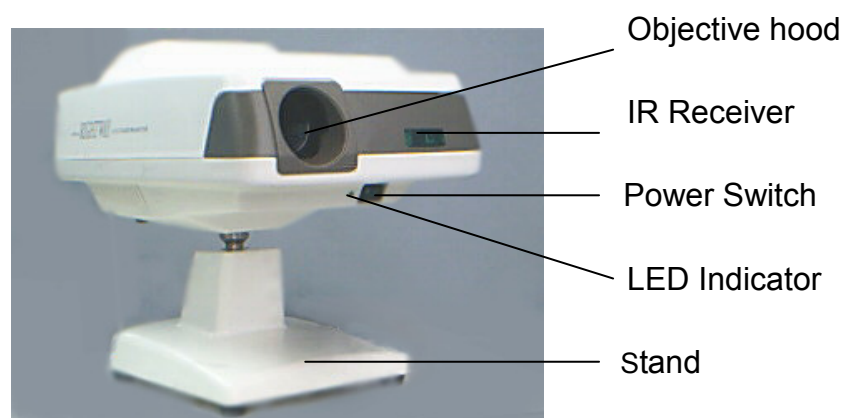
(7) Key 36 for auto cross cylinder lens.

4. CHARTS

5.INSTALLATION

1. Insert the mounting ball of projector into the mounting hole of the stand pole.
   Secure projector by tighten up the two 5m/m screw. Avoid tilting and falling off.
2. Install the screen.
3. Connect to power cable to power source and turn on the power switch.
4. Adjust the projector's position in order that it's chart is on the center of the
   screen.
5. Turn the focus ring to focus the projected chart.

RS232C   Power socket

Fusing ring   LED Indicator

1A   5m/m screw driver   3A   Power switch

6. MAINTENANCE

6.1 MAIN BODY

Objective hood

IR Receiver

Power Switch

LED Indicator

Stand

6.2 Removing and mounting the ABS Top Cover
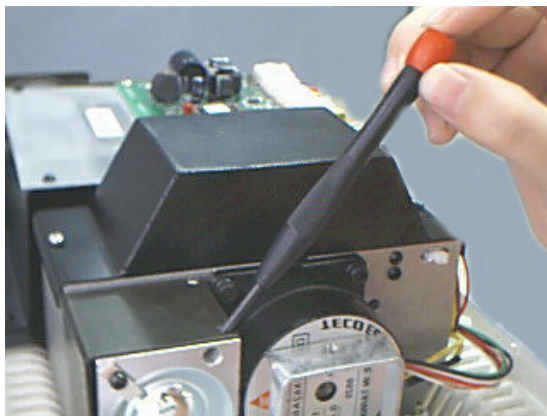

(Diagram1)   (Diagram2)

Removing

1. Turn off the power switch.
2. Turn on the screw on the backside of the top cover. (Diagram1)
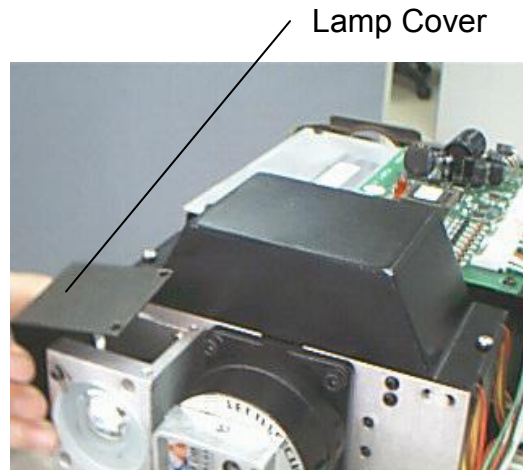3. Raise the top cover up and dismantle it. (Diagram 2)

Mounting:

