

JVC

USER MANUAL

DLP PROJECTOR

LX-FH50

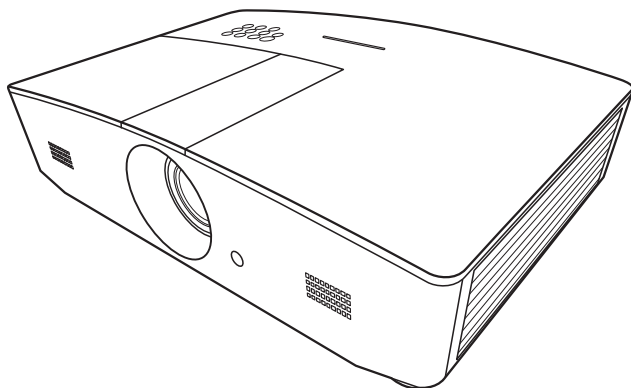


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Safety precautions

This product has a High Intensity Dis-charge (HID) lamp that contains mercury. Manage in accord with disposal laws. Disposal of these materials may be regulated in your community due to environmental considerations. For disposal or recycling information, please contact your local authorities or for USA, the Electronic Industries Alliance: <http://www.eiae.org>. or call 1-800-252-5722(For USA) or 1-800-964-2650(For Canada).

FCC INFORMATION (U.S.A. only)

CAUTION:

Changes or modification not approved by JVC could void the user's authority to operate the equipment.

NOTE:

This equipment has been tested and found to comply with the limits for Class B digital devices, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encourage to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Declaration of Conformity

Model Number: LX-FH50

Trade Name: JVC

Responsible party: JVCKENWOOD USA Corporation

Address: 1700 Valley Road Wayne, N. J. 07470

Telephone Number: 973-317-5000

This device complies with Part 15 of FCC Rules.

Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOISE EMISSION DECLARATION

The sound pressure level at the operator position is equal or less than 60dB(A) according to ISO7779.

Dear Customer,

This apparatus is in conformance with the valid European directives and standards regarding electromagnetic compatibility and electrical safety.

European representative of JVC KENWOOD Corporation is: JVC Technical Services Europe GmbH Konrad-Adenauer-Allee 1-11 61118 Bad Vilbel Germany

Information for Users on Disposal of Old Equipment and Batteries



Products



Battery

[European Union only]

These symbols indicate that equipment with these symbols should not be disposed of as general household waste. If you want to dispose of the product or battery, please consider the collection systems or facilities for appropriate recycling.

Notice: The sign Pb below the symbol for batteries indicates that this battery contains lead.

Important safety instructions

Your projector is designed and tested to meet the latest standards for safety of information technology equipment. However, to ensure safe use of this product, it is important that you follow the instructions mentioned in this manual and marked on the product.

1. Please read this user manual before you operate your projector. Keep this manual in a safe place for future reference.
2. Always place the projector on a level, horizontal surface during operation.
 - Do not place the projector on an unstable cart, stand, or table as it may fall and be damaged.
 - Do not place inflammables near the projector.
 - Do not use if tilted at an angle of more than 10 degrees left to right, nor at angle of more than 15 degrees front to back.
3. Do not store the projector on end vertically. Doing so may cause the projector to fall over, causing injury or resulting in damage.
4. Do not place the projector in any of the following environments:
 - Space that is poorly ventilated or confined. Allow at least 50 cm clearance from walls and free flow of air around the projector.
 - Locations where temperatures may become excessively high, such as the inside of a car with all windows closed.
 - Locations where excessive humidity, dust, or cigarette smoke may contaminate optical components, shorten the projector's lifespan and darken the screen.
 - Locations near fire alarms.
 - Locations with conditions beyond those listed in "[Projector specifications](#)".
5. Do not block the vents while the projector is on (even in standby mode).
 - Do not cover the projector with any item.
 - Do not place the projector on a blanket, bedding or any other soft surface.
6. In areas where the mains power supply voltage may fluctuate by ± 10 volts, it is recommended that you connect the projector through a power stabilizer, surge protector or uninterruptible power supply (UPS) as appropriate to your situation.
7. Do not step on the projector or place any objects upon it.
8. Do not place liquids near or on the projector. Liquids spilled into the projector will void your warranty. If the projector does become wet, disconnect it from the power outlet and contact JVC to have the projector repaired.

9. Do not look straight into the projector lens during operation. It may harm your sight.



RG2 IEC 62471-5:2015

10. Do not operate the projector lamp beyond the rated lamp life. Excessive operation of lamps beyond the rated life could cause a lamp to break on rare occasions.
11. The lamp becomes extremely hot during operation. Allow the projector to cool for approximately 45 minutes prior to removing the lamp assembly for replacement.
12. Never attempt to replace the lamp assembly until the projector has cooled down and is unplugged from the power supply.
13. This projector is capable of displaying inverted images for ceiling mount installation. Use only a proper ceiling mount kit for mounting.
14. THIS APPARATUS MUST BE EARTHED.
15. When installing the unit, incorporate a readily accessible disconnect device in the fixed wiring, or connect the power plug to an easily accessible socket-outlet near the unit. If a fault should occur during operation of the unit, operate the disconnect device to switch the power supply off, or disconnect the power plug.

High temperature Caution

The temperature of the cabinet around and above the exhaust vents can become hot during projector operation. Touching these areas during operation could cause burns to the hands. Do not touch these areas. Doing so may cause burns. Pay particular attention in preventing young children from touching these parts. Additionally, do not place any metal objects on these areas. Due to the heat from the projector, doing so could cause an accident or personal injury.

Ceiling mounting the projector

If you intend to mount your projector on the ceiling, we strongly recommend that you use a proper fitting projector ceiling mount kit and ensure it is securely and safely installed.

If not, there is a safety risk that the projector may fall from the ceiling due to an improper attachment through the use of the wrong gauge or length screws.

You can purchase a proper projector ceiling mount kit from the place you purchased your projector. We recommend that you also purchase a separate Kensington lock compatible security cable and attach it securely to both the Kensington lock slot on the projector and the base of the ceiling mount bracket. This will perform the secondary role of restraining the projector should its attachment to the mounting bracket become loose.

Do not attempt to disassemble this projector. There are dangerous high voltages inside which may cause death if you should come into contact with live parts. The only user serviceable part is the lamp. See page 41.

Under no circumstances should you ever undo or remove any other covers. Refer servicing only to suitably qualified professional service personnel.



Please keep the original packing for possible future shipment. If you need to pack your projector after use, adjust the projection lens to an appropriate position, put the lens cushion around the lens, and fit the lens cushion and projector cushion together to prevent damage during transportation.

When you think service or repair is required, take the projector only to a suitably qualified technician.

Moisture condensation

Never operate the projector immediately after moving it from a cold location to a hot location. When the projector is exposed to such a change in temperature, moisture may condense on the crucial internal parts. To prevent the projector from possible damage, do not use the projector for at least 2 hours when there is a sudden change in temperature.

Avoid volatile liquids

Do not use volatile liquids, such as insecticide or certain types of cleaner, near the projector. Do not have rubber or plastic products touching the projector for a long time. They will leave marks on the finish. If cleaning with a chemically treated cloth, be sure to follow the cleaning product's safety instructions.

Disposal

This product contains the following materials which are harmful to human bodies and environment.

- Lead, which is contained in solder.
- Mercury, which is used in the lamp.

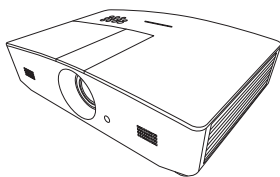
To dispose of the product or used lamps, consult your local environment authorities for regulations.

Overview

Shipping contents

Carefully unpack and verify that you have the items below. Some of the items may not be available depending on your region of purchase. Please check with your place of purchase.

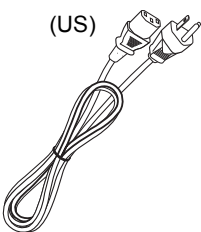
 Some of the accessories may vary from region to region.



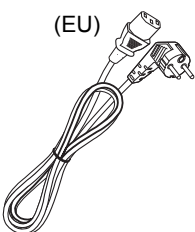
Projector



Remote control with battery*



(US)



(EU)

Power cable

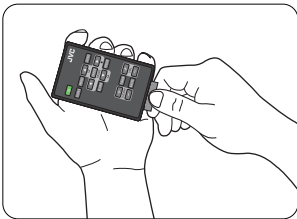


User manual CD



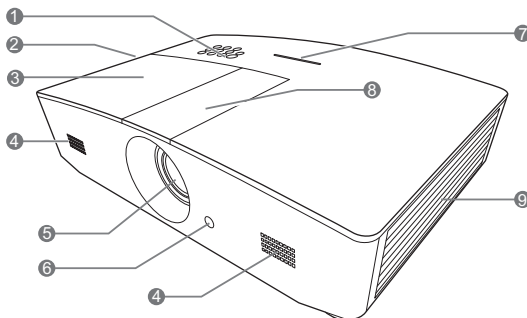
Quick start guide

***Pull the tab before using the remote control.**



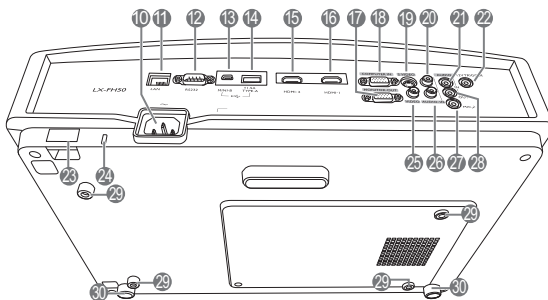
Projector exterior view

Front and upper side view



1. Control panel (See "[Control panel](#)" for details.)
2. Vent (heated air exhaust)
3. Lamp cover
4. Speaker grill
5. Projection lens
6. Front IR remote sensor
7. LED indicator
8. Lens adjustment panel cover (See "[Control panel](#)" for details.)
9. Vent (cool air intake)

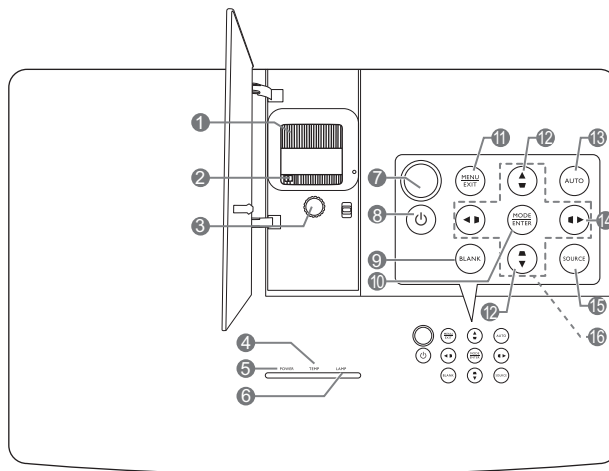
Rear/bottom view



10. AC Power cable inlet
11. RJ45 LAN input jack
12. RS-232 control port
13. Mini USB port
Used for service.
14. USB Type-A port
Used for charging external device.
15. HDMI-2 port
16. HDMI-1 port
17. RGB signal output jack
18. RGB (PC)/Component video (YPbPr/YCbCr) signal input jack
19. S-Video input jack
20. Audio (R) input jack
21. Audio input jack
22. 12VDC output terminal
Used to trigger external devices such as an electric screen or light control, etc.
Consult your dealer for how to connect these devices.
23. Security bar
24. Kensington lock slot
25. Video input jack
26. Audio (L) input jack
27. Microphone jack
28. Audio output jack
29. Ceiling mount holes
30. Adjuster feet

Controls and functions

Control panel



1. Focus ring

Adjusts the focus of the projected image.

