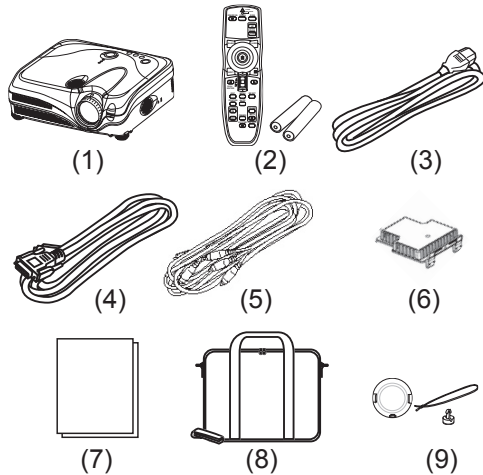**Projector**

CP-X445
User Manual – Quick Guide

Thank you for purchasing this projector.

⚠**WARNING** ►Before using, read the "User's Manual - Safety Guide" and these manuals to ensure correct usage through understanding. After reading, store them in a safe place for future reference.

NOTE • The information in this manual is subject to change without notice.
• The manufacturer assumes no responsibility for any errors that may appear in this manual.
• The reproduction, transmission or use of this document or contents is not permitted without express written authority.

Contents of package

(1) Projector
(2) Remote control
    with two AA batteries
(3) Power cord(US, UK, Europe)
(4) RGB cable
(5) Audio/Video cable
(6) Filter cover for bottom-up use
(7) User's manuals
(8) Soft case
(9) Lens cover, Rivet and Strap

(1)   (2)   (3)

(4)   (5)   (6)

(7)   (8)   (9)

NOTE • Keep the original packing materials for future reshipment. For moving the projector, be sure to use the original packing material. Use special caution for the lens part.

Arrangement

⚠WARNING ►Install the projector in a suitable environment according to instrictions of the "User's Manual - Safety Guide".

⚠CAUTION ►This projector has some intake vents also on the bottom. Avoid blocking vents. Put nothing that is sucked or sticks to the bottom of projector.
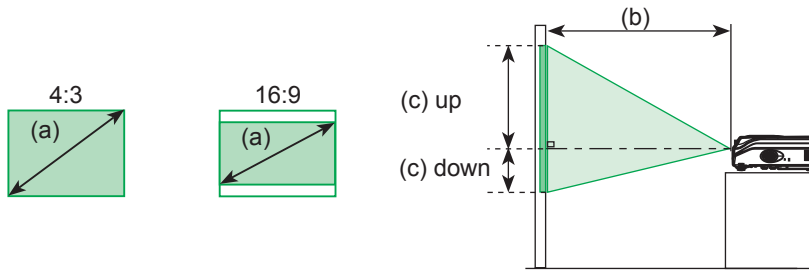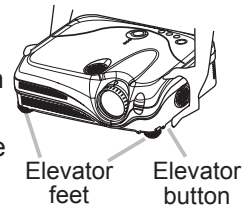

(calculated for a full size screen, ±10%)

(a) Screen size [inch (m)]	At 4 : 3 screen				At 16 : 9 screen			
	(b) Projection distance [m (inch)]		(c) Screen height [cm (inch)]		(b) Projection distance [m (inch)]		(c) Screen height [cm (inch)]	
	min.	max.	down	up	min.	max.	down	up
30 (0.8)	0.9 (35)	1.1 (42)	5 (2)	41 (16)	1.0 (38)	1.2 (46)	-1 (0)	39 (15)
40 (1.0)	1.2 (47)	1.4 (57)	6 (2)	55 (22)	1.3 (51)	1.6 (62)	-2 (-1)	51 (20)
50 (1.3)	1.5 (59)	1.8 (71)	8 (3)	69 (27)	1.6 (65)	2.0 (78)	-2 (-1)	64 (25)
60 (1.5)	1.8 (71)	2.2 (86)	9 (4)	82 (32)	2.0 (78)	2.4 (94)	-2 (-1)	77 (30)
70 (1.8)	2.1 (83)	2.6 (100)	11 (4)	96 (38)	2.3 (91)	2.8 (110)	-3 (-1)	90 (35)
80 (2.0)	2.4 (96)	2.9 (115)	12 (5)	110 (43)	2.6 (104)	3.2 (126)	-3 (-1)	103 (41)
90 (2.3)	2.7 (108)	3.3 (130)	14 (5)	123 (49)	3.0 (117)	3.6 (141)	-4 (-1)	116 (46)
100 (2.5)	3.0 (120)	3.7 (144)	15 (6)	137 (54)	3.3 (131)	4.0 (157)	-4 (-2)	129 (51)
120 (3.0)	3.7 (144)	4.4 (174)	18 (7)	165 (65)	4.0 (157)	4.8 (189)	-5 (-2)	154 (61)
150 (3.8)	4.6 (181)	5.5 (217)	23 (9)	206 (81)	5.0 (197)	6.0 (237)	-6 (-2)	193 (76)
200 (5.1)	6.1 (241)	7.4 (291)	30 (12)	274 (108)	6.7 (263)	8.0 (317)	-8 (-3)	257 (101)
250 (6.4)	7.7 (302)	9.2 (364)	38 (15)	343 (135)	8.4 (329)	10.1 (396)	-10 (-4)	322 (127)
300 (7.6)	9.2 (363)	11.1 (437)	46 (18)	411 (162)	10.0 (395)	12.1 (476)	-12 (-5)	386 (152)

