Digital Projector

User Manual

AK900ST

V 1.01

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.

Copyright

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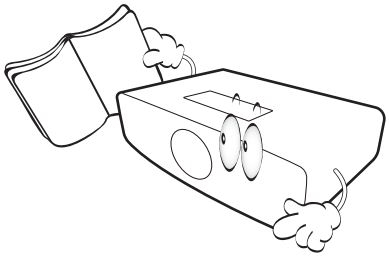
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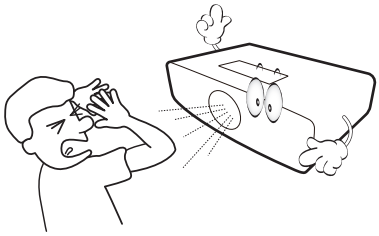
Important safety instructions

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.

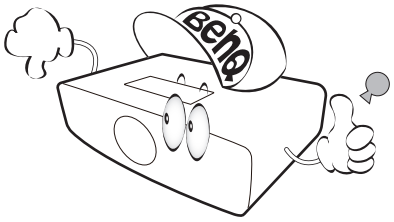
1. **Please read this manual before you operate your projector.** Save it for future reference.



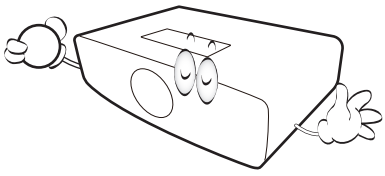
2. **Do not look straight at the projector lens during operation.** The intense light beam may damage your eyes.



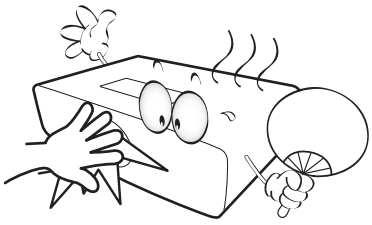
3. **Refer servicing to qualified service personnel.**



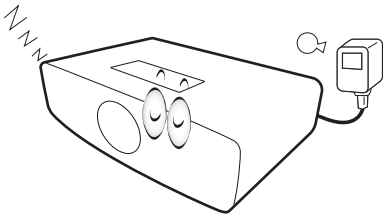
4. Always open the lens shutter (if any) or remove the lens cap (if any) when the projector light source is on.



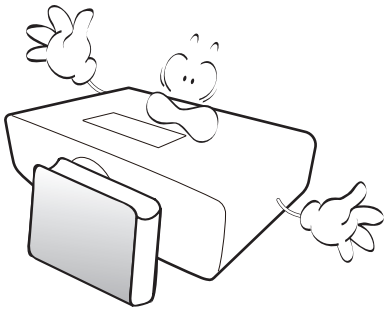
5. The light source becomes extremely hot during operation.



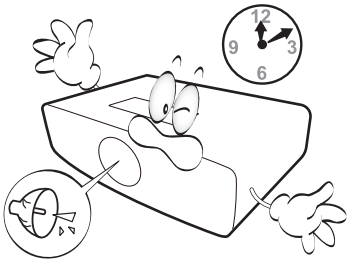
6. In some countries, the line voltage is NOT stable. This projector is designed to operate safely within a mains voltage between 100 to 240 volts AC, but could fail if power cuts or surges of ±10 volts occur. **In areas where the mains voltage may fluctuate or cut out, it is recommended that you connect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



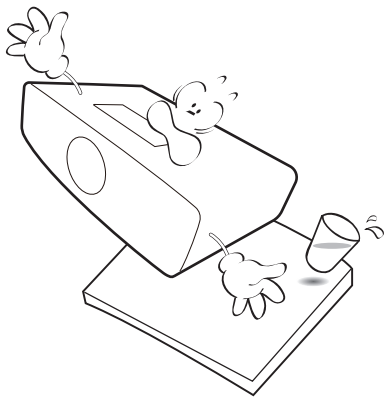
7. Do not block the projection lens with any objects when the projector is under operation as this could cause the objects to become heated and deformed or even cause a fire. To temporarily turn off the light source, press the **ECO BLANK** button.