1. Replace the top cover on the projector's main body.
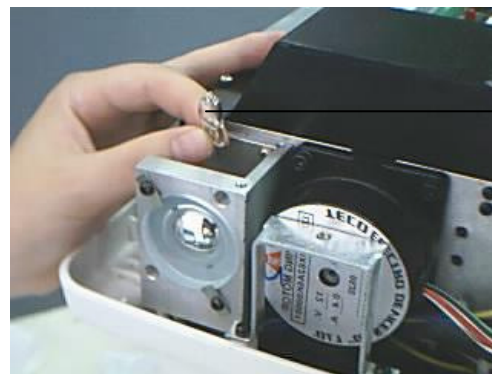2. Replace the screw and tighten up the screw.
3. Turn on the power switch.

6.3 Replacement the Projector Lamp

(Diagram3)

Lamp Cover

(Diagram4)

Lamp

(Diagram5)

1. Remove the top cover
2. Loosen the lamp cover fixing screw and remove it. (Diagram 3)
3. Remove the black cover. (Diagram 4)
4. Pull out the old lamp and plug the new lamp into the socket. (Diagram5)
5. Replace the black lamp cover, tighten up the fixing screw and mount the top cover.
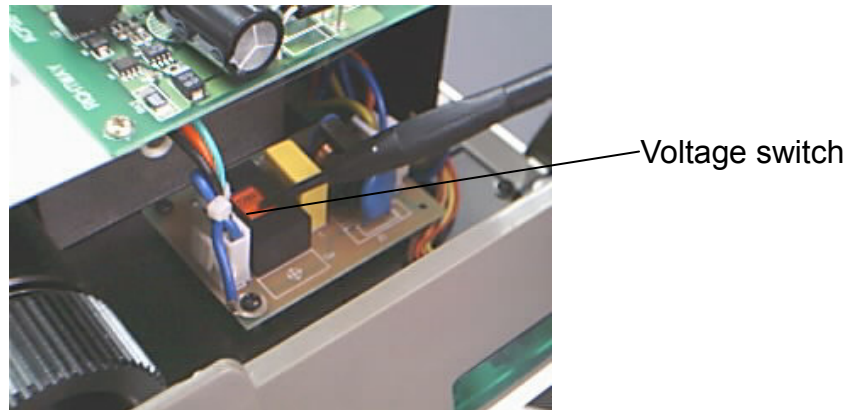
Caution: A. Wait for lamp and surrounding parts to cool off, since lamp and surrounding parts can be very hot.
B. Wrap the lamp with tissue, paper, etc.

If the lamp is dirty with fingerprints, the projection chart may uneven and it may cause short lift of the lamp
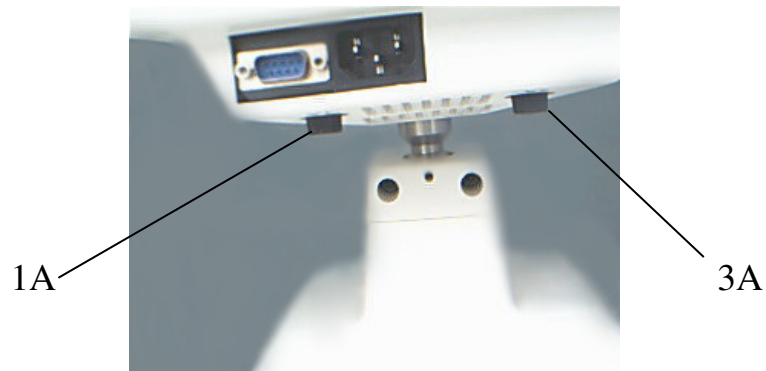
6.4 Adjustment the voltage

(Diagram6)

1. Remove the top cover.
2. Adjust the red voltage switch to AC-110 or AC-220V
3. Mount the top cover

6.5 Replacement of Fuses

(Diagram7)

1. Turn off the power switch.
2. Push and turn the fuse holder counterclockwise. Remove the fuse holder from projector
3. Remove the broken fuse. Set the new fuse into the fuse holder and replace it

Attention: The 3A fuse for projection lamp is on the right side of the projector, the 1A fuse for IC board is on the left side of the projector.