Adjusting the projector's elevator

⚠WARNING ►Do not adjust the projector's elevator during use or immediately after use. Handling while the projector is in a high temperature could cause a burn and/or malfunction to the projector.
⚠CAUTION ►If you press the elevator button without holding the projector, the projector might crash down, overturn, smash your fingers and possibly result in malfunction. To prevent damaging the projector and injuring yourself, always hold the projector whenever using the elevator buttons to adjust the elevator feet.
►Except for inclining by the elevator feet adjustment, place the projector horizontally.

1. After making sure that the projector is cool adequately, press and hold in the elevator buttons while holding the projector. The elevator buttons and the elevator feet are on the both sides.

2. Raise or lower the projector to the desired height and the release the elevator buttons.
When you release the elevator buttons, the elevator feet will lock into position.

Elevator feet   Elevator button

3. As necessary, you can also finely adjust the height of the projector by twisting the elevator feet by hand.

About the filter cover for bottom - up use

⚠WARNING ►For the projector installed bottom-up, use the accessory filter cover for bottom-up use. And in the case of a ceiling installation or the like, contact your dealer before installation.
►Do not replace the filter cover during use or immediately after use. While the projector connects with a power supply, or the projector is in a high temperature state, handling could cause an electric shock, a fire, a burn and/or malfunction to the projector.Before handling, make sure the power switch is off and the power cord is not plugged in, then wait at least 45 minutes.

1. After making sure that the projector is cool adequately, slowly turn the projector so that the lens-side is facing up. Please be careful for a projector not to fall. While the projector is placed lens-side up, hold the projector.

