



# Digital Projector User Manual

# Warranty and Copyright information

## Limited warranty

BenQ 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, BenQ'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 BenQ's written instructions, especially the ambient humidity must be in-between 10% and 90%, temperature in-between 0°C and 35°C, altitude lower than 4920 feet, 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.

For other information, please visit [www.BenQ.com](http://www.BenQ.com).

## Copyright

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\*DLP, Digital Micromirror Device and DMD are trademarks of Texas Instruments. Others are copyrights of their respective companies or organizations.

## Patents

Please go to <http://patmarking.benq.com/> for the details on BenQ projector patent coverage.

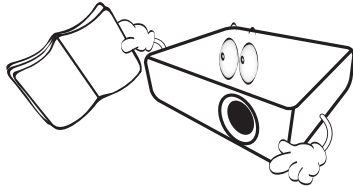
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# Important safety instructions

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 manual before you operate your projector.** Save it for future reference.



2. **Do not look straight at the projector lens during operation.** The intense light beam may damage your eyes.



3. **Refer servicing to qualified service personnel.**

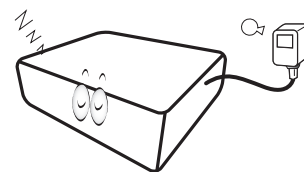


4. **Always open the lens shutter (if any) or remove the lens cap (if any) when the projector lamp is on.**

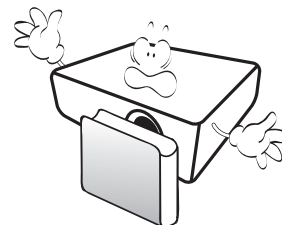
5. The lamp becomes extremely hot during operation. Allow the projector to cool for approximately 45 minutes prior to removing the lamp assembly for replacement.



6. In some countries, the line voltage is NOT stable. This projector is designed to operate safely within a mains voltage between 100 to 240 volts AC, but could fail if power cuts or surges of  $\pm 10$  volts occur. **In areas where the mains voltage may fluctuate or cut out, it is recommended that you connect your projector through a power stabilizer, surge protector or uninterruptible power supply (UPS).**



7. Do not block the projection lens with any objects when the projector is under operation as this could cause the objects to become heated and deformed or even cause a fire. To temporarily turn off the lamp, use the blank function.

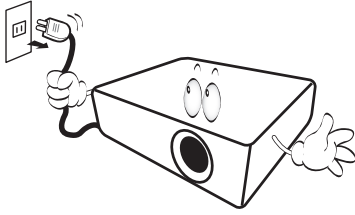


8. Do not operate lamps beyond the rated lamp life. Excessive operation of lamps beyond the rated life could cause them to break on rare occasions.

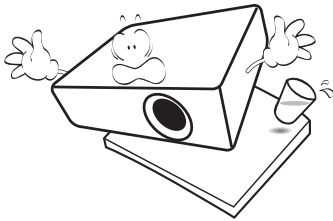




9. Never replace the lamp assembly or any electronic components unless the projector is unplugged.

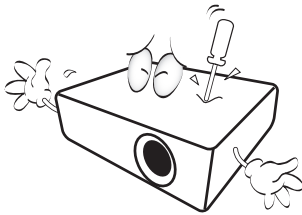


10. Do not place this product on an unstable cart, stand, or table. The product may fall, sustaining serious damage.



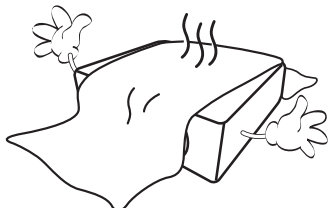
11. Do not attempt to disassemble this projector. There are dangerous high voltages inside which may cause death if you should come into contact with live parts. The only user serviceable part is the lamp which has its own removable cover.

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



12. Do not block the ventilation holes.

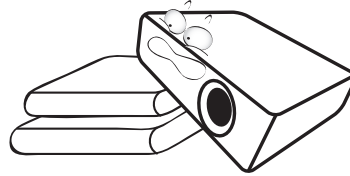
- Do not place this projector on a blanket, bedding or any other soft surface.
- Do not cover this projector with a cloth or any other item.
- Do not place inflammables near the projector.



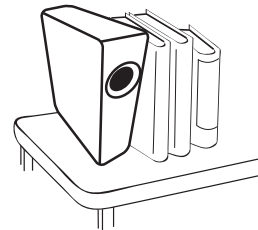
If the ventilation holes are seriously obstructed, overheating inside the projector may result in a fire.

13. Always place the projector on a level, horizontal surface during operation.

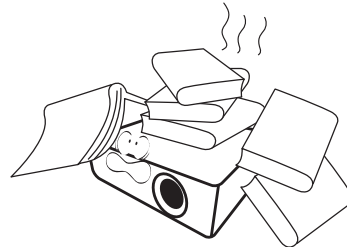
- Do not use if tilted at an angle of more than 10 degrees left to right, nor at angle of more than 15 degrees front to back. Using the projector when it is not fully horizontal may cause a malfunction of, or damage to, the lamp.



14. Do not stand the projector on end vertically. Doing so may cause the projector to fall over, causing injury or resulting in damage to the projector.

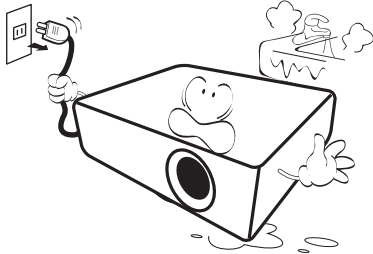


15. Do not step on the projector or place any objects upon it. Besides probable physical damage to the projector, doing so may result in accidents and possible injury.

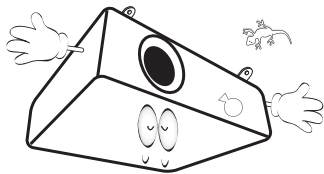


16. When the projector is under operation, you may sense some heated air and odor from its ventilation grill. It is a normal phenomenon and not a product defect.

17. Do not place liquids near or on the projector. Liquids spilled into the projector may cause it to fail. If the projector does become wet, disconnect it from the power supply's power outlet and call BenQ to have the projector serviced.



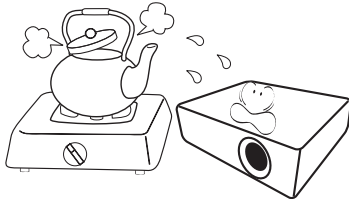
18. This product is capable of displaying inverted images for ceiling/wall mount installation.



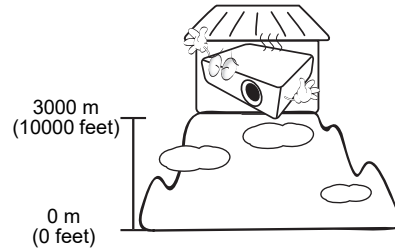
19. This apparatus must be earthed.

20. Do not place this 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 rolled up.
- Locations where excessive humidity, dust, or cigarette smoke may contaminate optical components, shorten the projector's life span and darken the image.



- Locations near fire alarms
- Locations with an ambient temperature above 40°C / 104°F
- Locations where the altitudes are higher than 3000 m (10000 feet).



## Risk Group 2

1. According to the classification of photobiological safety of lamps and lamp systems, this product is Risk Group 2, IEC 62471-5:2015.
2. Possibly hazardous optical radiation emitted from this product.
3. Do not stare at operating lamp. May be harmful to the eyes.
4. As with any bright source, do not stare into the direct beam.



**!** Hg - Lamp contains mercury. Manage in accordance with local disposal laws. See [www.lamprecycle.org](http://www.lamprecycle.org).

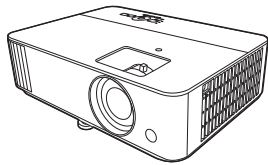
**!** To avoid damaging the DLP chips, never aim a high-power laser beam into the projection lens.

# Introduction

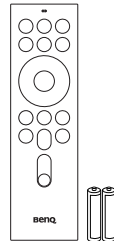
## Shipping contents

Carefully unpack and verify that you have all of the items shown below. If any of these items are missing, please contact your place of purchase.

### Standard accessories



Projector



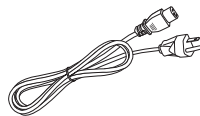
Remote control with batteries



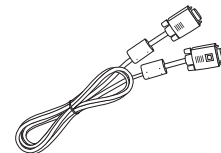
Quick start guide



Warranty card\*



Power cord



VGA cable



QS01 HDMI Media Streaming



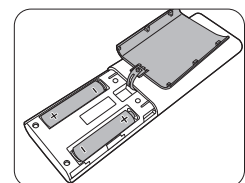
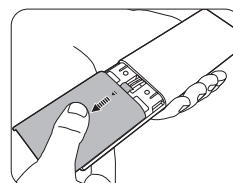
- The supplied accessories will be suitable for your region, and may differ from those illustrated.
- \*The warranty card is only supplied in some specific regions. Please consult your dealer for detailed information.

### Optional accessories

1. Spare lamp kit
2. 3D glasses

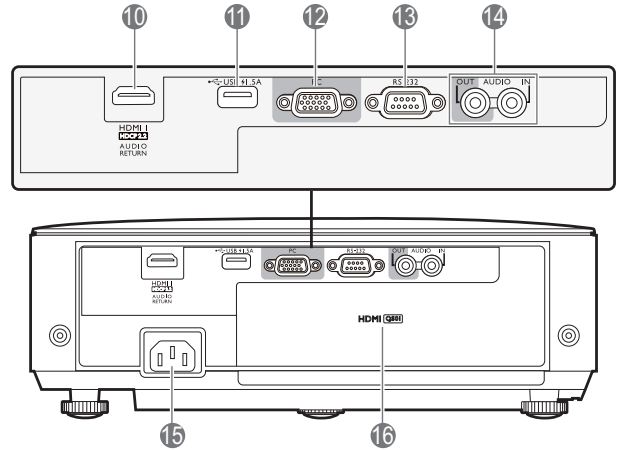
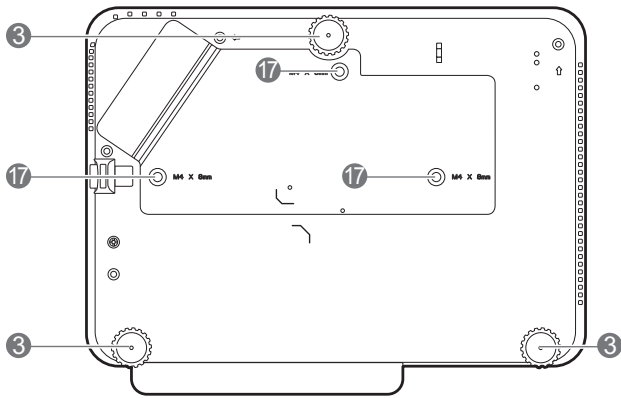
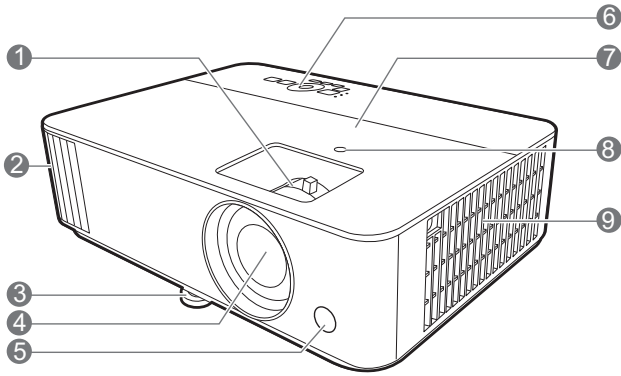
### Replacing the remote control batteries

1. Press and slide off the battery cover, as illustrated.
2. Remove the old batteries (if applicable) and install two AAA batteries. Make sure that the positive and negative ends are positioned correctly, as illustrated.
3. Slide the battery cover in until it clicks into place.



- Avoid leaving the remote control and batteries 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 dead 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.

# Projector exterior view




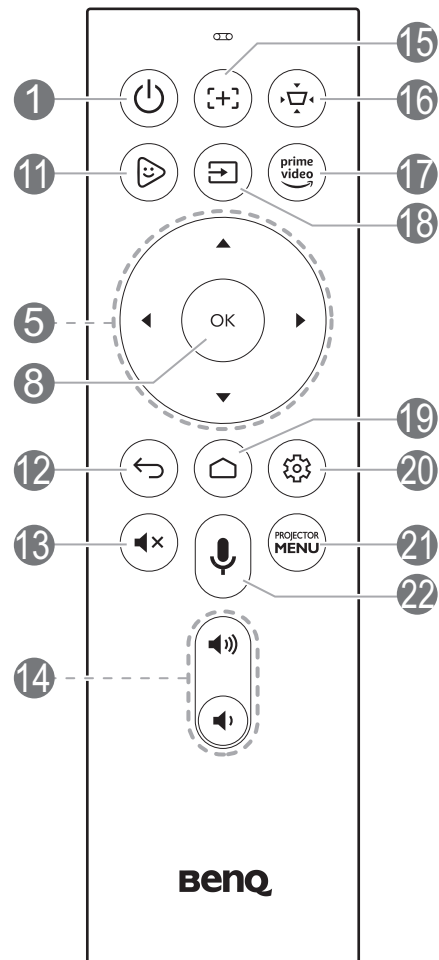
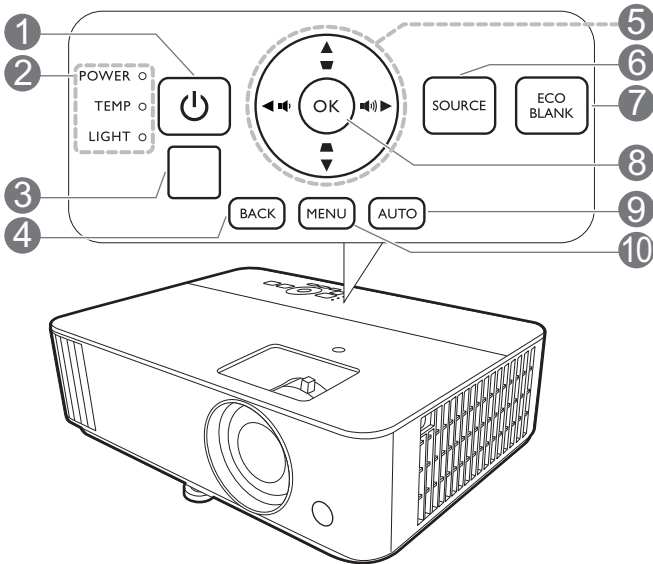
- 1. Focus ring and Zoom ring
- 2. Vent (air exhaust)
- 3. Adjuster feet
- 4. Projection lens
- 5. IR remote sensor
- 6. External control panel  
(See [Controls and functions on page 9.](#))
- 7. Lamp cover
- 8. Ambient Light Sensor (ALS)
- 9. Vent (air inlet)
- 10. HDMI I input port

- 11. USB Type A port
- 12. RGB (PC) signal input jack
- 13. RS-232 control port
- 14. Audio input jack  
Audio output jack
- 15. AC power jack
- 16. QS01 HDMI Media Streaming port  
(ATV dongle)
- 17. Ceiling mount holes

# Controls and functions

## Projector & Remote control

 All the key presses described in this document are available on the remote control or projector.



### 1. **POWER**

Toggles the projector between standby mode and on.

### 2. **POWER indicator light/TEMPerature warning light/LIGHT indicator light** (See [Indicators on page 49.](#))

3. IR remote sensor

### 4. **BACK**

Goes back to previous OSD menu, exits and saves menu settings.

### 5. Arrow keys (, , , )

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

When OSD and ATV menu is inactive, workable under CEC-capable sources only.

### Keystone keys (, )

Displays the keystone correction page.

### Volume keys (, )

Decreases or increase the projector volume.

## 6. **SOURCE**

Displays the source selection bar.

## 7. **ECO BLANK**

Used to hide the screen picture.



Do not block the projection lens from projecting as this could cause the blocking object to become heated and deformed or even cause a fire.

## 8. **OK**

- Confirms the selected ATV or On-Screen Display (OSD) menu item.
- Under ATV media playback, play or pause a video or audio file.

