3M

Digital Projector S15/X15

Operator's Guide



▲WARNING ► Before using, read the "Product Safety Guide" and these manuals to ensure correct usage through understanding. After reading, store them in a safe place for future reference.

About this manual

Various symbols are used in this manual. The meanings of these symbols are described below.

▲WARNING This symbol indicates information that, if ignored, could possibly result in personal injury or even death due to incorrect handling.

▲ CAUTION This symbol indicates information that, if ignored, could result possibly in personal injury or physical damage due to incorrect handling.

Please refer to the pages written following this symbol.

NOTE • The information in this manual is subject to change without notice.

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Projector features

This projector is used to project various computer signals as well as NTSC / PAL / SECAM video signals onto a screen. It requires just a little space for installation and gets a large image from short distance.

- O High Brightness Newly developed 165W UHB (Ultra High Brightness) lamp gives you a higher brightness image on a screen. The image can be still kept as bright and clean enough for use in bright rooms.
- O Low Noise WHISPER mode is equipped for reducing acoustic noise to realize guieter operation. It is perfect for use in low luminance rooms where low noise is more important than brightness.
- O Compact Body Even with its many features, this projector is extremely compact and slim, which gives you more flexibility and usability to use it where you want.

About contents of package

Your projector should come with the items shown below. Contact immediately your dealer if anything is missing.

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.

Strap

(for Lens cover)



VGA cable







Operator's Guide Product SafetyGuide Quick Start Guide Warrantv

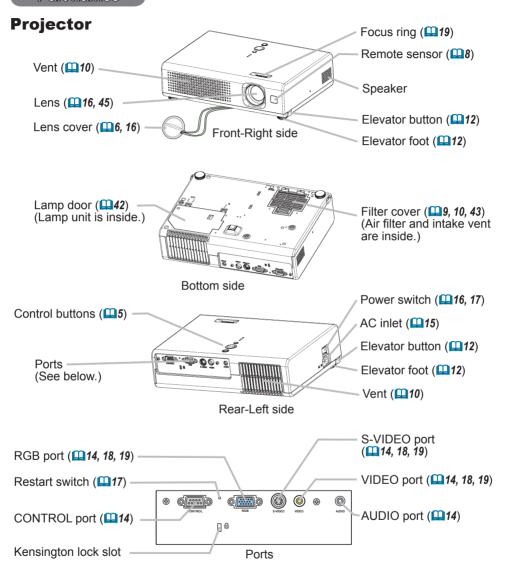


Remote control

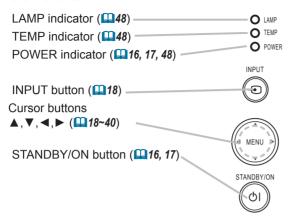
(with two AA batteries)

Filter cover (for bottom-up use)

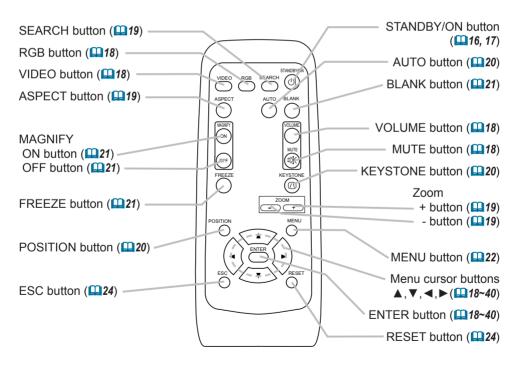
Part names



Controls



Remote control



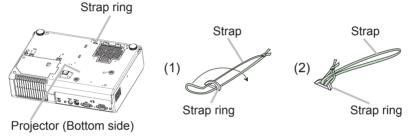
Preparations

Fastening the lens cover

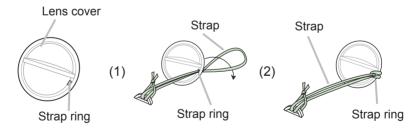
▲WARNING ► Do not fasten the lens cover during use or immediately after use. Handling while the projector is in a high temperature could cause a burn and/or malfunction to the projector. Before operating, make sure that the power switch is off, that the power cord is not plugged in, and that the projector is cool adequately.

To avoid losing, please fasten the lens cover to the projector using the strap.