2. Zoom ring

Adjusts the size of the image.

3. Lens shift ring

Adjusts the position of the projected image.

4. TEMPerature warning light

Lights up red if the projector's temperature becomes too high.

5. POWER indicator light

Lights up or flashes when the projector is under operation.

6. LAMP indicator light

Indicates the status of the lamp. Lights up or flashes when the lamp has developed a problem.

7. Top IR remote sensor

8. POWER

Toggles the projector between standby mode and on.

9. BLANK

Used to hide the screen image. Press most of the keys on the projector or remote control to restore the picture.

10. MODE

Selects an available picture setup mode.

ENTER

Activates the selected On-Screen Display (OSD) menu item.

11. MENU

- Accesses the On-Screen Display (OSD) menu.
- Goes back to previous OSD menu, exits and saves menu settings.

EXIT

Goes back to previous OSD menus, exits and saves any changes made using the On-Screen Display (OSD) menu.

12. Keystone keys (▽, ▲)

Launches the **Keystone** window. Use ◀, ▲, ▶, ▼ to manually correct distorted images resulting from an angled projection.

13. AUTO

Automatically determines the best picture timings for the displayed image.

14. ▶

Activates panel key lock. To unlock the keys, press and hold ▶ for 3 seconds or setting OSD menu using the remote control.

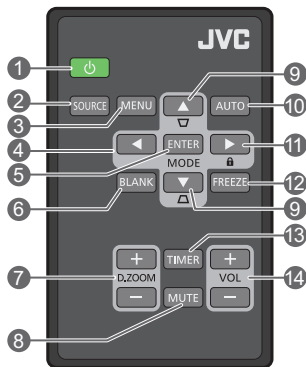
15. SOURCE

Displays the source selection bar.

16. Arrow keys (◀, ▲, ▶, ▼)

When the On-Screen Display (OSD) menu is activated, these keys are used as directional arrows to select the desired menu items and to make adjustments.

Remote control



1. **POWER**

Toggles the projector between standby mode and on.

2. **SOURCE**

Displays the source selection bar.

3. **MENU**

- Accesses the On-Screen Display (OSD) menu.
- Goes back to previous OSD menu, exits and saves menu settings.

4. **Arrow keys (◀ Left, ▶ Right, ▲ Up, ▼ Down)**

When the On-Screen Display (OSD) menu is activated, these keys are used as directional arrows to select the desired menu items and to make adjustments.

5. **ENTER**

Activates the selected On-Screen Display (OSD) menu item.

MODE

Selects an available picture mode.

6. **BLANK**

Used to blank the screen picture. Press most of the keys on the projector or remote control to restore the picture.

7. **D. ZOOM-/D. ZOOM-**

Displays the Zoom bar.

- **D. ZOOM+:** After the Zoom bar displays, magnifies the projected picture size. After the image is magnified, use ▲/▼/◀/▶ to navigate the image.
- **D. ZOOM-:** After the image is magnified, reduces the projected picture size. To quickly restore the picture to its original size, press **AUTO**.

8. **MUTE**

Temporarily mutes the audio.

9. **Keystone keys (◽, ▴)**

Launches the **Keystone** window. Use ◀, ▶, ►, ▼ to manually correct distorted images resulting from an angled projection.

10. **AUTO**

Automatically determines the best picture timings for the displayed image.

11. **Lock icon**

Activates panel key lock. To unlock the keys, press and hold ▶ for 3 seconds or setting OSD menu using the remote control.

12. **FREEZE**

Freezes the projected image.

13. **TIMER**

Activates or inactivates an on-screen timer based on your own timer setting.

14. **VOL+**

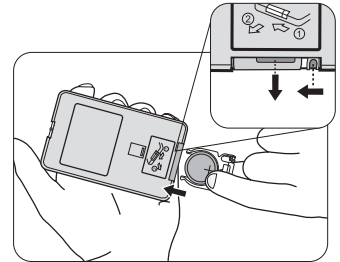
Increases the projector audio volume.

VOL-

Decreases the projector audio volume.

Installing/replacing the remote control battery

1. Pull out the battery holder, as illustrated. Push and hold the locking arm whilst pulling out the battery holder.
2. Insert the new battery in the holder. Note the positive polarity should face outward.
3. Push the holder into the remote control.



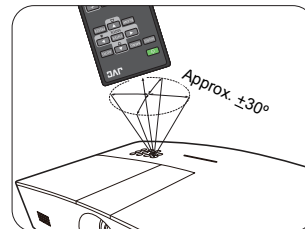
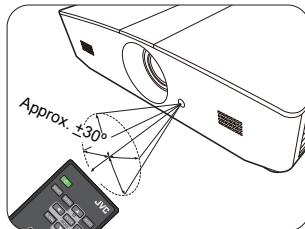
- **Avoid leaving the remote control and battery in an excessive heat or humid environment like the kitchen, bathroom, sauna, sunroom or in a closed car.**
- **Replace only with the same or equivalent type recommended by the battery manufacturer.**
- **Dispose of the used batteries according to the manufacturer's instructions and local environment regulations for your region.**
- **Never throw the batteries into a fire. There may be danger of an explosion.**
- **If the batteries are drained or if you will not be using the remote control for an extended period of time, remove the batteries to avoid damage to the remote control from possible battery leakage.**

Remote control effective range

The remote control must be held at an angle within 30 degrees perpendicular to the projector's IR remote control sensor(s) to function correctly. The distance between the remote control and the sensor(s) should not exceed 8 meters (~ 26 feet).

Make sure that there are no obstacles between the remote control and the IR sensor(s) on the projector.

- **Operating the projector from the front**
- **Operating the projector from the top**



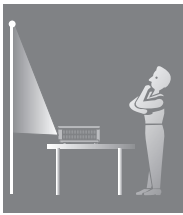
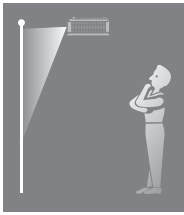
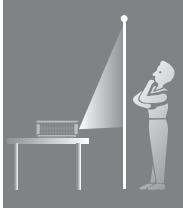
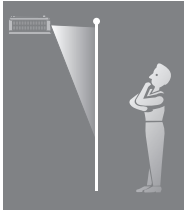
Installation

Choosing a location

Before choosing an installation location for your projector, take the following factors into consideration:

- Size and position of your screen
- Electrical outlet location
- Location and distance between the projector and the rest of your equipment

You can install your projector in the following ways.

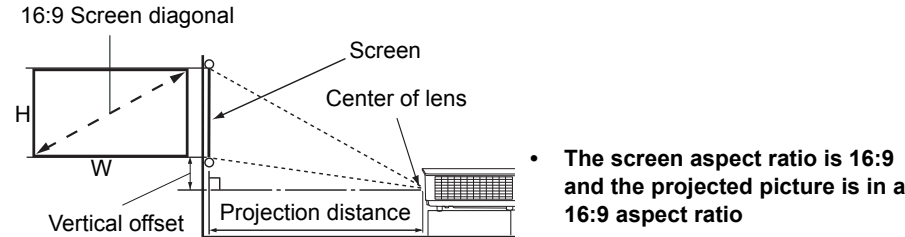
1. Front Table: Select this location with the projector placed near the floor in front of the screen. This is the most common way to position the projector for quick setup and portability. Turn on the projector and make the following settings: SYSTEM SETUP: Basic > Projector Position > Front Table		3. Front Ceiling: Select this location with the projector suspended from the ceiling in front of the screen. Turn on the projector and make the following settings: SYSTEM SETUP: Basic > Projector Position > Front Ceiling	
2. Rear Table: Select this location with the projector placed near the floor behind the screen. Turn on the projector and make the following settings: SYSTEM SETUP: Basic > Projector Position > Rear Table		4. Rear Ceiling: Select this location with the projector suspended from the ceiling behind the screen. Turn on the projector and make the following settings: SYSTEM SETUP: Basic > Projector Position > Rear Ceiling	
 A special rear projection screen is required.		 A special rear projection screen and a proper ceiling mount kit are required.	

Obtaining a preferred projected image size

The projected image size is determined by the distance from the projector lens to the screen, the zoom setting, and the video format.

Projection dimensions

Use the illustration and the table below to help you determine the projection distance.



Display size (16:9)			Projection distance		Vertical Offset (inch)
Screen diagonal (inch)	W (inch)	H (inch)	Wide (feet)	Tele (feet)	
60	52.3	29.4	4.6	7.4	2.2
70	61.0	34.3	5.4	8.7	2.6
80	69.7	39.2	6.2	9.9	2.9
90	78.4	44.1	7.0	11.1	3.3
100	87.2	49.0	7.7	12.4	3.7
110	95.9	53.9	8.5	13.6	4.0
120	104.6	58.8	9.3	14.9	4.4
130	113.3	63.7	10.1	16.1	4.8
140	122.0	68.6	10.8	17.3	5.1
150	130.7	73.5	11.6	18.6	5.5
160	139.5	78.4	12.4	19.8	5.9
170	148.2	83.3	13.2	21.0	6.3
180	156.9	88.2	13.9	22.3	6.6
190	165.6	93.1	14.7	23.5	7.0
200	174.3	98.1	15.5	24.8	7.4
210	183.0	103.0	16.2	26.0	7.7
220	191.7	107.9	17.0	27.2	8.1
230	200.5	112.8	17.8	28.5	8.5
240	209.2	117.7	18.6	29.7	8.8

 All measurements are approximate and may vary from the actual sizes. If you want a permanent installation of the projector, we recommend that you use the actual projector to physically test the projection size, distance, and the projector's optical characteristics prior to the installation. This helps you determine the exact mounting position which best suits your installation.

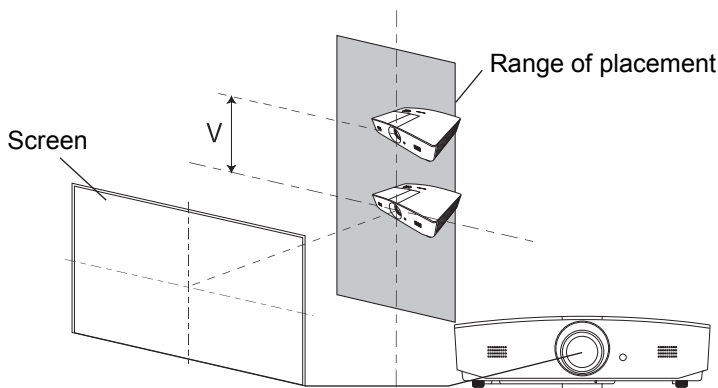
Shifting the projection lens vertically

The vertical lens shift control provides flexibility for installing your projector. It allows the projector to be positioned slightly above or below the top level of the projected images.

