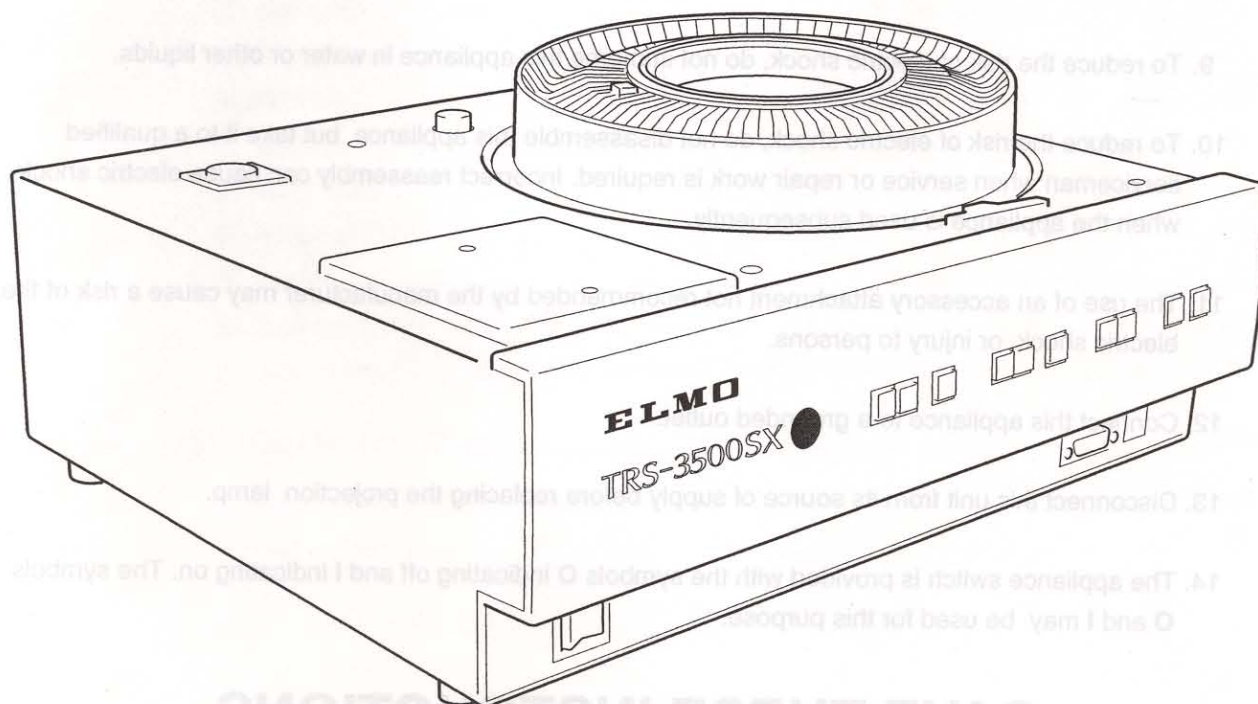# ELMO

High Resolution Slide Film Presenter

TRS-3500SX

INSTRUCTION MANUAL

IMPORTANT SAFEGUARDS

When using your photographic equipment, basic safety precautions should always be followed, including the following:

1. Read and understand all instructions before using.

2. Close supervision is necessary when any appliance is used by or near children. Do not leave appliance unattended while in use.

3. Care must be taken as burns can occur from touching hot parts.

4. Do not operate appliance with a damaged cord or if the appliance has been dropped or damaged-until it has been examined by a qualified serviceman.

5. Position the cord so that it will not be tripped over, pulled, or contact hot surfaces.

6. If an extension cord is necessary, a cord with a suitable current rating at least equal to that of the appliance should be used.
Cords rated for less amperage than the appliance may overheat.

7. Always unplug appliance from electrical outlet before cleaning and servicing and when not in use. Never yank cord to pull plug from outlet. Grasp plug and pull to disconnect.

8. Let appliance cool completely before putting away. Store cord in a manner provided.

9. To reduce the risk of electric shock, do not immerse this appliance in water or other liquids.

10. To reduce the risk of electric shock, do not disassemble this appliance, but take it to a qualified serviceman when service or repair work is required. Incorrect reassembly can cause electric shock when the appliance is used subsequently.

11. The use of an accessory attachment not recommended by the manufacturer may cause a risk of fire, electric shock, or injury to persons.

12. Connect this appliance to a grounded outlet.

13. Disconnect this unit from its source of supply before replacing the projection lamp.

14. The appliance switch is provided with the symbols **O** indicating off and **I** indicating on. The symbols **O** and **I** may be used for this purpose.

SAVE THESE INSTRUCTIONS

IMPORTANT SAFEGUARDS

INFORMATION

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

USER-INSTALLER CAUTION: Your authority to operate this FCC verified equipment could be voided if you make changes or modifications not expressly approved by the party responsible for compliance to Part 15 of the FCC rules.

HANDLING PRECAUTIONS

Thank you for purchasing the ELMO High Resolution Slide Film Presenter TRS-3500XG.
Carefully read this instruction manual before use to ensure proper operation. Please keep this manual in a convenient place for quick reference.

■ If the Presenter is used for purposes other than specified, we cannot guarantee its performance, service life, or safety.

■ Do not expose the Presenter to direct sunlight or leave it in close proximity to a heater. Doing so may cause discoloration, deformation, or mechanical problems.

■ Set the Presenter in a place free from excessive humidity and dust, sea air, and strong vibration.
Use the Presenter in the following conditions:
   Temperature: 5°C ~ 40°C (32°F ~104°F)
   Humidity: 30% ~ 85% (No condensation allowed)

■ Use only a soft, dry cloth for cleaning. Using benzine or thinner for cleaning may damage the coating or resin.

■ Precautions about dry batteries
   · If the Presenter is not operated for a long time, take out all dry batteries.
   · Do not use chargeable batteries (Ni-Cd).
   · Do not use the dry batteries of different power or type together.
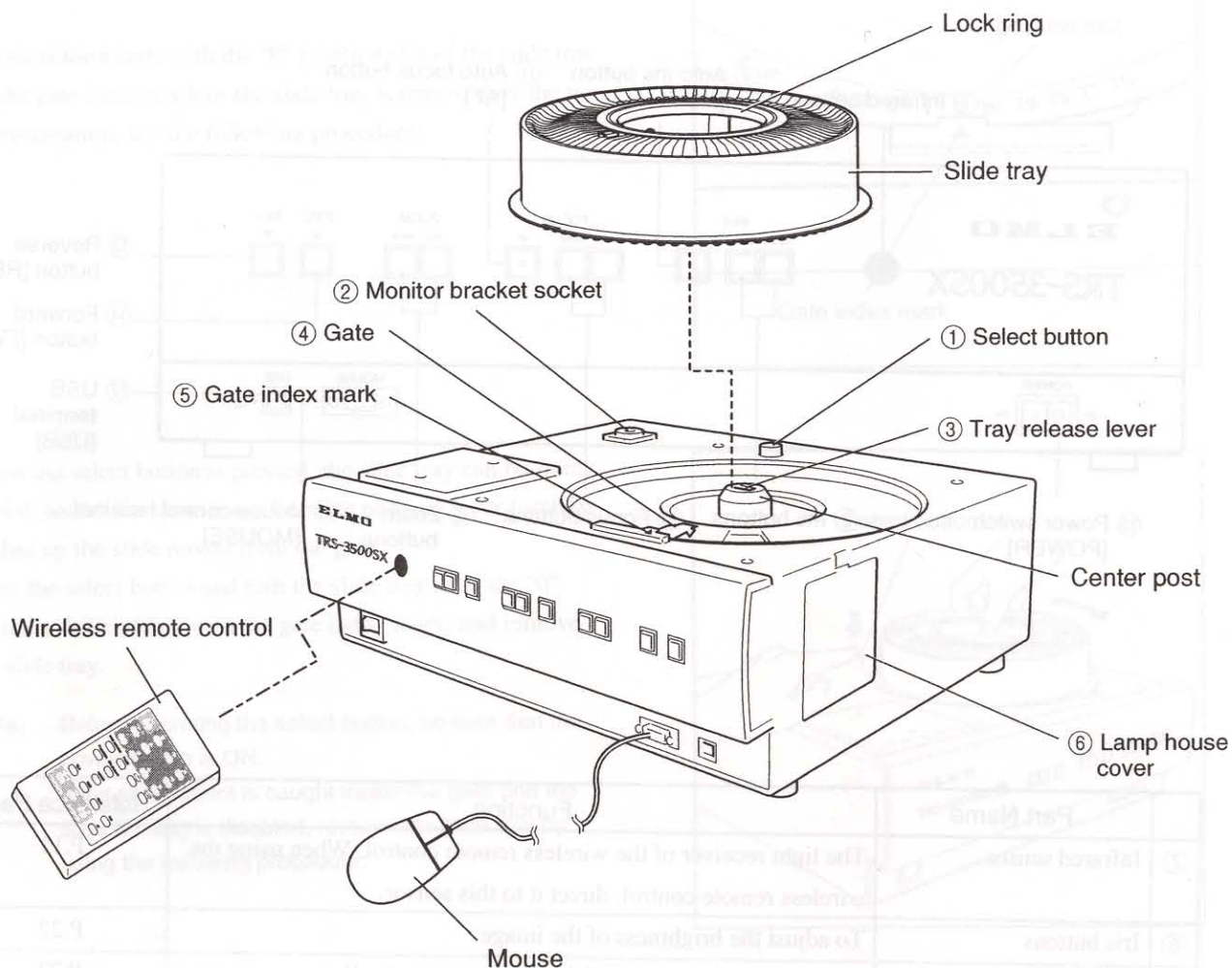   · Do not charge or short-circuit the dry batteries.