2. Unhooking the filter cover's claws, pull the filter cover in the direction of the arrow to remove it.

3. Replace the filter cover for bottom-up use and snap it back into place.

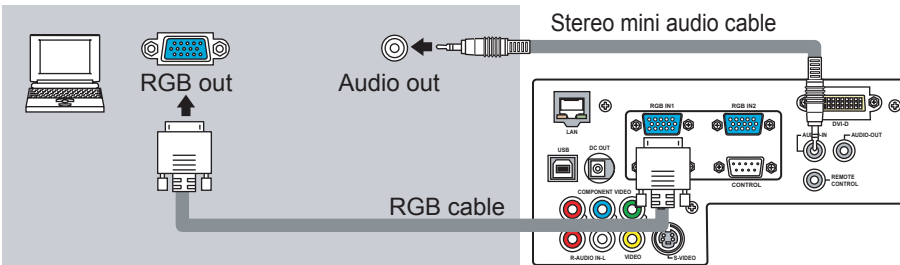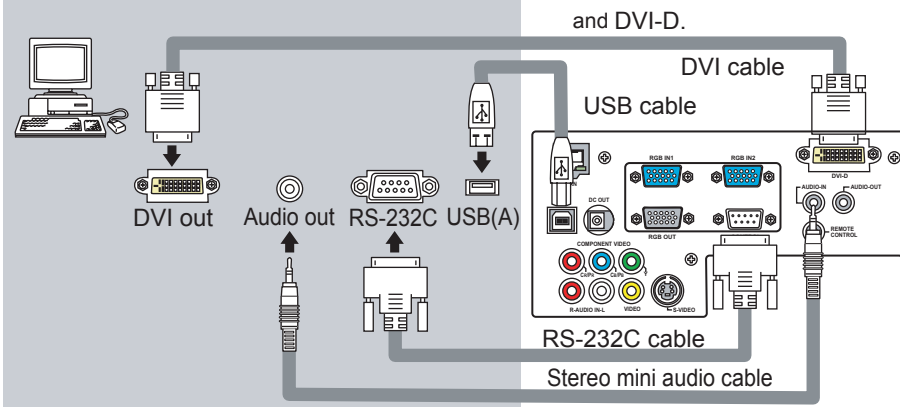4. Slowly turn the projector so that the top is facing up.
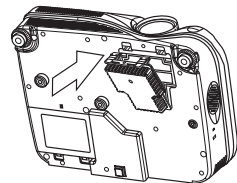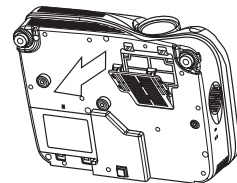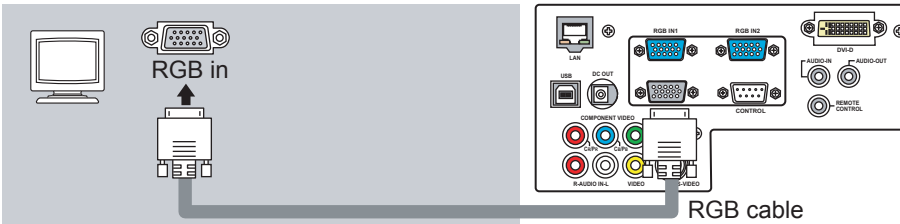
Connecting your devices

Examples of connection with a computer

* AUDIO IN is linked to RGB IN1/2 and DVI-D.

DVI cable

USB cable

DVI out   Audio out   RS-232C   USB(A)

RGB IN1   RGB IN2
DVI-D
AUDIO-IN   AUDIO-OUT
DC OUT
RGB OUT
REMOTE
CONTROL
COMPONENT VIDEO
R-AUDIO IN-L   VIDEO   S-VIDEO

RS-232C cable

Stereo mini audio cable

Stereo mini audio cable

RGB out   Audio out

LAN
RGB IN1   RGB IN2
DVI-D
USB   DC OUT   AUDIO-IN   AUDIO-OUT
CONTROL
REMOTE
CONTROL
COMPONENT VIDEO
R-AUDIO IN-L   VIDEO   S-VIDEO

RGB cable

Connecting to a monitor (output)

RGB in

LAN
RGB IN1   RGB IN2
DVI-D
USB   DC OUT   AUDIO-IN   AUDIO-OUT
CONTROL
REMOTE
CONTROL
COMPONENT VIDEO
R-AUDIO IN-L   VIDEO   S-VIDEO

RGB cable

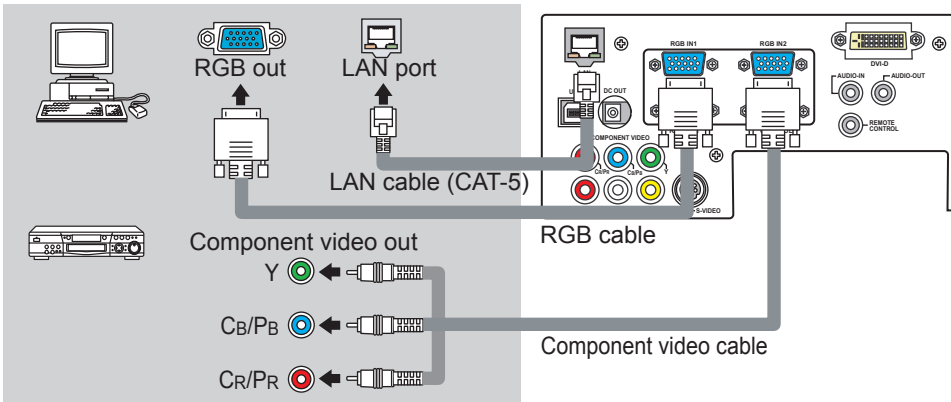### Connecting to a speaker with amplifier (output)

Audio in

LAN
RGB IN1   RGB IN2
DVI-D
USB   DC OUT   AUDIO-IN   AUDIO-OUT
RGB OUT   CONTROL
COMPONENT VIDEO
R-AUDIO IN-L   VIDEO   S-VIDEO