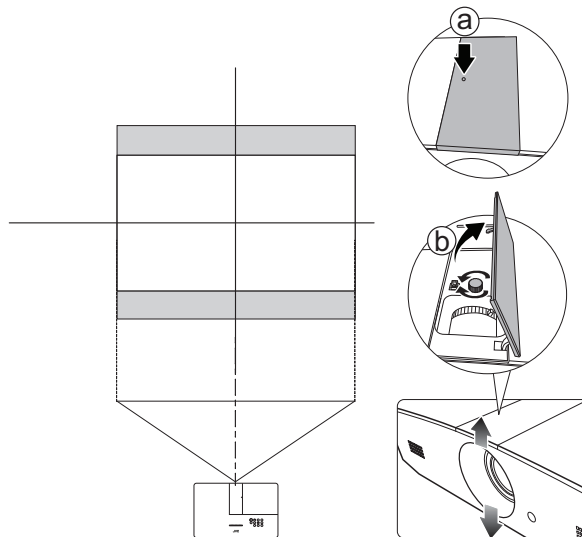
The lens shift (offset) is expressed as a percentage of the projected image height. It is measured as an offset from the projected image's vertical center. Use the lever to shift the projection lens upwards or downwards within the allowable range depending on your desired image position.

To shift the lens:

1. Press down lightly on the lens adjustment panel cover switch (indicated by a dot) to click it open.
 2. Lift the lens adjustment panel cover up.
 3. Turn the lens shift ring to adjust the projected image position.
 4. When done, press down and click close the lens adjustment panel cover.
- **When the screen position is fixed**



- **When the projector position is fixed**



- **Do not over-tighten the lever.**
- **Lens shift adjustment does not result in a degraded picture quality. In the unlikely event that the image distortion is produced, see ["Adjusting the projected image"](#) for details.**

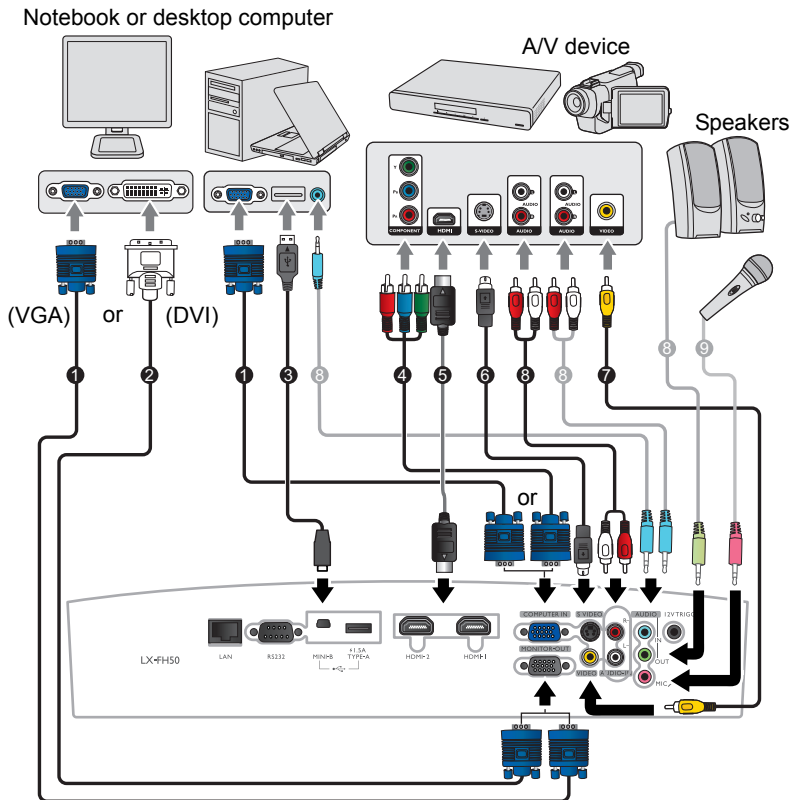
Connection

When connecting a signal source to the projector, be sure to:

1. Turn all equipment off before making any connections.
2. Use the correct signal cables for each source.
3. Make sure the cables are firmly inserted.

- In the connection illustrations shown below, some cables may not be included with the projector (see "Shipping contents"). They are commercially available from electronics stores.

The illustrations below are for reference only. The rear connecting jacks available on the projector vary with each projector model.



- | | |
|---|------------------|
| 1. VGA cable | 5. HDMI cable |
| 2. VGA to DVI cable | 6. S-Video cable |
| 3. USB cable | 7. Video cable |
| 4. Component Video to VGA (D-Sub) adapter cable | 8. Audio cable |
| | 9. Microphone |

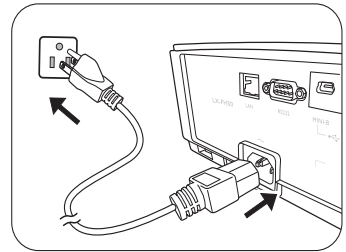
Operation

Starting up the projector

1. Plug the power cable into the projector and a power outlet. Turn on the power outlet switch (where fitted). The **POWER indicator light** on the projector lights orange after power has been applied.

 **Please use the supplied power cable to avoid possible dangers such as electric shock and fire.**

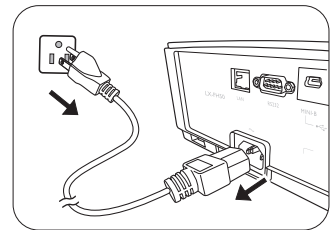
2. Press  to start the projector. The **POWER indicator light** flashes green and stays green when the projector is on. The fans start operating, and a start-up image displays on the screen while it warms up. The projector does not respond to further commands while it is warming up.



Shutting down the projector

1. Press . The projector displays a shutdown confirmation message.
2. Press  a second time. The **POWER indicator light** flashes orange and the fans run for about two minutes to cool the lamp. The projector doesn't respond to any commands during the cooling process.
3. When the cooling process ends, the **POWER indicator light** will show a solid orange.

If the projector will not be used for an extended period, unplug the power cable from the power outlet.



 **Avoid turning on the projector immediately after turning it off as excessive heat may shorten lamp life. The actual lamp life may vary due to different environmental conditions and usage.**

Selecting an input source

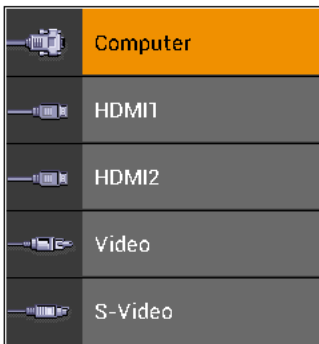
The projector can be connected to multiple equipment at the same time. However, it only displays one full screen at a time. When starting up, the projector automatically searches for the available signals.

If you want the projector to always automatically search for the signals:

- Go to the **SOURCE** menu, and then enable **Quick Auto Search**. (see ["Quick Auto Search" on page 25](#))

To select the video source:

1. Press **SOURCE** to display the source selection bar.



2. Press **▲/▼** until your desired signal is selected and press **ENTER**.

Once detected, the selected source information displays on the screen for seconds. If there are multiple pieces of equipment connected to the projector, repeat steps 1-2 to search for another signal.

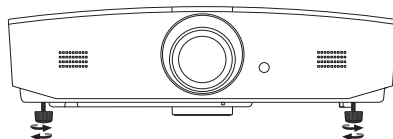
 Refer to ["Projector specifications"](#) for the native display resolution of this projector. For best display picture results, you should select and use an input signal which outputs at this resolution. Any other resolutions will be scaled by the projector depending upon the Aspect Ratio setting, which may cause some image distortion or loss of picture clarity. See ["Aspect Ratio"](#) for details.

Adjusting the projected image

Adjusting the projection angle

The projector is equipped with 2 adjuster feet. These adjusters change the image height and projection angle. Screw the feet in or out as appropriate to aim and level the projection angle.

☞ If the screen and the projector are not perpendicular to each other, the projected image becomes vertical trapezoidal. To correct this, see "[Auto-adjusting the image](#)" for details.



⚠ Do not look into the lens while the lamp is on. The strong light from the lamp may cause damage to your eyes.

Be careful when you press the quick-release button as it is close to the exhaust vent where hot air comes from.

Auto-adjusting the image

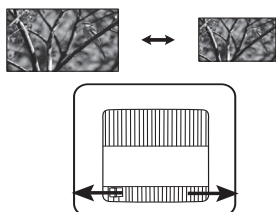
In some cases, you may wish to optimize the picture quality of PC signal. To do this, press **AUTO**. Within 3 seconds, the built-in Intelligent Auto Adjustment function will re-adjust the values of Frequency and Clock to provide the best picture quality.

The current input source information will be displayed in the corner of the screen for 3 seconds.

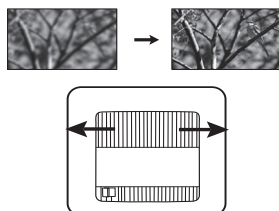
☞ This function is only available when PC signal is selected.

Fine-tuning the image size and clarity

To adjust the projected picture size, turn the zoom ring on the projector after opening the lens adjustment panel cover.



To sharpen the picture, rotate the focus ring on the projector after opening the lens adjustment panel cover.

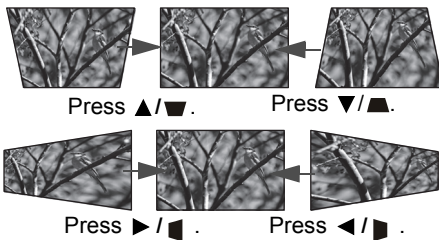


Correcting keystone

Keystoning refers to the situation where the projected image is noticeably wider at either the top or bottom. It occurs when the projector is not perpendicular to the screen.

Besides adjusting the height of the projector, you may correct this manually by following the instructions below:

1. Do one of the following steps to display the **Keystone** window:
 - Press **▲/▼** or **▼/▲** on the projector.
 - Press **▲/▼** or **▼/▲** on the remote control.
 - Go to the **DISPLAY** menu, highlight **Keystone** and press **ENTER**. (To access the OSD menu, see ["Using the OSD menu"](#) for details.)
2. The illustrations below show how to correct keystone distortion:



- To correct keystone at the bottom of the image, use **▲** or **▲/▼**.
- To correct keystone at the top of the image, use **▼** or **▼/▲**.
- To correct keystone at the left side of the image, use **►** or **►/◄**.
- To correct keystone at the right side of the image, use **◄** or **◄/►**.

When done, press **MENU** to save your changes and exit.

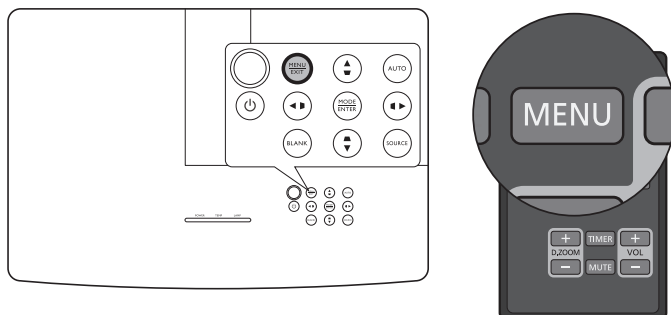
Correcting image corners

see ["Corner Correction"](#) on page 24.