- 1 Slowly turn over the projector, so that the bottom is facing up.
- **7** Fix the strap to the strap ring of projector.



3. Fix the strap to the strap ring of lens cover.



4. Attach the lens cover to the lens of projector, and slowly turn over the projector, so that the top is facing up.

Putting batteries

△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.
- Do not give the battery a physical impact.
- 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.
- · Obey the local laws on disposing a battery.

To use the remote control, please load the batteries. Whenever the remote control starts to malfunction, replace the batteries. If you won't use the remote control for an extended period, remove the batteries from the remote control and store them in a safe place.

Remove the battery cover.

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



Take old batteries out and/or put new batteries in.
 When putting in 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.

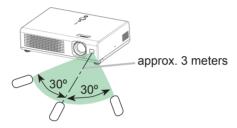
Replace the battery cover in the direction of the arrow and snap it back into place.

Using the remote control

▲CAUTION ► Be careful in handling the remote control. Incorrect handling could cause damage or malfunction.

- Do not drop or otherwise expose the remote control to physical impact.
- Do not get the remote control wet or place it on wet objects.
- Remove the batteries from the remote control and store them in a safe place if you won't be using the remote control for an extended period.
- Replace the batteries whenever the remote control starts to malfunction.
- When strong lights such as direct sunlight or light from an extremely close range (such as from an inverter fluorescent lamp) hit the projector's remote sensor, the remote control may not function correctly. Adjust the direction of the projector to keep light from directly hitting the projector's remote sensor.

The remote control works with the projector's remote sensor.



- The range of the remote sensor is 3 meters with a 60 degree range (30 degrees to the left and right of the remote sensor).
- Also a remote signal reflected in the screen etc. may be available. If it is difficult to send a remote signal to the sensor directly, please try.
- Since the remote control uses infrared light to send signals to the projector (Class1 LED), be sure to use the remote control in an area free from obstacles that could block the remote control's output signal to the projector.

About the filter cover for bottom-up use

▲WARNING ► Do not replace the filter cover and/or air filter 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. Before operating, make sure that the power switch is off, that the power cord is not plugged in, and that the projector is cool adequately.

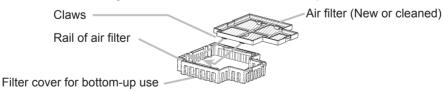
When the projector is installed bottom up, please use the accessory filter cover for bottom-up use. It is higher than usual filter cover, to keep the space for intake ventilation. Please change in the following procedure.

- 1 Disconnect all the connectors and adapters that were connected to the projector's ports. Then 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.
- Remove the filter cover and the air filter. Hold the knobs while pulling out it.

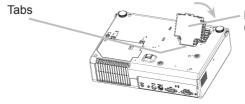




- 3 Slowly turn the projector so that the bottom is facing up.
- 4. Set a new or cleaned air filter to the filter cover for bottom-up use. Make the claws slide along the rail, and set the air filter into place.



5. Interlocking the tabs, snap the filter cover for bottom-up use into place.



Filter cover for bottom-up use (with an air filter)

Setting up

△WARNING ► Place the projector in a stable position horizontally. A fall or a turnover could cause an injury and/or damage to the projector. Then using damaged projector could result in a fire and/or an electric shock.

- Don't place the projector on an unstable, slant or vibrant surface such as a wobbly or inclined stand.
- Do not place the projector in the side/front/rear-up position, except care of the air filter.
- For the projector installed bottom-up, use the accessory filter cover for bottomup use. And in the case of a ceiling installation or the like, contact your dealer before installation.
- ▶ Place the projection in a cool place, and pay attention enough to ventilation. The high temperature of the projector could cause a fire, a burn and/or malfunction to the projector.
- Don't stop up, block and cover the projector's vents.
- Keep a space of 30 cm or more between the sides and other objects such as walls.
- Don't place the projector on a metallic thing or anything weak in heat.
- Don't place the projector on a carpet, cushion or bedding.
- Don't place the projector in direct sunlight or near a hot object such as heater.
- Put nothing about lens and vents of the projector. Put nothing on the projector.
- Put nothing that is sucked or sticks to the bottom of projector. This projector has some intake vents also on the bottom.
- ▶ Do not place the projector on the place that gets wet. Damping the projector or inserting liquid in the projector could cause a fire, an electric shock and/or malfunction to the projector.
- Don't place the projector in a bathroom or the outdoors.
- Put nothing containing the liquid near the projector.