8. Do not operate light sources beyond the rated light source life.

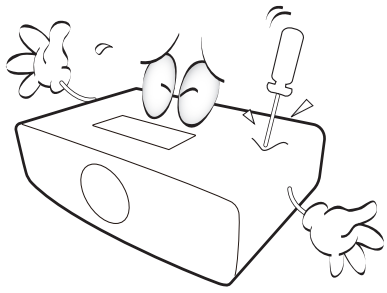


9. Do not place this product on an unstable cart, stand, or table. The product may fall, sustaining serious damage.

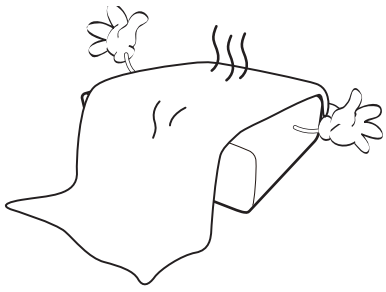


10. Do not attempt to disassemble this projector. There are dangerous high voltages inside which may cause death if you should come into contact with live parts.

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

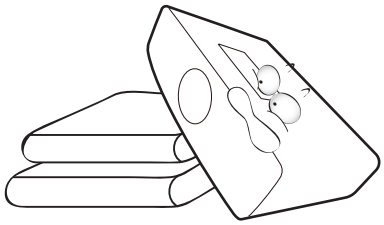


11. Do not block the ventilation holes.
    - Do not place this projector on a blanket, bedding or any other soft surface.
    - Do not cover this projector with a cloth or any other item.
    - Do not place inflammables near the projector.

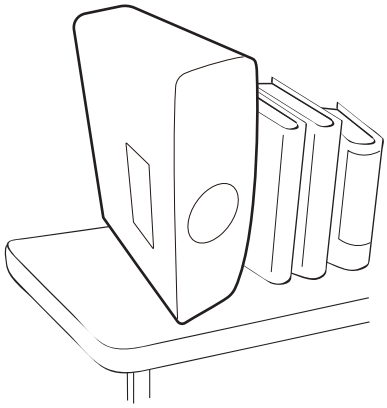


    If the ventilation holes are seriously obstructed, overheating inside the projector may result in a fire.

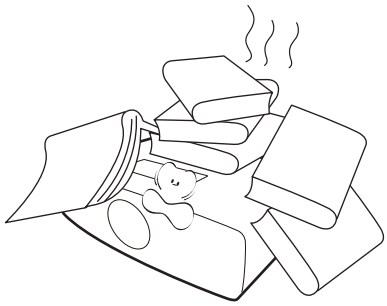
12. Always place the projector on a level, horizontal surface during operation.



13. 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.

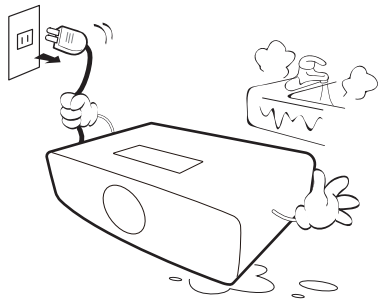


14. Do not step on the projector or place any objects upon it. Besides probable physical damage to the projector, doing so may result in accidents and possible injury.

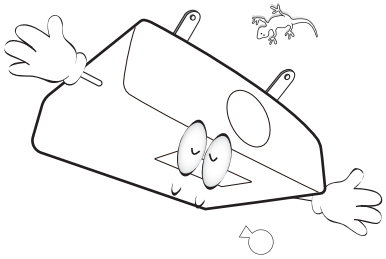


15. When the projector is under operation, you may sense some heated air and odor from its ventilation grill. It is a normal phenomenon and not a product defect.

16. 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.

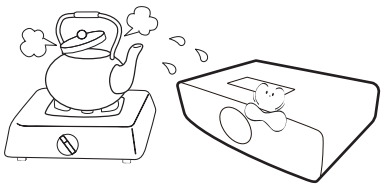


17. This product is capable of displaying inverted images for ceiling mount installation.

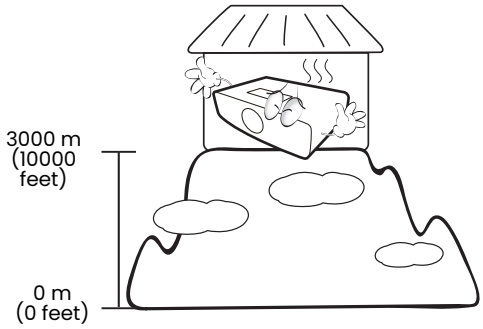


18. This apparatus must be earthed.

19. 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).