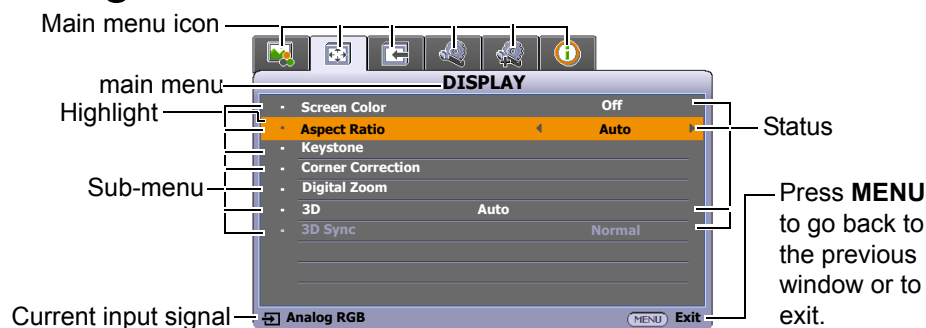
Menu Functions

About the OSD Menu

To access the OSD menu, press **MENU**.



Using the OSD menu



To access the OSD menu, press **MENU** on the projector or remote control. It consists of the following main menus. Check the links after the menu items below to learn more details.

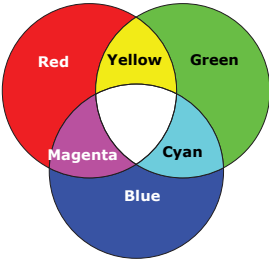
1. **PICTURE** menu (see page [21](#))
2. **DISPLAY** menu (see page [24](#))
3. **SOURCE** menu (see page [25](#))
4. **SYSTEM SETUP: Basic** menu (see page [26](#))
5. **SYSTEM SETUP: Advanced** menu (see page [27](#))
6. **INFORMATION** menu (see page [30](#))

Available menu items may vary depending on the connected video sources or specified settings. Menu items that are not available will become grayed out.

- Use the arrow keys (◀/▶/▲/▼) on the projector or remote control to move through the menu items.
- Use **ENTER** to confirm the selected menu item.

PICTURE menu

Submenu	Functions and Descriptions
Picture Mode	Selects a preset picture mode to suit your operating environment and input signal picture type. The preset picture modes are described as below: • Bright: Maximizes the brightness of the projected image. This mode is suitable for environments where extra-high brightness is required, such as using the projector in well lit rooms. • Living Room: With well-saturated color, fine-tuned sharpness and a higher brightness level, this is perfect for watching movies and video games in a living room. • sRGB: Maximizes the purity of RGB colors to provide true-to-life images regardless of brightness setting. It is most suitable for viewing photos taken with an sRGB compatible and properly calibrated camera, and for viewing PC graphic and drawing applications such as AutoCAD. • Movie: With well-balanced color saturation and contrast with a low brightness level, this is most suitable for enjoying movies in a totally dark environment (as you would find in a commercial cinema). • User 1/User 2: Recalls the customized settings. After User 1/User 2 is selected, some of the sub-menus under the DISPLAY menu can be adjusted, according to your selected input signal.
The following functions are only available when Picture Mode is set to User 1 or User 2.	
Reference Mode	Selects a picture mode that best suits your need for the image quality and as a starting point, you can further fine-tune the image based on the selections listed below.
Brightness	Adjusts the brightness of the picture. When adjusting this control, the black areas of the picture appear just as black and details in the dark areas are visible.  The higher the value, the brighter the picture, while the lower the value, the darker the picture.
Contrast	Adjusts the degree of difference between dark and light areas in the picture. After adjusting the Brightness value, adjust Contrast to set the peak white level.  The higher the value, the greater the contrast.
Color	Adjusts the color saturation level - the amount of each color in a video picture. Lower settings produce less saturated colors; setting to the minimum value makes the image black and white. If the setting is too high, colors on the image will be overpowering, which makes the image unrealistic.  This function is only available when a Video, S-Video or Component signal is selected.

Tint	Adjusts the red and green color tones of the picture. The higher the value, the more reddish the picture becomes. The lower the value, the more greenish the picture becomes.  This function is only available when a Video or S-Video signal is selected and the system format is NTSC.
Sharpness	Makes the picture look sharper or softer.  The higher the value, the sharper the picture becomes. The lower the value, the softer the picture becomes.
Color Temperature	The options available for color temperature settings vary according to the connected input signal. • High: Makes pictures appear bluish white. • Middle: Maintains normal colorings for white. • Low: Makes pictures appear reddish white.
3D Color Management	Provides six sets (RGBCMY) of colors to be adjusted. You can select any of them to adjust its color range and saturation. 1. Press ENTER to display the 3D Color Management window. 2. Select Select Color and use ◀/▶ to select a color from R (Red), G (Green), B (Blue), C (Cyan), M (Magenta), and Y (Yellow). 3. Press ▼ to select Hue and use ◀/▶ to set its range. Increase in the range will include colors consisted of more proportions of its two adjacent colors.  The illustration shows how the colors relate to each other. For example, if you select R and set its range at 0, only pure red is selected. Increasing its range will include both the red color close to yellow and red color close to magenta. 4. Press ▼ to select Saturation* and use ◀/▶ to adjust its values. Every adjustment made reflects to the image immediately. For example, if you select R and set its value at 0, only the saturation of pure red will be affected. 5. Press ▼ to select Brightness and use ◀/▶ to adjust its values. Every adjustment made reflects to the image immediately. For example, if you select R and set its value at 0, only the brightness of pure red will be affected. 6. Repeat steps 2 to 5 until you have made all of the desired adjustments. 7. When done, press MENU to exit. *About saturation It is the amount of that color in a video picture. Lower settings produce less saturated colors; a setting of "0" removes that color from the image entirely. If the saturation is too high, that color will be overpowering and unrealistic.

Advanced

- **Black Level**

Sets the picture grayscale to **0 IRE** or **7.5 IRE**. The grayscale video signal is measured in IRE units. In some areas which use NTSC TV standard, the grayscale is measured from 7.5 IRE (black) to 100 IRE (white); however, in other areas where PAL equipment or Japanese NTSC standards are used, the grayscale is measured from 0 IRE (black) to 100 IRE (white). We suggest you to check if the input source is with 0 IRE or with 7.5 IRE, and then make your selection accordingly.

- **Noise Reduction**

Reduces electrical image noise caused by different media players. The higher the value, the less the noise.

- **Color Temperature Fine Tuning**

Allows you to manually adjust the pre-defined color temperature modes:

- Press **ENTER** to display the **Color Temperature Fine Tuning** window.
- Press **▲/▼** to select the item(s) you want to make changes and use **◀/▶** to adjust the values.
 - **Red Gain/Green Gain/Blue Gain:** Adjusts the contrast levels of Red, Green, and Blue.
 - **Red Offset/Green Offset/Blue Offset:** Adjusts the brightness levels of Red, Green, and Blue.
- When done, press **MENU** to exit.

- **Gamma selection**

Gamma refers to the relationship between input source and picture brightness.

- **1.6/1.8/2.0:** Select these values according to your preference.
- **2.2/Living Room:** Increases the average brightness of the picture. Best for a lit environment, meeting room or family room.
- **2.4/2.5:** Best for viewing movies in a dark environment.
- **2.6/2.8:** Best for viewing movies which are mostly composed of dark scenes.

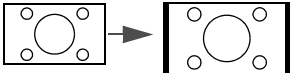
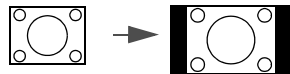
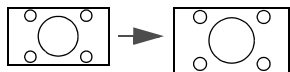
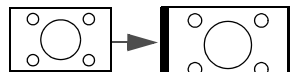
- **Film Mode**

Enhances picture quality when projecting composite image from a film sourced DVD or Blu-ray Disc.

- **BrilliantColor™**

This function utilizes a new color-processing algorithm and system level enhancements to enable higher brightness while providing truer, more vibrant colors in picture. It enables a greater than 50% brightness increase in mid-tone images, which are common in video and natural scenes, so the projector reproduces images in realistic and true colors. If you prefer images with that quality, select **On**. Selecting **Off** disables **BrilliantColor™**, and **Color Temperature** becomes unavailable for access at the same time.

DISPLAY menu

Submenu	Functions and Descriptions
Screen Color	Enable this function to help correct the projected picture's color when the projection surface is not white. You may choose a color similar to that of the projection surface from these options: Light Yellow , Pink , Light Green , Blue , or Blackboard .
Aspect Ratio	 In the following illustrations, the black portions are inactive areas and the white portions are active areas. Auto  15:9 picture Real  4:3 picture 4:3  4:3 picture 16:9  16:9 picture 16:10  16:10 picture
Keystone	See "Correcting keystone" for details.
Corner Correction	Allows you to manually adjust four corners of the image: 1. Press ENTER to display the Corner Correction window. 2. Use ▲/▼/◀/▶ to select the corner you want to adjust and press ENTER. 3. Use ▲/▼/◀/▶ to adjust the shape of the selected corner. 4. Press MENU to go back to the Corner Correction window to select another corner or to exit.

Digital Zoom	Allows you to magnify the image and find the details on it: 1. Press ENTER to display the Zoom bar. 2. Press ▲ repeatedly to magnify the projected image to your desired size. 3. To navigate the image, press ENTER to switch to the panning mode and use the directional arrows (▲/▼/◀/▶) to navigate it. The image can only be navigated after it is magnified. You can further magnify it while searching for details. 4. To reduce the image size, press ENTER to switch back to the zoom in/out functionality, and press AUTO to restore the image to its original size. You can also press ▼ repeatedly until it is restored to the original size.  The function is accessible through the remote control.
3D	This projector supports playing three-dimensional (3D) content transferred through your 3D-compatible video devices and contents, such as PlayStation consoles (with 3D game discs), 3D Blu-ray players (with 3D Blu-ray discs), 3D TV (with 3D channel), and so on. After you have connected the 3D video devices to the projector, wear the DLP link 3D glasses and make sure the power is on to view 3D contents.  When watching 3D contents, • the image may seem misplaced, however, this is not a product malfunction. • take appropriate breaks when watching 3D content. • stop watching 3D content if you feel fatigue or discomfort. • keep a distance from the screen of about three times the effective height of the screen when watching 3D content. • children and people with a history of oversensitivity to light, heart problems, or have any other existing medical condition should be refrained from watching 3D content. The default setting is Auto and the projector automatically chooses an appropriate 3D format when detecting 3D contents. If the projector cannot recognize the 3D format, manually choose a 3D mode according to your preference.  When this function is enabled: • the brightness level of the projected image decreases. • the Picture Mode cannot be adjusted. • the Vertical Keystone can only be adjusted within limited degrees.
3D Sync	When your 3D image is distorted, enable this function to switch between the image for the left eye and the right eye for more comfortable 3D viewing experience.

SOURCE menu

Submenu	Functions and Descriptions
Quick Auto Search	Sets whether the projector searches automatically for input sources. Select On to enable the projector to scan for input sources until it acquires a signal. If the function is set to Off, the projector will select the last used input source.

HDMI Setting	• Auto: Sets the projector to detect the HDMI range of the input signal automatically. • Full: Sets the HDMI color range as 0 - 255. • Limited: Sets the HDMI color range as 15 - 235.
Audio Settings	• Mute Select On to temporarily turn off the projector's internal speaker or the volume being output from the audio output jack. To restore the audio, select Off.  The function is accessible through the remote control. • Volume Adjusts the volume level of the projector's internal speaker or the volume being output from the audio output jack.  The function is accessible through the remote control.  If the Mute function is activated, adjusting Volume will turn off the Mute function. • Microphone Volume Adjusts the microphone input volume.
Position	Displays the Position window. You may use the directional arrow keys on the projector or remote control to adjust the position of the projected picture. The values shown on the lower position of the window change with every key press you made.  This function is only available when the PC signal is selected.
Phase	Adjusts the clock phase to reduce picture distortion.  This function is only available when the PC signal is selected.
H. Size	Adjusts the horizontal width of the picture.  This function is only available when the PC signal is selected.