▲ CAUTION ► Avoid a smoky, humid or dusty place. Placing the projector in such place could cause a fire, an electric shock and/or malfunction to the projector.

- Don't place the projector near a humidifier, a smoking space or a kitchen.
- Put nothing containing the liquid near the projector.
- ► Adjust the direction of the projector to keep light from directly hitting the projector's remote sensor.

Arrangement

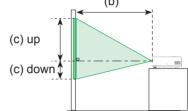
Refer to the illustrations and tables below to determine the screen size and projection distance.

The values shown in the table are calculated (±3%) for a full size screen of

800x600 for the model S15, or 1024x768 for the model X15.







For the model S15

(2) 02		At 4:3 Screen							At 16:9 Screen						
(a) Screen size [inch (m)]		(b) Projection distance[m(inch)]		(c) Screen height [cm (inch)]				(b) Projection		(c) Screen height [cm (inch)]					
				down		up		distance[m(inch)]		down		up			
40	(1.0)	1.5	(57)	8.7	(3)	52.3	(21)	1.6	(63)	1.2	(0)	48.6	(19)		
50	(1.3)	1.8	(72)	10.9	(4)	65.3	(26)	2.0	(78)	1.5	(1)	60.8	(24)		
60	(1.5)	2.2	(87)	13.1	(5)	78.4	(31)	2.4	(94)	1.8	(1)	72.9	(29)		
70	(1.8)	2.6	(101)	15.2	(6)	91.4	(36)	2.8	(110)	2.1	(1)	85.1	(34)		
80	(2.0)	2.9	(116)	17.4	(7)	104.5	(41)	3.2	(126)	2.4	(1)	97.2	(38)		
90	(2.3)	3.3	(130)	19.6	(8)	117.6	(46)	3.6	(142)	2.7	(1)	109.4	(43)		
100	(2.5)	3.7	(145)	21.8	(9)	130.6	(51)	4.0	(158)	3.0	(1)	121.6	(48)		
120	(3.0)	4.4	(174)	26.1	(10)	156.8	(62)	4.8	(190)	3.6	(1)	145.9	(57)		
150	(3.8)	5.5	(218)	32.7	(13)	195.9	(77)	6.0	(238)	4.4	(2)	182.3	(72)		
200	(5.1)	7.4	(291)	43.5	(17)	261.3	(103)	8.1	(317)	5.9	(2)	243.1	(96)		

For the model X15

(-) 0		At 4:3 Screen							At 16:9 Screen					
(a) Screen size [inch (m)]		(b) Projection distance[m(inch)]		(c) Screen height [cm (inch)]				(b) Projection		(c) Screen height [cm (inch)]				
				down		up		distance[m(inch)]		down		ир		
40	(1.0)	1.3	(53)	8.7	(3)	52.3	(21)	1.5	(58)	1.2	(0)	48.6	(19)	
50	(1.3)	1.7	(66)	10.9	(4)	65.3	(26)	1.8	(72)	1.5	(1)	60.8	(24)	
60	(1.5)	2.0	(80)	13.1	(5)	78.4	(31)	2.2	(87)	1.8	(1)	72.9	(29)	
70	(1.8)	2.4	(93)	15.2	(6)	91.4	(36)	2.6	(102)	2.1	(1)	85.1	(34)	
80	(2.0)	2.7	(107)	17.4	(7)	104.5	(41)	3.0	(117)	2.4	(1)	97.2	(38)	
90	(2.3)	3.1	(121)	19.6	(8)	117.6	(46)	3.3	(131)	2.7	(1)	109.4	(43)	
100	(2.5)	3.4	(134)	21.8	(9)	130.6	(51)	3.7	(146)	3.0	(1)	121.6	(48)	
120	(3.0)	4.1	(161)	26.1	(10)	156.8	(62)	4.5	(176)	3.6	(1)	145.9	(57)	
150	(3.8)	5.1	(202)	32.7	(13)	195.9	(77)	5.6	(220)	4.4	(2)	182.3	(72)	
200	(5.1)	6.8	(269)	43.5	(17)	261.3	(103)	7.5	(294)	5.9	(2)	243.1	(96)	

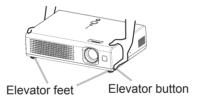
Adjusting the projector's elevator

▲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. Before operating, make sure that the power switch is off, that the power cord is not plugged in, and that the projector is cool adequately.