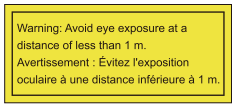


Risk Group 2

1. According to the classification of photobiological safety of light sources and light source 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 light source. May be harmful to the eyes.
4. As with any bright source, do not stare into the direct beam.



The projector's light source unit uses a laser.



- Notice is given to supervise children and to never allow them to stare into the projector beam at any distance from the projector.
- Notice is given to use caution when using the remote control for starting the projector while in front of the projection lens.
- Notice is given to the user to avoid the use of optical aids such as binoculars or telescopes inside the beam.

Laser Caution

This product belongs to CLASS 1 consumer laser product and complies with IEC 60825-1:2014, EN 60825-1:2014/A11:2021 and EN 50689:2021.



Above laser caution are located on the bottom of this apparatus.

Caution – Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

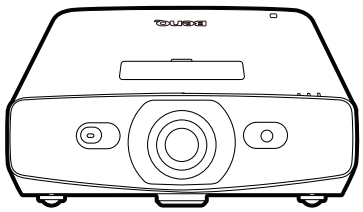
To avoid damaging the DLP chips, never aim a high-power laser beam into the projection lens.

Introduction

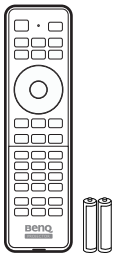
Shipping contents

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.

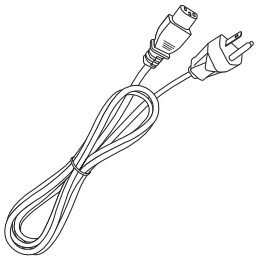
Standard accessories



Projector



Remote control with batteries
(Availability of batteries varies by region)



Power cord



Warranty card*



User documents



Regulatory statement

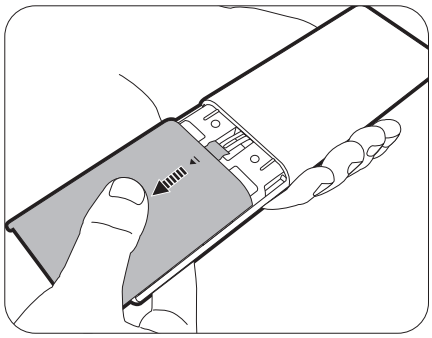


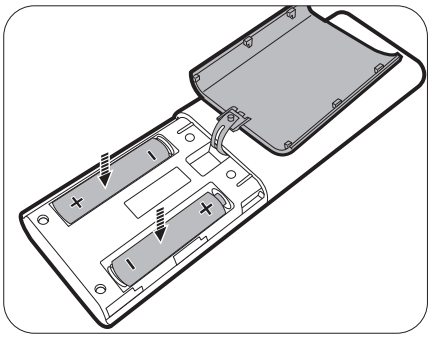
Cable management hook

- 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.