SYSTEM SETUP: Basic menu

Submenu	Functions and Descriptions
Menu Settings	• Menu Display Time Sets the length of time the OSD will remain active after your last key press. • Menu Position Sets the OSD menu position.
Language	Sets the language for the On-Screen Display (OSD) menus.

Lamp Settings	• Lamp Mode Select the projector lamp power from the following modes. • Normal: Provides full lamp brightness. • Economic: Reduces system noise and lamp power consumption by 30%. If the Economic mode is selected, the light output will be reduced and result in darker projected pictures. See "Setting Lamp Mode" for details. • Reset Lamp Timer Activate this function only after a new lamp is installed. When you select Reset, a "Reset Successfully" message displays to notify that the lamp time has been reset to "0". • Lamp Time Select to learn the duration (in hours) of lamp usage which is automatically calculated by the built-in timer.
Projector Position	See " Choosing a location " for details.
Auto Power Off	Prevents unnecessary projection when no signal is detected for a long time. See " Setting Auto Power Off " for details.
12 V Trigger	Enables or disables the 12V output through the 12VDC output terminal.
Blank Timer	Sets the image blank time when BLANK is pressed to hide the image, once elapsed the image will return to the screen automatically after a period of time when there is no action taken on the blank screen. When BLANK is pressed with an audio input connected, the audio can still be heard. If the preset time spans are not suitable for your presentation, select Disable. No matter Blank Timer is activated or not, you can press most of the keys on the projector or remote control to restore the picture.
Sleep Timer	Sets the auto-shutdown timer.
Splash Screen	Allows you to select which logo screen displays during projector start-up. You can choose JVC logo screen, Blue screen, or Black screen.

SYSTEM SETUP: Advanced menu

Submenu	Functions and Descriptions
High Altitude Mode	The mode is for operation in areas like high altitude or high temperature environments. Activate the function when your environment is between 1500 m–3000 m above sea level and ambient temperature is between 0°C–30°C. Operation under High Altitude Mode may cause a higher decibel operating noise level because of increased fan speed necessary to improve overall system cooling and performance. If you use this projector under other extreme conditions excluding the above, it may display auto shut-down symptoms, which is designed to protect your projector from over-heating. In cases like this, you should switch to High Altitude Mode to solve these symptoms. However, this is not to state that this projector can operate under any and all harsh or extreme conditions.

Presentation Timer	Presentation timer can indicate the presentation time on the screen to help you achieve better time management when giving presentations. • Preset Time Sets the time period. If the timer is already on, the timer will restart whenever the Preset Time is reset. • Timer Display Allows you to decide if you want the timer to show up on the screen for one of the following time periods: • Always: Displays the timer on screen throughout the presentation time. • 1 min/2 min/3 min: Displays the timer on screen in the last 1/2/3 minute(s). • Never: Hides the timer throughout the presentation time. • Timer Position Sets the timer position. • Counting Direction Sets your desired counting direction between: • Count Up: Increases from 0 to the preset time. • Count Down: Decreases from the preset time to 0. • Sound Reminder Allows you to decide if you want to activate sound reminder. Once enabled, a double beep sound will be heard at the last 30 seconds of counting down/up, and a triple beep sound will be produced when the timer is up. • On/Off Select On to activate the timer. Select Off to cancel it.
Panel Key Lock	With the control keys on the projector locked, you can prevent your projector settings from being changed accidentally (by children, for example). When you select On to enable this function, no control keys on the projector will function, except  POWER. To unlock the keys, press and hold  on the projector for 3 seconds or select Off here using the remote control.  The function is accessible through the remote control or keypad.

Security Settings	For security purposes and to prevent unauthorized use, you may set up password security for the projector. This limits use of the projector to only those who know the correct password. If you enter an incorrect password 5 times in succession, the projector will automatically shut down in a short time.  You will be inconvenienced if you enable this function yet forget the password somehow. Do make a note of your password, and keep the note in a safe place for later recall. You will be asked to set a new password if no password has been set before. As the on-screen display indicates, the 4 arrow keys (▲/▶/▼/◀) respectively represent 4 digits (1, 2, 3, 4). Use the arrow keys to set a 6-digit password. The digits display as ***** when you enter them. • Change Password You will be asked to enter the current password before changing to a new one. • Power On Lock You will be asked to enter the current password before changing the setting.  Once a password has been set and the power on lock is enabled, the projector cannot be used unless the correct password is entered every time the projector is started.  If you forget the password, reset the password function: 1. Turn the projector off. 2. Unplug the power cord. 3. Long press on MENU and ▶ until the power cord was plugged. 4. Now the password function has been reset and the Power On Lock is Off. You can turn on the projector without entering any password. You can also activate the power-on lock functionality as if you were setting the password for the first time.
Closed Caption	• Closed Caption Activate the function by selecting On when the selected input signal carries closed captions*. *About caption An on-screen display of the dialogue, narration, and sound effects of TV programs and videos that are closed captioned (usually marked as "CC" in TV listings). • Caption Channel Select a preferred closed captioning mode. To view captions, select CC1, CC2, CC3, or CC4 (CC1 displays captions in the primary language in your area).

LAN Settings	• Standby LAN Allows the projector to provide the network function when it is in standby mode. See "Controlling the projector remotely" for details on the network function. • PJLink Certification, Change PJLink Password See "Utilizing the PJLink™ password function" for details. • AMX Device Discovery Allows the projector to be detected by AMX controller. • DHCP, Projector IP Address, Subnet Mask, Default Gateway, DNS Server, Apply See "Configuring the LAN Settings" for details.
Reset All Settings	Returns all settings to the factory preset values.  The following settings will still remain: Language, Projector Position, High Altitude Mode, Security Settings, LAN Settings.

INFORMATION menu

Submenu	Functions and Descriptions
Current System Status	
Source	Displays the current signal source.
Picture Mode	Displays the current picture mode under the PICTURE menu.
Color Format	Displays input system format.
Resolution	Displays the native resolution of the input source.
Lamp Time	Displays the number of hours the lamp has been used.

 Some information is given only when certain input sources are in use.

OSD menu structure

 The OSD menus vary according to the signal type selected.

Main menu	Submenu	Options
PICTURE	Picture Mode	Bright/Living Room/sRGB/Movie/User 1/User 2
	Reference Mode	Bright/Living Room/sRGB/Movie
	Brightness	
	Contrast	
	Color	
	Tint	
	Sharpness	
	Color Temperature	High/Middle/Low
	3D Color Management	Select Color
		R/G/B/C/M/Y
		Hue
		Saturation
		Brightness
	Advanced	Black Level
		0 IRE/7.5 IRE
		Noise Reduction
		Color Temperature Fine Tuning
		Red Gain/Green Gain/Blue Gain/Red Offset/Green Offset/Blue Offset
		Gamma selection
DISPLAY		1.6/1.8/2.0/2.2/2.4/2.5/2.6/2.8
		Film Mode
		On/Off
		BrilliantColor™
		On/Off
	Screen Color	Off/Light Yellow/Pink/Light Green/Blue/Blackboard
	Aspect Ratio	Auto/Real/4:3/16:9/16:10
	Keystone	
	Corner Correction	
	Digital Zoom	
SOURCE	3D	Auto/Frame Sequential/Frame Packing/Top-Bottom/Side-by-Side/Off
	3D Sync	Normal/Invert
	Quick Auto Search	On/Off
	HDMI Setting	Auto/Full/Limited
	Audio Settings	Mute
		Off/On
		Volume
		Microphone Volume
	Position	
	Phase	
	H. Size	

Main menu		Submenu	Options
SYSTEM SETUP: Basic	Menu Settings	Menu Display Time	5 sec/10 sec/15 sec/20 sec/25 sec/30 sec
		Menu Position	Center/Top-Left/Top-Right/ Bottom-Right/Bottom-Left
	Language		English / Français / Deutsch / Italiano / Español / Русский / 繁體中文 / 简体中文 / 日本語 / 한국어 / Svenska / Türkçe / Čeština / Português / Magyar / Nederlands / Dansk / Polski
	Lamp Settings	Lamp Mode	Normal/Economic
		Reset Lamp Timer	Reset/Cancel
		Lamp Time	
	Projector Position		Front Table/Rear Table/Front Ceiling/Rear Ceiling
	Auto Power Off		Disable/5 min/10 min/15 min/ 20 min/25 min/30 min
	12 V Trigger		Off/On
	Blank Timer		Disable/5 min/10 min/15 min/ 20 min/25 min/30 min
	Sleep Timer		Disable/30 min/1 hr/2 hr/3 hr/4 hr/ 8 hr/12 hr
	Splash Screen		Black/Blue/JVC
	High Altitude Mode		On/Off
SYSTEM SETUP: Advanced	Presentation Timer	Preset Time	1~240 minutes
		Timer Display	Always/1 min/2 min/3 min/Never
		Position	Top-Left/Bottom-Left/Top-Right/Bottom- Right
		Counting Direction	Count Down/Count Up
		Sound Reminder	On/Off
		On/Off	
	Panel Key Lock		Off/On
	Security Settings	Change Password	
		Power On Lock	On/Off
	Closed Caption	Closed Caption	On/Off
		Caption Channel	CC1/CC2/CC3/CC4
	LAN Settings	Standby LAN	Off/On
		PJLink Certification	Off/On
		Change PJLink Password	
		AMX Device Discovery	Off/On
		DHCP	On/Off
		Projector IP Address	
		Subnet Mask	
		Default Gateway	
		DNS Server	
		Apply	
	Reset All Settings		Reset/Cancel
INFORMATION	Current System Status		Source
			Picture Mode
			Color Format
			Resolution
			Lamp Time

Controlling the projector remotely

With a proper LAN cable connection and LAN Control settings, you can operate the projector from a computer using a web browser or PJLink™ application when the computer and the projector are connected to the same local area network. This projector supports Crestron® software and PJLink™.

Configuring the LAN Settings

To access the OSD menu, see ["Using the OSD menu"](#) for details.

If you are in a DHCP environment:

1. Make sure the projector and your computer are properly connected to the same local area network.
2. Go to **SYSTEM SETUP: Advanced > LAN Settings**, and press **ENTER**.
3. The **LAN Settings** page is displayed.
4. Press ▼ to select **DHCP** and press ◀/▶ to select **On**.
5. Press ▼ to select **Apply** and press **ENTER**.
6. Please wait for around 15 - 20 seconds, and then re-enter the **LAN Settings** page.
7. The **Projector IP Address**, **Subnet Mask**, **Default Gateway**, and **DNS Server** settings will be displayed. Note down the IP address displayed in the **Projector IP Address** row.

If the Projector IP Address still does not appear, contact your network administrator.

If the LAN cables are not properly connected, the **Projector IP Address**, **Subnet Mask**, **Default Gateway**, and **DNS Server** settings will display 0.0.0.0. Make sure the LAN cables are properly connected and perform the above procedures again.