▲ 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.

You can use the elevator feet to make adjustments if the surface on which you need to set the projector is uneven or if you otherwise need to adjust the angle of projection. The adjustment range of the elevator feet is 0 to 9 degrees.



- 1. 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 then release the elevator buttons.

 When you release the elevator buttons, the elevator feet will lock into position.
- $\textbf{3.} \ \ \, \text{As necessary, you can also finely adjust the height of the projector by twisting the elevator feet by hand.}$

Connecting your devices

△CAUTION ► Turn off all devices prior to connecting them to the projector. Attempting to connect a live device to the projector may generate extremely loud noises or other abnormalities that may result in malfunction and/or damage to the device and/or projector.

▶ Use the accessory cable or a designated-type cable for the connection. Some cables have to be used with core set. A too long cable may cause a certain picture degradation. Please consult with your dealer for details. For cables that have a core only at one end, connect the core to the projector.

► Make sure that you connect devices to the correct port. Incorrect connection may result in malfunction and/or damage to the device and/or projector.

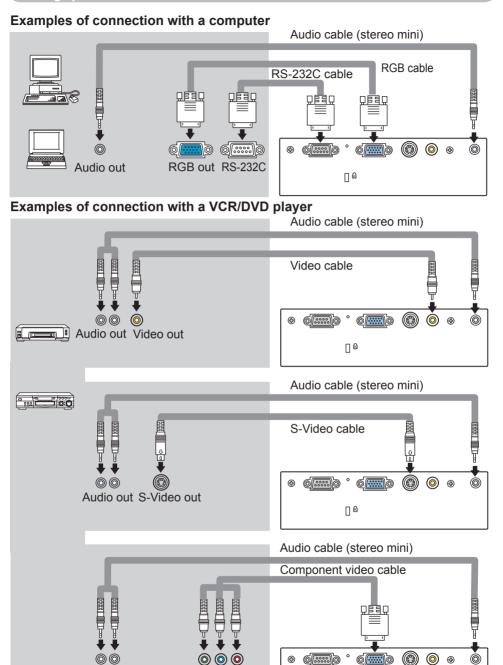
NOTE • Whenever attempting to connect a laptop computer to the projector, be sure to activate the laptop's RGB external image output (set the laptop to CRT display or to simultaneous LCD and CRT display). For details on how this is done, please refer to the instruction manual of the corresponding laptop computer.

- Secure the screws on the connectors and tighten.
- Some computers may have multiple display screen modes. Use of some of these modes will not be possible with this projector.
- For some RGB signal modes, the optional Mac adapter is necessary.
- When the image resolution is changed on a computer, depending on an input, automatic adjust function may take some time and may not be completed. In this case, you may not be able to see a check box to select "Yes/No" for the new resolution on Windows. Then the resolution will go back to the original. It might be recommended to use other CRT or LCD monitors to change the resolution.

About Plug-and-Play capability

Plug-and-Play is a system composed of the computer, its operating system and peripheral equipment (i.e. display devices). This projector is compatible with VESA DDC 2B. Plug-and-Play can be achieved by connecting this projector to computers that are VESA DDC (display data channel) compatible.

- Please take advantage of this function by connecting the accessory RGB cable to the RGB port (DDC 2B compatible). Plug-and-Play may not work properly if any other type of connection is attempted.
- Please use the standard drivers in your computer as this projector is a Plug-and-Play monitor.



Audio out

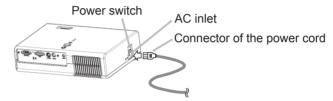
Component video out

Connecting 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.

Before connecting, make sure that the power switch is the OFF position (pressed the side marked "O").



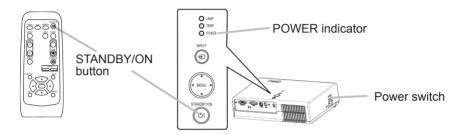
- 1 Connect the connector of the power cord to the AC inlet of the projector.
- **7** Firmly plug the power cord's plug into the outlet.