CONTENTS

CONTENTS

1 Part Names and Functions

■ Overall view

Lock ring

Slide tray

② Monitor bracket socket

④ Gate

⑤ Gate index mark

① Select button

③ Tray release lever

Center post

ELMO

TRS-3500SX

Wireless remote control

⑥ Lamp house cover

Mouse

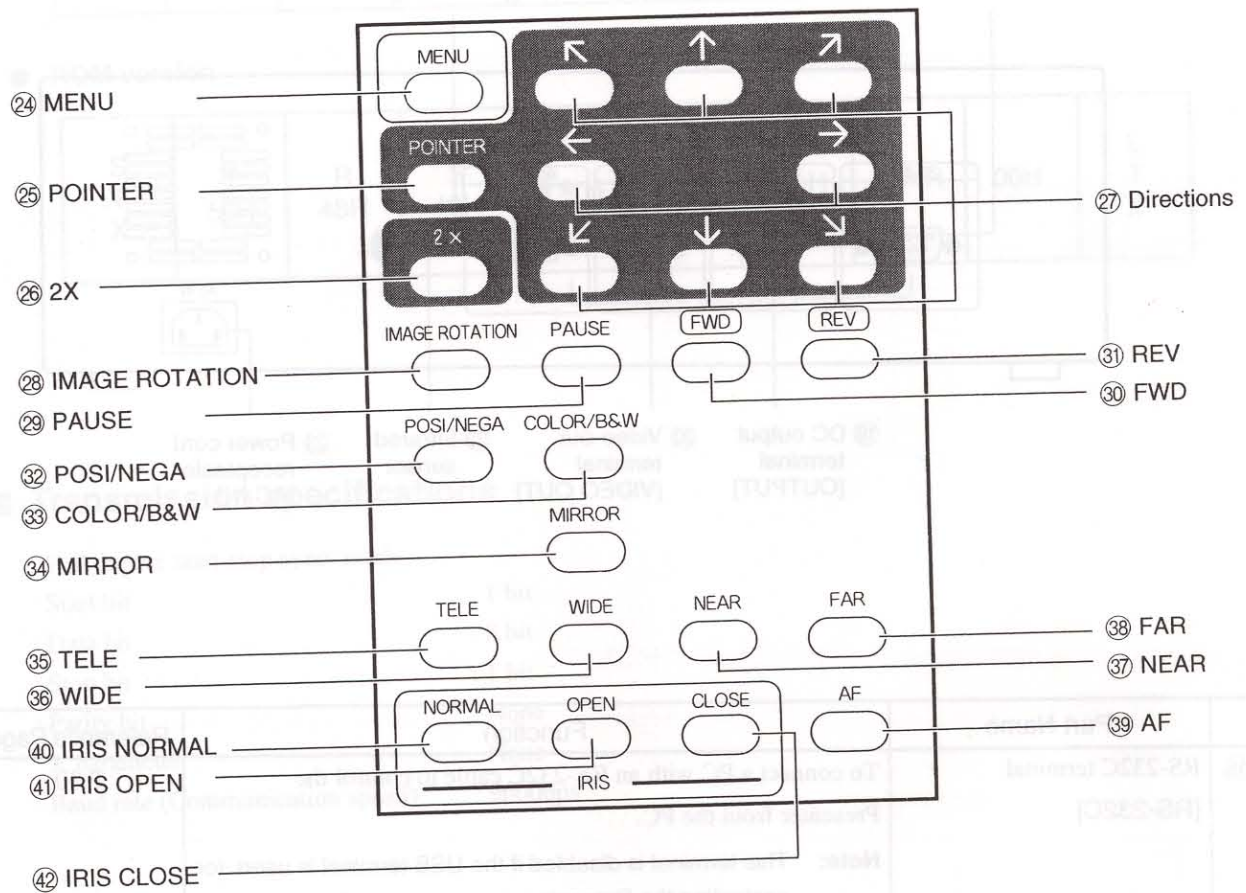|	Part Name	Function	Reference Page
①	Select button	To manually rotate the slide tray.	P.36
②	Monitor bracket socket	To install the LCD monitor through the LCD monitor bracket (option).	P.24
③	Tray release lever	To remove the slide tray in manual turn mode.	P.36
④	Gate	To allow the slide mount to drop.	—
⑤	Gate index mark	To serve as a match mark when the slide tray is installed/removed.	P.13, P.36
⑥	Lamp house cover	To access to the lamp inside the lamp house for lamp replacement.	P.37

6

■ Operation panel

⑦ Infrared sensor   ⑨ Auto iris button [NORMAL]   ⑪ Auto focus button [AF]

ELMO
TRS-3500SX

IRIS
CLOSE OPEN   NORMAL

FOCUS
FAR NEAR   AF

ZOOM
TELE WIDE

FWD ▲ REV ▼

⑬ Reverse button [REV]

⑭ Forward button [FWD]

POWER
OFF O I ON

MOUSE   USB

⑰ USB terminal [USB]

⑮ Power switch [POWER]   ⑧ Iris buttons   ⑩ Focus buttons   ⑫ Zoom buttons   ⑯ Mouse control terminal [MOUSE]
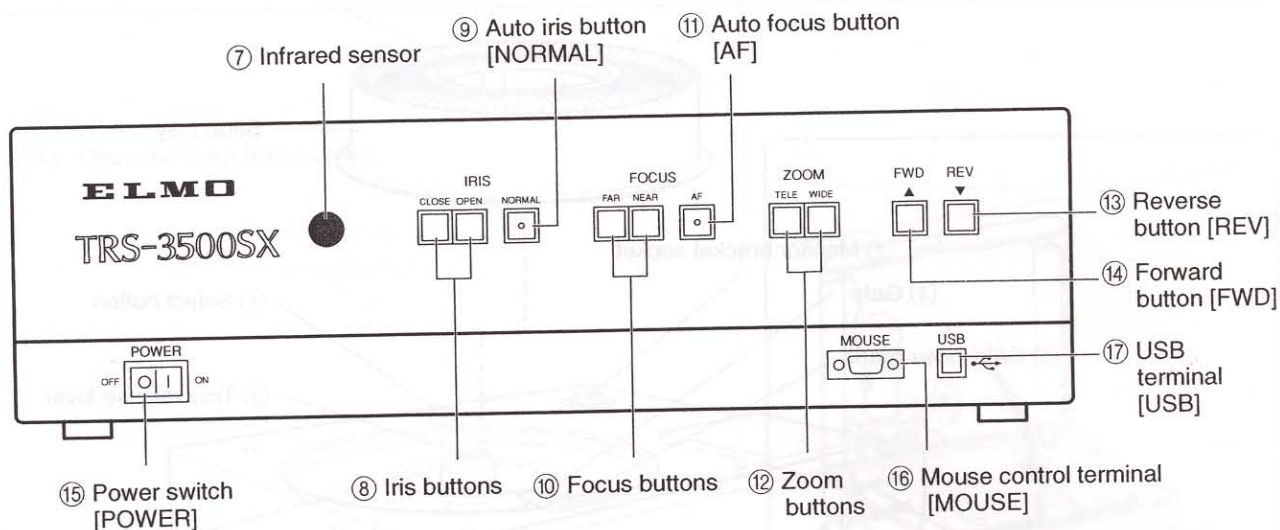
	Part Name	Function	Reference Page
⑦	Infrared sensor	The light receiver of the wireless remote control. When using the wireless remote control, direct it to this sensor.	P.11
⑧	Iris buttons	To adjust the brightness of the image.	P.22
⑨	Auto iris button [NORMAL]	To adjust the brightness of the image automatically.	P.22
⑩	Focus buttons	To adjust the focus.	P.20
⑪	Auto focus button [AF]	To focus automatically. This is of one-shot auto focus system (FOCUSFREE).	P.18, P.19
⑫	Zoom buttons	To adjust the size of the image.	P.18, P.19, P.20
⑬	Reverse button [REV]	To send the slide tray clockwise by one frame.	P.17
⑭	Forward button [FWD]	To send the slide tray counterclockwise by one frame.	P.17
⑮	Power switch [POWER]	To turn ON/OFF the power supply.	P.17
⑯	Mouse control terminal [MOUSE]	To connect the supplied mouse. **Note:** A serial type mouse is connected.	P.11
⑰	USB terminal [USB]	To connect the supplied USB cable to control the image transfer and the Presenter by using the supplied CD-ROM [Image Mate for TRS-35SX/3500SX]. **Note:** This terminal is disabled if the RS-232C terminal is used for controlling the Presenter.	P.24

7

■ Rear panel

⑱ RS-232C terminal [RS-232C]

㉑ Analog RGB output terminal [RGB OUT]

⑲ DC output terminal [OUTPUT]

⑳ Video-out terminal [VIDEO OUT]

㉒ Infrared sensor

㉓ Power cord receptacle [AC IN]
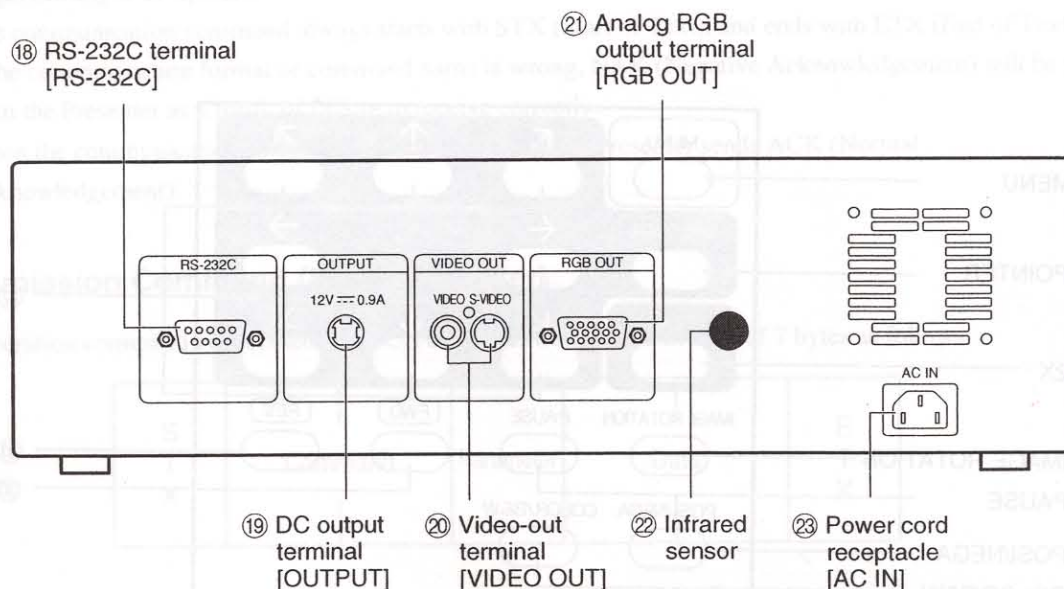
	Part Name	Function	Reference Page
⑱	RS-232C terminal [RS-232C]	To connect a PC with an RS-232C cable to control the Presenter from the PC. **Note:** This terminal is disabled if the USB terminal is used for controlling the Presenter.	P.30
⑲	DC Output terminal [OUTPUT]	USA: Call to ELMO USA Tech Support (800)947-3566 for further assistance. Others: Call to ELMO CANADA (Canada) or the ELMO exclusive distribtors.	—
⑳	Video-out terminal [VIDEO OUT]	To connect a PAL/NTSC conformable monitor, such as a TV monitor to output the image.	P.14
㉑	Analog RGB output terminal [RGB OUT]	To connect RGB input equipment, such as an LCD Projector and a Multi-SYNC Monitor, to output the image.	P.14
㉒	Infrared sensor	The light receiver of the wireless remote control. When operating the Presenter from behind, aim the wireless remote control at this light receiver.	P.11
㉓	Power cord receptacle [AC IN]	To connect the power cord.	P.17