Stereo mini audio cable

4
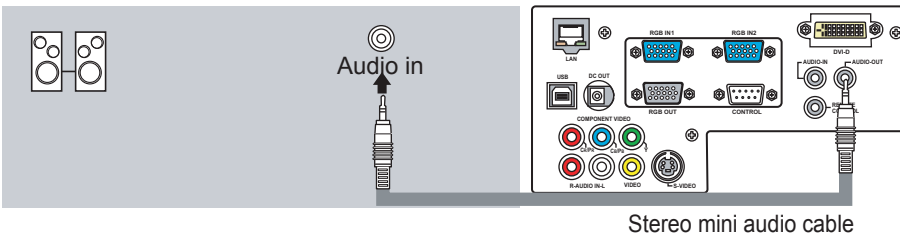
ENGLISH

Examples of connection with a VCR/DVD player

Audio/Video cable

Video out

Audio (L) out

Audio (R) out

RGB IN1 RGB IN2

LAN

DVI-D

AUDIO-IN AUDIO-OUT

USB

COMPONENT VIDEO RGB OUT CONTROL

REMOTE
CONTROL

CB/PB CR/PR

R-AUDIO IN-L VIDEO S-VIDEO

S-Video cable

S-Video out

Audio (L) out

Audio (R) out Audio cable

RGB IN1 RGB IN2

LAN

DVI-D

AUDIO-IN AUDIO-OUT

COMPONENT VIDEO RGB CONTROL

REMOTE
CONTROL

CB/PB CR/PR

R-AUDIO IN-L VIDEO S-VIDEO

Component video out Component video cable

Y

CB/PB

CR/PR

Audio (L) out

Audio (R) out Audio cable

RGB IN1 RGB IN2

DVI-D

AUDIO-IN AUDIO-OUT

COMP VIDE RGB OUT CONTROL

REMOTE
CONTROL

CB/PB CR/PR

AUDIO VIDEO S-VIDEO

RGB out LAN port

LAN cable (CAT-5)

Component video out RGB cable

Y

CB/PB

CR/PR Component video cable

RGB IN1 RGB IN2

DVI-D

DC OUT

AUDIO-IN AUDIO-OUT

COMPONENT VIDEO

REMOTE
CONTROL

CB/PB CR/PR

S-VIDEO

5

Laser pointer

⚠**WARNING** ►The laser pointer of the remote control is used in place of a finger or rod. Never look directly into the laser beam outlet or point the laser beam at other people. The laser beam can cause vision problems.
⚠**CAUTION** ►Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Complies with 21 CFR 1040.10 and 1040.11.
SMK CORPORATION
6-5-5 Togoshi Shinagawa-ku, Tokyo, JAPAN 142-8511
MANUFACTURED June 2002   PLACE OF MANUFACTURER : A
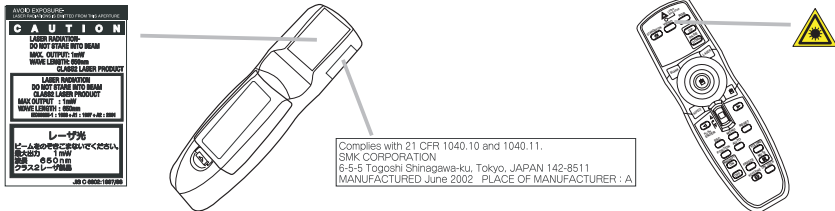
This remote control has a laser pointer in place of a finger or rod. The laser beam works and theLASER INDICATOR lights while the LASER button is pressed.

Putting batteries into the remote control

⚠**WARNING** ►Always handle the batteries with care and use them only as directed. Improper use may result in battery explosion, cracking or leakage, which could result in fire, injury and/or pollution of the surrounding environment.
• Be sure to use only the batteries specified. Do not use batteries of different types at the same time. Do not mix a new battery with used one.
• Make sure the plus and minus terminals are correctly aligned when loading a battery.
• Keep a battery away from children and pets.
• Do not recharge, short circuit, solder or disassemble a battery.
• Do not allow a battery in a fire or water. Keep batteries in a dark, cool and dry place.
• If you observe a leakage of a battery, wipe out the flower and then replace a battery. If the flower adheres your body or clothes, rinse well with water immediately.

1. Remove the battery cover.
   Slide back and remove the battery cover in the direction of the arrow.

2. Insert the batteries.
   Align and insert the two AA batteries according to their plus and minus   terminals as indicated in the remote control.