## 9. **AUTO**

Automatically determines the best picture timings for the displayed image when PC signal (analog RGB) is selected.

## 10. **MENU**

Turns on the On-Screen Display (OSD) menu.

## 11. **FamiLand Kids Channel**

Under ATV source, opens **FamiLand Kids Channel** application.

## 12. **BACK**

Under ATV source:

- Return to upper level of ATV menu.
- Close ATV pop-up menu.
- Leave current ATV application.

Under Projector OSD:

- Return to upper level or close the OSD menu
- Close OSD pop-up menu.

## 13. **MUTE**

Toggles projector audio between on and off.

## 14. Volume keys

Decreases or increases the projector volume.

## 15. **FOCUS\***

Press to open Auto focus page.

## 16. **KEystone**

Displays the keystone menu.

## 17. **AMAZON PRIME VIDEO**

Under ATV source, opens “Amazon Prime Video” application.

## 18. **SOURCE**

Displays the source menu.

## 19. **ANDROID TV HOME**

Opens ATV Home page.

## 20. **ANDROID SETTING**

Displays Android setting option.

## 21. **PROJECTOR MENU**

Open/Close projector OSD menu.

## 22. **VOICE SEARCH / ASSISTANT**

Press and hold to activate the voice assistant or voice search. Hold this key and speak to the microphone at the top of the remote control while using voice assistant.

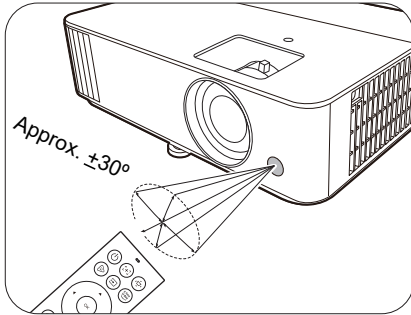
\* Available on compatible projectors only.

## Remote control effective range

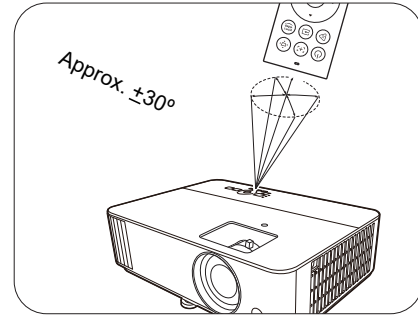
The remote control must be held at an angle within 30 degrees perpendicular to the projector's IR remote control sensor(s) to function correctly. The distance between the remote control and the sensor(s) should not exceed 8 meters (~ 26 feet).

Make sure that there are no obstacles between the remote control and the IR sensor(s) on the projector that might obstruct the infra-red beam.

- Operating the projector from the front



- Operating the projector from the top



# Positioning your projector

## Choosing a location

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

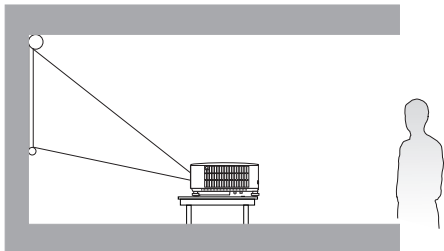
- Size and position of your screen
- Electrical outlet location
- Location and distance between the projector and the rest of your equipment

You can install your projector in the following ways.

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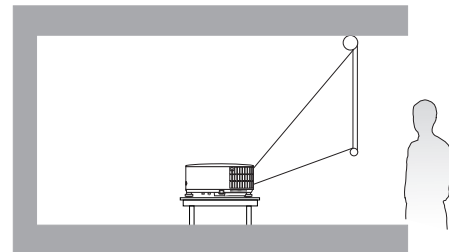
### 1. Front

Select this location with the projector placed on the table in front of the screen. This is the most common way to position the projector for quick setup and portability.



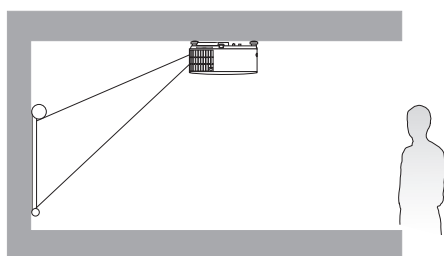
### 2. Rear

Select this location with the projector placed on the table behind the screen. Note that a special rear projection screen is required.



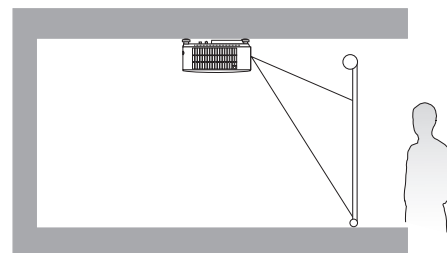
### 3. Front Ceiling

Select this location with the projector suspended upside-down from the ceiling in front of the screen. Purchase the BenQ Projector Ceiling Mount Kit from your dealer to mount your projector on the ceiling.



### 4. Rear Ceiling

Select this location with the projector suspended upside-down from the ceiling behind the screen. Note that a special rear projection screen and the BenQ Projector Ceiling Mount Kit are required for this installation location.



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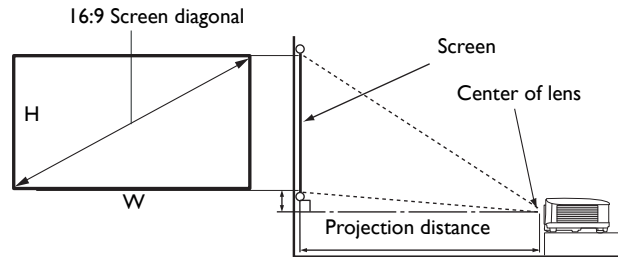
After turning on the projector, go to **Basic Menu - Settings > Projector Installation**, press **OK** and press **◀/▶** to select a setting.



# Obtaining a preferred projected image size

The distance from the projector lens to the screen, the zoom setting (if available), and the video format each factors in the projected image size.

## Projection dimensions



- The screen aspect ratio is 16:9 and the projected picture is in a 16:9 aspect ratio

| Screen size |      | Projection Distance (mm) |        |                              |         |                              | Offset (mm) |
|-------------|------|--------------------------|--------|------------------------------|---------|------------------------------|-------------|
| Diagonal    |      | H (mm)                   | W (mm) | Min distance (with max zoom) | Average | Max distance (with min zoom) |             |
| Inch        | mm   |                          |        |                              |         |                              |             |
| 30          | 762  | 374                      | 664    | 748                          | 859     | 970                          | 19          |
| 40          | 1016 | 498                      | 886    | 998                          | 1145    | 1293                         | 25          |
| 50          | 1270 | 623                      | 1107   | 1247                         | 1432    | 1616                         | 31          |
| 60          | 1524 | 747                      | 1328   | 1497                         | 1718    | 1939                         | 37          |
| 70          | 1778 | 872                      | 1550   | 1746                         | 2004    | 2263                         | 44          |
| 80          | 2032 | 996                      | 1771   | 1996                         | 2291    | 2586                         | 50          |
| 90          | 2286 | 1121                     | 1992   | 2245                         | 2577    | 2909                         | 56          |
| 100         | 2540 | 1245                     | 2214   | 2495                         | 2864    | 3232                         | 62          |
| 110         | 2794 | 1370                     | 2435   | 2744                         | 3150    | 3555                         | 68          |
| 120         | 3048 | 1494                     | 2657   | 2994                         | 3436    | 3879                         | 75          |
| 130         | 3302 | 1619                     | 2878   | 3243                         | 3723    | 4202                         | 81          |
| 140         | 3556 | 1743                     | 3099   | 3493                         | 4009    | 4525                         | 87          |
| 150         | 3810 | 1868                     | 3321   | 3742                         | 4295    | 4848                         | 93          |
| 160         | 4064 | 1992                     | 3542   | 3992                         | 4582    | 5171                         | 100         |
| 170         | 4318 | 2117                     | 3763   | 4241                         | 4868    | 5495                         | 106         |
| 180         | 4572 | 2241                     | 3985   | 4491                         | 5154    | 5818                         | 112         |
| 190         | 4826 | 2366                     | 4206   | 4740                         | 5441    | 6141                         | 118         |
| 200         | 5080 | 2491                     | 4428   | 4990                         | 5727    | 6464                         | 125         |
| 210         | 5334 | 2615                     | 4649   | 5239                         | 6013    | 6788                         | 131         |
| 220         | 5588 | 2740                     | 4870   | 5489                         | 6300    | 7111                         | 137         |
| 230         | 5842 | 2864                     | 5092   | 5738                         | 6586    | 7434                         | 143         |
| 240         | 6096 | 2989                     | 5313   | 5988                         | 6873    | 7757                         | 149         |
| 250         | 6350 | 3113                     | 5535   | 6237                         | 7159    | 8080                         | 156         |
| 260         | 6604 | 3238                     | 5756   | 6487                         | 7445    | 8404                         | 162         |
| 270         | 6858 | 3362                     | 5977   | 6736                         | 7732    | 8727                         | 168         |
| 280         | 7112 | 3487                     | 6199   | 6986                         | 8018    | 9050                         | 174         |
| 290         | 7366 | 3611                     | 6420   | 7235                         | 8304    | 9373                         | 181         |
| 300         | 7620 | 3736                     | 6641   | 7485                         | 8591    | 9696                         | 187         |

For example, if you are using a 120-inch screen, the recommended projection distance in the "Average" column is 3436 mm.

If your measured projection distance is 3700 mm, the closest match in the "Average" column is 3723 mm. Looking across this row shows that a 130" (about 3.3 m) screen is required.



To optimize your projection quality, we suggest to do the projection within non-gray area.



All measurements are approximate and may vary from the actual sizes.

BenQ recommends that if you intend to permanently install the projector, you should physically test the projection size and distance using the actual projector in situ before you permanently install it, so as to make allowance for this projector's optical characteristics. This will help you determine the exact mounting position so that it best suits your installation location.

## Mounting the projector

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

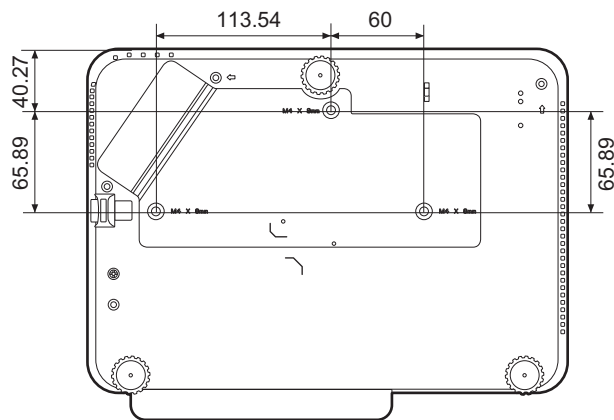
If you use a non-BenQ brand projector mounting kit, there is a safety risk that the projector may fall down due to an improper attachment through the use of the wrong gauge or length screws.

### Before mounting the projector

- Purchase a BenQ projector mounting kit from the place you purchased your BenQ projector.
- Ask your dealer to install the projector for you. Installing the projector on your own may cause it to fall and result in injury.
- Take necessary procedures to prevent the projector from falling off such as during an earthquake.
- The warranty doesn't cover any product damage caused by mounting the projector with a non-BenQ brand projector mounting kit.
- Consider the surrounding temperature where the projector is ceiling/wall mounted. If a heater is used, the temperature around the ceiling may be higher than expected.
- Read the user manual for the mounting kit about the range of torque. Tightening with torque exceeding the recommended range may cause damage to the projector and subsequently falling off.
- Make sure the power outlet is at an accessible height so that you can easily shut down the projector.

## Ceiling/Wall mount installation diagram

Ceiling/Wall mount screw hole: M4 x 8 mm



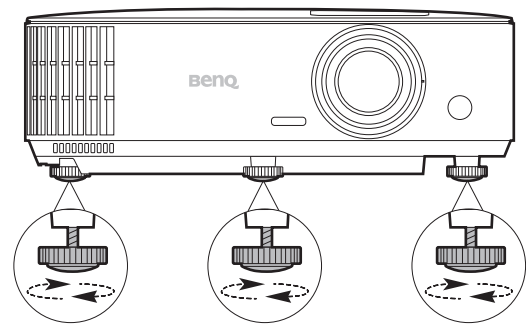
Unit: mm

## Adjusting the projected image

### Adjusting the projection angle

If the projector is not placed on a flat surface or the screen and the projector are not perpendicular to each other, the projected image becomes trapezoidal. You can adjust the adjuster feet to fine-tune the horizontal angle.

To retract the feet, screw the adjuster feet in a reverse direction.



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

### Auto-adjusting the image

In some cases, you may need to optimize the picture quality. 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.

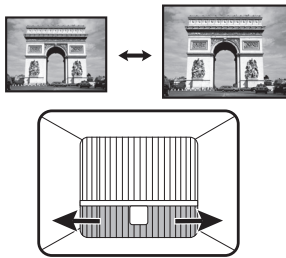
The current source information will be displayed in the corner of the screen for 3 seconds.



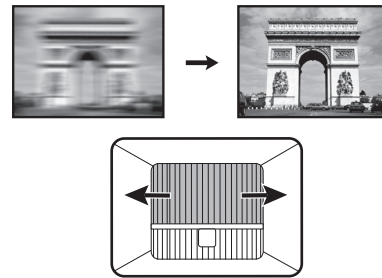
This function is only available when PC signal (analog RGB) is selected.

## Fine-tuning the image size and clarity

Adjust the projected image to the size that you need using the zoom ring.



Sharpen the image by rotating the focus ring.




## Correcting keystone

Keystoning refers to the situation where the projected image becomes a trapezoid due to angled projection.

To correct this, you will need to manually correct it following these steps.

1. Do one of the following steps to display the keystone correction page.

- Press ▲ / ▼ on the projector.
- Press  on the remote control.

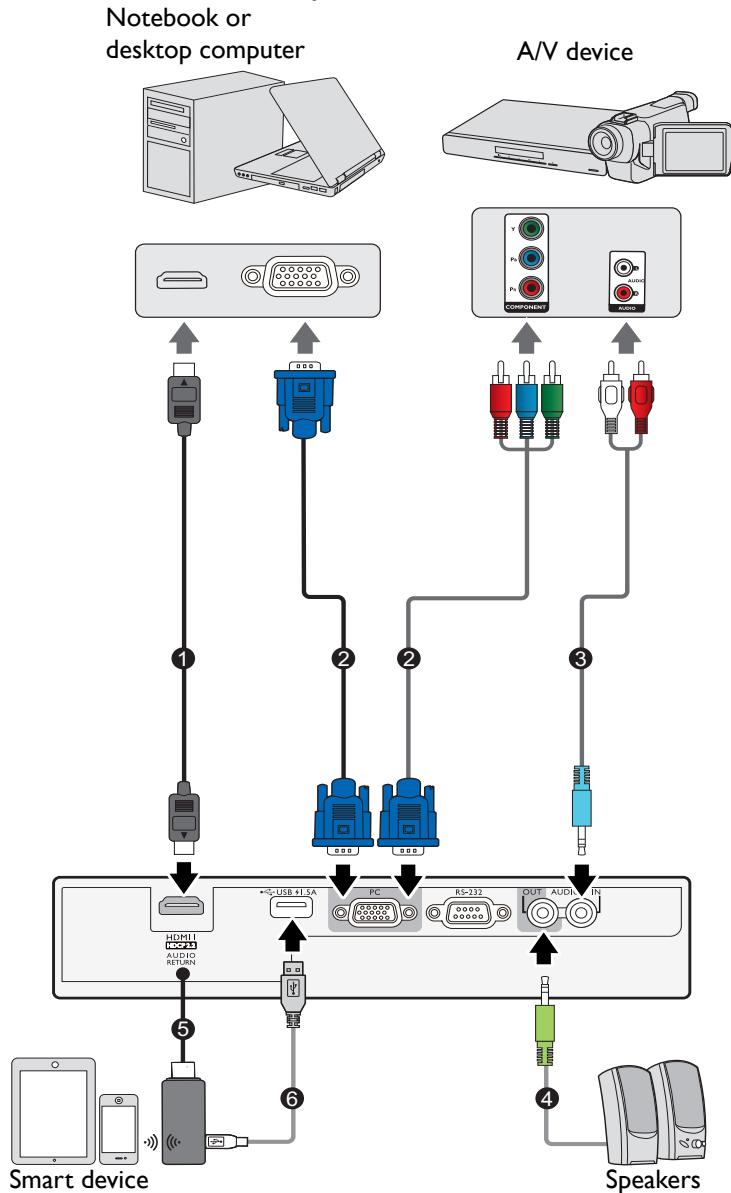


2. After the **Keystone** correction page displays. Press ▲ to correct keystone at the top of the image. Press ▼ to correct keystone at the bottom of the image.