■ Wireless remote control

㉔ MENU

㉕ POINTER

㉖ 2X

㉗ Directions

㉘ IMAGE ROTATION

㉙ PAUSE

㉛ REV

㉚ FWD

㉜ POSI/NEGA

㉝ COLOR/B&W

㉞ MIRROR

㉟ TELE

㊱ WIDE

㊳ FAR

㊲ NEAR

㊴ IRIS NORMAL

㊵ IRIS OPEN

㊳ AF

㊶ IRIS CLOSE

	Part Name	Function	Reference Page
㉔	MENU	To call the OSD (On-Screen Display) menu, and to fix the settings.	P.25
㉕	POINTER	To display the pointer on the screen.	P.23
㉖	2X	To electronically double the image size.	P.24
㉗	Directions	To move the video pointer displayed on the screen, to select the OSD item, and to scroll the screen in electronically enlarging an image or rotating an image (90°/270°).	P.23, P.24
㉘	IMAGE ROTATION	To rotate the image. Each time this button is pressed, the image rotates counterclockwise by 90°.	P.21
㉙	PAUSE	To temporarily hold the image.	P.23
㉚	Forward button (FWD)	To send the slide tray counterclockwise by one frame.	P.17
㉛	Reverse button (REV)	To send the slide tray clockwise by one frame.	P.17
㉜	POSI/NEGA	To select posi/nega modes.	P.21
㉝	COLOR/B&W	To select Color/B&W (Black&White) modes.	P.21
㉞	MIRROR	To turn over the image right and left.	P.22
㉟	TELE	To zoom in.	P.18, P.19, P.20
㊱	WIDE	To zoom out.	P.18, P.19
㊲	NEAR	To move the focus near.	P.20
㊳	FAR	To move the focus far.	P.20
㊴	AF	To focus automatically.	P.18, P.19
㊵	IRIS NORMAL	To set the iris automatically.	P.22
㊶	IRIS OPEN	To open the iris manually.	P.22
㊷	IRIS CLOSE	To close the iris manually.	P.22

○ Wireless remote control

Point the infrared emitting part of the wireless remote control unit at the infrared sensor of the Presenter, located at the front, and the rear panel, and press the button for the desired function.

The infrared sensors can receive the infrared light if it comes from the wireless remote control within 7 meters at an angle of 30 degrees or less right and left.

Notes:　· The sensitivity may be degraded when the Presenter is located under sunlight, or near inverter fluorescent lamps, or in any other unfavorable surroundings.
Depending on the conditions of fluorescent lamps, etc. the sensor may fail to receive the infrared light. In such a case, relocate the Presenter, or take other countermeasures.

· When using more than one Presenter together:
When controlling two or more TRS-3500SX located near each other with the wireless remote control, they operate in the same way. When controlling them with our Visual Presenter Series together, they also may operate in the same way. To operate individual Presenter only, turn OFF the power supply to all Presenters not to be used.

● Preparation

Remove the battery case cover by pressing downward on the [▼] mark part in the direction as indicated by the arrow. Install 2 pcs. of batteries (type LR03, AAA) into the case in the direction as indicated there.

Notes:　· Install the batteries with the right polarity.

· Change the batteries once a year.

· The batteries supplied with the Presenter are only for use in initially confirming the operation of the Presenter. It is not guaranteed that these batteries can work effectively for the indicated period.

○ Mouse

Connect the mouse to the mouse control terminal on the front operation panel.
The mouse can control the display and movement of the OSD and video pointer.
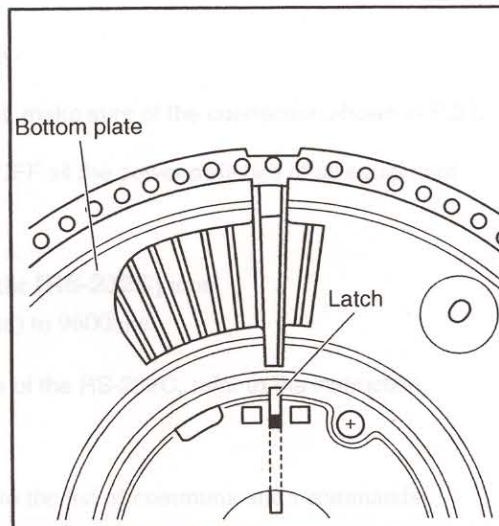
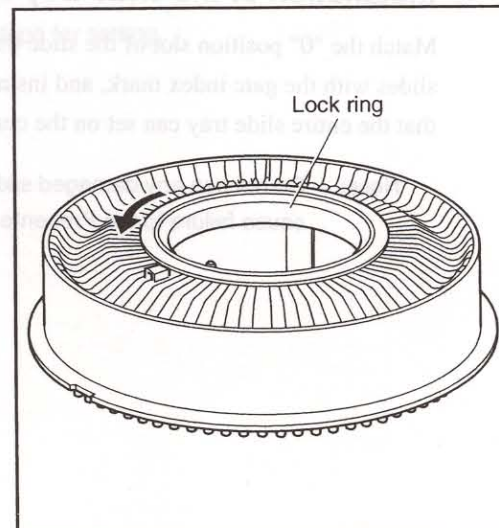| Reference Page	· OSD	P.25
	· Video pointer	P.23

2 Setting Up
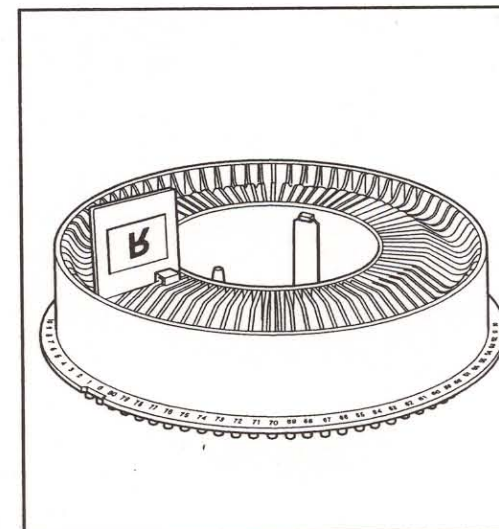
■ Setup of the slide tray

○ Loading of the slides

(1) Confirm that the bottom plate of the slide tray is latched.

If the bottom plate is not latched, turn the bottom plate until it is latched.

Bottom plate

Latch

(2) Turn the lock ring of the slide tray counterclockwise to remove the lock ring from the slide tray.

Lock ring

(3) Load the slides into the slide tray slots one by one from the slide No. 1 in identification with the slide tray No. For the information how to put the slides into the slide tray slots, refer to the right-hand figure. The slide should be held upside-down with, for example, the letter "R" as seen in the right-hand figure.

(4) After loading all the slides into the slide tray slots, set
the lock ring to the slide tray and turn the lock ring
clockwise to lock it to the slide tray.

Lock ring
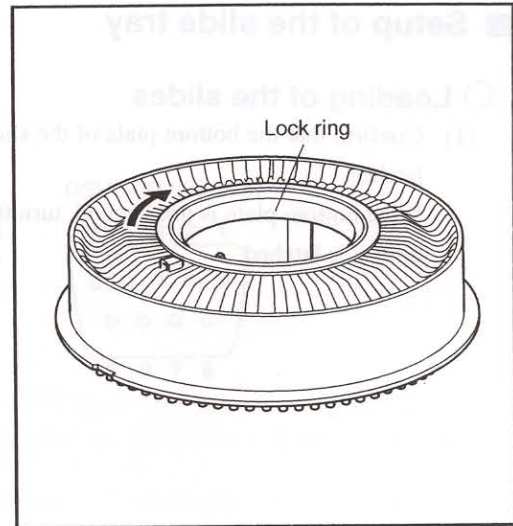
○ Installation of the slide tray to this High Resolution Slide Film Presenter

Match the "0" position slot of the slide tray loaded with the
slides with the gate index mark, and install the slide tray so
that the entire slide tray can set on the center post.

Note: Do not use any damaged slide mount, or it may
cause failure to the Presenter.

Gate index mark

7 6 5 4 3 2 1 0 80 79 78 77 76

13
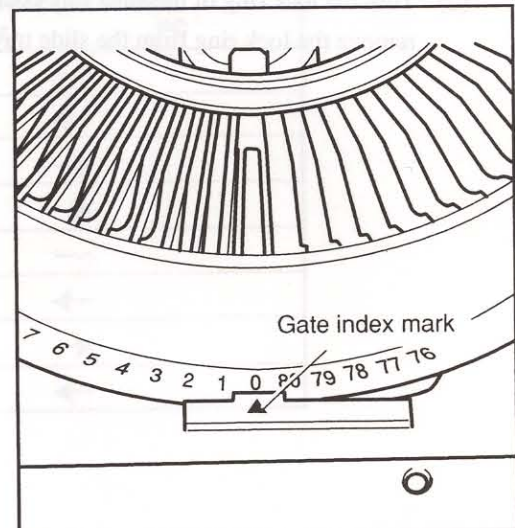
■ Connection to the monitor and the projector

Notes: · Be sure to turn OFF the power supply to all equipment before making any connections to protect the Presenter and all the connected equipment.

· Hold the cable plug part when connecting or disconnecting the cables.

○ Connection to the RGB-in terminal (1280 x 1024@75Hz)

Connect the RGB output terminal of the Presenter to the RGB input terminal of the equipment with the supplied RGB cable or an RGB connection cable available on the market.

If the display image shifts from the center, manually adjust the horizontal/vertical positions through the connected equipment.