If you are in a non-DHCP environment:

1. Make sure the projector and your computer are properly connected to the same local area network.
2. Go to **SYSTEM SETUP: Advanced > LAN Settings**, and press **ENTER**.
3. The **LAN Settings** page is displayed.
4. Press ▼ to select **DHCP** and press ◀/▶ to select **Off**.
5. Contact your network administrator for information on the **Projector IP Address**, **Subnet Mask**, **Default Gateway**, and **DNS Server** settings.
6. Press ▼ to select the item you want to modify and press **ENTER**.
7. Press ◀/▶ to move the cursor and then press ▲/▼ to enter the value.
8. To save the setting, press **ENTER**. If you do not want to save the setting, press **MENU**.
9. Press ▼ to highlight **Apply** and press **ENTER**.

If the LAN cables are not properly connected, the **Projector IP Address**, **Subnet Mask**, **Default Gateway**, and **DNS Server** settings will display 0.0.0.0. Make sure the LAN cables are properly connected and perform the above procedures again.

Controlling the projector using a web browser (e-Control™)

Once you have the correct IP address for the projector and the projector is on or in standby state, you can use any computer that is on the same local area network to control the projector.

When using this function, Adobe Flash Player has to be installed in your computer. Please download the latest version of Adobe Flash Player from the website of Adobe Systems Incorporated.

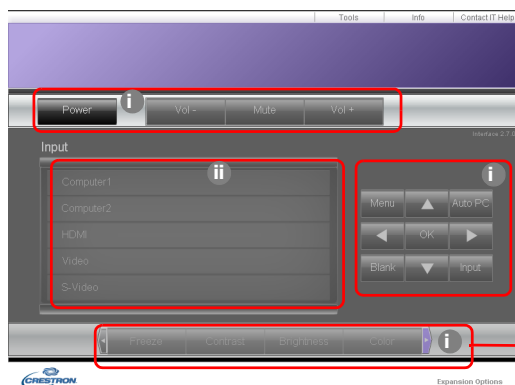
 **Recommended operating systems: WinXP, Win7, Win8.1, Mac OS X v10.4/v10.5/v10.6/v10.7.**

1. Enter the IP address of the projector in the address bar of your browser and press enter. (for example, <http://192.168.0.146/>)



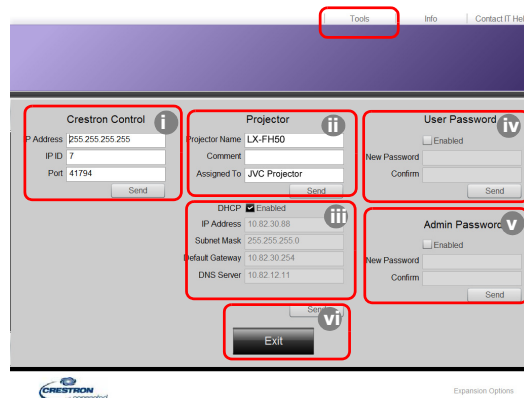
 **Recommended web browsers: IE11, Chrome 44.0 and below.**

2. The remote network operation page is displayed. This page allows you to operate the projector as if you were using the remote control or control panel on the projector.



Press ◀/▶ to reveal more buttons.

- i. These buttons function the same as the ones on the OSD menus or remote control.
 - ii. To switch input source, click on your desired source.
3. The Tools page allows you to manage the projector, configure the LAN control settings and secure access of remote network operation on this projector.



- i. When using the Crestron Control System, please refer to the user manual of Crestron Control system for setup information.

- ii. You can name the projector, keep track of its location and the person in charge of it. This column has length limit.
- iii. You can adjust the LAN Settings.
- iv. Once set, access to the remote network operation page on this projector has been password-protected. To enable this function, check the box in front of "Enable" and type in your desired password in the New Password column and confirm the new password by re-entering the new password at the Confirm column. To disable password protection, uncheck the box.
- v. Once set, access to the Tools page has been password-protected. Refer to step iv for how to use the password function.
- vi. Press Exit to go back to the remote network operation page.

After making the adjustments, press the Send button and the data will be saved in the projector.

Once the password is set, the Log Out button will display beside the Tools button.

Write down your selected password in advance or right after the password is entered so that it is available to you should you ever forget it.

If you did not write down your password, and you absolutely do not remember it you can reset the password by following procedure.

- Open log in screen of e-Control™ by your web browser.
- Long press on **MENU** and ► on the projector for 3 seconds.
- Now the password has been reset.

The software is available in English language.

When **DHCP** is turned on, there is a possibility of stopping the webpage connection. If this happens, please check the new IP address of the projector and enter the new address to connect again.

4. The Info page displays the information and status of this projector.

- i. The information you entered in the Tools page will display here and these columns are empty when you use e-Control™ for the first time.
- ii. When the projector is in abnormal conditions, the following information will display.

Error Status	Description
0: No Error	The projector is in normal conditions or in any abnormal conditions other than the ones mentioned below.
3: Lamp fail	The lamp fails to ignite or turns off during operation.
3: Over Temp	The projector temperature is too high or cannot be detected.
3: Fan Lock	The fan rotation speed cannot be set or detected.

3: Over Lamp Usage Time	The lamp is still in use after the lamp warning messages display.
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- iii. Press Exit to go back to the remote network operation page.
5. After pressing the button 'Contact IT Help', the HELP DESK window will appear at the upper right corner. You will be able to deliver messages to RoomView™ software which is connected to the same local area network.



For more information, visit <http://www.crestron.com> & www.crestron.com/getroomview.

Controlling the projector using PJLink™

This projector supports standard protocol PJLink™ for projector control and you can control and monitor projector's operations using the same application among projectors of different models and different manufacturers.

About PJLink™

- To use PJLink™ function, the PJLink™ application software is required.
- For the specifications of PJLink™, access to the Web site of Japan Business Machine and Information System Industries Association (JBMIA). (<http://pjlink.jbmia.or.jp/english>)
- This projector is fully compliant to the specifications of JBMIA PJLink™ Class 1. It supports all the commands defined by PJLink™ Class 1, and the compliance has been verified with the PJLink™ standard specifications Version 1.4.

Utilizing the PJLink™ password function

To prevent unauthorized connection to the projector via PJLink™ application, the projector includes an option for setting up password security.

To access the OSD menu, see "[Using the OSD menu](#)" for details.

1. Go to **SYSTEM SETUP: Advanced > LAN Settings**, and press **ENTER**.
2. The **LAN Settings** page is displayed.
3. Press **▼** to select **PJLink Certification** and press **◀/▶** to select **On**. The default password is "admin".
4. Press **▼** to select **Change Password** and press **ENTER**.
5. Enter the current password. Press **◀/▶** to select the digit and press **▲/▼** to select from 0-9, A-Z, a-z or symbols. Press **ENTER** to confirm.

If you forget the password, please use the password "projectorcontroller".

PJLink™ supported commands

Command	Description	Remark (Parameter)
POWR	Power control	0 = Power off 1 = Power on
POWR?	Inquiry about the power state	0 = Standby 1 = Power on 2 = Cooling down 3 = Warming up

INPT	Input switching	11 = COMPUTER 21 = VIDEO 22 = S-VIDEO 31 = HDMI1 32 = HDMI2
INPT?	Inquiry about input switching	
AVMT	Mute control	10 = BLANK disable 11 = BLANK enable 20 = Audio mute disable 21 = Audio mute enable 30 = BLANK and audio mute disable 31 = BLANK and audio mute enable
AVMT?	Inquiry about the mute state	
ERST?	Inquiry about the error state	1st byte: Fan error, 0 or 2 2nd byte: Lamp error, 0 or 2 3rd byte: Temperature error, 0 or 2 4th byte: Always 0 5th byte: Always 0 6th byte: Other errors, 0 or 2 * 0 or 2 mean as follows: 0 = No error detected, 2 = Error
LAMP?	Inquiry about the lamp state	1st value (1 to 4 digits): Cumulative lamp operating time (This item shows a lamp operating time (hour) calculated based on that Lamp Mode is Economic.) 2nd value: 0 = Lamp off, 1 = Lamp on
INST?	Inquiry about the available inputs	The following value is returned. "11 21 22 31 32"
NAME?	Inquiry about the projector name	The command responds with the projector name specified in the Tools page.
INF1?	Inquiry about the manufacturer name	"JVC" is returned.
INF2?	Inquiry about the model name	"LX-FH50" is returned.
INFO?	Inquiry about other information	DMD resolution is returned.
CLSS?	Inquiry about the class information	"1" is returned.

Maintenance

Care of the projector

Cleaning the lens

Clean the lens whenever you notice dirt or dust on the surface.

Before cleaning any part of the projector, turn it off using the proper shutdown procedure (see ["Shutting down the projector"](#)), unplug the power cable, and let it cool down completely.

- Use a canister of compressed air to remove dust.
- If there is dirt or smears, use lens-cleaning paper or moisten a soft cloth with lens cleaner and gently wipe the lens surface.
- Never use any type of abrasive pad, alkaline/acid cleaner, scouring powder, or volatile solvent, such as alcohol, benzene, thinner or insecticide. Using such materials or maintaining prolonged contact with rubber or vinyl materials may result in damage to the projector surface and cabinet material.

 **Never touch the lens with your finger or rub the lens with abrasive materials. Even paper towels can damage the lens coating. Only ever use a proper photographic lens brush, cloth, and cleaning solution. Do not attempt to clean the lens while the projector is switched on or is still hot from previous use.**

Cleaning the projector case

Before cleaning any part of the projector, turn it off using the proper shutdown procedure (see ["Shutting down the projector"](#)), unplug the power cable, and let it cool down completely.

- To remove dirt or dust, wipe the case with a soft, dry, lint-free cloth.
- To remove stubborn dirt or stains, moisten a soft cloth with water and a neutral detergent. Then wipe the case.

 **Never use wax, alcohol, benzene, thinner or other chemical detergents. These can damage the case.**

Storing the projector

To store the projector for an extended time:

- Make sure the temperature and humidity of the storage area are within the recommended range for the projector. Refer to ["Specifications"](#) or consult your dealer about the range.
- Retract the adjuster feet.
- Remove the batteries from the remote control.
- Pack the projector in its original packing or equivalent.

Transporting the projector

It is recommended that you ship the projector with its original packing or equivalent.

Lamp information

Getting to know the lamp hour

When the projector is in operation, the duration (in hours) of lamp usage is automatically calculated by the built-in timer.

Total (equivalent) lamp hour = (hours used in **Normal** mode) + 4/5 x (hours used in **Economic** mode)

To obtain the lamp hour information:

1. Press **MENU**.
2. Use the arrow keys (◀/▶/▲/▼) to go to **INFORMATION** or **SYSTEM SETUP: Advanced > Lamp Settings > Lamp Time**.
3. The **Lamp Time** information displays.
4. Press **MENU** to exit.

Extending lamp life

The projection lamp is a consumable item. To keep the lamp life as long as possible, you can do the following settings via the OSD menu.

To access the OSD menu, see ["Using the OSD menu"](#) for details.

Setting Lamp Mode

Setting the projector in **Economic** mode extends the lamp life.

1. Go to **SYSTEM SETUP: Advanced > Lamp Settings > Lamp Mode**.
2. Press ◀/▶ to move to your desired mode, and press **ENTER**.
3. When done, press **MENU** to save your changes and exit.

Setting Auto Power Off

This function allows the projector to turn off automatically if no input source is detected after a set period of time.

1. Go to **SYSTEM SETUP: Basic > Auto Power Off**.
2. Press ◀/▶ to select a time period. If the preset time lengths are not suitable for your presentation, select **Disable**, and the projector will not automatically shut down in a certain time period.
3. When done, press **MENU** to save your changes and exit.