# 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. Ensure the cables are firmly inserted.


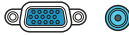


|   |  |
|---|--|
| 1 | HDMI cable   |
| 2 | VGA cable/Component Video to VGA (D-Sub) adapter cable                           |
| 3 | Audio cable  |
| 4 | Speaker  |
| 5 | HDMI wireless dongle   |
| 6 | USB cable (A to Micro B type) connect to the power port of HDMI wireless dongle. |



- In the connections above, some cables may not be included with the projector (see [Shipping contents on page 7](#)). They are commercially available from electronics stores.
- The connection illustrations are for reference only. The rear connecting jacks available on the projector vary with each projector model.
- Many notebooks do not turn on their external video ports when connected to a projector. Usually a key combo like FN + function key with a monitor symbol turns the external display on/off. Press FN and the labeled function key simultaneously. Refer to your notebook's documentation to find your notebook's key combination.
- If the selected video image is not displayed after the projector is turned on and the correct video source has been selected, check that the video source device is turned on and operating correctly. Also check that the signal cables have been connected correctly.

You need only connect the projector to a video source device using just one of the connecting methods, however each provides a different level of video quality.

| Terminal                                   |   | Picture quality |
|--|---|-----------------|
| <b>HDMI</b>                                |  | Best            |
| <b>Component Video (through RGB input)</b> |  | Better          |

## Connecting audio

The projector has built-in mono speaker(s) which are designed to provide basic audio functionality accompanying data presentations for business purposes only. They are not designed for, nor intended for stereo audio reproduction use as might be expected in home theater or home cinema applications. Any stereo audio input (if provided), is mixed into a common mono audio output through the projector speaker(s).

The built-in speaker(s) will be muted when the **AUDIO OUT** jack is connected.

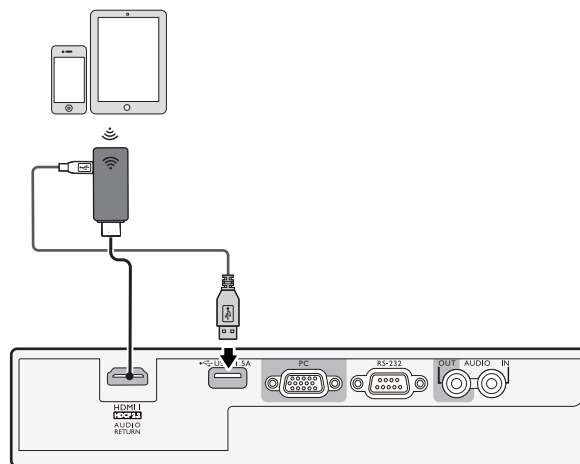


- The projector is only capable of playing mixed mono audio, even if a stereo audio input is connected.
- If the selected video image is not displayed after the projector is turned on and the correct video source has been selected, check that the video source device is turned on and operating correctly. Also check that the signal cables have been connected correctly.

## Connecting smart devices

The projector can project the content directly from a smart device by using a wireless dongle.

### HDMI wireless dongle (e.g. BenQ QCast Mirror)

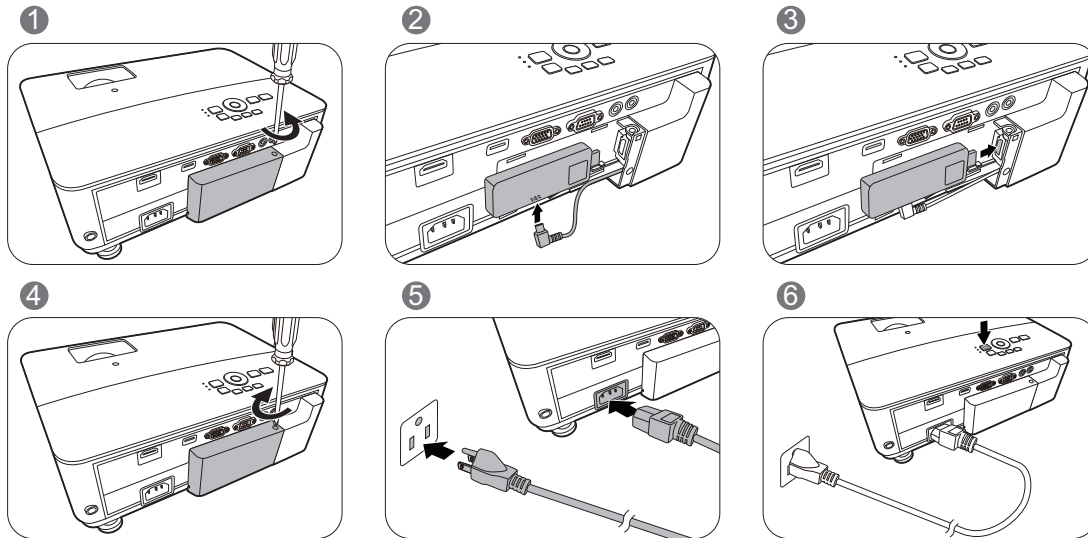


Connect the dongle to **HDMI** and **USB TYPE-A** ports on the projector and switch the input signal to **HDMI 1**.






# Operation

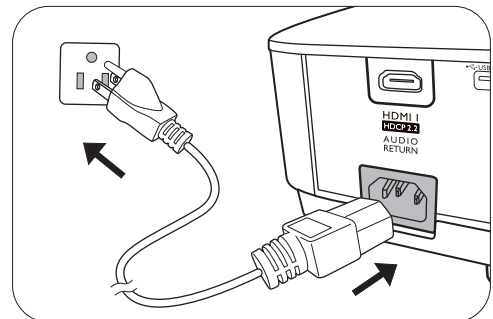
## Installing the QS01 HDMI Media Streaming

The supplied QS01 HDMI Media Streaming is an Android TV (ATV) dongle to be used with the projector. See the illustrations below to install the dongle. Make sure that the dongle cover is installed back correctly after the dongle is plugged. Do not turn the power on with the dongle cover open.




## Starting up the projector

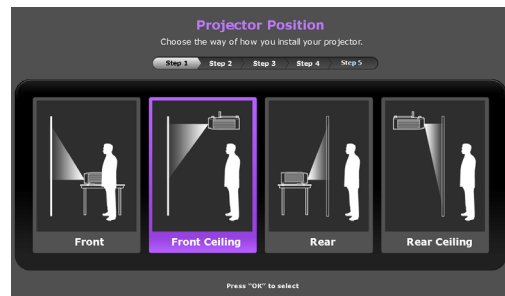
1. Plug the power cord. Turn on the power outlet switch (where fitted). The power indicator on the projector lights orange after power has been applied.
2. Press  to start the projector. The power indicator flashes green and stays green when the projector is on. The start up procedure takes about 30 seconds. In the later stage of start up, a startup logo is projected. (If necessary) Rotate the focus ring to adjust the image clearness.
3. If this is the first time you turn on the projector, the setup wizard appears to guide you through setting up the projector. If you have already done this, skip this step and move on to step 5.
  - Use the arrow keys (/ / / ) on the projector or remote control to move through the menu items.
  - Use **OK** to confirm the selected menu item.



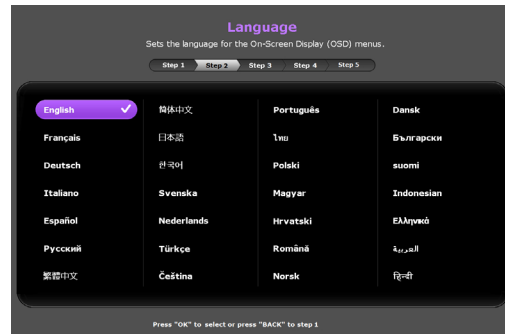
 The Setup Wizard screenshots below are for reference only and may differ from the actual design.

Step 1:  
Specify **Projector Position**.

 For more information about projector position, see [Choosing a location](#).

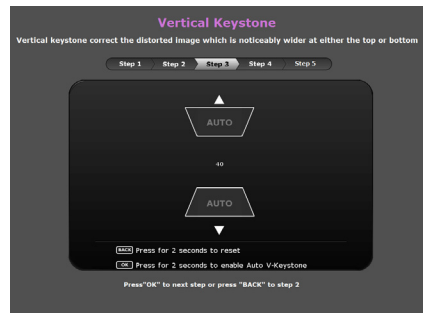


Step 2:  
Specify OSD **Language**.





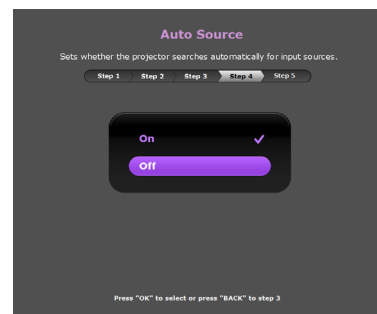
Step 3:  
Specify **Auto Vertical Keystone**.

 For more information about vertical keystone, see [Correcting keystone](#).



Step 4:  
Specify **Auto Source**.

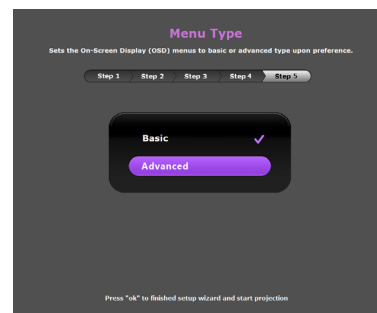
-  Select **On** if you want the projector to always search for available signals automatically when the projector is turned on.
-  Only available when **QS01 HDMI Media Streaming port (ATV dongle) signal is not detected**.



Step 5:  
Specify **Menu Type**.

 For more information about menu types, see [Using the menus](#).

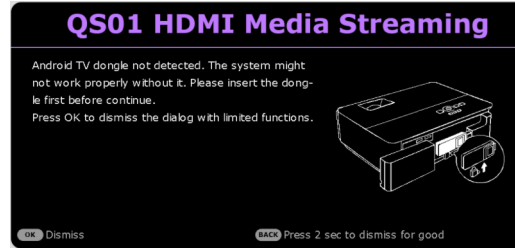
Now you've completed the initial setup.





### Reminder for installing QS01 HDMI Media Streaming

This message is displayed when the QS01 is not detected. See [Installing the QS01 HDMI Media Streaming on page 19](#) for how to install the dongle.



4. If you are prompted for a password, press the arrow keys to enter a 6-digit password. See [Utilizing the password function on page 25](#).

5. Switch all of the connected equipment on.

The projector will search for input signals. The current input signal being scanned appears. If the projector does not detect a valid signal, the message “No Signal” will continue displaying until an input signal is found.

You can also press **SOURCE** to select your desired input signal. See [Switching input signal on page 27](#).



- Please use the original accessories (e.g. power cord) to avoid possible dangers such as electric shock and fire.
- If the projector is still hot from previous activity, it will run the cooling fan for approximately 90 seconds before energizing the lamp.



- The Setup Wizard screenshots are for reference only and may differ from the actual design.
- If the frequency/resolution of the input signal exceeds the projector's operating range, you will see the message “Out of Range” displayed on the background screen. Please change to an input signal which is compatible with the projector's resolution or set the input signal to a lower setting. See [Timing chart on page 53](#).
- If no signal is detected for 3 minutes, the projector automatically enters saving mode.
- If “Reset All Settings” is selected, setup wizard will appear after reboot, and Auto Source will be reset to default value.

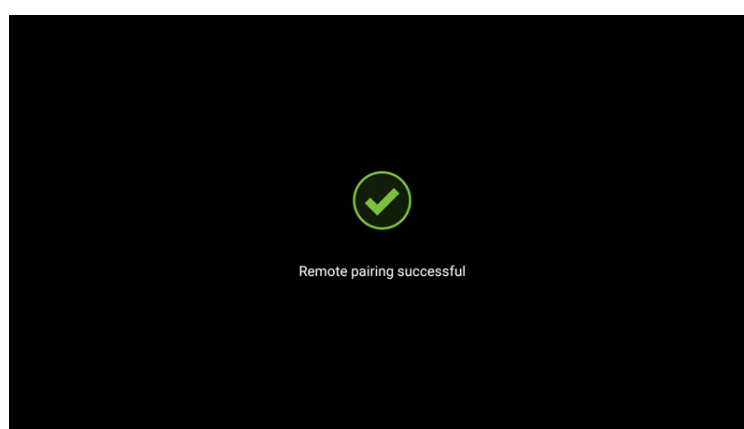
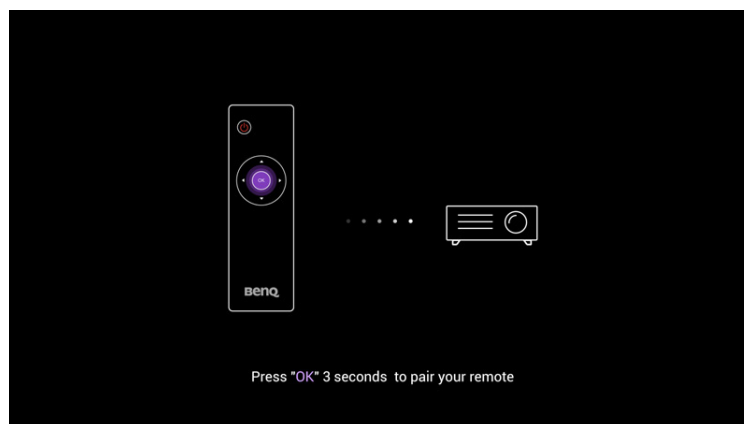
## Setting up the QS01 HDMI Media Streaming

### Before you start

Check that you have:

- A Wi-Fi Internet connection
- A Google Account

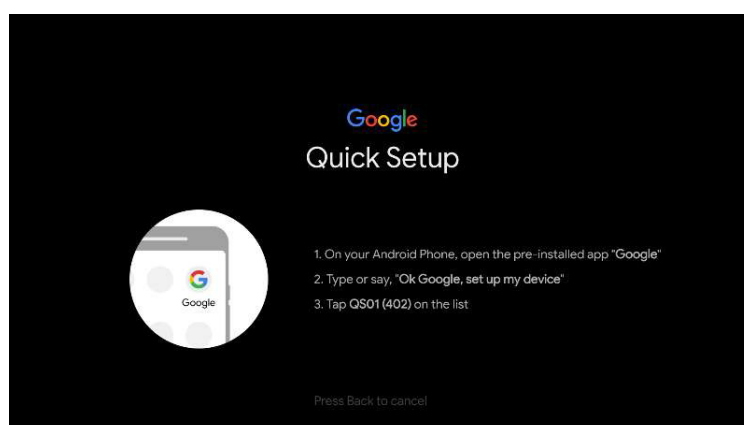
## Step 1: Press and hold **OK** for 3 seconds to pair your remote control



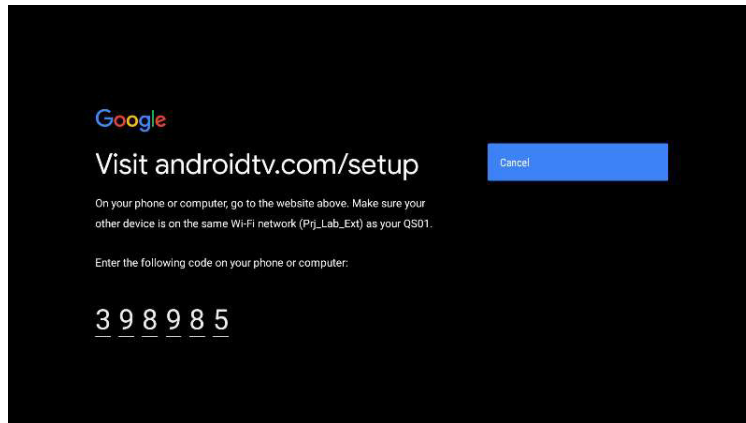
## Step 2: Set up your device

There are 3 options to set up your device:

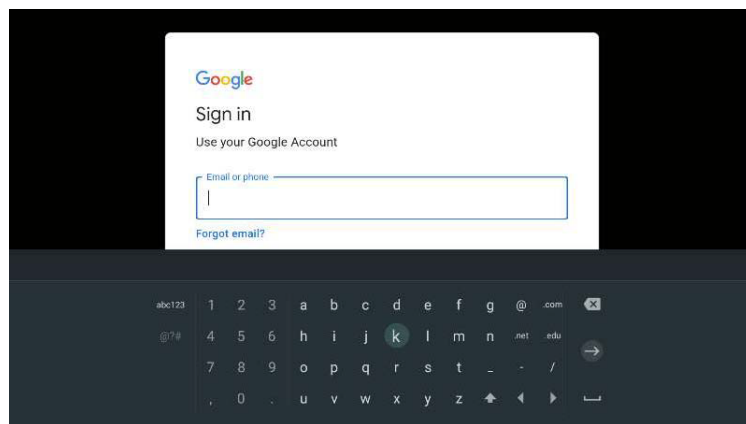
- Quick Setup using an Android phone



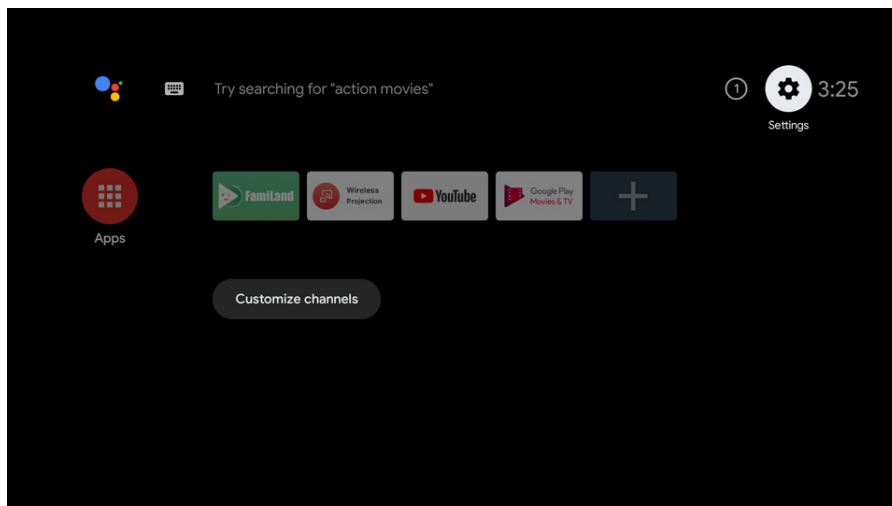
- Using your phone or computer



- Using your remote control



### Step 3: Display Android TV home screen



 For more information, visit <https://support.google.com/androidtv/>

# Using the menu

The projector is equipped with 2 types of On-Screen Display (OSD) menus for making various adjustments and settings.

- **Basic** OSD menu: provides primary menu functions. (See [Basic menu on page 33](#))
- **Advanced** OSD menu: provides full menu functions. (See [Advanced menu on page 35](#))

To access the OSD menu, press **MENU** on the projector or remote control.

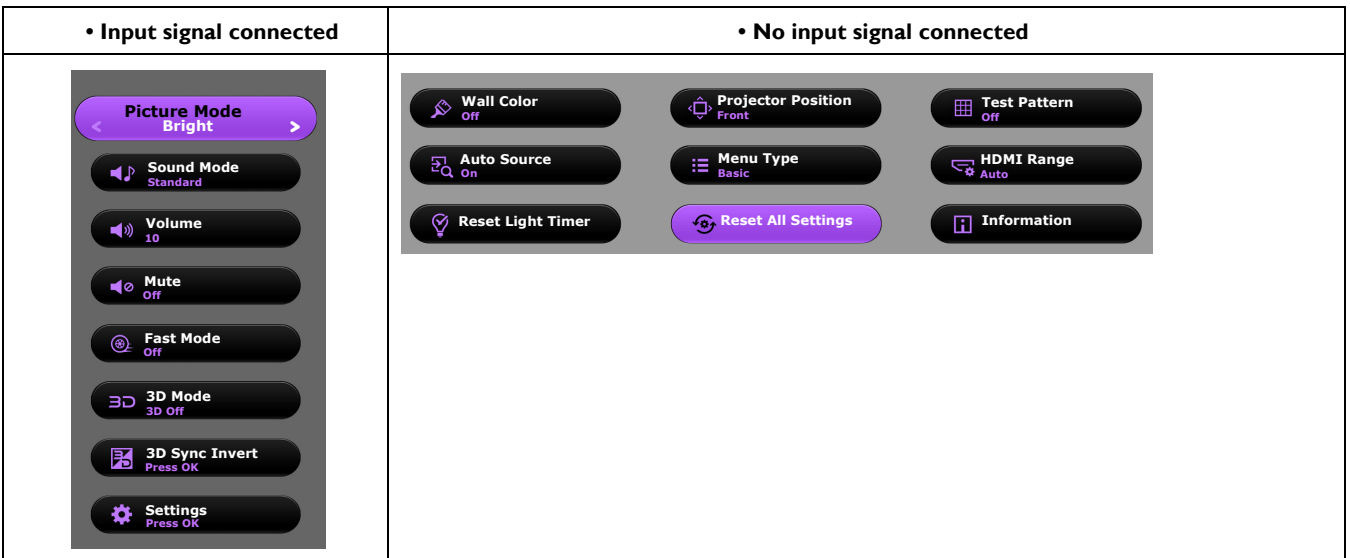
- Use the arrow keys (▲/▼/◀/▶) on the projector or remote control to move through the menu items.
- Use **OK** on the projector or remote control to confirm the selected menu item.

The first time you use the projector (after finishing the initial setup), Basic OSD menu displays.



The OSD screenshots below are for reference only, and may differ from the actual design.

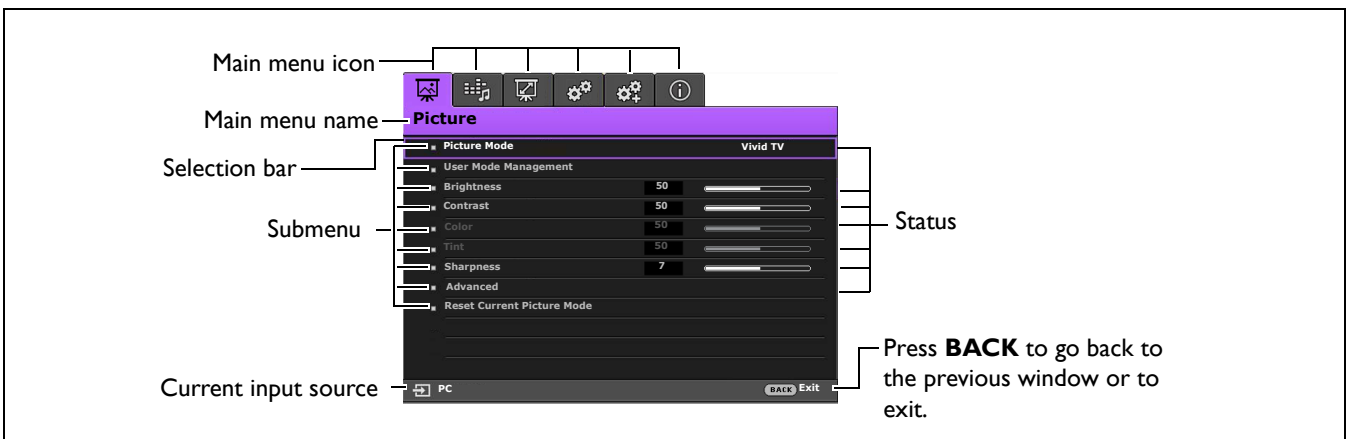
Below is the overview of the **Basic** OSD menu.



If you intend to switch from the **Basic** OSD menu to the **Advanced** OSD menu, follow the instructions below:

1. Go to **Basic Menu - Settings > Menu Type** and press **OK**.
2. Press **▲/▼** to select **Advanced** and press **OK**. Your projector will switch to **Advanced** OSD menu.

Below is the overview of the **Advanced** OSD menu.



Likewise, when you wish to switch from the **Advanced** OSD menu to the **Basic** OSD menu, follow the instructions below:

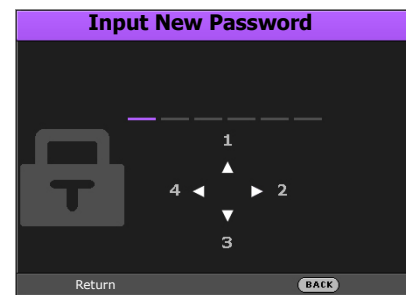
1. Go to **Advanced Menu - System Setup : Basic > Menu Settings** and press **OK**.
2. Highlight **Menu Type** and press **◀/▶** to select **Basic**. Your projector will switch to the **Basic** OSD menu.

## Securing the projector

### Utilizing the password function

#### Setting a password

1. Go to **Advanced Menu - System Setup : Advanced > Password**. Press **OK**. The **Password** page appears.
2. Highlight **Change Password** and press **OK**.
3. The four arrow keys (**▲**, **▶**, **▼**, **◀**) respectively represent 4 digits (1, 2, 3, 4). According to the password you desire to set, press the arrow keys to enter six digits for the password.
4. Confirm the new password by re-entering the new password.  
Once the password is set, the OSD menu returns to the **Password** page.
5. To activate the **Power On Lock** function, press **▲/▼** to highlight **Power On Lock** and press **◀/▶** to select **On**. Input the password again.

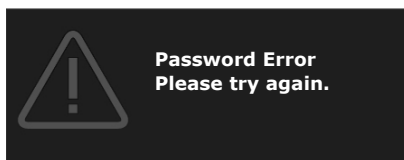


- The digits being input will display as asterisks on-screen. Make a note of your selected password and keep it in a safe place in advance or right after the password is entered so that it is available to you should you ever forget it.
- Once a password has been set and the power on lock is activated, the projector cannot be used unless the correct password is entered every time the projector is started.

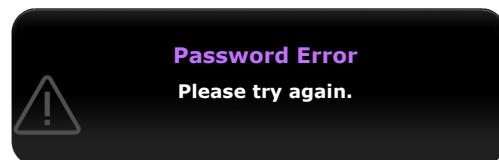
#### If you forget the password

If you enter the wrong password, the password error message will appear, and the **Input Current Password** message follows. If you absolutely do not remember the password, you can use the password recall procedure. See [Entering the password recall procedure on page 25](#).

- Under the **Advanced OSD** menu



- Under the **Basic OSD** menu



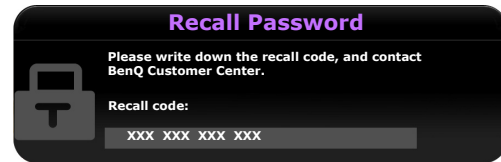
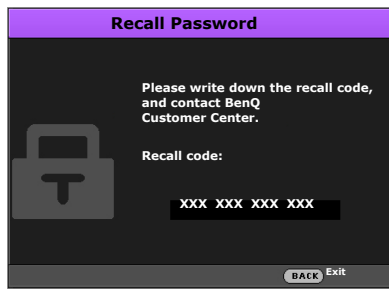
If you enter an incorrect password 5 times in succession, the projector will automatically shut down in a short time.

#### Entering the password recall procedure

1. Press and hold **AUTO** for 3 seconds. The projector will display a coded number on the screen.

- Under the **Advanced OSD** menu

- Under the **Basic OSD** menu



2. Write down the number and turn off your projector.
3. Seek help from the local BenQ service center to decode the number. You may be required to provide proof of purchase documentation to verify that you are an authorized user of the projector.

### Changing the password

1. Go to **Advanced Menu - System Setup : Advanced > Password**. Press **OK**. The **Password** page appears.
2. Highlight **Change Password** and press **OK**. The message “**Input Current Password**” appears.
3. Enter the old password.
  - If the password is correct, another message “**Input New Password**” appears.
  - If the password is incorrect, the password error message will appear, and the message “**Input Current Password**” appears for your retry. You can press **BACK** to cancel the change or try another password.
4. Enter a new password.
5. Confirm the new password by re-entering the new password.

### Disabling the password function

To disable password protection, go to **Advanced Menu - System Setup : Advanced > Password > Power On Lock** and press **◀/▶** to select **Off**. The message “**Input Current Password**” appears. Enter the current password.

- If the password is correct, the OSD menu returns to the **Security Settings** page. You will not have to enter the password next time turning on the projector.
- If the password is incorrect, the password error message will appear, and the message “**Input Current Password**” appears for your retry. You can press **BACK** to cancel the change or try another password.



Though the password function is disabled, you need to keep the old password in hand should you ever need to re-activate the password function by entering the old password.

## Switching input signal

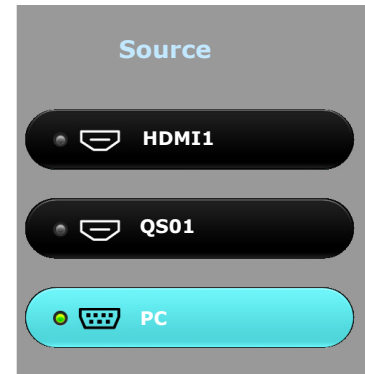
The projector can be connected to multiple devices at the same time. However, it can only display one full screen at a time. When starting up, the projector automatically searches for the available signals.

Be sure the **Advanced Menu - System Setup : Basic > Auto Source** menu is **On** if you want the projector to automatically search for the signals.

To select the source:

1. Press **SOURCE**. A source selection bar appears.
2. Press **▲/▼** until your desired signal is selected and press **OK**.

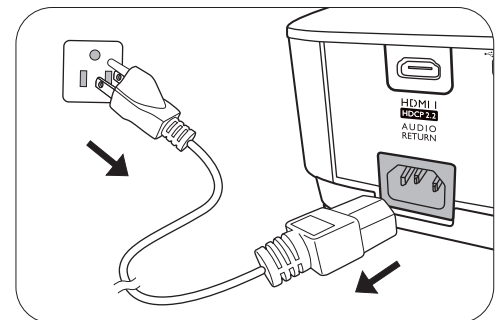
Once detected, the selected source information will appear at the corner of the screen for seconds. If there is multiple equipment connected to the projector, repeat steps 1-2 to search for another signal.



- The brightness level of the projected image will change accordingly when you switch between different input signals.
- For best display picture results, you should select and use an input signal which outputs at the projector's native 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 on page 40](#).

## Shutting down the projector

1. Press **⏻** and a confirmation message will appear prompting you. If you don't respond in a few seconds, the message will disappear.
2. Press **⏻** a second time. The power indicator flashes orange, the projection lamp shuts down, and the fans will continue to run for approximately 90 seconds to cool down the projector.
3. Once the cooling process finishes, the power indicator becomes a steady orange and fans stop. Disconnect the power cord from the power outlet.



- To protect the lamp, the projector will not respond to any commands during the cooling process.
- To shorten the cooling time, you can also activate the Quick cooling function. See [Quick Cooling on page 42](#).
- Avoid turning on the projector immediately after turning it off as excessive heat may shorten lamp life.
- Lamp life results will vary depending on environmental conditions and usage.

## Direct power off

The AC power cord can be pulled out right after the projector is turned off. To protect the lamp, wait about 10 minutes before re-starting the projector. If you attempt to re-start the projector, the fans may run for a few minutes to cool down. In such cases, press **⏻** again to start the projector after the fans stop and the power indicator turns orange.

# Menu operation

Please note that the on-screen display (OSD) menus vary according to the signal type selected and the projector model you are using.