If vertical stripes appear on the screen with the use of LCD projector, it may be improved by manually adjusting the dot-clock frequency of the projector.
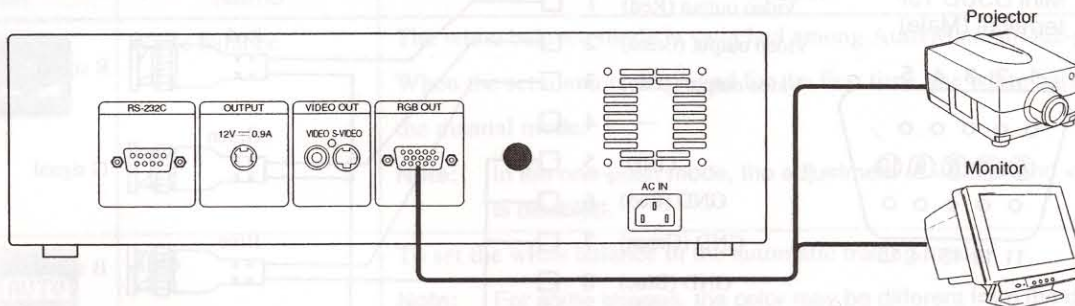
○ Connection to the composite video-in terminal

Use the supplied Video RCA cable.
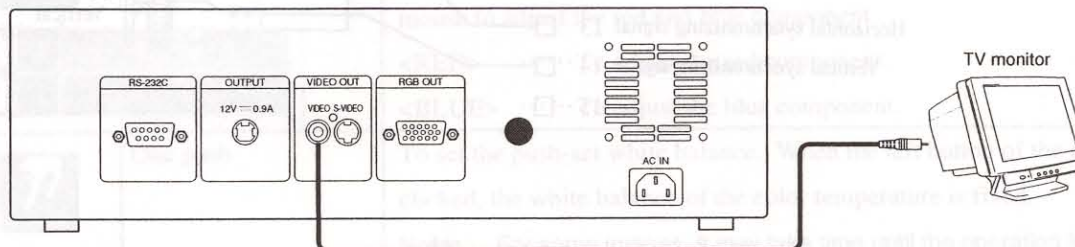
○ Connection to the S-video-in terminal

Connect the S-video-out terminal (mini DIN 4P) of the Presenter to the S-video-in terminal of the monitor.

For the S-video mode, use the supplied 4P mini DIN cable or an S-video connection cable available on the market.

If the equipment to be used is provided with a Y/C separate connector, a conversion adapter is necessary.
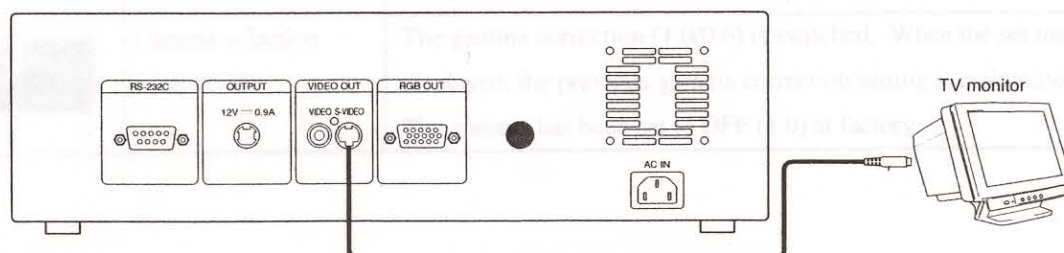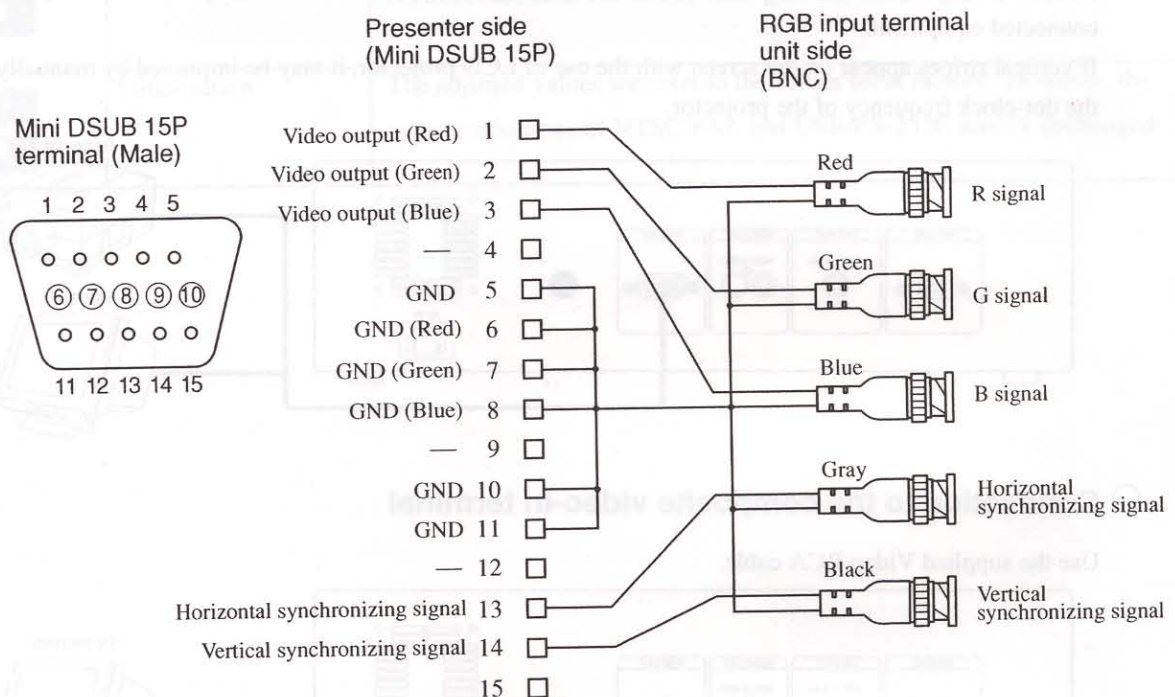
○ RGB output signal

● Signal assignment (Mini DSUB 15P terminal female)

Pin No.	Name	Pin No.	Name	Pin No.	Name
1	Video output (Red)	6	GND (Red)	11	GND
2	Video output (Green)	7	GND (Green)	12	NC
3	Video output (Blue)	8	GND (Blue)	13	Horizontal synchronizing signal
4	NC	9	NC	14	Vertical synchronizing signal
5	GND	10	GND	15	NC

● Connection of analog RGB cable

○ Operation mode and function correspondence table

Function	Operation mode	Normal mode	2X mode	Pausing mode	Nega mode	B&W mode	Mirror mode	Rotation mode
Screen operation	Posi/Nega conversion	○	○	–	□	○	○	○
	Color/B&W selection	○	○	–	○	□	○	○
	Mirror reverse	○	○	–	○	○	□	○
	Image rotation	○	○	–	○	○	○	□
	2X Electric zoom	○	□	–	○	○	○	○
	Freeze (Pause)	○	○	□	○	○	○	○
Slide operation (※1)	FWD	○	□	□	□	□	□	□
	REV	○	□	□	□	□	□	□
Camera operation	TELE	○	○	–	○	○	○	○
	WIDE	○	○	–	○	○	○	○
	NEAR	○	○	–	○	○	○	○
	FAR	○	○	–	○	○	○	○
	AF	○	○	–	○	○	○	○
	OPEN	○	○	–	○	○	○	○
	CLOSE	○	○	–	○	○	○	○
	NORMAL	○	○	–	○	○	○	○
Set menu operation	White balance	○	○	–	※2	○	○	○
	Aperture selection	○	○	–	○	○	○	○
	Gamma selection	○	○	–	○	○	○	○

○ : Operation available
— : Operation not available
□ : Set mode cancelled

※1　When the FWD or REV button is pressed, all functions after the Set menu are cancelled after frame feed.

※2　RED and BLUE inversely work in the manual mode.

3 Operation Procedures

(1) Plug the power cord (supplied) into the power receptacle, and then the other end into the AC receptacle.

(2) Install the slide tray on this High Resolution Slide Film Presenter.

> Reference page
> Setup of the slide tray   P.12

Rear panel

(3) Connect the analog RGB cable (supplied) or the video RCA cable (supplied).

> Reference page
> Connection to the monitor and projector   P.14

Rear panel

(4) Turn ON the power switch.

| Memo | When the power supply is turned ON, the focus, zoom and iris are automatically set to the lastly used status memorized in this Presenter. (It takes them about 5 seconds to be stabilized.) |

Front operation panel

TRS-3500SX

POWER

(5) Press the forward button **[FWD]** or reverse button **[REV]**. The slide tray turns, the slide mount drops into the gate, and the projection starts.

| Memo | When the forward/reverse button **[FWD]/[REV]** is pressed, the image output is retained for a while. When the next slide mount drops into the gate, the image is switched. |

Front operation panel

FOCUS   ZOOM   FWD REV

MOUSE   USB

Wireless remote control

IMAGE ROTATION   PAUSE   FWD   REV

Notes: · If this High Resolution Slide Film Presenter is placed close to a monitor, the monitor screen may sway due to the magnetic field effect caused by the forward/reverse of the slide tray. Provide a distance of over 1 m between this High Resolution Slide Film Presenter and the monitor.

· If the power switch is turned ON immediately after being turned OFF, the Presenter may not operate. For restarting, turn ON the power switch several seconds after turning OFF.
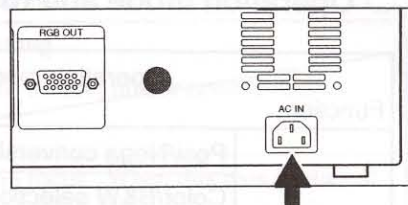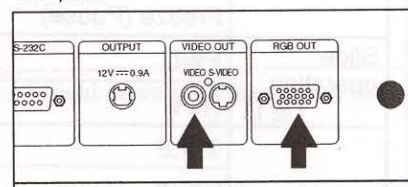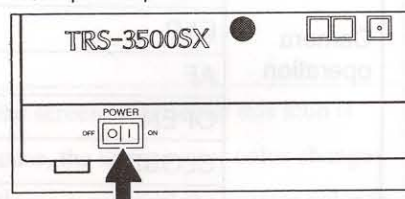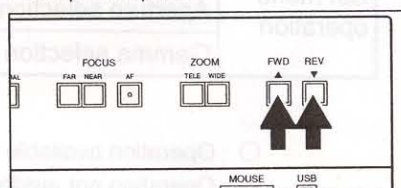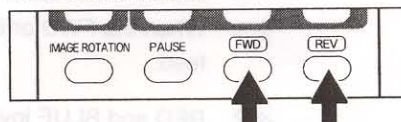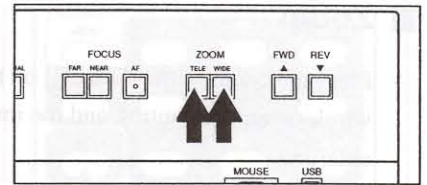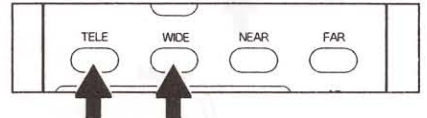
(6) While the slide mount set in the gate, adjust the image size on the screen by using the zoom button **[TELE]** and wide button **[WIDE]** on the front operation panel or wireless remote control.
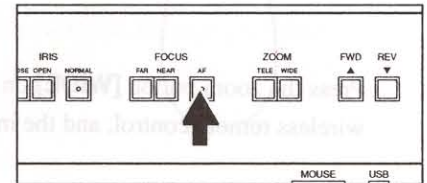
Front operation panel
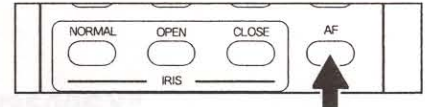
Wireless remote control