3. Close the battery cover.
   Replace the battery cover in the direction of the arrow and snap it back into place.

6
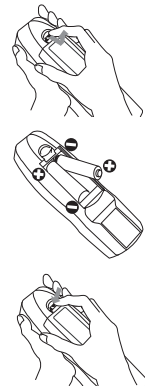
Connecting the power supply

⚠WARNING ►Please use extra caution when connecting the power cord as incorrect or faulty connections may result in fire and/or electrical shock.
• Only use the power cord that came with the projector. If it is damaged, contact your dealer to newly get correct one.
• Only plug the power cord into an outlet rated for use with the power cord's specified voltage range.
• Never modify the power cord. Never attempt to defeat the ground connection of the three-pronged plug.

1. Connect the connector of the power cord to the AC inlet of the projector.

2. Firmly plug the power cord's plug into the outlet.

Connector of the power cord

AC inlet
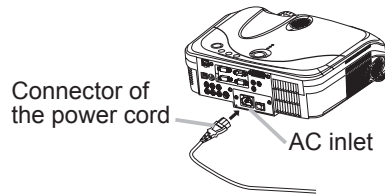
Operating

⚠WARNING ►When the power is on, a strong light is emitted. Do not look into the lens or vents of the projector.

Turning on the power

1. Set the power switch to the ON position.

POWER (Solid orange)

2. Press the STANDBY/ON (projector or remote control) button.

POWER (Blinking green)   POWER (Solid green)
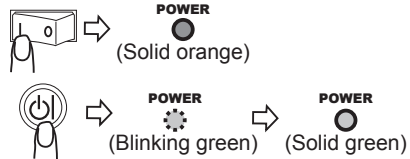
Displaying

1. To select an input signal, use the button of INPUT (projector), or the buttons of RGB, VIDEO or ONE TOUCH (remote control).

2. To change the aspect ratio, use the button ASPECT (remote control).

Zoom knob

Focus ring

3. To adjust the zoom and focus, use the zoom knob and the focus ring.

Turning off the power

1. Press the STANDBY/ON (projector or remote control) button.
The message "Power off?" will appear on the screen for approximately 5 seconds.

2. Press the STANDBY/ON (projector or remote control) button again while the message is visible.
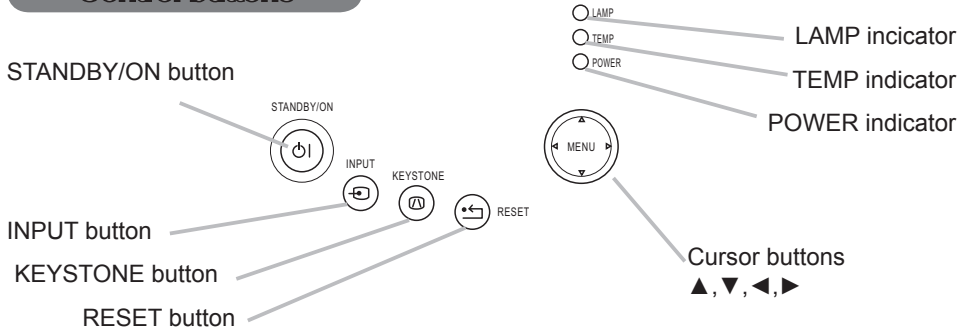The projector lamp will go off, and the POWER indicator will begin blinking orange. Then the POWER indicator will stop blinking and light to solid orange when the lamp cooling is complete.
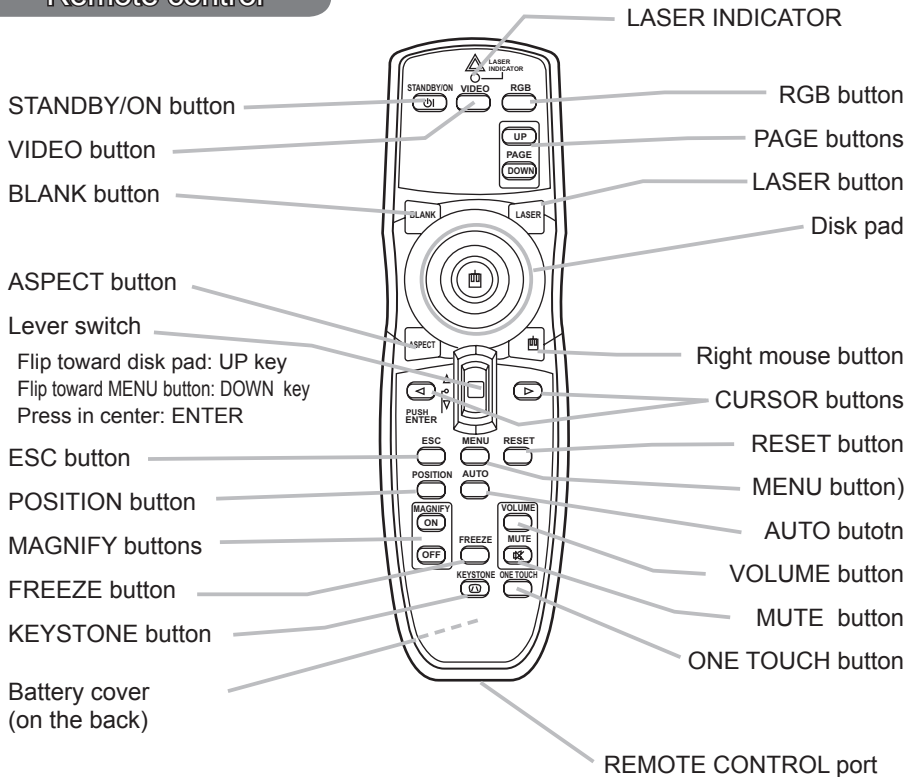
POWER (Blinking orange)
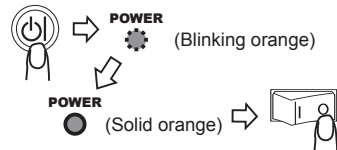
POWER (Solid orange)