The menu items are available when the projector detects at least one valid signal. If there is no equipment connected to the projector or no signal detected, limited menu items are accessible.

## Menu System

### Basic Menu

| <b>Sub-menu</b>                    | <b>Options</b>   |
|------------------------------------|--|
| <b>Picture Mode</b>                | <b>Bright/Living Room/Cinema/Sports/Game/<br/>User 1/User 2/(3D)/HDR10/HLG</b> |
| <b>Sound Mode</b>                  | <b>Standard/Cinema/Music/Game/Sport/User</b>                                   |
| <b>Volume</b>                      | <b>0~10~20</b>   |
| <b>Mute</b>                        | <b>On/Off</b>  |
| <b>Fast Mode</b>                   | <b>On/Off</b>  |
| <b>3D Mode</b>                     | <b>Auto/3D Off/Frame Sequential/<br/>Frame Packing/Top-Bottom/Side-by-Side</b> |
| <b>3D Sync Invert<br/>Settings</b> |  |



## Advanced Menu


| Main menu | Sub-menu                   | Options  |  |
|-----------|----------------------------|--|--|
| PICTURE   | Picture Mode               | Bright/Living Room/Cinema/Sports/ Game/User 1/User 2/(3D)/HDR10/ HLG     |  |
|           | User Mode Management       | Bright/Living Room/Cinema/Sports/ Game/User 1/User 2<br>Rename User Mode |  |
|           | Brightness                 | 0~50~100   |  |
|           | Contrast                   | 0~50~100   |  |
|           | Color                      | 0~50~100   |  |
|           | Tint                       | 0~50~100   |  |
|           | Sharpness                  | 0~7~15   |  |
|           |                            | Gamma Selection  | 1.6/1.8/2.0/2.1/2.2/2.3/2.4/2.6/2.8/ BenQ  |
|           |                            | HDR Brightness   | -2~0~2   |
|           |                            |  | Preset (Normal/Cool/Lamp Native/ Warm)   |
|           |                            |  | Red Gain (0~200)   |
|           |                            | Color Temperature  | Green Gain (0~200)   |
|           |                            |  | Blue Gain (0~200)  |
|           |                            |  | Red Offset (0~511)   |
|           |                            |  | Green Offset (0~511)   |
|           |                            |  | Blue Offset (0~511)  |
|           |                            | Advanced Color Management  | Primary Color (Red/Green/Blue/ Cyan/Magenta/Yellow/White)                          |
|           |                            |  | Hue (0~200~400)  |
|           |                            |  | Saturation (0~200~400)   |
|           |                            |  | Gain (0~200~400)   |
|           |                            | Noise Reduction  | 0~31   |
|           |                            | Brilliant Color  | 0~10   |
|           |                            | Fast Mode  | On/Off   |
|           |                            |  | LumiExpert (On/Off)  |
|           |                            |  | Level (-2~0~2)   |
|           |                            | LumiExpert   | Manual Calibration (Manual Calibration Status/Calibrate/ Reset Manual Calibration) |
|           |                            | Light Mode   | Normal/Eco/SmartEco/ LampSave  |
|           | Reset Current Picture Mode | Reset/Cancel   |  |





| Main menu | Sub-menu                          | Options                                    |  |
|-----------|-----------------------------------|--|--|
| SOUND     | Sound Mode                        | Effect Mode                                | Standard/Cinema/Music/Game/<br>Sport/User                                  |
|           |                                   | User EQ                                    | 100Hz/300Hz/1kHz/3kHz/10kHz  |
|           | Mute                              | On/Off                                     |  |
|           | Volume                            | 0~10~20                                    |  |
|           | Power On/Off                      | On/Off                                     |  |
|           | Ring Tone                         |  |  |
|           | Reset Audio<br>Settings           | Reset/Cancel                               |  |
|           | Aspect Ratio                      | Auto/4:3/16:9/16:10                        |  |
| DISPLAY   | Wall Color                        | Off/Light Yellow/Pink/<br>Light Green/Blue |  |
|           | Image Position                    |  |  |
|           | Overscan<br>Adjustment            | 0~1~3                                      |  |
|           | PC &<br>Component<br>YPbPr Tuning | H. Size                                    |  |
|           |                                   | Phase                                      |  |
|           |                                   | Auto                                       |  |
|           | 3D                                | 3D Mode                                    | Auto/3D Off/Frame Sequential/<br>Frame Packing/Top-Bottom/<br>Side-by-Side |
|           |                                   | 3D Sync Invert                             |  |
|           | HDR                               | Auto/Off                                   |  |
|           | Digital Lens<br>Shift             |  | -20~0~20   |

| Main menu                         | Sub-menu              | Options   |  |
|-----------------------------------|-----------------------|---|--|
| <b>SYSTEM SETUP:<br/>BASIC</b>    | Language              | English/Français/Deutsch/Italiano/Español/<br>Русский/繁體中文/简体中文/日本語/한국어/<br>Svenska / Nederlands/Türkçe/Čeština/<br>Português/ไทย/PolSKI/Magyar/Hrvatski/<br>Română/Norsk/Dansk/Български/<br>Suomi/Indonesian/Ελληνικά/العربية/हिंदी |  |
|                                   | Background Color      | Black/Blue/Purple   |  |
|                                   | Splash Screen         | BenQ/Black/Blue   |  |
|                                   | Projector Position    | Front/Front Ceiling/Rear<br>Rear Ceiling  |  |
|                                   | Auto Off              | Disable/5 min/10 min/15 min/<br>20 min/25 min/30 min  |  |
|                                   | Direct Power On       | On/Off  |  |
|                                   | Menu Settings         | Menu Type   | Basic/Advanced   |
|                                   |                       | Menu Position   | Center/Top-Left/Top-Right/<br>Bottom-Right/Bottom-Left |
|                                   |                       | Menu Display Time   | Always On/5 sec/10 sec/15 sec/<br>20 sec/25 sec/30 sec |
|                                   |                       | Blank Reminder Message  | On/Off   |
|                                   | Source Rename         |   |  |
|                                   | Auto Source           | On/Off  |  |
|                                   | Light Settings        | Reset Light Timer   | Reset/Cancel   |
|                                   |                       | Light Usage Time  |  |
| HDMI Settings                     | HDMI Range            | Auto/Full/Limited   |  |
|                                   | HDMI EDID             | HDMI-I (Enhanced/Standard)  |  |
|                                   | CEC                   | On/Off  |  |
|                                   | Audio Return (HDMI-I) | Off/LPCM/RAW  |  |
| <b>SYSTEM SETUP:<br/>ADVANCED</b> | Baud Rate             | 9600/14400/19200/38400/57600/<br>115200   |  |
|                                   | Test Pattern          | On/Off  |  |
|                                   | Quick Cooling         | On/Off  |  |
|                                   | High Altitude Mode    | On/Off  |  |
|                                   | Password              | Change Password   |  |
|                                   |                       | Power On Lock   | On/Off   |
|                                   | Key Lock              | On/Off  |  |
|                                   | LED Indicator         | On/Off  |  |
| Reset All Settings                | Reset/Cancel          |   |  |

| <b>Main menu</b>   | <b>Sub-menu</b>         | <b>Options</b> |
|--------------------|-------------------------|----------------|
| <b>INFORMATION</b> | <b>Source</b>           |                |
|                    | <b>Picture Mode</b>     |                |
|                    | <b>Resolution</b>       |                |
|                    | <b>Color System</b>     |                |
|                    | <b>Light Usage Time</b> |                |
|                    | <b>3D Format</b>        |                |
|                    | <b>Firmware Version</b> |                |
|                    | <b>Service Code</b>     |                |

## Basic menu

|                            |  |
|----------------------------|--|
| <p><b>Picture Mode</b></p> | <p>The projector is preset with several predefined picture modes so that you can choose one to suit your operating environment and input signal picture type.</p> <ul style="list-style-type: none"> <li>• <b>Bright:</b> 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.</li> <li>• <b>Living Room:</b> Being slightly brighter than <b>Cinema</b> mode, it is suitable for playing movies in rooms where there is a small amount of ambient light, eg. your living room.</li> <li>• <b>Cinema:</b> 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).</li> <li>• <b>Sports:</b> This mode is best for watching sporting events in rooms where there is a small amount of ambient light, et. your living room.</li> <li>• <b>Game:</b> This mode is best for playing video games in rooms where there is a small amount of ambient light, eg. your living room.</li> <li>• <b>User 1/User 2:</b> Recalls the settings customized based on the current available picture modes. See <a href="#">User Mode Management on page 36</a>.</li> <li>• <b>HDRI0/HLG:</b> Delivers High Dynamic Range effects with higher contrasts of brightness and colors. This mode is only available when <b>DISPLAY &gt; HDR</b> is set at <b>Auto</b>, and HDR content is detected.</li> </ul> |
| <p><b>Sound Mode</b></p>   | <p><b>Sound Mode</b> function utilizes MaxxAudio sound enhancement technology, which incorporates Waves's algorithms to deliver great effects of the bass and treble and provide you with immersive cinematic audio experience. The following preset sound modes are provided: <b>Standard, Cinema, Music, Game, Sport, and User</b>.</p> <p> If the <b>Mute</b> function is activated, adjusting <b>Sound Mode</b> will turn off the <b>Mute</b> function.</p>   |
| <p><b>Volume</b></p>       | <p>Adjusts the sound level.</p>  |
| <p><b>Mute</b></p>         | <p>Temporarily turns off the sound.</p>  |
| <p><b>Fast Mode</b></p>    | <p>Minimizes the response time between the input source and the displayed image. For the optimized latency, when <b>Fast Mode</b> is activated, <b>Keystone/Aspect Ratio</b> will return to the default settings, and <b>Auto Vertical Keystone</b> will be turned off automatically.</p> <p>*<b>Fast Mode</b> can only be enabled for below input timing adopted by most of popular games:</p> <ul style="list-style-type: none"> <li>- 1080p 60Hz/120Hz/240Hz</li> <li>- 4K 60Hz</li> </ul>  |

|                              |   |
|------------------------------|---|
| <p><b>3D Mode</b></p>        | <p>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 BenQ 3D glasses and make sure the power is on to view 3D contents.</p> <p> When watching 3D contents,</p> <ul style="list-style-type: none"> <li>• the image may seem misplaced, however, this is not a product malfunction.</li> <li>• take appropriate breaks when watching 3D content.</li> <li>• stop watching 3D content if you feel fatigue or discomfort.</li> <li>• keep a distance from the screen of about three times the effective height of the screen when watching 3D content.</li> <li>• 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.</li> </ul> <p>The default setting is <b>Auto</b> 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.</p> <p> When this function is enabled:</p> <ul style="list-style-type: none"> <li>• The brightness level of the projected image decreases.</li> <li>• The <b>Picture Mode</b> cannot be adjusted.</li> <li>• The <b>Vertical Keystone</b> can only be adjusted within limited degrees.</li> </ul> <p> The function is accessible through the remote control.</p> |
| <p><b>3D Sync Invert</b></p> | <p>When your 3D image is distorted, enable this function to switch between the image for the left eye and the right eye for comfortable 3D viewing experience.</p> <p> The function is accessible through the remote control.</p>  |
| <p><b>Settings</b></p>       | <p>Press <b>OK</b> to enter its submenu.</p> <p>Press <b>BACK</b> to save your changes and exit.</p> <p>See below for more details.</p>   |

# Advanced menu

## Picture

|                     |  |
|---------------------|--|
| <b>Picture Mode</b> | <p>The projector is preset with several predefined picture modes so that you can choose one to suit your operating environment and input signal picture type.</p> <ul style="list-style-type: none"><li>• <b>Bright:</b> 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.</li><li>• <b>Living Room:</b> Being slightly brighter than <b>Cinema</b> mode, it is suitable for playing movies in rooms where there is a small amount of ambient light, eg. your living room.</li><li>• <b>Cinema:</b> 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).</li><li>• <b>Sports:</b> This mode is best for watching sporting events in rooms where is a small amount of ambient light, et. your living room.</li><li>• <b>Game:</b> This mode is best for playing video games in rooms where there is a small amount of ambient light, eg. your living room.</li><li>• <b>User 1/User 2:</b> Recalls the settings customized based on the current available picture modes. See <a href="#">User Mode Management on page 36</a>.</li><li>• <b>3D:</b> Is appropriate for playing 3D images and 3D video clips.</li><li>• <b>HDR10/HLG:</b> Delivers High Dynamic Range effects with higher contrasts of brightness and colors. This mode is only available when <b>DISPLAY &gt; HDR</b> is set at <b>Auto</b>, and HDR content is detected.</li></ul> |
|---------------------|--|

|                                    |  |
|------------------------------------|--|
| <p><b>User Mode Management</b></p> | <p>There are 2 user-definable modes if the current available picture modes are not suitable for your need. You can use one of the picture modes (except the <b>User 1/User 2</b>) as a starting point and customize the settings.</p> <ol style="list-style-type: none"> <li>1. Go to <b>Picture &gt; Picture Mode</b>.</li> <li>2. Press ◀/▶ to select <b>User 1</b> or <b>User 2</b>.</li> <li>3. Press ▼ to highlight <b>User Mode Management</b> and press <b>OK</b>.</li> <li>4. Highlight <b>Load Settings From</b> and press <b>OK</b>.</li> <li>5. Press ▼ to select a picture mode that is close to your need.</li> <li>6. When done, press <b>OK</b> and <b>BACK</b> to return to the <b>Picture</b> menu.</li> <li>7. Press ▼ to select other submenus you want to make changes and use ◀/▶ to adjust the values. The adjustments define the selected user mode.</li> </ol> <p>• <b>Rename User Mode</b></p> <p>Select to rename the customized picture modes (<b>User 1</b> or <b>User 2</b>).</p> <ol style="list-style-type: none"> <li>1. Go to the <b>Picture &gt; Picture Mode</b> menu, select <b>User 1</b> or <b>User 2</b>.</li> <li>2. Press ▼ to select <b>User Mode Management</b>.</li> <li>3. On the <b>User Mode Management</b> window, select <b>Rename User Mode</b> and press <b>OK</b>.</li> <li>4. On the <b>Rename User Mode</b> window, use ▲/▼/◀/▶ to select desired characters for the selected mode.</li> <li>5. When done, press <b>OK</b> and <b>BACK</b> to exit.</li> </ol> |
| <p><b>Brightness</b></p>           | <p>The higher the value, the brighter the image. Adjust this control so the black areas of the image appear just as black and that detail in the dark areas is visible.</p>  |
| <p><b>Contrast</b></p>             | <p>The higher the value, the greater the contrast. Use this to set the peak white level after you have previously adjusted the Brightness setting to suit your selected input and viewing environment.</p>   |
| <p><b>Color</b></p>                | <p>Lower setting produces less saturated colors. If the setting is too high, colors on the image will be overpowering, which makes the image unrealistic.</p>  |
| <p><b>Tint</b></p>                 | <p>The higher the value, the more greenish the picture becomes. The lower the value, the more reddish the picture becomes.</p>   |
| <p><b>Sharpness</b></p>            | <p>The higher the value, the sharper the picture becomes.</p>  |

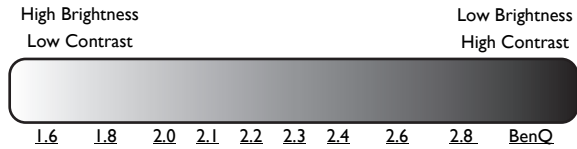


**Advanced**

**Gamma Selection**

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

- **1.6/1.8/2.0/2.1:** Select these values according to your preference.
- **2.2/2.3:** Increases the average brightness of the picture. Best for a lit environment, meeting room or family room.
- **2.4:** Best for viewing movies in a dark environment.
- **2.6/2.8/BenQ:** Best for viewing movies which are mostly composed of dark scenes.



**HDR Brightness**

The projector can automatically adjust the brightness levels of your image according to the input source. You can also manually select a brightness level to display better picture quality. When the value is higher, the image becomes brighter; when the value is lower, the image becomes darker.

**Color Temperature**

There are several preset color temperature settings available. The available settings may vary according to the signal type selected.