(7) Press the auto focus button **[AF]** on the front operation panel or remote control for focusing.
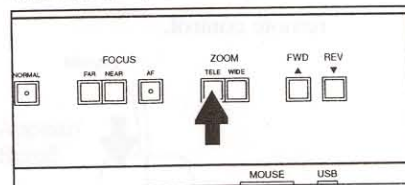
Front operation panel
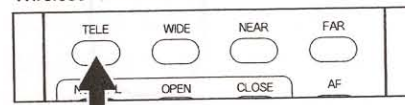
Wireless remote control

4 Various Function

■ Zoom

Press the zoom button **[TELE]** on the front operation panel or wireless remote control, and the image will gradually be enlarged.
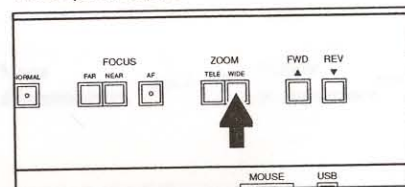
Front operation panel
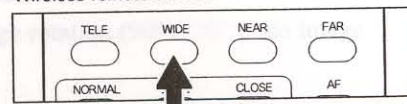
Wireless remote control

Press the zoom button **[WIDE]** on the front operation panel or wireless remote control, and the image will be gradually reduced.

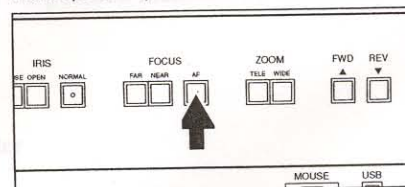**Front operation panel**

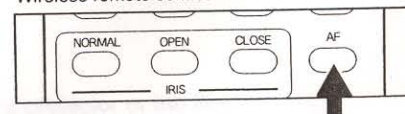**Wireless remote control**

■ Focus

○ Auto Focus

To operate Auto-Focus, press the auto focus button **[AF]** on the front operation panel or wireless remote control, and the Auto-Focus will be activated.
While the auto-focus is in operation, the indication lamp blinks until the object is brought into focus.

Front operation panel

Wireless remote control

The Presenter features a one-push auto focus function. Once focusing is completed, the auto focus function is released, and the focused position maintains unchanged. (FOCUSFREE)

To obtain sharper image, zoom in on the object in the auto-focus mode while pressing the zoom button **[TELE]** on the front operation panel or wireless remote control.

However, the objects listed below may not be brought into focus in the auto focus mode. In these cases, use the manual focus mode.

· Objects bearing little contrast
· Objects with fine repeated patterns, such as lateral stripes and cross stripes
· Objects with bright background, or excessive contrast
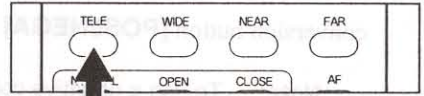· Objects in a dark picture plane

If the focus button **[NEAR]** or **[FAR]** on the front operation panel or wireless remote control is pressed during the auto focus, the auto focus will be released.

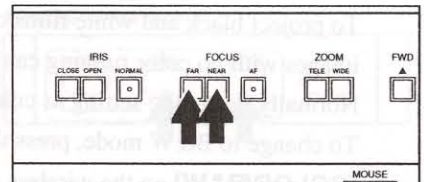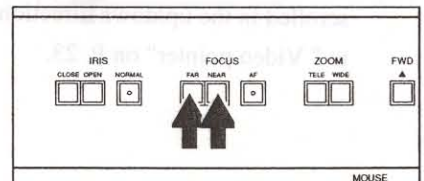**Note:** It may take some time to bring the camera into focus in the auto focus mode.
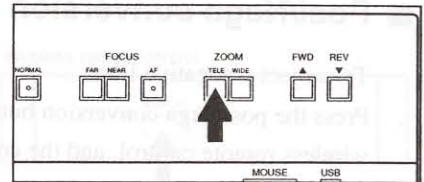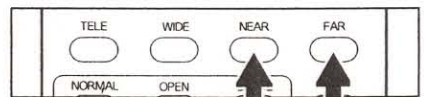
○ **Manual Focus**

To bring the object into focus manually.
Press the focus button **[NEAR]** or **[FAR]** on the front operation panel or wireless remote control.

Front operation panel

Wireless remote control

Front operation panel

Wireless remote control

Front operation panel

Wireless remote control

■ Posi/Nega conversion

To project a negative film.

Press the posi/nega conversion button **[POSI/NEGA]** on the wireless remote control, and the color of the image will be converted accordingly.

To return to the normal (POSI) mode, press the posi/nega conversion button **[POSI/NEGA]** again.

> **Note:** To use a negative color film, be sure to obtain the white balance (See P. 28). For some types of negative films, the image color may not be precisely reproduced when it is reversed.

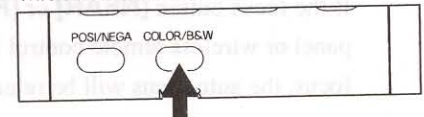Wireless remote control
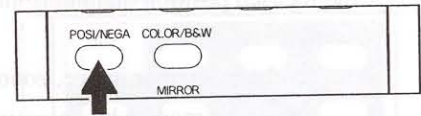
■ Color/B&W selection

To project black and white films of document, etc. More clear images with no color running can be obtained on the monitor. Normally, leave the setting as color display.

To change to B&W mode, press the color/B&W selection button **[COLOR/B&W]** on the wireless remote control.

To return to normal (COLOR) mode, press the color/B&W selection button **[COLOR/B&W]** again.

Wireless remote control

■ Image rotation

When the image rotation button **[IMAGE ROTATION]** on the wireless remote control is pressed, the image rotates.

Each time the image rotation button **[IMAGE ROTATION]** is pressed, the image rotates counterclockwise by 90°.

When the image is rotated by 90°or 270°, the screen can be scrolled in the up/down direction. For further information, refer to " Video pointer" on P. 23.

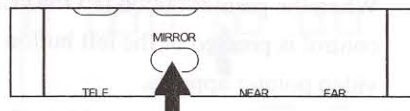Wireless remote control

Mouse

Appear/
Scroll
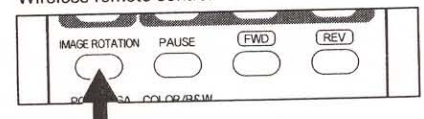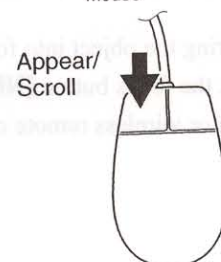
■ Mirror

When mirror button **[MIRROR]** on the wireless remote control is pressed, the image is turned over right and left.
When the mirror button **[MIRROR]** is pressed again, the normal image is resumed.
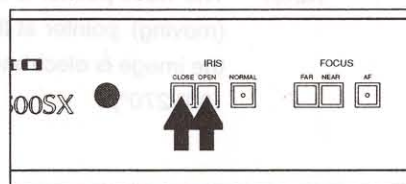
Wireless remote control

■ Iris

The iris can be manually adjusted.
To open the iris, press the manual iris button **[OPEN]** on the front operation panel or wireless remote control.
To close the iris, press the manual iris button **[CLOSE]** on the front operation panel or wireless remote control.
In the manual mode, the iris is fixed regardless of the change in lightness of object.

Front operation panel

Wireless remote control
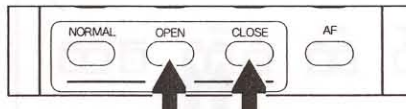
■ Auto iris

When the auto iris button **[NORMAL]** on the front operation panel or wireless remote control is pressed, the brightness is automatically set to the specified auto iris level on the OSD (Refer to P.27 for auto iris level adjustment.).

Note: During when the auto iris is in operation, the indicator lamp on the front operation panel is lighting.
When the manual iris open button **[OPEN]** or manual iris close button **[CLOSE]** is pressed, the auto iris is switched to the manual iris, and the indicator lamp on the front operation panel goes off.

Front operation panel
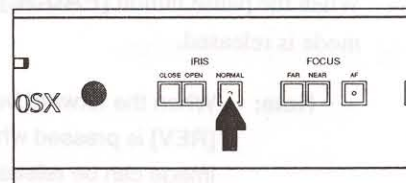
Wireless remote control

■ Video pointer

When the pointer button **[POINTER]** on the wireless remote
control is pressed or the left button of the mouse is clicked, the
video pointer appears.

The video pointer is moved by using the direction buttons on the
wireless remote control of the Presenter or by the mouse.

When the pointer button **[POINTER]** on the wireless remote
control is pressed or the left button of the mouse is clicked, the
video pointer disappears.

> **Note:** The video pointer is switched to the scrolling
> (moving) pointer at the screen scroll mode, such as
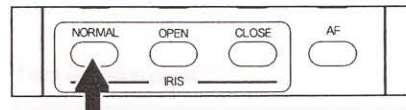> the image is electronically magnified or rotated
> (90°/270°).

Wireless remote control
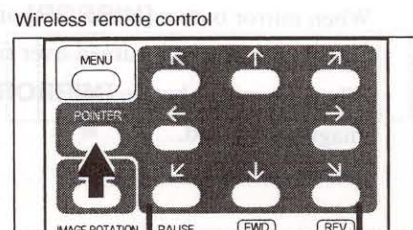
Mouse

Appear/
Scroll/
Diappear

■ Pause

When the pause button **[PAUSE]** on the wireless remote control
is pressed, the image is stored in pause mode. At this time, any
other switch cannot function.

When the pause button **[PAUSE]** is pressed again, the pause
mode is released.

> **Note:** When the forward button **[FWD]** or reverse button
> **[REV]** is pressed when the image is frozen, the
> image can be released from the frozen status.