Timing of replacing the lamp

When the Lamp indicator lights up red or a message appears suggesting it is time to replace the lamp, please install a new lamp or consult your dealer. An old lamp may cause a malfunction in the projector and in some instances the lamp may explode.

The LAMP indicator light and TEMP warning light will light up if the lamp becomes too hot. Turn the power off and let the projector cool for 45 minutes. If the LAMP or TEMP indicator still lights up after turning the power back on, please contact your dealer. See "[Indicators](#)" for details.

The following lamp warning displays will remind you to change the lamp.

 The illustrations show below are for reference only and may differ from the actual design.

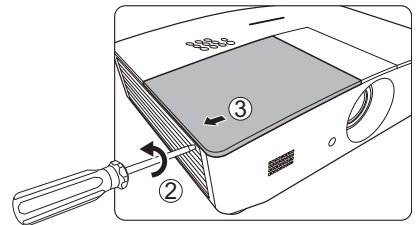
Status	Message
The lamp has been in operation for 1500 hours. Install a new lamp for optimal performance. If the projector is normally run with Economic selected (See " Getting to know the lamp hour "), you may continue to operate the projector until the 1950 hour lamp warning appears.	Notice Order Replacement Lamp Lamp>1500 Hours OK
The lamp has been in operation for 1950 hours. A new lamp should be fitted to avoid the inconvenience when the projector runs out of lamp time.	Notice Replace Lamp Soon Lamp>1950 Hours OK
The lamp has been in operation for 2000 hours. It is strongly recommended that you replace the lamp at this age.  The lamp is a consumable item. The lamp brightness diminishes with use. This is normal lamp behavior. You can replace the lamp whenever you notice that the brightness level has significantly diminished. If the lamp is not replaced beforehand, it must be replaced after 2000 hours usage.	Notice Replace Lamp Now Lamp>2000 Hours OK
The lamp MUST be replaced before the projector will operate normally.	WARNING Out of Lamp Usage Time Replace lamp (Refer to user manual) Then reset lamp timer OK

Replacing the lamp



- To reduce the risk of electrical shock, always turn the projector off and disconnect the power cable before changing the lamp.
- To reduce the risk of severe burns, allow the projector to cool for at least 45 minutes before replacing the lamp.
- To reduce the risk of injuries to fingers and damage to internal components, use caution when removing lamp glass that has shattered into sharp pieces.
- To reduce the risk of injuries to fingers and/or compromising image quality by touching the lens, do not touch the empty lamp compartment when the lamp is removed.
- This lamp contains mercury. Consult your local hazardous waste regulations to dispose of this lamp in a proper manner.
- To assure optimal performance from the projector, it is recommended that you purchase a qualified projector lamp for lamp replacement.
- Ensure good ventilation when handling broken lamps. We recommend that you use respirators, safety glasses, goggles or face shield and wear protective clothing such as gloves.

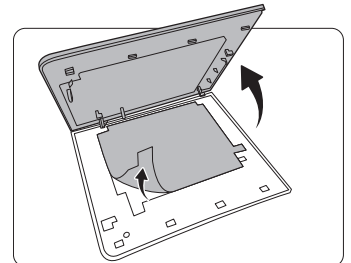
1. Turn the power off and disconnect the projector from the power outlet. If the lamp is hot, avoid burns by waiting for approximately 45 minutes until the lamp has cooled.
2. Loosen the screws that secure the lamp cover on the top of the projector until the lamp cover loosens.
3. Push the lamp cover open.



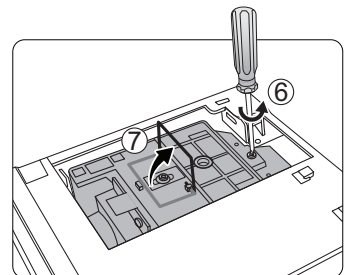
4. Remove the lamp cover from the projector.
5. Confirm a position of the lamp protection film to put a new film on the same position later, then remove and dispose of the lamp protection film.



- Do not turn the power on with the lamp cover removed.
- Do not insert your fingers between the lamp and the projector as the sharp edges inside the projector may cause injuries.



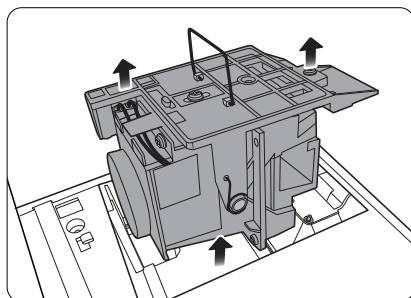
6. Loosen the screw that secures the lamp.
7. Lift the handle so that it stands up.



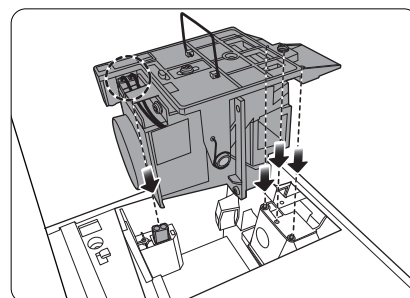
8. Use the handle to slowly pull the lamp out of the projector.



- Pulling it too quickly may cause the lamp to break and scatter broken glass in the projector.
- Do not place the lamp in locations where water might splash on it, children can reach it, or near flammable materials.
- Do not insert your hands into the projector after the lamp is removed. If you touch the optical components inside, it could cause color unevenness and distortion of the projected images.



9. As shown in the illustration, lower the new lamp (replacement lamp: PK-L3715U).

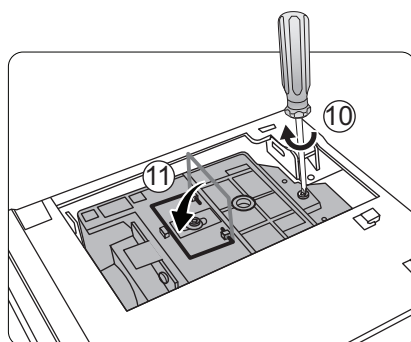


10. Tighten the screw that secures the lamp.

11. Ensure the handle is fully laid flat and locked in place.

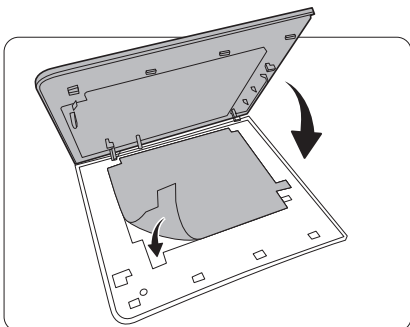


- Loose screws may cause a bad connection, which could result in malfunction.
- Do not over tighten the screw.



12. Replace the lamp protection film.

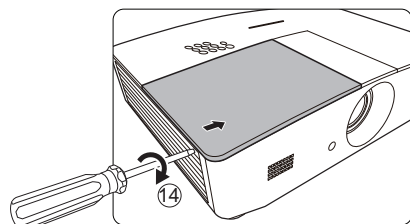
13. Replace the lamp cover on the projector.



14. Tighten the screws that secure the lamp cover.



- Loose screws may cause a bad connection, which could result in malfunction.
- Do not over tighten the screw.



15. Connect the power and restart the projector.

16. After the startup logo displays, reset the lamp timer via the OSD menu.

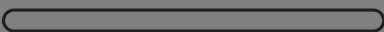


Do not reset if the lamp is not new or replaced as this could cause damage.

A "**Reset Successfully**" message displays to notify that the lamp time has been reset to "0".

Indicators

There are 3 indicators which show the status of the projector. Check the following information about the indicator lights. If there is anything wrong, turn the projector off and contact your dealer.

Light			Status & Description
POWER	TEMP	LAMP	
			
Power events			
Orange	Off	Off	Stand-by mode
Green Flashing	Off	Off	Powering up
Green	Off	Off	Normal operation
Orange Flashing	Off	Off	Normal power-down cooling
Red	Off	Off	Downloading
Green	Off	Red	CW start fail
Red Flashing	Off	Off	Scaler shutdown fail (data abort)
Green	Off	Off	Burn-in ON
Green	Green	Green	Burn-in OFF
Lamp events			
Off	Off	Red	Lamp error in normal operation
Off	Off	Red Flashing	Lamp is not lit up
Thermal events			
Red	Red	Off	Fan 1 error (the actual fan speed is $\pm 25\%$ outside the desired speed)
Red	Red Flashing	Off	Fan 2 error (the actual fan speed is $\pm 25\%$ outside the desired speed)
Red	Green	Off	Fan 3 error (the actual fan speed is $\pm 25\%$ outside the desired speed)
Red	Green Flashing	Off	Fan 4 error (the actual fan speed is $\pm 25\%$ outside the desired speed)
Red Flashing	Red	Off	Fan 5 error (the actual fan speed is $\pm 25\%$ outside the desired speed)
Red Flashing	Red Flashing	Off	Fan 6 error (the actual fan speed is $\pm 25\%$ outside the desired speed)
Green	Red	Off	Temperature 1 error (over limited temperature)

Troubleshooting

Problem	Cause	Remedy
The projector does not turn on.	There is no power from the power cable.	Plug the power cable into the AC inlet on the rear of the projector, and plug the power cable into to the power outlet. If the power outlet has a switch, make sure that it is switched on.
	Attempting to turn the projector on again during the cooling process.	Wait until the cooling down process has completed.
	The lamp cover is not securely attached.	Correctly attach the lamp cover.
No picture.	The video source is not turned on or connected correctly.	Turn the video source on and check that the signal cable is connected correctly.
	The projector is not correctly connected to the input source device.	Check the connection.
	The input source has not been correctly selected.	Select the correct source with the SOURCE key on the projector or remote control.
Image is unstable.	The connection cables are not securely connected to the projector or the signal source.	Correctly connect the cables to the appropriate terminals.
Picture is blurred.	The projection lens is not correctly focused.	Adjust the focus of the lens using the focus ring.
	The projector and the screen are not aligned properly.	Adjust the projection angle and direction as well as the height of this projector if necessary.
	The lens cover is still closed. (If available)	Remove the lens cover. (If available)
Remote control does not work correctly.	The battery is out of power.	Replace both of the battery with new one.
	There is an obstacle between the remote control and the projector.	Remove the obstacle.
	You are too far away from the projector.	Stand within 8 meters (26.2 feet) of the projector.
3D content does not display correctly	The 3D glasses are out of battery.	Recharge the 3D glasses.
	The settings in the 3D menu are not set correctly.	Correctly set the settings in the 3D menu.
	Your Blu-ray Disc is not in 3D format.	Use a 3D Blu-ray Disc and try again.
	The input source has not been correctly selected.	Select the correct source with the SOURCE key on the projector or remote control.

Specifications

Projector specifications

 All specifications are subject to change without notice.