- **Lamp Native:** With the lamp's original color temperature and higher brightness. This setting is suitable for environments where high brightness is required, such as projecting pictures in well lit rooms.
- **Warm:** Makes images appear reddish white.
- **Normal:** Maintains normal colorings for white.
- **Cool:** Makes images appear bluish white.

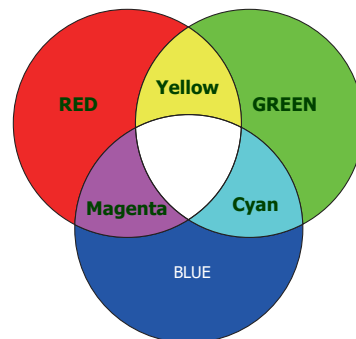
You can also set a preferred color temperature by adjusting the following options.

- **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.

## Color Management

This function provides six sets (RGBCMY) of colors to be adjusted. When you select each color, you can independently adjust its range and saturation according to your preference.

- **Primary Color:** Selects a color from among **R** (Red), **G** (Green), **B** (Blue), **C** (Cyan), **M** (Magenta), or **Y** (Yellow).
- **Hue:** Increase in the range will include colors consisted of more proportions of its two adjacent colors. Please refer to the illustration for how the colors relate to each other. For example, if you select Red and set its range at 0, only pure red in the projected picture will be selected. Increasing its range will include red close to yellow and red close to magenta.
- **Saturation:** Adjusts the values to your preference. Every adjustment made will reflect to the image immediately. For example, if you select Red and set its value at 0, only the saturation of pure red will be affected.



**Saturation** 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.

- **Gain:** Adjusts the values to your preference. The contrast level of the primary color you select will be affected. Every adjustment made will reflect to the image immediately.

## Advanced

### Noise Reduction

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

### Brilliant Color


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.

### Fast Mode


Minimizes the response time between the input source and the displayed image. For the optimized latency, when **Fast Mode** is activated, **Keystone/Aspect Ratio** will return to the default settings, and **Auto Vertical Keystone** will be turned off automatically.

\***Fast Mode** can only be enabled for below input timing adopted by most of popular games:

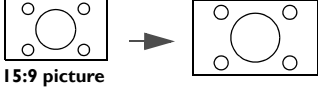

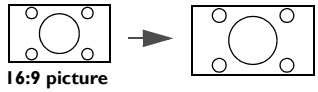
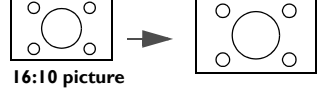


- 1080p 60Hz/120Hz/240Hz
- 4K 60Hz


|                                   |   |
|-----------------------------------|---|
|                                   | <p><b>LumiExpert</b></p> <ul style="list-style-type: none"> <li>• <b>LumiExpert:</b> When this function is enabled, the projector actively detects the ambient light conditions and automatically adjusts balanced visual brightness to create an optimum viewing experience.</li> </ul> <p> This function is not available when the <b>Picture Mode</b> is <b>Bright, 3D, or HDR10/HLG</b>.</p> <ul style="list-style-type: none"> <li>• <b>Level:</b> Adjusts the gamma offset.</li> <li>• <b>Manual Calibration:</b> According to the ambient brightness, you can do the calibration manually. <ul style="list-style-type: none"> <li>• <b>Manual Calibration Status:</b> Shows the status of manual calibration.</li> <li>• <b>Calibrate:</b> Enact this item to start the calibration process.</li> <li>• <b>Reset Manual Calibration:</b> Resets the gamma offset to factory preset values.</li> </ul> </li> </ul> |
|                                   | <p><b>Light Mode</b></p> <p>Select the <b>Light Mode</b>. The options are <b>Normal, Eco, SmartEco, and LampSave</b>.</p>   |
| <b>Reset Current Picture Mode</b> | Returns all of the adjustments you've made for the <b>Picture</b> menu to the factory preset values.  |

## Sound

|                               |   |
|-------------------------------|---|
| <b>Sound Mode</b>             | <p><b>Sound Mode</b> function utilizes MaxxAudio sound enhancement technology, which incorporates Waves's algorithms to deliver great effects of the bass and treble and provide you with immersive cinematic audio experience. The following preset sound modes are provided: <b>Standard, Cinema, Music, Game, Sport, and User</b>.</p> <p>The <b>User</b> mode allows you to personalize the sound settings. When selecting the <b>User</b> mode, you may make manual adjustments with the <b>User EQ</b> function.</p> <p> If the <b>Mute</b> function is activated, adjusting <b>Sound Mode</b> will turn off the <b>Mute</b> function.</p> <p><b>User EQ</b></p> <p>Select desired frequency bands (100 Hz, 300 Hz, 1k Hz, 3k Hz, and 10k Hz) to adjust the levels according to your preference. The settings made here define the <b>User</b> mode.</p> |
| <b>Mute</b>                   | Temporarily turns off the sound.  |
| <b>Volume</b>                 | Adjusts the sound level.  |
| <b>Power On/Off Ring Tone</b> | Sets the ring tone for the projector <b>On</b> or <b>Off</b> .  |
| <b>Reset Audio Settings</b>   | All of the adjustments you've done under the <b>SOUND</b> menu return to the factory preset values.   |

## Display

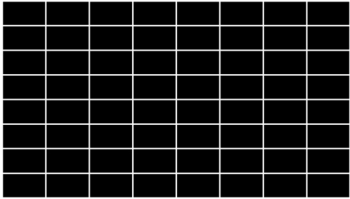
|   |  |
|---|--|
| <p><b>Aspect Ratio</b></p>                    | <p>There are several options to set the image's aspect ratio depending on your input signal source.</p> <p>This image adjustment might impact latency in gaming. We suggest setting <b>Aspect Ratio</b> to <b>Auto</b> to enjoy low latency gaming. Selecting other options will turn <b>Fast Mode</b> off.</p> <ul style="list-style-type: none"> <li>• <b>Auto</b>: Scales an image proportionally to fit the projector's native resolution in its horizontal or vertical width.</li> <li>• <b>4:3</b>: Scales the picture so that it is displayed in the center of the screen with a 4:3 aspect ratio.</li> <li>• <b>16:9</b>: Scales an image so that it is displayed in the center of the screen with a 16:9 aspect ratio.</li> <li>• <b>16:10</b>: Scales an image so that it is displayed in the center of the screen with a 16:10 aspect ratio.</li> </ul> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>15:9 picture</p> </div> <div style="text-align: center;">  <p>4:3 picture</p> </div> <div style="text-align: center;">  <p>16:9 picture</p> </div> <div style="text-align: center;">  <p>16:10 picture</p> </div> </div> |
| <p><b>Wall Color</b></p>                      | <p>Corrects the projected picture's color when the projection surface such as a painted wall which may not be white, the Wall Color feature can help correct the projected picture's colors to prevent possible color difference between the source and projected pictures. There are several precalibrated colors to choose from: <b>Light Yellow, Pink, Light Green, and Blue</b>.</p>   |
| <p><b>Image Position</b></p>                  | <p>Displays the <b>Image Position</b> window. You may use the directional arrow keys on the projector or remote control to adjust the position of the projected picture.</p> <p>The values shown on the lower position of the window change with every key press you made.</p> <p> This function is only available when the <b>PC</b> signal is selected.</p>   |
| <p><b>Overscan Adjustment</b></p>             | <p>Conceals the poor picture quality in the four edges.</p> <p>The greater the value, the more portion of the picture is concealed while the screen remains filled and geometrically accurate. Setting 0 means the picture is 100% displayed.</p>  |
| <p><b>PC &amp; Component YPbPr Tuning</b></p> | <ul style="list-style-type: none"> <li>• <b>Phase</b>: Adjusts the clock phase to reduce image distortion. This function is only available when a PC signal (analog RGB) or YPbPr signal is selected.</li> <li>• <b>H. Size</b>: Adjusts the horizontal width of the image. This function is only available when a PC signal (analog RGB) is selected.</li> <li>• <b>Auto</b>: Adjusts the phase and frequency automatically.</li> </ul> <div style="text-align: center;">  </div>  |





|                                  |  |
|----------------------------------|--|
| <p><b>3D</b></p>                 | <p>This projector features a 3D function which enables you to enjoy the 3D movies, videos, and sporting events in a more realistic way by presenting the depth of the images. You need to wear a pair of 3D glasses to view the 3D images.</p> <ul style="list-style-type: none"> <li>• <b>3D Mode:</b> The default setting is <b>Off</b>. If you want the projector to automatically choose an appropriate 3D format when detecting 3D contents, select <b>Auto</b>. If the projector cannot recognize the 3D format, press ▲/▼ to choose a 3D mode from among <b>Top Bottom</b>, <b>Frame Sequential</b>, <b>Frame Packing</b> and <b>Side by Side</b>.</li> </ul>  <p>When 3D function is activated:</p> <ul style="list-style-type: none"> <li>• The brightness level of the projected image will decrease.</li> <li>• The following settings cannot be adjusted: <b>Picture Mode</b>, <b>Reference Mode</b>.</li> <li>• The <b>Keystone</b> can only be adjusted within limited degrees.</li> <li>• <b>3D Sync Invert:</b> When you discover the inversion of the image depth, enable this function to correct the problem.</li> </ul> |
| <p><b>HDR</b></p>                | <p>The projector supports HDR imaging sources. It can automatically detect the dynamic range of the source, and optimize settings to reproduce contents under wide range of light conditions.</p>  |
| <p><b>Digital Lens Shift</b></p> | <p>Use ▲/▼ to vertically shift the projected image.</p>  |

## System Setup : Basic

|                                  |   |
|----------------------------------|---|
| <p><b>Language</b></p>           | <p>Sets the language for the On-Screen Display (OSD) menus.</p>   |
| <p><b>Background Color</b></p>   | <p>Sets the background color for the projector.</p>   |
| <p><b>Splash Screen</b></p>      | <p>Allows you to select which logo screen will be displayed during projector start-up.</p>  |
| <p><b>Projector Position</b></p> | <p>See <a href="#">Choosing a location on page 12</a>.</p>  |
| <p><b>Auto Off</b></p>           | <p>Allows the projector to turn off automatically if no input signal is detected after a set period of time to prevent unnecessary waste of lamp life.</p>  |
| <p><b>Direct Power On</b></p>    | <p>Allows the projector to turn on automatically once the power is fed through the power cord.</p>  |
| <p><b>Menu Settings</b></p>      | <ul style="list-style-type: none"> <li>• <b>Menu Type:</b> Switches to the <b>Basic</b> OSD menu.</li> <li>• <b>Menu Position:</b> Sets the OSD menu position.</li> <li>• <b>Menu Display Time:</b> Sets the length of time the OSD will remain active after your last key press.</li> <li>• <b>Blank Reminder Message:</b> Sets whether the reminder message is displayed by the projector while the image is hidden.</li> </ul> |
| <p><b>Source Rename</b></p>      | <p>Renames the current input source to your desired name.</p> <p>On the Source Rename window, use ▲/▼/◀/▶ to set the desired characters for the connected source item.</p> <p>When done, press OK to save the changes.</p>  |
| <p><b>Auto Source</b></p>        | <p>Allows the projector to automatically search for a signal.</p>   |

## System Setup : Advanced

|                              |  |
|------------------------------|--|
| <p><b>Light Settings</b></p> | <ul style="list-style-type: none"> <li>• <b>Reset Light Timer:</b> See <a href="#">Timing of replacing the lamp (FOR SERVICE PERSONNEL ONLY)</a> on page 47 for light replacement and resetting the light timer.</li> <li>• <b>Light Usage Time:</b> Displays the number of hours the light has been used.</li> </ul>  |
| <p><b>HDMI Settings</b></p>  | <ul style="list-style-type: none"> <li>• <b>HDMI Range</b><br/>Sets the <b>HDMI Range</b> to <b>Auto</b>, <b>Full</b>, or <b>Limited</b>.</li> <li>• <b>HDMI EDID</b><br/>Switch HDMI EDID between HDMI 1.4 or HDMI 2.0 in order to solve compatibility issue with uncertain old players. <ul style="list-style-type: none"> <li>• <b>Enhanced:</b> Enhanced mode can switch to HDMI 2.0 EDID.</li> <li>• <b>Standard:</b> Standard mode can switch to HDMI 1.4 EDID.</li> </ul> </li> <li>• <b>CEC</b><br/>When an HDMI CEC-compatible device is connected to your projector with an HDMI cable, turning on the HDMI CEC compatible device automatically turns on the projector, while turning off the projector automatically turns off the HDMI CEC compatible device.</li> <li>• <b>Audio Return (HDMI-I)</b><br/>Sets the <b>Audio Return (HDMI-I)</b> to Off, LPCM, or RAW.</li> </ul> |
| <p><b>Baud Rate</b></p>      | <p>Selects a baud rate that is identical with your computer's so that you can connect the projector using a suitable RS-232 cable and update or download the projector's firmware. This function is intended for qualified service personnel.</p>  |
| <p><b>Test Pattern</b></p>   | <p>Adjusts the image size and focus and check that the projected image is free from distortion.</p>   |
| <p><b>Quick Cooling</b></p>  | <p>Select <b>On</b> enables the function and projector cooling time will be shortened from a normal 90-second duration to approximately 15 seconds.</p>  |

|                                  |  |
|----------------------------------|--|
| <p><b>High Altitude Mode</b></p> | <p>We recommend you use the <b>High Altitude Mode</b> when your environment is between 1500 m –3000 m above sea level, and ambient temperature is between 0°C–30°C.</p> <p>Operation under "<b>High Altitude Mode</b>" may cause a higher decibel operating noise level because of increased fan speed necessary to improve overall system cooling and performance.</p> <p>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.</p>  <p>Do not use the <b>High Altitude Mode</b> if your altitude is between 0 m and 1500 m and ambient temperature is between 0°C and 35°C. The projector will be over cooled, if you turn the mode on under such a condition.</p> |
| <p><b>Password</b></p>           | <p>For security purposes and to prevent unauthorized use, you may set up password security for the projector. See <a href="#">Utilizing the password function</a> for details.</p> <ul style="list-style-type: none"> <li>• <b>Change Password</b><br/>You will be asked to enter the current password before changing to a new one.</li> <li>• <b>Power On Lock</b><br/>Limits use of the projector to only those who know the correct password.</li> </ul>   |
| <p><b>Key Lock</b></p>           | <p>With the control keys on the projector locked, you can prevent your projector settings from being changed accidentally (by children, for example).</p> <p>When you select On to enable this function, no control keys on the projector will function, except  POWER.</p> <p>To unlock the keys, press and hold  on the projector for 3 seconds.</p>   |
| <p><b>LED Indicator</b></p>      | <p>When you select On, all LED indicators on the projector function normally. See <a href="#">Indicators</a> for more details.</p> <p>When you select Off, the LED indicators are off after you turn on the projector and the splash screen displays. However, if the projector is not working properly, the LED indicators light or flash to remind you that a problem may occur. See also <a href="#">Indicators</a> for more details.</p>   |
| <p><b>Reset All Settings</b></p> | <p>Returns all settings to the factory preset values.</p>  <p>The following settings will still remain: <b>Picture, Keystone, Language, Projector Position, Menu Type, Password, Key Lock, Reset Light Timer, and High Altitude Mode.</b></p>   |

## Information

|                    |  |
|--------------------|--|
| <b>Information</b> | <ul style="list-style-type: none"><li>• <b>Source:</b> Shows the current signal source.</li><li>• <b>Picture Mode:</b> Shows the selected mode in the <b>Picture</b> menu.</li><li>• <b>Resolution:</b> Displays the native resolution of the input source.</li><li>• <b>Color System:</b> Shows input system format.</li><li>• <b>Light Usage Time:</b> Shows the number of hours the light has been used.</li><li>• <b>3D Format:</b> Shows the current 3D mode.</li><li>• <b>Firmware Version:</b> Shows the firmware version of your projector.</li><li>• <b>Service Code:</b> Shows the service code of your projector.</li></ul> |
|--------------------|--|



# Maintenance

## Care of the projector

### Cleaning the lens

Clean the lens whenever you notice dirt or dust on the surface. Please be sure to turn off the projector and let it cool down completely before cleaning the lens.