Wireless remote control

IMAGE ROTATION   PAUSE   [FWD]   [REV]

POSI/NEGA   COL.../...W
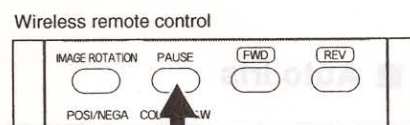
■ Enlarging the image

To electronically enlarge the image size.
When the button **[2X]** on the wireless remote control is pressed
or the right button of the mouse is clicked, the image is doubled,
and at the same time, the scrolling (moving) pointer appears.
The image can be enlarged only within the shooting area of the
main camera.

The screen is scrolled (moved) by using the direction buttons on
the wireless remote control of the Presenter or by dragging of the
mouse. The screen can be scrolled within the shooting area of
the built-in camera.
When the pointer is placed at the corner of the screen, the image
is scrolled toward the corner.

> **Note:** The image can be enlarged with the mouse only
> when the pointer is in display.

Wireless remote control

Mouse

Scroll   Enlargement/
          Appear
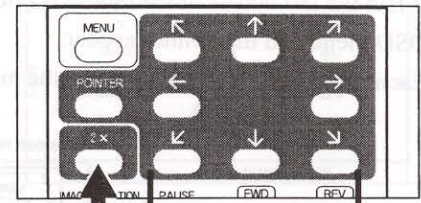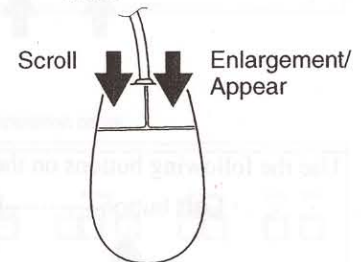
■ About the PC software "Image Mate for TRS-35SX/3500SX"

When the application [Image Mate for TRS-35SX/3500SX] is installed, the following operation are enabled:
· Image data transfer to the PC
· Operation of the Presenter by the PC
For further detail, refer to the installation manual for the application [Image Mate for TRS-35SX/3500SX] and the
file [manual.pdf] in the CD-ROM.

| Reference Page | · USB/RS-232C selection   P.29

5 OSD (On-Screen Display)

When the left button of the mouse is clicked twice or the menu button **[MENU]** on the remote control is pressed, the OSD menu and the pointer appear.

Each function item is set by using the mouse or the remote control buttons.

Wireless remote control.

MENU

Mouse

Appear/
Scroll

Use the following buttons on the mouse for each function:

· **Left** button-----------Each time the mouse is clicked, the pointer and the menu alternately appear and disappear.

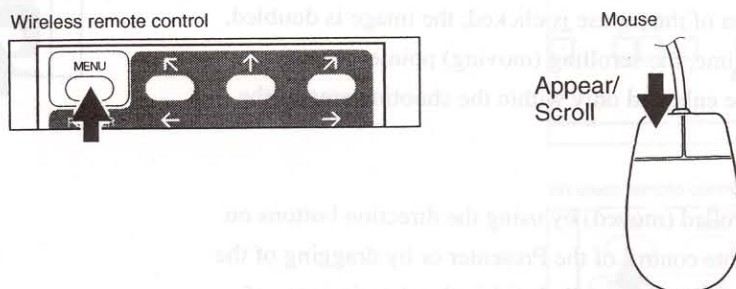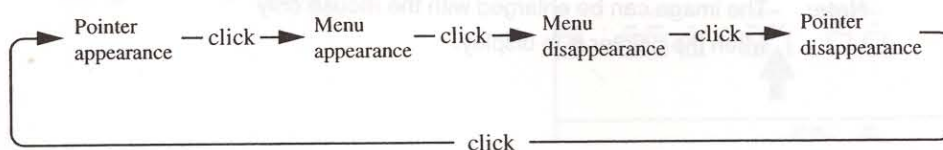Pointer appearance — click → Menu appearance — click → Menu disappearance — click → Pointer disappearance

click

When the menu is in display, each item on the OSD menu is set.

During the electronic image magnification or image rotation (90° /270°), the image is scrolled by dragging of the mouse.

Notes: · If the image is rotated by 90° or 270° without displaying the OSD, the scroll of the image (by dragging of the mouse) is prioritized, and the OSD menu cannot be displayed by using the mouse.

· When the mouse is clicked in the OSD menu, the menu functions are prioritized.

· **Right** button---------When the right button of the mouse is clicked while the pointer is in display, the image is electronically magnified centering round the position indicated by the pointer.

Use the following buttons on the wireless remote control for each function:

· **[↑][↓][→][←][↗][↘][↙][↖]**---Selection by using the pointer
· **[MENU]**---------------------------------For entry

When the menu button **[MENU]** is pressed again, the OSD menu disappears and only the pointer remains displayed. For the information how to operate the pointer, refer to P.23.

Note: The OSD is supposed to be used in a large projection size with a projector or the like. If the OSD is used on an LCD monitor or a TV screen, the display may not be clearly seen.

■ Main menu

The main menu items can be set also from the remote control.

MAIN SET
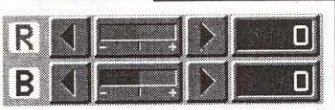
Icon	Name	Function
FWD	FWD	To send the slide tray counterclockwise by one frame. When this icon is left-clicked with the mouse, forward feed starts.
REV	REV	To send the slide tray clockwise by one frame. When this icon is left-clicked with the mouse, reverse feed starts.
	Posi/Nega selection	To switch the posi/nega setting. When the main menu is displayed for the first time, the screen is in the posi setting. When this icon is clicked with the left button of the mouse, the icon changes and the posi setting is switched to the nega setting.
RGB	Color/B&W selection	To switch the color/B&W setting. When the main menu is displayed for the first time, the screen is in the color setting. When this icon is clicked with the left button of the mouse, the icon changes and the color setting is switched to the B&W setting.
	Pause	To switch the pause/live setting. When the main menu is displayed for the first time, the screen is in the live setting. When this icon is clicked with the left button of the mouse, the icon changes and the live setting is switched to the pause (still) setting. **Note:** When the forward button **[FWD]** or reverse button **[REV]** is pressed while the image is frozen, the image is released from the frozen status.
0°	Image rotation	To rotate the image. When the main menu is displayed for the first time, the image rotation setting is 0°. Each time this icon is clicked with the left button of the mouse, the icon changes and the image rotates counterclockwise in the order of 90° → 180° → and 270°.

Icon	Name	Function
	Mirror reverse	To switch the image right and left setting. When this icon is left-clicked with the mouse, mirror reverse starts.
AF	One-push AF	The object is automatically brought in focus. When this icon is clicked with the left button of the mouse, the auto focus is activated. **Note:** The menu operation is disabled during the auto focus operation.
	Zoom TELE/WIDE	The image size is adjusted. When this icon is held down with the mouse, the zoom lens is activated.
NEAR FAR	Focus NEAR/FAR	The focus is adjusted. When this icon is held down with the mouse, the focus is activated.
	Iris OPEN/CLOSE	The iris level is adjusted. When this icon is held down with the mouse, the lens iris is activated.
	Pointer	Used to change the pointer color in the screen. Each time this icon is clicked with the left button of the mouse, the icon pointer color changes in the order of white → blue → yellow → red, and the pointer color in the screen also changes in the order of white → blue → yellow → red.

■ Set menu

MAIN SET

Icon	Name	Function
	White balance	The white balance mode is switched among Auto/Manual/One-push. When the set menu is displayed for the first time, the white balance is in the manual mode. **Note:** In the one-push mode, the adjustment of <RED> and <BLUE> is disabled.
AUTO	Auto	To set the white balance in the automatic tracing mode. **Note:** For some images, the color may be different from the desired. In such a case, manually adjust.
	Manual R ◀ ▶ 0 B ◀ ▶ 0	To set the white balance by turning the knob **<RED>/<BLUE>**. Click the direction button beside the volume bar with the left button of the mouse to adjust the red and blue component. <RED> ······To adjust the red component. <BLUE> ······To adjust the blue component.
	One push	To set the push-set white balance. When the left button of the mouse is clicked, the white balance of the color temperature is fixed. **Note:** For some images, it may take time until the operation is completed.
A	Aperture selection	The image enhancer (contour) is switched. When the set menu is displayed for the first time, the previous image enhancer is ON. When this icon is clicked with the left button of the mouse then, the icon changes to set the image enhancer to OFF. **Note:** This function is not effective for the PAL/NTSC monitor.
ON OFF	Gamma selection ON/OFF	The gamma correction (1.0/0.6) is switched. When the set menu is displayed, the previous gamma correction setting is maintained. The gamma has been set to OFF (1.0) at factory.

Icon	Name	Function
NTSC PAL	NTSC/PAL selection NTSC/PAL	The video output type (NTSC/PAL) is switched. When the set menu is displayed, the previous down converter output type is maintained. The video output type has been set to NTSC at factory.
USB RS-232	USB/RS-232C selection USB/RS-232C	The control mode for the main unit from external equipment (USB jack/RS-232C jack) is switched. When the set menu is displayed, the previous control mode is maintained. The control mode has been set to USB at factory.
	Status saving	The present status and adjusted values are saved. The status of gamma, NTSC/PAL, USB/RS-232C, RED gain and BLUE gain are saved.
	Initialization	The adjusted values are reset to the values set at factory. However, the current selections of NTSC/PAL and USB/RS-232C remain unchanged.

6 RS-232C Specifications

The Presenter can be controlled by a PC connected to the Presenter through the RS-232C terminal [RS-232C].

■ Setting up

(1) Connect the Presenter to a PC with an RS-232C connection cable.

> **Notes:** · When using an RS-232C cable available in the market, make sure of the connection shown in P.31.
>
> · To protect the Presenter and the PC, be sure to turn OFF all the power switches of all equipment before connecting.

(2) Referring to P. 29, change the **[USB]** icon in the OSD menu to the **[RS-232C]** icon.

(3) Start up the PC, and set the RS-232C baud rate (transmission rate) to 9600bps.

> **Note:** For the information how to set the communication mode of the RS-232C, refer to the instruction manual of the PC.

(4) Send the command to operate the Presenter from the PC (Refer to the list of communication commands).

(5) Control through the RS-232C will start.

> **Note:** For communication control, be sure to take the above steps for setting.