3. Make sure that the power indicator lights to solid orange, set the power switch to the OFF position. The POWER indicator will go off.

ENGLISH

Control buttons

STANDBY/ON button

STANDBY/ON

INPUT   KEYSTONE

INPUT button

KEYSTONE button   RESET

RESET button

○ LAMP
○ TEMP
○ POWER

MENU

LAMP incicator

TEMP indicator

POWER indicator

Cursor buttons
▲, ▼, ◄, ►

Remote control

LASER INDICATOR

STANDBY/ON button

STANDBY/ON   VIDEO   RGB

VIDEO button

BLANK button

UP
PAGE
DOWN

BLANK   LASER

RGB button

PAGE buttons

LASER button

Disk pad

ASPECT button

Lever switch
 Flip toward disk pad: UP key
 Flip toward MENU button: DOWN key
 Press in center: ENTER

ASPECT

PUSH
ENTER

ESC button

POSITION button

MAGNIFY buttons

FREEZE button

KEYSTONE button

ESC   MENU   RESET

POSITION   AUTO

MAGNIFY   VOLUME
ON

OFF   FREEZE   MUTE

KEYSTONE   ONE TOUCH

Right mouse button

CURSOR buttons

RESET button

MENU button)

AUTO butotn

VOLUME button

MUTE button

ONE TOUCH button

Battery cover
(on the back)

REMOTE CONTROL port

Laser switch (Inside of the battery cover)
   1: enables the laser function
   2: disables the laser function

8

Lamp

⚠ **WARNING**   ⚡ HIGH VOLTAGE   🌡 HIGH TEMPERATURE   ⚠ HIGH PRESSURE
►The projector uses a high-pressure mercury glass lamp. The lamp can <u>break with a loud bang, or burn out</u>, if jolted or scratched, handled while hot, or worn over time. Note that each lamp has a different lifetime, and some may burst or burn out soon after you start using them. In addition, when the bulb bursts, it is possible for <u>shards of glass</u> to fly into the lamp housing, and for <u>gas containing mercury</u> to escape from the projector's vent holes.
►**About disposal of a lamp** • This product contains a mercury lamp; do not put in trash. Dispose of in accord with environmental laws. For lamp recycling, go to www.lamprecycle.org. (in the US) For product disposal, contact your local government agency or www.eiae.org (in the US) or www.epsc.ca (in Canada). For more information, call your dealer.