- 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.

### Cleaning the projector case

Before you clean the case, turn the projector off using the proper shutdown procedure as described in [Shutting down the projector on page 27](#) and unplug the power cord.

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



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

### Storing the projector

If you need to store the projector for an extended time, please follow the instructions below:

- Make sure the temperature and humidity of the storage area are within the recommended range for the projector. Please refer to [Specifications on page 51](#) or consult your dealer about the range.
- Retract the adjuster feet.
- Remove the battery 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. The method of calculating the equivalent lamp hour is as follows:

1. Light Usage Time = (x+y+z+a) hours, if:

Time used in **Normal** mode = x hours

Time used in **Eco** mode = y hours

Time used in **SmartEco** mode = z hours

Time used in **LampSave** mode = a hours

2. Equivalent Lamp Hour =  $\alpha$  hours

$$\alpha = \frac{A'}{X} \times x + \frac{A'}{Y} \times y + \frac{A'}{Z} \times z + \frac{A'}{A} \times a, \text{ if}$$

X= lamp life spec of **Normal** mode

Y= lamp life spec of **Eco** mode

Z= lamp life spec of **SmartEco** mode

A= lamp life spec of **LampSave** mode

A' is the longest lamp life spec among X, Y, Z, A



When you calculate Equivalent Light Usage hour manually, it will probably have deviation from the value shown in OSD menu since projector system calculates time used for each light mode in “Minutes” then rounds down to an integer in hours shown in OSD.



For time used in each light mode shown in OSD menu:

- Time used is accumulated and rounded down to an integer in **hours**.

- When time used is less than 1 hour, it shows 0 hours.

To obtain the lamp hour information:

1. Go to **Advanced Menu - System Setup : Advanced > Light Settings** and press **OK**. The **Light Settings** page appears.
2. Press **▼** to select **Light Usage Time** and press **OK**. The **Light Usage Time** information is displayed.

You can also get the **Light Usage Time** information on the **Information** menu.

## Extending lamp life

### • Setting the **Light Mode**

Go to **Advanced Menu - Picture > Advanced > Light Mode**, press **OK**. The **Light Mode** page appears.

Setting the projector in **Eco**, **SmartEco** or **LampSave** mode extends lamp life.

| Light Mode      | Description  |
|-----------------|--|
| <b>Normal</b>   | Provides full lamp brightness  |
| <b>Eco</b>      | Lowers brightness to extend the lamp life and decreases the fan noise  |
| <b>SmartEco</b> | Adjusts the lamp power automatically depending on the content brightness level while optimizing display quality  |
| <b>LampSave</b> | Adjusts the lamp power automatically depending on the content brightness level while offering a longer lamp life |

### • Setting **Auto Power Off**

This function allows the projector to turn off automatically if no input signal is detected after a set period of time to prevent unnecessary waste of lamp life.

To set **Auto Power Off**, go to **Advanced Menu - System Setup : Basic > Auto Off** and press **◀/▶**.

## Timing of replacing the lamp (FOR SERVICE PERSONNEL ONLY)

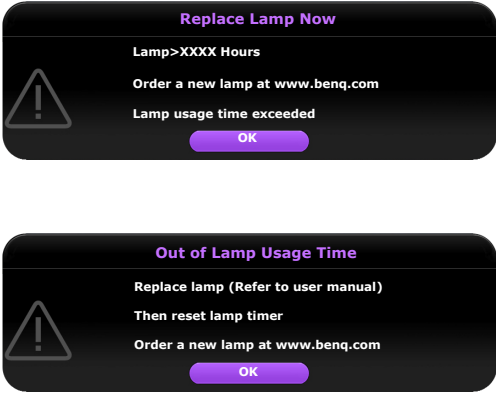
When the **LIGHT indicator** lights up or a message appears suggesting it is time to replace the lamp, please consult your dealer or go to <http://www.BenQ.com> before installing a new lamp and resetting the light timer. An old lamp may cause a malfunction in the projector and in some instances the light may explode.



- The apparent brightness of the projected image will vary depending on the ambient lighting conditions, selected input signal contrast/brightness settings, and is directly proportional to projection distance.
- The lamp brightness will decline over time and may vary within the lamp manufacturers specifications. This is normal and expected behavior.
- The **LIGHT indicator light** and **TEMPerature 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 Light or Temp indicator still lights up after turning the power back on, please contact your dealer. See [Indicators on page 49](#).

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














































|  |   |
|--|---|
|  | <p>Install a new lamp for optimal performance. Press <b>OK</b> to dismiss the message.</p>  |
|  | <p>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. Press <b>OK</b> to dismiss the message.</p> |









|   |   |
|---|---|
|  <p><b>Replace Lamp Now</b><br/>Lamp&gt;XXXX Hours<br/>Order a new lamp at <a href="http://www.benq.com">www.benq.com</a><br/>Lamp usage time exceeded<br/>OK</p> <p><b>Out of Lamp Usage Time</b><br/>Replace lamp (Refer to user manual)<br/>Then reset lamp timer<br/>Order a new lamp at <a href="http://www.benq.com">www.benq.com</a><br/>OK</p> | <p>The lamp <b>MUST</b> be replaced before the projector will operate normally.<br/>Press <b>OK</b> to dismiss the message.</p> |
|---|---|



"XXXX" shown in the above messages are numbers that vary depending on different models.

## Indicators

| Light   |   |   | Status & Description  |
|---|---|---|---|
| POWER ○   | TEMP ○  | LIGHT ○   |   |
| <b>Power events</b>   |   |   |   |
|    |    |    | Stand-by mode   |
|    |    |    | Powering up   |
|    |    |    | Normal operation  |
|    |    |    | Normal power-down cooling                                       |
|    |    |    | Download  |
|    |    |    | CW start fail   |
|    |    |    | Light source life exhausted                                     |
| <b>Burn-In events</b>   |   |   |   |
|    |    |    | Burn-in ON  |
|    |    |    | Burn-in OFF   |
| <b>Lamp events</b>  |   |   |   |
|   |   |   | Lamp error in normal operation                                  |
|  |  |  | Lamp is not lit up  |
| <b>Thermal events</b>   |   |   |   |
|  |  |  | Fan 1 error (the actual fan speed is outside the desired speed) |
|  |  |  | Fan 2 error (the actual fan speed is outside the desired speed) |
|  |  |  | Fan 3 error (the actual fan speed is outside the desired speed) |
|  |  |  | Temperature 1 error (over limited temperature)                  |

|   |   |  |  |  |
|---|---|--|--|--|
|  |  : Off |  : Orange On<br> : Orange Flashing |  : Green On<br> : Green Flashing |  : Red On<br> : Red Flashing |
|---|---|--|--|--|

# Troubleshooting

## ? The projector does not turn on.

| Cause   | Remedy  |
|---|---|
| There is no power from the power cord.                                | Plug the power cord into the AC power jack on the projector, and plug the power cord into 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.  |

## ? No picture

| Cause  | Remedy   |
|--|--|
| 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 signal device. | Check the connection.  |
| The input signal has not been correctly selected.                    | Select the correct input signal with the <b>SOURCE</b> key.                      |
| The lens cover is still closed.                                      | Open the lens cover.   |

## ? Blurred image

| Cause  | Remedy   |
|--|--|
| 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 the projector if necessary. |
| The lens cover is still closed.                        | Open the lens cover.   |

## ? Remote control does not work.

| Cause  | Remedy  |
|--|---|
| The batteries are out of power.                                    | Replace both of the batteries with new ones.      |
| 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 feet) of the projector. |

## ? The password is incorrect.

| Cause                             | Remedy   |
|-----------------------------------|--|
| You do not remember the password. | See <a href="#">Entering the password recall procedure on page 25.</a> |

# Specifications

## Projector specifications



All specifications are subject to change without notice.

### Optical

Resolution  
1920 x 1080 FHD

Display system  
1-CHIP DMD

Lens  
F = 1.94 ~ 2.07, f = 11.9 ~ 15.5 mm

Lamp  
245 W lamp

### Electrical

Power supply  
AC100–240V, 3.8 A, 50–60 Hz (Automatic)

Power consumption  
340 W (Max); < 0.5 W (Standby)

### Mechanical

Weight  
3.05 Kg (6.7 lbs)

### Output terminals

Speaker  
5 watt x 1

Audio signal output  
PC audio jack x 1

### Control

USB  
Type-A power supply 5V / 2.5 A x 1

RS-232 serial control  
9 pin x 1

IR receiver x 2

### Input terminals

Computer input  
RGB input  
D-Sub 15-pin (female) x 1

Video signal input  
SD/HDTV signal input  
Analog - Component  
(through RGB input)

Digital - HDMI 2.0 x 1

Digital - QS01 HDMI Media Streaming port  
(ATV dongle) x 1

Audio signal input  
Audio in  
PC audio jack 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)

Storage temperature  
-20°C–60°C at sea level

Storage humidity  
10%–90% RH (without condensation)

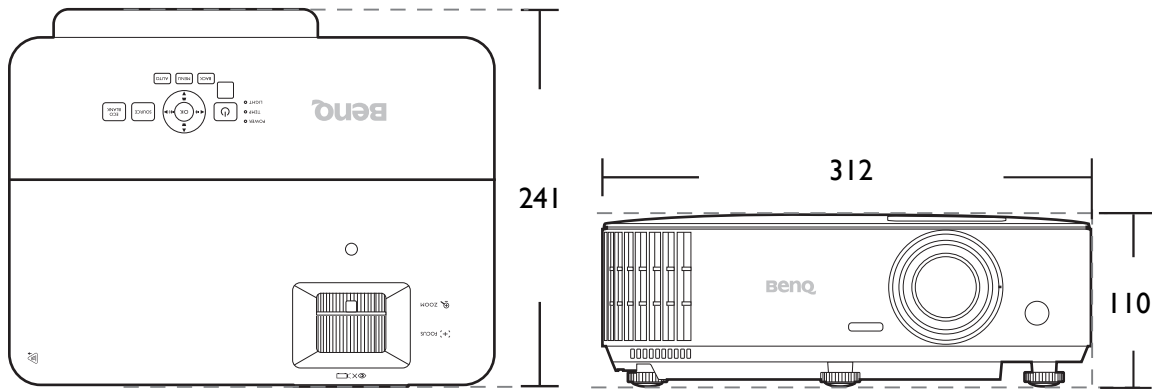
Storage altitude  
30°C@ 0~12,200m above sea level

Transporting  
Original packing or equivalent is recommended

Repairing  
Please visit below website and choose your country to  
find your service contact window.  
<http://www.benq.com/welcome>

# Dimensions

312 mm (W) x 241 mm (D) x 110 mm (H)



Unit: mm



# Timing chart

## Supported timing for PC input

| Resolution       | Mode                             | Vertical Frequency (Hz) | Horizontal Frequency (kHz) | Pixel Frequency (MHz) | Supported 3D format |            |              |
|------------------|----------------------------------|-------------------------|----------------------------|-----------------------|---------------------|------------|--------------|
|                  |                                  |                         |                            |                       | Frame Sequential    | Top Bottom | Side-by-Side |
| 720 x 400        | 720 x 400_70                     | 70.087                  | 31.469                     | 28.3221               |                     |            |              |
| 640 x 480        | VGA_60                           | 59.940                  | 31.469                     | 25.175                | V                   | V          | V            |
|                  | VGA_72                           | 72.809                  | 37.861                     | 31.500                |                     |            |              |
|                  | VGA_75                           | 75.000                  | 37.500                     | 31.500                |                     |            |              |
|                  | VGA_85                           | 85.008                  | 43.269                     | 36.000                |                     |            |              |
|                  | VGA_120                          | 119.518                 | 61.910                     | 52.500                |                     |            |              |
| 800 x 600        | SVGA_60                          | 60.317                  | 37.879                     | 40.000                | V                   | V          | V            |
|                  | 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                | V                   |            |              |
| 1024 x 768       | XGA_60                           | 60.004                  | 48.363                     | 65.000                | V                   | V          | V            |
|                  | 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                     | 115.5                 | V                   |            |              |
| 1152 x 864       | 1152 x 864_75                    | 75.00                   | 67.500                     | 108.000               |                     |            |              |
| 1024 x 576       | BenQ Notebook_timing             | 60.0                    | 35.820                     | 46.966                |                     |            |              |
| 1024 x 600       | BenQ Notebook_timing             | 64.995                  | 41.467                     | 51.419                |                     |            |              |
| 1280 x 720       | 1280 x 720_60                    | 60                      | 45.000                     | 74.250                | V                   | V          | V            |
| 1280 x 768       | 1280 x 768_60                    | 59.870                  | 47.776                     | 79.5                  | V                   | V          | V            |
| 1280 x 800       | WXGA_60                          | 59.810                  | 49.702                     | 83.500                | V                   | V          | V            |
|                  | 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                | V                   |            |              |
|                  | 1280 x 1024                      | SXGA_60                 | 60.020                     | 63.981                | 108.000             |            | V            |
| 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                   |                     | V          | V            |
|                  | 1280 x 960_85                    | 85.002                  | 85.938                     | 148.500               |                     |            |              |
| 1360 x 768       | 1360 x 768_60                    | 60.015                  | 47.712                     | 85.500                |                     | V          | V            |
| 1440 x 900       | WXGA+_60                         | 59.887                  | 55.935                     | 106.500               |                     | V          | V            |
| 1400 x 1050      | SXGA+_60                         | 59.978                  | 65.317                     | 121.750               |                     | V          |              |
| 1600 x 1200      | UXGA                             | 60.000                  | 75.000                     | 162.000               |                     | V          | V            |
| 1680 x 1050      | 1680 x 1050_60                   | 59.954                  | 65.290                     | 146.250               |                     | V          | V            |
| 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                   | 60                      | 67.5                       | 148.5                 |                     | V          | V            |
| 1920 x 1200@60Hz | 1920 x 1200_60 (Reduce Blanking) | 59.95                   | 74.038                     | 154                   |                     | V          | V            |



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

- PC timings

| Resolution              | Mode  | Vertical Frequency (Hz) | Horizontal Frequency (kHz) | Pixel Frequency (MHz) | Supported 3D format |            |              |
|-------------------------|---|-------------------------|----------------------------|-----------------------|---------------------|------------|--------------|
|                         |   |                         |                            |                       | Frame Sequential    | Top Bottom | Side-by-Side |
| 640 x 480               | VGA_60  | 59.940                  | 31.469                     | 25.175                |                     | V          | V            |
|                         | 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                |                     | V          | V            |
|                         | 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                | V                   |            |              |
| 1024 x 768              | XGA_60  | 60.004                  | 48.363                     | 65.000                |                     | V          | V            |
|                         | 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                     | 115.5                 | V                   |            |              |
| 1152 x 864              | 1152 x 864_75                                   | 75.00                   | 67.500                     | 108.000               |                     |            |              |
| 1024 x 576@60Hz         | BenQ Notebook Timing                            | 60.00                   | 35.820                     | 46.996                |                     |            |              |
| 1024 x 600@65Hz         | BenQ Notebook Timing                            | 64.995                  | 41.467                     | 51.419                |                     |            |              |
| 1280 x 720              | 1280 x 720_60                                   | 60                      | 45.000                     | 74.250                |                     | V          | V            |
| 1280 x 768              | 1280 x 768_60                                   | 59.870                  | 47.776                     | 79.5                  |                     | V          | V            |
| 1280 x 800              | WXGA_60   | 59.810                  | 49.702                     | 83.500                |                     | V          | V            |
|                         | 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                | V                   |            |              |
| 1280 x 1024             | SXGA_60   | 60.020                  | 63.981                     | 108.000               |                     | V          | V            |
|                         | SXGA_75   | 75.025                  | 79.976                     | 135.000               |                     |            |              |
| 1280 x 960              | 1280 x 960_60                                   | 60.000                  | 60.000                     | 108                   |                     | V          | V            |
|                         | 1280 x 960_85                                   | 85.002                  | 85.938                     | 148.500               |                     |            |              |
| 1360 x 768              | 1360 x 768_60                                   | 60.015                  | 47.712                     | 85.500                |                     | V          | V            |
| 1440 x 900              | WXGA+_60  | 59.887                  | 55.935                     | 106.500               |                     | V          | V            |
| 1400 x 1050             | SXGA+_60  | 59.978                  | 65.317                     | 121.750               |                     | V          | V            |
| 1600 x 1200             | UXGA  | 60.000                  | 75.000                     | 162.000               |                     | V          | V            |
| 1680 x 1050             | 1680 x 1050_60                                  | 59.954                  | 65.290                     | 146.250               |                     | V          | V            |
| 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                                  | 60                      | 67.5                       | 148.5                 |                     | V          | V            |
| 1920 x 1200@60Hz        | 1920 x 1200_60 (Reduce Blanking)                | 59.95                   | 74.038                     | 154                   |                     | V          | V            |
| 1920 x 1080@60Hz (VESA) | 1920 x 1080_60 (For Auditorium model)           | 59.963                  | 67.158                     | 173                   |                     |            |              |
| 1920 x 1080 @120Hz      | 1920 x 1080_120 (Only HDMI 2.0)                 | 120.000                 | 135.000                    | 297                   |                     |            |              |
| 3840 x 2160             | 3840 x 2160_30 (For 4K2K model)                 | 30                      | 67.5                       | 297                   |                     |            |              |
| 3840 x 2160             | 3840 x 2160_60 (For 4K2K model) (Only HDMI 2.0) | 60                      | 135                        | 594                   |                     |            |              |



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.