■ Cable connection

Presenter side (DSUB-9P)				PC/AT side (DSUB-9P)	

DSUB-9P (Female)

```
5  4  3  2  1
 o  o  o  o  o
   o  o  o  o
  9  8  7  6
```

CD	1		1	CD	
RXD	2		2	RXD	
TXD	3		3	TXD	
DTR	4		4	DTR	
SG	5		5	SG	
DSR	6		6	DSR	
RTS	7		7	RTS	
CTS	8		8	CTS	
RI (CI)	9		9	RI	

DSUB-9P (Female)

```
5  4  3  2  1
 o  o  o  o  o
   o  o  o  o
  9  8  7  6
```
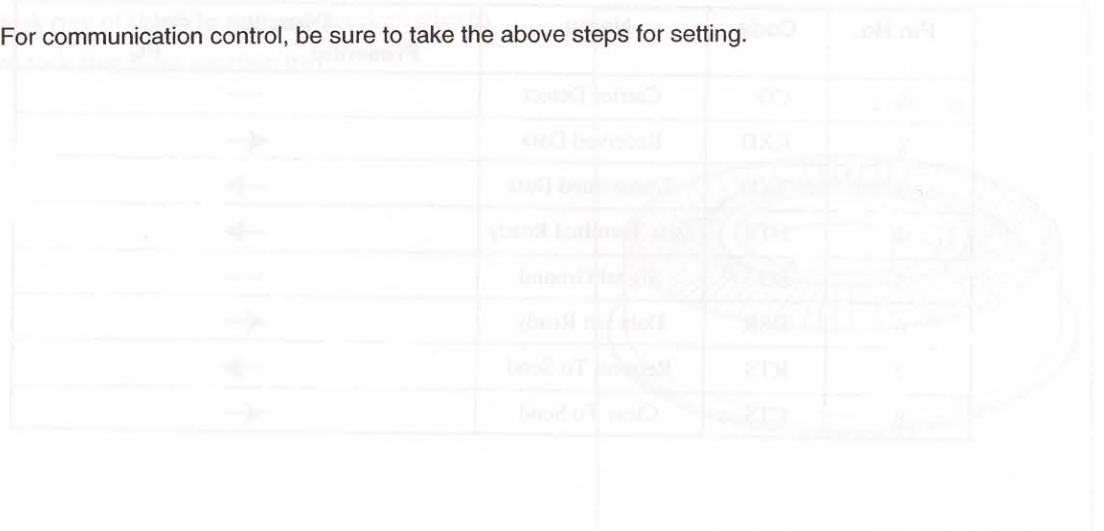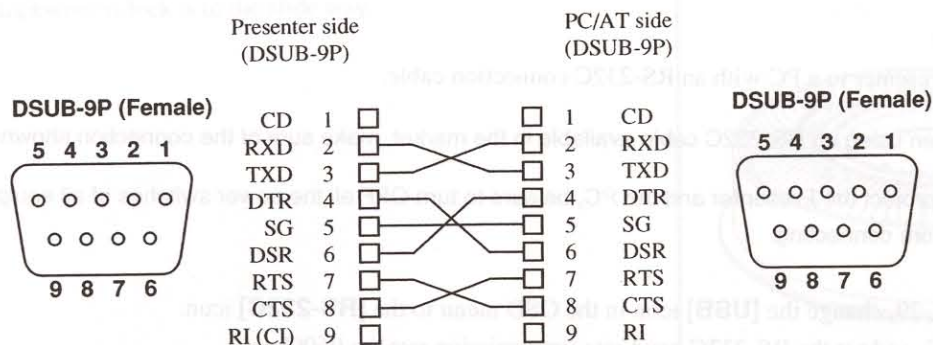
■ RS-232C connector specifications (DSUB-9P)

Pin No.	Code	Name	Direction of data	
			Presenter	PC
1	CD	Carrier Detect	—	
2	RXD	Received Data	←	
3	TXD	Transmitted Data	→	
4	DTR	Data Terminal Ready	→	
5	SG	Signal Ground	—	
6	DSR	Data Set Ready	←	
7	RTS	Request To Send	→	
8	CTS	Clear To Send	←	

■ Table of the communication commands

Function	Command	Parameter	Data	Comments
Auto Focus	AF	0	■■	Command to execute the one-push auto focus.
Focus adjustment	FO	+ (NEAR) – (FAR) 0 (STOP)	■■	Command to adjust the focus.
Zoom adjustment	ZO	+ (TELE) – (WIDE) 0 (STOP)	■■	Command to adjust the zoom.
Iris adjustment	IR	+ (OPEN) – (CLOSE) 0 (STOP) 1 (AUTO)	■■	Command to adjust the iris.
Forward feed	FW	1 (FWD)	■■	Command to feed the slide forward.
Reverse feed	RE	0 (REV)	■■	Command to feed the slide reversely.
Posi/Nega conversion	NP	0 (POSI) 1 (NEGA)	■■	Command to convert posi/nega.
Color/B&W selection	CB	0 (COLOR) 1 (B&W)	■■	Command to select color/B&W.
Pointer display	PO	0 (OFF) 1 (ON)	■■	Command to turn ON/OFF the pointer display.
Pointer	PM	0 (STOP) 1 (→) 2 (←) 3 (↑) 4 (↓) 5 (↗) 6 (↖) 7 (↘) 8 (↙)	■■	• When the pointer is ON The pointer moves.
Electronic magnification	MA	0 (OFF) 1 (ON)	■■	Command to enlarge the image to double the area around the pointer position.
Pause	FZ	0 (OFF) 1 (ON)	■■	Command to pause the image.
Local lockout	LL	0 (OFF) 1 (ON)	■■	Command to invalidate the switches on the front operation panel and wireless remote control.
Mirror reverse	MR	0 (NORMAL) 1 (MIRROR)	■■	Command to turn over the image right and left.

Function	Command	Parameter	Data	Comments
Gamma selection	GM	0 (1.0) 1 (0.6)	■■	Command to switch the gamma setting value of the image.
Image rotation	RO	0 (OFF) 1 (90°) 2 (180°) 3 (270°)	■■	Command to rotate the image.
Aparture selection	AP	0 (OFF) 1 (ON)	■■	Command to switch the enhancer (contour) of the image.
Default	DF	0	■■	Command to reset to the initialized mode.
Status request	QS	0 2 5	■■	Command to inquire the status of the equipment.
ROM version	QR	0	■■	Command to refer to the ROM version.
Acknowledge check	SA	0 (OFF) 1 (ON)	■■	Command to select the command acknowledgement for each operation command.
Add CR command	SC	0 (OFF) 1 (ON)	■■	Command to add CR [0Dh] to the end of the acknowledge data. Default is OFF.

Note: "■■" in the data column means that SPACE [20H] should be transmitted twice.

■ Data format specifications

This command is executed in the form of 1-command/1 packet. The next command is not accepted until the previous processing is completed.

· The communication command always starts with STX (Start of Text), and ends with ETX (End of Text).

· If the communication format or command name is wrong, NAK (Negative Acknowledgement) will be sent from the Presenter as a result of failing to receive correctly.

· When the communication format is correctly received, the Presenter sends ACK (Normal Acknowledgement).

○ Transmission Command (PC → Presenter)

Each operation command is executed in ASCII code, and transmitted in a set of 7 bytes as follows:

(PC)

S T X	Command	Parameter	Data	E T X
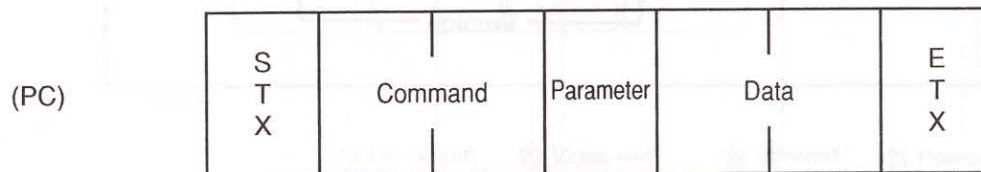
(Presenter) → ACK

○ Response data format (Presenter → PC)

All response data are sent in the ASCII code in correspondence to the parameters in the list of operation commands.

● **Status request format (Parameter 0)**

S T X	30H	30H	Posi /Nega	Color /B&W	Pointer display	Electronic magnificant	Pause	Local Lock out	E T X

● **Status request format (Parameter 2)**

S T X	33H	Gamma selection	Image rotation	Aparture selection	30H	30H	30H	30H	E T X

● **Status request format (Parameter 5)**

S T X	Mirror reverse	30H	30H	30H	30H	30H	30H	30H	E T X

● **ROM version**

S T X	T 56H	R 48H	S 43H	**H	**H	**H	**H	00H	E T X

└──────── Version ────────┘

■ Transmission specifications

· Full duplex start-stop sync. mode

· Start bit   : 1 bit

· Data bit   : 8 bit

· Stop bit   : 1 bit

· Parity bit   : None

· X parameter   : None

· Baud rate (Communication speed)   : 9600bps

■ Connection

If the RS-232C cable is not correctly connected between the Presenter and the PC, no acknowledgement is transmitted.

Connect the RS-232C cable correctly, and fix it firmly with the connector set screws before the operation.

35

7 Removal of Slide Tray

When the "0" position slot of the slide tray matches with the gate index mark as shown in the right-hand figure, the slide tray can be easily removed.

If presentation ends with the "0" position slot of the slide tray off the gate index mark or the slide tray is removed on the way of presentation, use the following procedure:


"0" position slot

Gate index mark
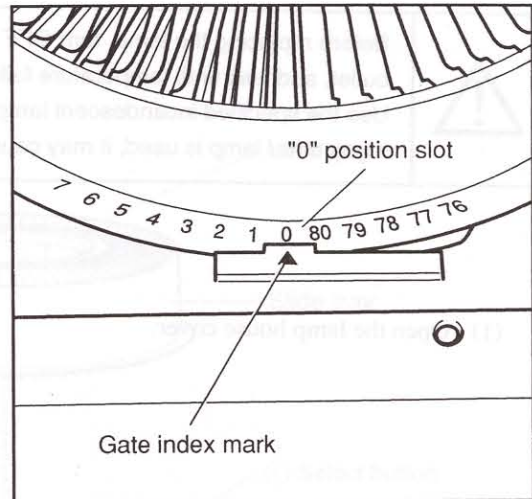
When the select button is pressed, the slide tray can be freely turned, and at the same time, the slide push-up lever forcibly pushes up the slide mount from the gate.
Press the select button and turn the slide tray until the "0" position slot matches with the gate index mark, and remove the slide tray.