Optical

Resolution

1920 (H) x 1080 (V)

Display system

Single-chip DLP™ system

Lens

F = 2.45 to 3.07, f = 15.75 to 25.1 mm

Lamp

370 W lamp

Electrical

Power supply

AC100–240V, 6 A, 50-60 Hz (Automatic)

Power consumption

594 W (Max); < 0.5 W (Standby);

< 3 W (Network standby)

Output terminals

Speaker

(Stereo) 10 watt x 2

Audio signal output

PC audio jack x 1

12VDC (Max. 0.5 A) x 1

Monitor-Out RGB DB-15 x 1 (Female Type)

Control

RS-232 serial control

9 pin x 1

IR receiver x 2

LAN control

RJ45 x 1

Input terminals

Computer input

RGB input

D-Sub 15-pin (female) x 1

Video signal input

S-VIDEO

Mini DIN 4-pin port x 1

VIDEO

RCA jack x 1

SD/HDTV signal input

Analog - Component
(through RGB input)

Digital - HDMI x 2

Audio signal input

Audio in

RCA audio jack (L/R) x 2

PC audio jack x 1

USB port (Type-A x 1; Mini-B x 1)

Environmental Requirements

Operating temperature

0°C–40°C at sea level

Operating relative humidity

10%–90% (without condensation)

Operating altitude

0–1499 m at 0°C–35°C

1500–3000 m at 0°C–30°C (with

High Altitude Mode on)

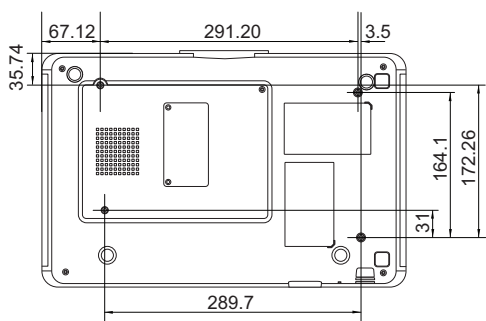
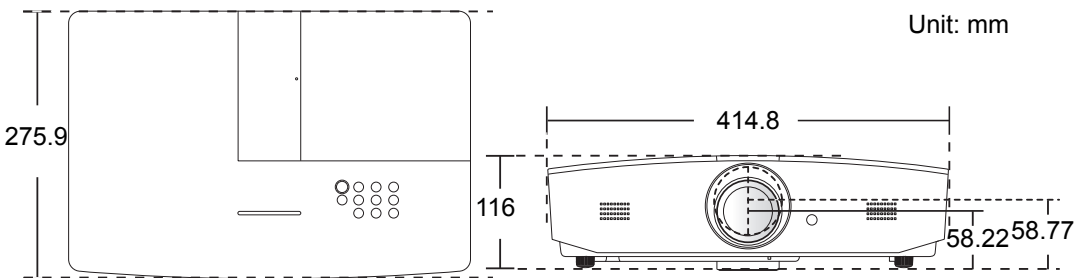
Mechanical

Weight

4.9 Kg

Dimensions

414.8 mm x 275.9 mm x 116 mm (W x D x H)



Ceiling mount screws: M5
(Max. L = 25 mm; Min. L = 20 mm)

Timing chart

Supported timing for PC input

Format	Resolution	Refresh rate (Hz)	Horizontal Frequency (KHz)	Pixel Frequency (MHz)
720 x 400	720 x 400_70	70.087	31.469	28.3221
640 x 480	VGA_60*	59.940	31.469	25.175
	VGA_72	72.809	37.861	31.500
	VGA_75	75.000	37.500	31.500
	VGA_85	85.008	43.269	36.000
800 x 600	SVGA_60*	60.317	37.879	40.000
	SVGA_72	72.188	48.077	50.000
	SVGA_75	75.000	46.875	49.500
	SVGA_85	85.061	53.674	56.250
	SVGA_120** (Reduce Blanking)	119.854	77.425	83.000
1024 x 768	XGA_60*	60.004	48.363	65.000
	XGA_70	70.069	56.476	75.000
	XGA_75	75.029	60.023	78.750
	XGA_85	84.997	68.667	94.500
	XGA_120** (Reduce Blanking)	119.989	97.551	115.500
1152 x 864	1152 x 864_75	75.00	67.500	108.000
1280 x 720	1280 x 720_60*	60	45.000	74.250
1280 x 768	1280 x 768_60*	59.870	47.776	79.5
1280 x 800	WXGA_60*	59.810	49.702	83.500
	WXGA_75	74.934	62.795	106.500
	WXGA_85	84.880	71.554	122.500
	WXGA_120** (Reduce Blanking)	119.909	101.563	146.25
1280 x 1024	SXGA_60***	60.020	63.981	108.000
	SXGA_75	75.025	79.976	135.000
	SXGA_85	85.024	91.146	157.500
1280 x 960	1280 x 960_60***	60.000	60.000	108
	1280 x 960_85	85.002	85.938	148.500

1360 x 768	1360 x 768_60***	60.015	47.712	85.500
1440 x 900	WXGA+_60***	59.887	55.935	106.500
1400 x 1050	SXGA+_60***	59.978	65.317	121.750
1600 x 1200	UXGA***	60.000	75.000	162.000
1680 x 1050	1680 x 1050_60***	59.954	65.290	146.250
640 x 480@67Hz	MAC13	66.667	35.000	30.240
832 x 624@75Hz	MAC16	74.546	49.722	57.280
1024 x 768@75Hz	MAC19	74.93	60.241	80.000
1152 x 870@75Hz	MAC21	75.06	68.68	100.00
1920 x 1080@60Hz	1920 x 1080_60 (Reduce Blanking)	60	67.5	148.5
1920 x 1200@60Hz	1920 x 1200_60 (Reduce Blanking)	59.95	74.038	154

 ***Supported timing for 3D signal in Frame Sequential, Top-Bottom or Side-by-Side format.**

****Supported timing for 3D signal in Frame Sequential format.**

*****Supported timing for 3D signal in Top-Bottom or Side-by-Side format.**

 **The timings showing above may not be supported due to EDID file and VGA graphic card limitations. It is possible that some timings cannot be chosen.**

Supported timing for HDMI (HDCP) input

Format	Resolution	Vertical Frequency (Hz)	Horizontal Frequency (KHz)	Pixel Frequency (MHz)
640 x 480	VGA_60*	59.940	31.469	25.175
	VGA_72	72.809	37.861	31.500
	VGA_75	75.000	37.500	31.500
	VGA_85	85.008	43.269	36.000
720 x 400	720 x 400_70	70.087	31.469	28.3221
800 x 600	SVGA_60*	60.317	37.879	40.000
	SVGA_72	72.188	48.077	50.000
	SVGA_75	75.000	46.875	49.500
	SVGA_85	85.061	53.674	56.250
	SVGA_120** (Reduce Blanking)	119.854	77.425	83.000
1024 x 768	XGA_60*	60.004	48.363	65.000
	XGA_70	70.069	56.476	75.000
	XGA_75	75.029	60.023	78.750
	XGA_85	84.997	68.667	94.500
	XGA_120** (Reduce Blanking)	119.989	97.551	115.500
1152 x 864	1152 x 864_75	75.00	67.500	108.000
1280 x 720	1280 x 720_60*	60	45.000	74.250
1280 x 768	1280 x 768_60*	59.870	47.776	79.5
1280 x 800	WXGA_60*	59.810	49.702	83.500
	WXGA_75	74.934	62.795	106.500
	WXGA_85	84.880	71.554	122.500
	WXGA_120** (Reduce Blanking)	119.909	101.563	146.25
1280 x 1024	SXGA_60***	60.020	63.981	108.000
	SXGA_75	75.025	79.976	135.000
	SXGA_85	85.024	91.146	157.500
1280 x 960	1280 x 960_60***	60.000	60.000	108
	1280 x 960_85	85.002	85.938	148.500
1360 x 768	1360 x 768_60***	60.015	47.712	85.500

1440 x 900	WXGA+_60***	59.887	55.935	106.500
1400 x 1050	SXGA+_60***	59.978	65.317	121.750
1600 x 1200	UXGA****	60.000	75.000	162.000
1680 x 1050	1680 x 1050_60***	59.954	65.290	146.250
640 x 480@67Hz	MAC13	66.667	35.000	30.240
832 x 624@75Hz	MAC16	74.546	49.722	57.280
1024 x 768@75Hz	MAC19	75.020	60.241	80.000
1152 x 870@75Hz	MAC21	75.06	68.68	100.00
1920 x 1080@60Hz	1920 x 1080_60 (Reduce Blanking)	60	67.5	148.5
1920 x 1200@60Hz	1920 x 1200_60 (Reduce Blanking)	59.95	74.038	154

 *Supported timing for 3D signal in Frame Sequential, Top-Bottom or Side-by-Side format.

**Supported timing for 3D signal in Frame Sequential format.

***Supported timing for 3D signal in Top-Bottom or Side-by-Side format.

****Supported timing for 3D signal in Top-Bottom format.

 The timings showing above may not be supported due to EDID file and VGA graphic card limitations. It is possible that some timings cannot be chosen.

Timing	Resolution	Vertical Frequency (Hz)	Horizontal Frequency (KHz)	Pixel Frequency (MHz)
480i*	720 x 480	59.94	15.73	27
480p	720 x 480	59.94	31.47	27
576i	720 x 576	50	15.63	27
576p	720 x 576	50	31.25	27
720/50p**	1280 x 720	50	37.5	74.25
720/60p**	1280 x 720	60	45.00	74.25
1080/24P**	1920 x 1080	24	27	74.25
1080/25P	1920 x 1080	25	28.13	74.25
1080/30P	1920 x 1080	30	33.75	74.25
1080/50i***	1920 x 1080	50	28.13	74.25
1080/60i***	1920 x 1080	60	33.75	74.25
1080/50P***	1920 x 1080	50	56.25	148.5
1080/60P***	1920 x 1080	60	67.5	148.5

 *Supported timing for 3D signal in Frame Sequential format.

**Supported timing for 3D signal in Frame Sequential or Top-Bottom format.

***Supported timing for 3D signal in Side-by-Side format.

Supported timing for Component-YPbPr input

Format	Resolution	Vertical Frequency (Hz)	Horizontal Frequency (KHz)	Pixel Frequency (MHz)
480i	720 x 480	59.94	15.73	13.5
480p	720 x 480	59.94	31.47	27
576i	720 x 576	50	15.63	13.5
576p	720 x 576	50	31.25	27
720/50p	1280 x 720	50	37.5	74.25
720/60p	1280 x 720	60	45.00	74.25
1080/50i	1920 x 1080	50	28.13	74.25
1080/60i	1920 x 1080	60	33.75	74.25
1080/24P	1920 x 1080	24	27	74.25
1080/25P	1920 x 1080	25	28.13	74.25
1080/30P	1920 x 1080	30	33.75	74.25
1080/50P	1920 x 1080	50	56.25	148.5
1080/60P	1920 x 1080	60	67.5	148.5

Supported timing for S-Video/Video input

Format	Vertical Frequency (Hz)	Horizontal Frequency (KHz)	Pixel Frequency (MHz)
NTSC	60	15.73	3.58
PAL	50	15.63	4.43
SECAM	50	15.63	4.25/4.41
PAL-M	60	15.73	3.58
PAL-N	50	15.63	3.58
PAL-60	60	15.73	4.43
NTSC4.43	60	15.73	4.43

Warranty and Copyright information

Warranty

JVC warrants this product against any defects in material and workmanship, under normal usage and storage.

Proof of purchase date will be required with any warranty claim. In the event this product is found to be defective within the warranty period, JVC's only obligation and your exclusive remedy shall be replacement of any defective parts (labor included). To obtain warranty service, immediately notify the dealer from which you purchased the product of any defects.

Important: The above warranty shall be void if the customer fails to operate the product in accordance with JVC's written instructions, especially the ambient humidity and altitude must meet the environmental requirements listed in the user manual, and avoiding to operate the projector in a dusty environment. This warranty gives you specific legal rights, and you may have other rights which vary from country to country.

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