Power on/off

Turning on the power

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

NOTE • Turn the power on in right order. Please power on the projector before the connected devices.

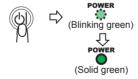


- 1 Make sure that the power cord is firmly and correctly connected to the projector and outlet.
- 2. Open the lens cover, and set the power switch to the ON position.

 The power indicator will light to solid orange. Then wait several seconds because buttons may not function for these several seconds.



Press the STANDBY/ON button on the projector or remote control.
 The projector lamp will light up and the POWER indicator will begin blinking green. When the power is completely on, the indicator will stop blinking and light green.



To display the picture, select an input signal according to the section "Selecting an input signal" (1218).

Turning off the power

NOTE • Turn the power off in right order. Please power off the projector after the connected devices.

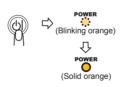
- Except for an emergency, whenever you turn the projector off, obey the procedure of the following "Turning off the power", and do not disconnect the power cord until the procedure is completed. Neglect causes a damage of the electrode and un-lighting of the lamp.
- This Projector is controlled by an internal microprocessor. Under certain exceptional circumstances, the projector may not operate correctly even for turning off the power. In such a case, please push the restart switch (44) by using a pin or similar. After making sure that the power indicator lights to solid orange, set the power switch to the OFF position. Only push the restart switch in these exceptional instances.
- When a power supply is shut off with a power failure or the restart switch, before turning on again, make the projector cool down at least 10 minutes without operating.
- Press the STANDBY/ON button on the projector or remote control. The message "Power off?" will appear on the screen for approximately 5 seconds.



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



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. Do not set the power switch to the OFF position while the POWER indicator is

green or blinking.

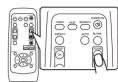


4 Close the lens cover. For safety purposes, disconnect the power cord if the projector is not to be used for prolonged periods of time.

Operating

Adjusting the volume

- Press the VOLUME button on the remote control.
 A dialog will appear on the screen to aid you in adjusting the volume.
- 2. Use the cursor buttons ▲/▼ to adjust the volume.
 To close the dialog and complete the operation, press the VOLUME button again. Even if you don't do anything, the dialog will automatically disappear after a few seconds

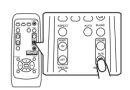


Temporarily muting the sound

1 Press the MUTE button on the remote control.

A dialog will appear on the screen indicating that you have muted the sound.

To restore the sound, press the MUTE button or VOLUME button. Even if you don't do anything, the dialog will automatically disappear after a few seconds.



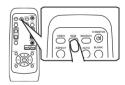
Selecting an input signal

Press the INPUT button on the projector.
 Each time you press the button, the projector switches its input port as below.

RGB → S-VIDEO → VIDEO

1. Press the RGB button on the remote control to select the RGB port.

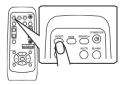




Press the VIDEO button on the remote control to select an input port for video signal.

Each time you press the button, the projector switches its video input port as below.





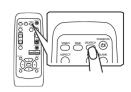
• If the VIDEO button is pushed (when switching from RGB to VIDEO signals) when TURN ON is selected for the AUTO SEARCH item in the OPTION menu (\$\subset\$38) the projector will check the S-VIDEO port first. If no input is detected at the S-VIDEO port, projector will check the VIDEO port automatically.

Searching an input signal

1 Press the SEARCH button on the remote control.

The projector will begin to check its input ports in order to find any input signals.

Then when an input is found, the projector will stop searching and display the image. If no signal is found, the projector will return to the state selected before the operation.

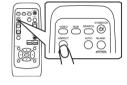


Selecting an aspect ratio

1 Press the ASPECT button on the remote control.

Each time you press the button, the projector switches the modes for aspect ratio in turn.

O At a video signal /no signal 4:3 → 16:9 ↑



The NORMAL mode keeps the original aspect ratio of the signal.

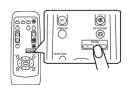
 At a HDTV component video signal of 1125i (1080i) or 750p (720p), only 16:9 mode can be selected.

• Performing the automatic adjustment initializes the aspect ratio setting.

Adjusting the zoom (magnifying power)

Press the ZOOM +/- button on the remote control.