Note: Before operating the select button, be sure that the power switch is ON.
If the slide mount is caught inside the gate and the slide feeding is disabled, remove the slide tray by using the following procedure:

Select button
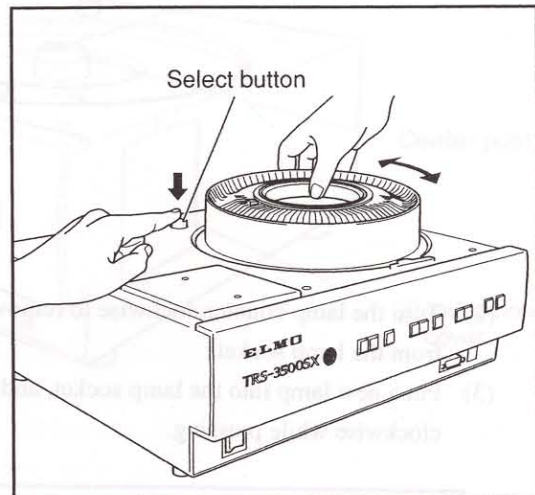
(1) Put your finger into the groove of the center post and thrust the tray release lever. In this state, the slide tray can be removed.

(2) Remove the remaining slide mount from the gate.

(3) Confirm that the lock ring of the slide tray is closed. Turn the slide tray over, and turn the bottom plate of the slide tray until it is latched.

(4) Remove the lock ring, confirm no damage on the slide mount, put back the slide in the slide tray, and set the lock ring.

Tray release lever
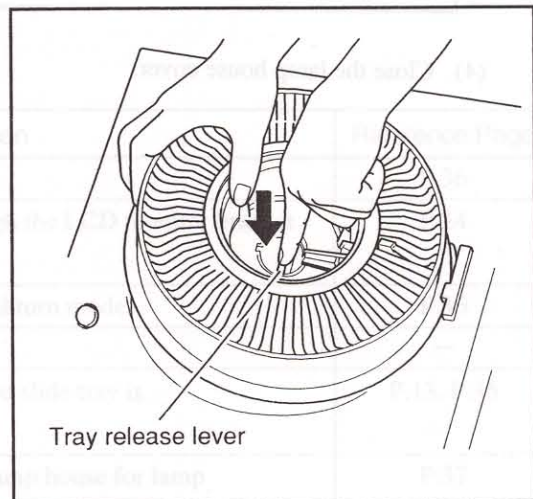
8 Lamp Replacement

⚠️ Before replacing the lamp, turn OFF the power supply to the Presenter, unplug the power plug from the outlet, and wait until temperature falls enough.
Use the specified incandescent lamp 12V-8W (Code No.: 8595).
If any other lamp is used, it may cause a fire or an electric shock.

(1) Open the lamp house cover.
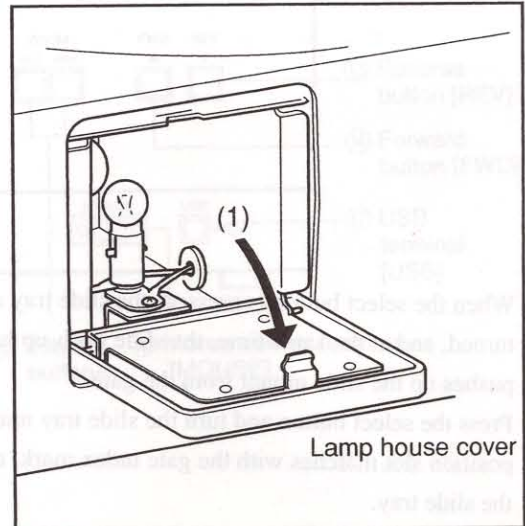
Lamp house cover

(2) Turn the lamp counterclockwise to remove the lamp from the lamp socket.

(3) Put a new lamp into the lamp socket, and turn it clockwise while pressing.

📝 **Memo** Use a specified lamp of 12V-8W (Code No. 8595).

(4) Close the lamp house cover.

(2) Remove

(3) Install

9 Troubleshooting

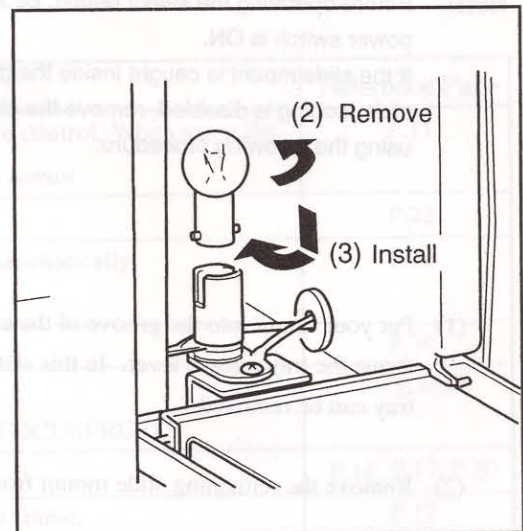| Problem	Possible cause / countermeasure
The fan motor or the driving motor does not start.	· The power switch is not turned ON. · The power cord is not properly plugged in.
The slide tray does not turn.	· The slide tray is not properly installed.
The slide mount does not drop in the gate.	· The slide mount in the slide tray is damaged.
No images on TV monitor	· Cable is not properly connected to the video-in terminal of monitor. · The power cord is disconnected from the wall AC outlet. · The plug is disconnected from the power cord receptacle of the Presenter. · The power switch is not turned ON. · Zoom is set at TELE to display only white/black part of the material. · The switch is turned ON immediately after it is turned OFF. In this case, the Presenter may not start. Wait 5 seconds or more after turning OFF the power switch, and then turn ON the power switch. · The cable is not connected to each output terminal. · The iris is not in the proper position. (If the iris is too throttled, the image cannot be seen.) · The chosen video output type (NTSC/PAL) is different from the system of the monitor. (Refer to P.29.)
Out of focus	· Zoom is set at TELE after focusing at WIDE angle. · In the auto-focus, focusing is defficult in some cases. (Refer to P.20.)
The lamp does not light up.	· The lamp is not properly installed in the lamp socket. · The lamp is burnt out.
Moire pattern appears on the screen image	· This is caused by the interference fringe between the meshed pattern of the slide film and the CCD elements. This is normal. This may be reduced by changing the projecting range. · Vertical stripes may appear on the liquid crystal projector screen. This can be reduced by manually adjusting the dot clock frequency on the projector side. (Refer to P.14.)
Brightness tone is off the setting	· This may be reduced by switching the gamma setting.
The image is shaking.	· The distance to the monitor is too short. Increasing the distance may reduce this problem.

If any problem still persists even after checking the above items, consult your nearest dealer or an authorized ELMO service center.

10 Specifications

■ General

Item	Specifications			
Power source	AC120V 60Hz			
Current consumption	0.85A (102W)			
DC output terminal	DC12V (Max. 0.9A)			
Outside dimensions	420mm (W) x141mm (H) x 360mm (D) (16.5" x 5.6" x 14.2")			
Weight/Mass	12.5kgs (main body only) (28 lbs)			
Light source	12V, 8W incandescent lamp			
Output terminal	RGB output	DSUB 15P connector female		x 1
	Composite-video output	RCA pinjack/75 Ω unbalanced (PAL/NTSC)		x 1
	S-video output	Mini DIN 4P connector 75 Ω unbalanced (PAL/NTSC)		x 1
Ext. control terminal	RS-232C	DSUB 9P connector male		x 1
	Mouse	DSUB 9P connector male		x 1
	USB	Type B receptacle		x 1

■ Camera

Item	Specifications
Frame rate	7.5 frames/sec
Zoom	Powered (with double speed function) 2.5 times
Focusing	Manual/one push AF
Iris	Manual/auto
Image pick-up element	1/2" CCD
Total picture elements	1434(H) x 1050(V) (approx. 1,500,000 pixels)
Effective picture elements	1280(H) x 1024(V)
Sync. system	Internal
Resolution	Analog RGB output More than 720 TV lines (horizontal) More than 720 TV lines (vertical) (for outoput in SXGA) Video outoput More than 350 TV lines (horizontal)
Analog RGB output	SXGA Horizontal frequency : 79.976kHz Vertical frequency : 75.025kHz (1280 x 1024@75Hz) VESA conformable
Composite-video output	PAL/NTSC conformable
S-video output	PAL/NTSC conformable
White balance	Full auto/one push/manual
Posi/Nega conversion	Provided
Color/B&W selection	Provided
Image rotation	Provided
Mirror reverse	Provided
Gamma adjustment	Provided (1.0/0.6)
Aperture selection	Provided
Video output selection	Provided (NTSC/PAL)
Pause mode	Provided
Enlargement of the image	Provided (The double image can be scrolled.)
Pointer	Controllable with wireless remote control and mouse (4-selectable colors)

■ Mechanism

Item	Specifications
Film	35mm slide (2" x 2" slide mount)
Slide tray	Circular tray
Max. number of slides	80
Slide feeding	Gate-in type
Forward/Reverse feeding	Provided
Remote feeding	Provided

■ Supplied accessories

Item	Quantity
Power cord	1
Mini DIN 4P (S-video) cable	1 (2m)
Mouse	1
Infrared wireless remote control (RCW-35SX)	1
Batteries (Type R03, AAA)	2
Analog RGB cable (BNC connector)	1 (1.8m)
VGA cable (DSUB 15P connector)	1 (2m)
PC link software "Image Mate for TRS-35SX/3500SX" CD-ROM	1
USB cable	1 (1.8m)
Instruction manual	1
Video RCA cable	1 (3m)

※ Weight and dimensions are approximate.

※ Design and specifications are subject to change without prior notice.

Trademark Acknowledgements

　　VESA is a registered trademark of Video Electronics Standards Association.
　　ELMO, VISUAL PRESENTER/Visual Presenter, FOCUSFREE, Image Mate are registered trademarks of
　　Elmo Co., Ltd.

41

WARNING:

■ Unauthorized recording of copyrighted slide films, materials, photographs, etc. may infringe on the rights of copyright owners and be contrary to copyright laws.

ELMO

ELMO CO., LTD.

6-14, Meizen-cho, Mizuho-ku,
Nagoya, 467-8567 Japan

OVERSEAS SUBSIDIARY COMPANIES

U.S.A.   **Elmo Mfg. Corp.**
1478 Old Country Road, Plainview, NY 11803-5034
Tel : (516)501-1400   Fax : (516)501-0429
E-mail : elmo@elmousa.com
Web : http://www.elmousa.com

Canada   **Elmo Canada Mfg.Corp.**
44 West Drive, Brampton, Ontario, L6T 3T6
Tel : (905)453-7880   Fax : (905)453-2391
E-mail : info@elmocanada.com
Web : http://www.elmocanada.com

Germany   **Elmo (Europe) G.m.b.H.**
Neanderstr.18, 40233 Düsseldorf
Tel : (0211)376051   Fax : (0211)376630
E-mail : elmoeurope@AOL.com
Web : http://www.elmo.de/