## Video timings

| Timing   | Resolution                     | Vertical Frequency (Hz) | Horizontal Frequency (kHz) | Pixel Frequency (MHz) | Supported 3D format |               |            |              |
|----------|--------------------------------|-------------------------|----------------------------|-----------------------|---------------------|---------------|------------|--------------|
|          |                                |                         |                            |                       | Frame Sequential    | Frame Packing | Top Bottom | Side-by-Side |
| 480i     | 720(1440) x 480                | 59.94                   | 15.73                      | 27                    |                     |               |            |              |
| 480p     | 720 x 480                      | 59.94                   | 31.47                      | 27                    |                     |               |            |              |
| 576i     | 720(1440) x 576                | 50                      | 15.63                      | 27                    |                     |               |            |              |
| 576p     | 720 x 576                      | 50                      | 31.25                      | 27                    |                     |               |            |              |
| 720/50p  | 1280 x 720                     | 50                      | 37.5                       | 74.25                 |                     | V             | V          | V            |
| 720/60p  | 1280 x 720                     | 60                      | 45.00                      | 74.25                 |                     | V             | V          | V            |
| 1080/24P | 1920 x 1080                    | 24                      | 27                         | 74.25                 |                     | V             | V          | V            |
| 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                 |                     |               |            | V            |
| 1080/60i | 1920 x 1080                    | 60                      | 33.75                      | 74.25                 |                     |               |            | V            |
| 1080/50P | 1920 x 1080                    | 50                      | 56.25                      | 148.5                 |                     |               | V          | V            |
| 1080/60P | 1920 x 1080                    | 60                      | 67.5                       | 148.5                 |                     |               | V          | V            |
| 2160/24P | 3840 x 2160<br>(Only HDMI 2.0) | 24                      | 54                         | 297                   |                     |               |            |              |
| 2160/25P | 3840 x 2160<br>(Only HDMI 2.0) | 25                      | 56.25                      | 297                   |                     |               |            |              |
| 2160/30P | 3840 x 2160<br>(Only HDMI 2.0) | 30                      | 67.5                       | 297                   |                     |               |            |              |
| 2160/50P | 3840 x 2160<br>(Only HDMI 2.0) | 50                      | 112.5                      | 594                   |                     |               |            |              |
| 2160/60P | 3840 x 2160<br>(Only HDMI 2.0) | 60                      | 135                        | 594                   |                     |               |            |              |

## Supported timing for Component-YPbPr input

| Timing   | Resolution  | Vertical Frequency (Hz) | Horizontal Frequency (kHz) | Pixel Frequency (MHz) | Supported 3D format |
|----------|-------------|-------------------------|----------------------------|-----------------------|---------------------|
|          |             |                         |                            |                       | Frame Sequential    |
| 480i     | 720 x 480   | 59.94                   | 15.73                      | 13.5                  | V                   |
| 480p     | 720 x 480   | 59.94                   | 31.47                      | 27                    | V                   |
| 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                 | V                   |
| 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                 |                     |



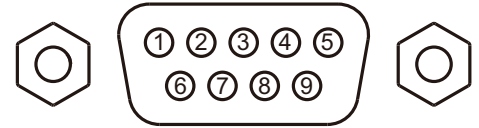
Displaying a 1080i(1125i)@60Hz or 1080i(1125i)@50Hz signal may result in slight image vibration.

# RS232 command

## RS232 pin assignment

| No. | Serial |
|-----|--------|
| 1   | NC     |
| 2   | RX     |
| 3   | TX     |
| 4   | NC     |
| 5   | GND    |

| No. | Serial |
|-----|--------|
| 6   | NC     |
| 7   | RTSZ   |
| 8   | CTSZ   |
| 9   | NC     |



| Function         | Type  | Operation                 | ASCII                       |
|------------------|-------|---------------------------|-----------------------------|
| Power            | Write | Power On                  | <CR>*pow=on#<CR>            |
|                  | Write | Power off                 | <CR>*pow=off#<CR>           |
|                  | Read  | Power Status              | <CR>*pow=?#<CR>             |
| Source Selection | Write | COMPUTER/YPbPr            | <CR>*sour=RGB#<CR>          |
|                  | Write | HDMI(MHL)                 | <CR>*sour=hdmi#<CR>         |
|                  | Write | HDMI 2                    | <CR>*sour=hdmi2#<CR>        |
|                  | Read  | Current source            | <CR>*sour=?#<CR>            |
| Audio Control    | Write | Mute On                   | <CR>*mute=on#<CR>           |
|                  | Write | Mute Off                  | <CR>*mute=off#<CR>          |
|                  | Read  | Mute Status               | <CR>*mute=?#<CR>            |
|                  | Write | Volume +                  | <CR>*vol=+#<CR>             |
|                  | Write | Volume -                  | <CR>*vol=-#<CR>             |
|                  | Write | Volume level for customer | <CR>*vol=value#<CR>         |
|                  | Read  | Volume Status             | <CR>*vol=?#<CR>             |
| Picture Mode     | Write | Bright                    | <CR>*appmod=bright#<CR>     |
|                  | Write | Living Room               | <CR>*appmod=livingroom#<CR> |
|                  | Write | Game                      | <CR>*appmod=game#<CR>       |
|                  | Write | Cinema                    | <CR>*appmod=cine#<CR>       |
|                  | Write | Football                  | <CR>*appmod=football#<CR>   |
|                  | Write | User1                     | <CR>*appmod=user1#<CR>      |
|                  | Write | User2                     | <CR>*appmod=user2#<CR>      |
|                  | Write | 3D                        | <CR>*appmod=threed#<CR>     |
|                  | Read  | Picture Mode              | <CR>*appmod=?#<CR>          |

| Function        | Type                      | Operation                     | ASCII                 |
|-----------------|---------------------------|-------------------------------|-----------------------|
| Picture Setting | Write                     | Contrast +                    | <CR>*con=+#<CR>       |
|                 | Write                     | Contrast -                    | <CR>*con=-#<CR>       |
|                 | Write                     | Set Contrast value            | <CR>*con=value#<CR>   |
|                 | Read                      | Contrast value                | <CR>*con=?#<CR>       |
|                 | Write                     | Brightness +                  | <CR>*bri=+#<CR>       |
|                 | Write                     | Brightness -                  | <CR>*bri=-#<CR>       |
|                 | Write                     | Set Brightness value          | <CR>*bri=value#<CR>   |
|                 | Read                      | Brightness value              | <CR>*bri=?#<CR>       |
|                 | Write                     | Color +                       | <CR>*color=+#<CR>     |
|                 | Write                     | Color -                       | <CR>*color=-#<CR>     |
|                 | Write                     | Set Color value               | <CR>*color=value#<CR> |
|                 | Read                      | Color value                   | <CR>*color=?#<CR>     |
|                 | Write                     | Sharpness +                   | <CR>*sharp=+#<CR>     |
|                 | Write                     | Sharpness -                   | <CR>*sharp=-#<CR>     |
|                 | Write                     | Set Sharpness value           | <CR>*sharp=value#<CR> |
|                 | Read                      | Sharpness value               | <CR>*sharp=?#<CR>     |
|                 | Write                     | Color Temperature-Warm        | <CR>*ct=warm#<CR>     |
|                 | Write                     | Color Temperature-Normal      | <CR>*ct=normal#<CR>   |
|                 | Write                     | Color Temperature-Cool        | <CR>*ct=cool#<CR>     |
|                 | Write                     | Color Temperature-lamp native | <CR>*ct=ative#<CR>    |
|                 | Read                      | Color Temperature Status      | <CR>*ct=?#<CR>        |
|                 | Write                     | Aspect 4:3                    | <CR>*asp=4:3#<CR>     |
|                 | Write                     | Aspect 16:9                   | <CR>*asp=16:9#<CR>    |
|                 | Write                     | Aspect 16:10                  | <CR>*asp=16:10#<CR>   |
|                 | Write                     | Aspect Auto                   | <CR>*asp=AUTO#<CR>    |
|                 | Write                     | Aspect Letterbox              | <CR>*asp=LBOX#<CR>    |
|                 | Write                     | Aspect Wide                   | <CR>*asp=WIDE#<CR>    |
|                 | Read                      | Aspect Status                 | <CR>*asp=?#<CR>       |
|                 | Write                     | Vertical Keystone +           | <CR>*vkeystone=+#<CR> |
|                 | Write                     | Vertical Keystone -           | <CR>*vkeystone=-#<CR> |
|                 | Read                      | Vertical Keystone value       | <CR>*vkeystone=?#<CR> |
|                 | Write                     | Overscan Adjustment +         | <CR>*overscan=+#<CR>  |
|                 | Write                     | Overscan Adjustment -         | <CR>*overscan=-#<CR>  |
| Read            | Overscan Adjustment value | <CR>*overscan=?#<CR>          |                       |

| Function           | Type                   | Operation                        | ASCII                         |
|--------------------|------------------------|----------------------------------|-------------------------------|
| Operation Settings | Write                  | Auto                             | <CR>*auto#<CR>                |
|                    | Write                  | Brilliant color on               | <CR>*BC=on#<CR>               |
|                    | Write                  | Brilliant color off              | <CR>*BC=off#<CR>              |
|                    | Read                   | Brilliant color status           | <CR>*BC=?#<CR>                |
|                    | Write                  | Reset picture settings           | <CR>*rstpicsetting#<CR>       |
|                    | Write                  | Projector Position-Front Table   | <CR>*pp=FT#<CR>               |
|                    | Write                  | Projector Position-Rear Table    | <CR>*pp=RE#<CR>               |
|                    | Write                  | Projector Position-Rear Ceiling  | <CR>*pp=RC#<CR>               |
|                    | Write                  | Projector Position-Front Ceiling | <CR>*pp=FC#<CR>               |
|                    | Read                   | Projector Position Status        | <CR>*pp=?#<CR>                |
|                    | Write                  | Quick cooling on                 | <CR>*qcool=on#<CR>            |
|                    | Write                  | Quick cooling off                | <CR>*qcool=off#<CR>           |
|                    | Read                   | Quick cooling status             | <CR>*qcool=?#<CR>             |
|                    | Write                  | Quick auto search                | <CR>*QAS=on#<CR>              |
|                    | Write                  | Quick auto search                | <CR>*QAS=off#<CR>             |
|                    | Read                   | Quick auto search status         | <CR>*QAS=?#<CR>               |
|                    | Write                  | Menu Position - Center           | <CR>*menuposition=center#<CR> |
|                    | Write                  | Menu Position - Top-Left         | <CR>*menuposition=tl#<CR>     |
|                    | Write                  | Menu Position - Top-Right        | <CR>*menuposition=tr#<CR>     |
|                    | Write                  | Menu Position - Bottom-Right     | <CR>*menuposition=br#<CR>     |
|                    | Write                  | Menu Position - Bottom-Left      | <CR>*menuposition=bl#<CR>     |
|                    | Read                   | Menu Position Status             | <CR>*menuposition=?#<CR>      |
|                    | Write                  | Direct Power On-on               | <CR>*directpower=on#<CR>      |
|                    | Write                  | Direct Power On-off              | <CR>*directpower=off#<CR>     |
| Read               | Direct Power On-Status | <CR>*directpower=?#<CR>          |                               |
| Baud Rate          | Write                  | 9600                             | <CR>*baud=9600#<CR>           |
|                    | Write                  | 14400                            | <CR>*baud=14400#<CR>          |
|                    | Write                  | 19200                            | <CR>*baud=19200#<CR>          |
|                    | Write                  | 38400                            | <CR>*baud=38400#<CR>          |
|                    | Write                  | 57600                            | <CR>*baud=57600#<CR>          |
|                    | Write                  | 115200                           | <CR>*baud=115200#<CR>         |
|                    | Read                   | Current Baud Rate                | <CR>*baud=?#<CR>              |
| Lamp Control       | Read                   | Lamp                             | <CR>*ltim=?#<CR>              |
|                    | Write                  | Normal mode                      | <CR>*lampm=lnor#<CR>          |
|                    | Write                  | Eco mode                         | <CR>*lampm=eco#<CR>           |
|                    | Write                  | SmartEco mode                    | <CR>*lampm=seco#<CR>          |
|                    | Read                   | Lamp Mode Status                 | <CR>*lampm=?#<CR>             |

| Function      | Type           | Operation                | ASCII                        |
|---------------|----------------|--------------------------|------------------------------|
| Miscellaneous | Read           | Model Name               | <CR>*modelName=?#<CR>        |
|               | Read           | System F/W Version       | <CR>*sysfwversion=?#<CR>     |
|               | Read           | Scaler F/W Version       | <CR>*scalerfwversion=?#<CR>  |
|               | Read           | MCU F/W Version          | <CR>*mcufwversion=?#<CR>     |
|               | Read           | Ballast F/W Version      | <CR>*ballastfwversion=?#<CR> |
|               | Write          | Blank On                 | <CR>*blank=on#<CR>           |
|               | Write          | Blank Off                | <CR>*blank=off#<CR>          |
|               | Read           | Blank Status             | <CR>*blank=?#<CR>            |
|               | Write          | Menu On                  | <CR>*menu=on#<CR>            |
|               | Write          | Menu Off                 | <CR>*menu=off#<CR>           |
|               | Read           | Menu Status              | <CR>*menu=?#<CR>             |
|               | Write          | Up                       | <CR>*up#<CR>                 |
|               | Write          | Down                     | <CR>*down#<CR>               |
|               | Write          | Right                    | <CR>*right#<CR>              |
|               | Write          | Left                     | <CR>*left#<CR>               |
|               | Write          | Enter                    | <CR>*enter#<CR>              |
|               | Write          | Back                     | <CR>*back#<CR>               |
|               | Write          | Source Menu On           | <CR>*sourmenu=on#<CR>        |
|               | Write          | Source Menu Off          | <CR>*sourmenu=off#<CR>       |
|               | Read           | Source Menu Status       | <CR>*sourmenu=?#<CR>         |
|               | Write          | 3D Sync Off              | <CR>*3d=off#<CR>             |
|               | Write          | 3D Auto                  | <CR>*3d=auto#<CR>            |
|               | Write          | 3D Sync Top Bottom       | <CR>*3d=tb#<CR>              |
|               | Write          | 3D Sync Frame Sequential | <CR>*3d=fs#<CR>              |
|               | Write          | 3D Frame packing         | <CR>*3d=fp#<CR>              |
|               | Write          | 3D Side by side          | <CR>*3d=sbs#<CR>             |
|               | Write          | 3D inverter disable      | <CR>*3d=da#<CR>              |
|               | Write          | 3D inverter              | <CR>*3d=iv#<CR>              |
| Read          | 3D Sync Status | <CR>*3d=?#<CR>           |                              |