|	
Disconnect the plug from the power outlet	• If the lamp should break (it will make a loud bang when it does), unplug the power cord from the outlet, and make sure to request a replacement lamp from your local dealer. Note that shards of glass could damage the projector's internals, or cause injury during handling, so please do not try to clean the projector or replace the lamp yourself. • If the lamp should break (it will make a loud bang when it does), ventilate the room well, and make sure not to breathe the gas that comes out of the projector vents, or get it in your eyes or mouth. • Before replacing the lamp, turn the projector off and unplug the power cord, then wait at least 45 minutes for the lamp to cool sufficiently. Handling the lamp while hot can cause burns, as well as damaging the lamp.
🚫	• Never unscrew except the appointed (marked by an arrow) screws. • Do not open the lamp cover while the projector is suspended from above. This is dangerous, since if the lamp's bulb has broken, the shards will fall out when the cover is opened. In addition, working in high places is dangerous, so ask your local dealer to have the lamp replaced even if the bulb is not broken. • Do not use the projector with the lamp cover removed. At the lamp replacing, make sure that the screws are screwed in firmly. Loose screws could result in damage or injury.
❗	• Use only the lamp of the specified type. • If the lamp breaks soon after the first time it is used, it is possible that there are electrical problems elsewhere besides the lamp. If this happens, contact your local dealer or a service representative. • Handle with care: jolting or scratching could cause the lamp bulb to burst during use. • If the indicators or a message prompts you to replace the lamp (see the "User's Manual - Operating Guide"), replace the lamp as soon as possible. Using the lamp for long periods of time, or past the replacement date, could cause it to burst. Do not use old (used) lamps; this is a cause of breakage.

9

When the indicators or a message prompts you to replace the lamp, replace the lamp as soon as possible.

1. Turn the projector off, and unplug the power cord. Allow the lamp to cool for at least 45 minutes.

2. To prepare a new lamp, contact your dealer and tell the lamp type number = **DT00691**. If the projector is mounted on the ceiling, or if the lamp has broken, also ask the dealer to replace the lamp.

Lamp cover

In the case of replacement by yourself,

3. After making sure that the projector has cooled adequately, slowly turn over the projector, so that the bottom is facing up.

Screws

4. Please unhook the claws of the lamp cover and remove the lamp cover.

5. Loosen the 2 screws (marked by arrow) of the lamp, and slowly pick up the lamp by the handles.

6. Insert the new lamp, and retighten firmly two screws that are loosened in the previous process to lock it in place.

Screws marked by arrow

7. Interlocking the 2 tabs of the lamp cover to the projector, position the lamp cover on the projector. Then push the center point of two claws to fix the lamp cover.

8. Slowly turn the projector so that the top is facing up.

Tabs

Center point of claws

9. Turn the projector on, and reset the lamp time using the LAMP TIME function of OPTION menu.

Screws
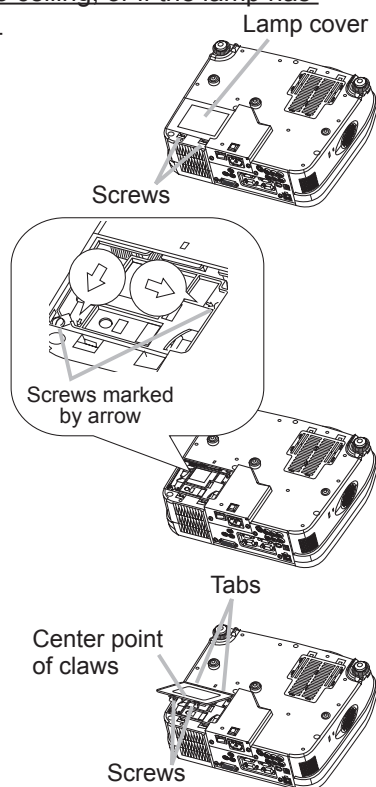
NOTE • When the lamp has been replaced after the message of "THE POWER WILL TURN OFF AFTER 0hr." is displayed, complete the following operation within 10 minutes of switching power on.
• Incorrectly resetting of the lamp timer (resetting without replacement, or neglect of resetting after replacement) will result in incorrect message functions.