6.6 How to use eight codes on IC Board

(1) Switch 1 and Switch 2 on IC Board

A. When you use small remote controller ，operate two projectors with two different kinds of codes on IC Board (switch1and switch2) in the same space, it will not interference each other.

	Switch 1	Switch 2
Projector 1	ON	ON
Projector 2	OFF	ON

B. If you use big remote controller，operate four projectors with four different kinds of codes on IC Board(switch 1 and switch 2) in the same place, it will not interference each other.

	Switch 1	Switch 2
Projector 1	ON	ON
Projector 2	OFF	ON
Projector 3	ON	OFF
Projector 4	OFF	OFF

Caution ：This codes(switch1 and switch2)should keep the same with (switch1 and switch2) on the remote control. For example (if the switch1and switch2 on the IC board is ON,ON, the switch 1 and switch 2 on the remote control must ON,ON too)
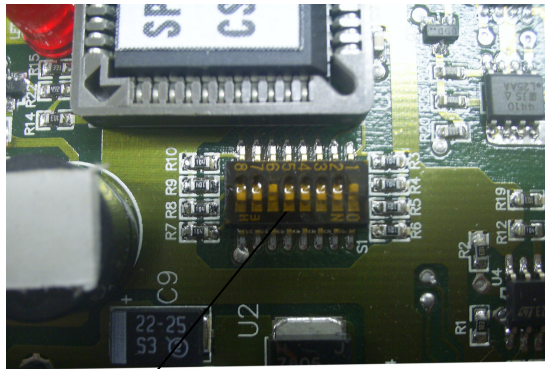
(2) Changing Auto-shut-off time(Switch 5 and switch6)

TYPE	Switch5	Switch 6	Auto-shut-off time
NO.1	ON	ON	6 Minutes
NO.2	OFF	ON	12Minutes
NO.3	ON	OFF	18Minutes
NO.4	OFF	OFF	24Minutes

(3)We haven't set the function of switch3, 4, 7 until now.

(4) Switch8:

If you use small remote controller to control chart projector, the eighth code on the IC Board of chart projector want to be set ON; if you use big remove controller (both control chart projector and phoropter), the eighth code on the IC Board of chart projector want to be set OFF.

Eight codes on IC Board

Big remote controller

Small remote controller

6.7 Replacement of Batteries in Remote controller

1. Remove the battery case cover at the back side of the remote controller.

2.Take out the consumed batteries.

3.Insert the new batteries.

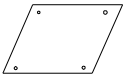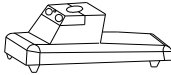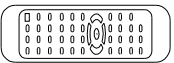The direction of the batteries are shown on the bottom of the battery case.Be sure of direction.

4.Set the battery case cover as previously.

Note: Do not mix the old and new batteries for use.

7. SPECIFICATIONS

(1)33pcs.clear charts and 60pcs.Masks
(2)Hologen lamp 6V 20W
(3)Five types for charts:a. "C" LANDOLT
                                    b. "E"SNELLEN
                                    c. "K" LETTER
                                    d. CHILDREN
                                    e. "8"NUMBER
(4)Filter: red/green
(5)Automatically changed chart with 0.5 seconds
(6)Auto-off function: Auto sign off, alternative6,12,18and 24 minutes
(7)Distance of projection: 2.0m~6.0m
(8)Dimensions: 210m/m (W)X345m/m(D)X195m/m(H)(BODY)
(9)Power source: AC100V~115V. AC200V~230V
(10)Net weight : 6.6kg
(11)Remote control system

(12)Tilting angle : 360°

8. Standard Accessories

Description	PHOTO	Description	PHOTO	Description	PHOTO
Screen		Screw		Screw driver	
Stand		Fuse		Remote Controller	
Power line		Lamp		Battery	