- A dialog will appear on the screen to aid you in adjusting the zoom.
- Use the ZOOM buttons +/- to adjust the zoom.
 To close the dialog and complete this operation, don't perform operation for a few seconds.



Adjusting the focus

1 Use the focus ring to focus on the picture.



Using the automatic adjustment feature

1 Press the AUTO button on the remote control.

O At a RGB signal

The vertical position, the horizontal position, the clock phase, the aspect and horizontal size will be automatically adjusted.

Make sure that the application window is set to its maximum size prior to attempting to use this feature. A dark picture may still be incorrectly adjusted. Use a bright picture when adjusting.

O At a video signal

S-VIDEO · VIDEO:

The video format best suited for the respective input signal, the vertical position, the horizontal position phase and the aspect will be automatically adjusted. COMPONENT:

The vertical position, the horizontal position, the clock phase and the aspect will be automatically adjusted.

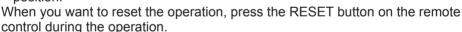
This function is available only when the AUTO mode is selected at the VIDEO FORMAT MENU. Refer to Page(\$\to\$32\$) of this manual.

For a component video signal, the signal type is automatically identified, regardless of this function.

• The automatic adjustment operation requires approximately 10 seconds. Also please note that it may not function correctly with some input.

Adjusting the position

- 1 Press the POSITION button on the remote control. The "POSITION" indication will appear on the screen.
- 2. Use the cursor buttons ▲/▼/◄/▶ to adjust the picture position.



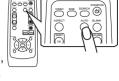
To complete this operation, press the POSITION button again. Even if you don't do anything, the dialog will automatically disappear after a few seconds.

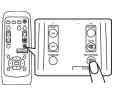
• When this function is performed at a video signal, a certain extra such as a line may appear outside a picture.

Correcting the keystone distortions

- Press the KEYSTONE button on the remote control.
 A dialog will appear on the screen to aid you in correcting the distortion
- 2. Use the cursor buttons ▲/▼ to correct the distortion.

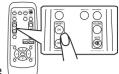
 To close the dialog and complete this operation, press the KEYSTONE button again. Even if you don't do anything, the dialog will automatically disappear after a few seconds.
- This function may not be work well with some input.
- The adjustable range for correcting will vary among inputs.





Using the partial magnify feature

1 Press the ON button of MAGNIFY on the remote control. The "MAGNIFY" indication will appear on the screen (although the indication will disappear after several seconds with no operation.), and the projector will enter the MAGNIFY mode.



Output
9 Use the cursor buttons ▲/▼ to adjust the zoom level.

To move the zoom area, press the POSITION button in the MAGNIFY mode, then use the cursor buttons $\Delta/\Psi/\Psi/$. And to finalize the zoom area, press the POSITION button again.

To exit the MAGNIFY mode and restore the screen to normal, press the OFF button of MAGNIFY on the remote control.

- The projector automatically exits the MAGNIFY mode when the input signal changes, or when an operation of changing the display condition (automatic adjustment, etc.) is executed.
- Although the keystone distortion condition may vary in the MAGNIFY mode, it will be restored when the projector exit the MAGNIFY mode.

Freezing the screen

1 Press the FREEZE button on the remote control.

The "FREEZE" indication will appear on the screen, and the projector will enter the FREEZE mode.



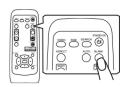
To exit the FREEZE mode and restore the screen to normal, press the FREEZE button again.

- The projector automatically exits the FREEZE mode when the input signal changes, or when one of the projector's buttons or the remote control buttons of STANDBY/ON, SEARCH, RGB, VIDEO, BLANK, AUTO, ASPECT, VOLUME, MUTE, KEYSTONE, POSITION and MENU is pressed.
- If the projector continues projecting a still image for long time, the LCD panel might possibly be printed. Do not leave the projector in FREEZE mode for too long.

Temporarily blanking the screen

1 Press the BLANK button on the remote control.

The blank screen will be displayed instead of the screen of input signal. Please refer to the item BLANK of section SCREEN menu (\$\mathbb{Q}\$35).



To remove the blank screen and return to the input signal screen, press the BLANK button again.

 The projector automatically returns to the input signal screen when the input signal changes, or when one of the projector's buttons or the remote control buttons are pressed.