Air filter

⚠**WARNING** ►Before caring, make sure the power switch is off and the power cable is not plugged in, then allow the projector to cool sufficiently. The care in a high temperature state of the projector could cause a burn and/or malfunction to the projector.
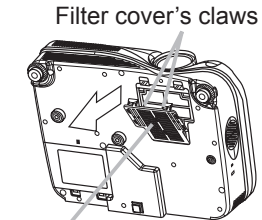►Use only the air filter of the specified type. Do not use the projector with the air filter and filter cover removed.
►Avoid wetting the projector or inserting liquids in the projector. It could result in a fire, an electric shock, and and/or malfunction to the projector.
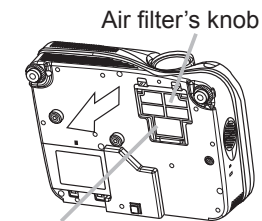⚠**CAUTION** ►Please replace the air filter when it is damaged or too soiled, and also when you replace the lamp.

When the indicators or a message prompts you to clean the air filter, clean the air filter as soon as possible. If the air filter becomes clogged by dust or the like, internal temperatures rise and the power may be automatically turned off for malfunction prevention.

1. Turn the projector off, and unplug the power cord. Allow the projector to cool for at least 45 minutes. And prepare a vacuum cleaner.

Filter cover's claws

2. After making sure that the projector is cool adequately, slowly turn the projector so that the lens-side is facing up. Please be careful for a projector not to fall. While the projector is placed lens-side up, hold the projector.

3. Unhooking the filter cover's claws, pull the filter cover in the direction of the arrow to remove it.

Filter cover

4. Holding the air filter's knob, pull the air filter off.

Air filter's knob

5. Apply a vacuum cleaner to the vent of the projector for the air filter. And then slowly turn the projector bottom up.

6. Apply a vacuum cleaner to the air filter and filter cover. Please replace the air filter when it is damaged or too soiled. To prepare a new air filter, contact your dealer and tell the air filter type number = **NJ20642.**

Air filter

An air filter of specified type will come even with the replacement lamp for this projector.

7. Position the cleaned air filter or a new air filter into place, and push the points of "PUSH" word with claws to fix the air filter.

8. Replace the filter cover and snap it back into place.

9. Slowly turn the projector so that the top is facing up.

10. Turn the projector on, and reset the filter time using the FILTER TIME function of OPTION menu.

NOTE • Incorrectly resetting of the filter timer (resetting without replacement, or neglect of resetting after replacement) will result in incorrect message functions.

About "User's Manual – Operating Guide"

The "User's Manual - Operating Guide" of this projector is written into the CD-ROM. Before using, please read the following and use the CD-ROM correctly.

⚠**CAUTION** • Only use the CD-ROM in a computer CD drive. The CD-ROM is designed for PC use only. NEVER INSERT THE CD-ROM INTO A NON-COMPUTER CD PLAYER! Inserting the CD-ROM into an incompatible CD drive may produce a loud noise, which in turn MAY RESULT IN EAR AND SPEAKER DAMAGE!
• After using CD-ROM, please put it into CD case and keep it. Please keep the CD neither in direct sunlight nor in a high temperature and high humidity environment.

NOTE

• The information in the CD-ROM is subject to change without notice.
• No responsibility is taken for any obstacle and defect to hardware and software of your PC as a result of the use of the CD.-ROM.
• All or Any part of the information in the CD-ROM must not be copied, reproduced or republished without notice to our company.

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■ System requirements

The system for using the CD-ROM requires the following.
Windows®:   OS:Microsoft® Windows® 95, 98, 98SE, NT4.0, Me, 2000/XP
                   CPU:Pentium® processor 133MHz / Memory:32MB or more
Macintosh®:   OS:Mac OS 10.2 or later
                   CPU:Power PC® / Memory:32MB or more
CD-ROM drive: 4x CD-ROM drive
Display: 256 color / 640x480 dots resolution
Applications: Microsoft Internet Explorer4.0 and
                   Adobe Acrobat Reader 4.0 or later

■ Use the attached CD-ROM

1. Insert CD into PC's CD-ROM drive.
Windows®: In a while, Web browser automatically starts. Start up window comes up.
Macintosh®:(1) Double-click on the "Hitachi Projectors" icon appeared on the desktop screen.
(2) When "main.html" file is clicked, Web browser will start and Initial window will appear.
2. Acrobat®Reader® is required to open the manual on the CD-ROM. If it is not on your PC, please download the Acrobat® Reader® 5.1 from Adobe Web site. Click the "Get Acrobat Reader" button on the screen to access there.
Windows®: CD-ROM includes installer of Acrobat Reader 5.1 English version.
Clicking "for Windows" on the screen starts installer program.
3. Click the model name of your projector first, and then click language you want from the displayed list. The operating guide will open.

12