Replacing the remote control batteries

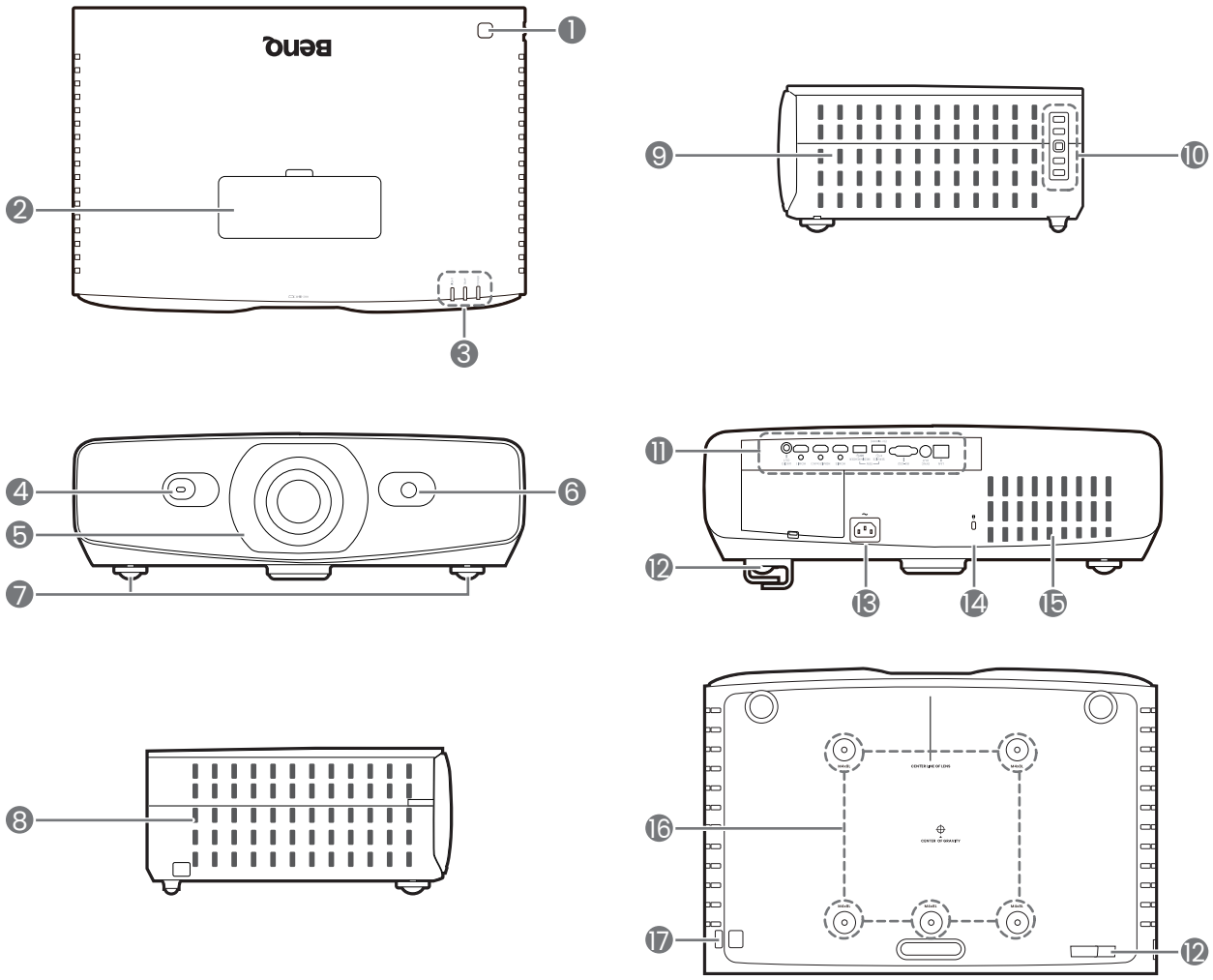
1. Press and slide off the battery cover, as illustrated.
2. Remove the old batteries (if applicable) and install two AAA batteries. Make sure that the positive and negative ends are positioned correctly, as illustrated.
3. Slide the battery cover in until it clicks into place.





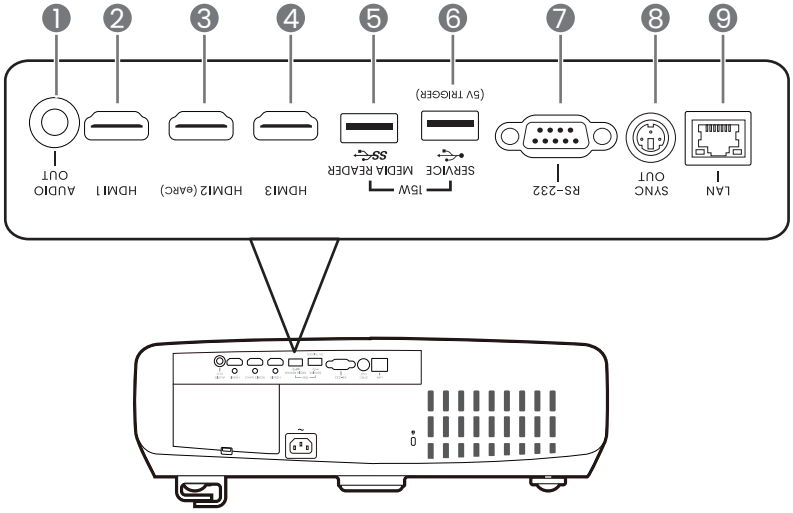
- Avoid leaving the remote control and batteries in an excessive heat or humid environment like the kitchen, bathroom, sauna, sunroom or in a closed car.
- Replace only with the same or equivalent type recommended by the battery manufacturer.
- Dispose of the used batteries according to the manufacturer's 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. IR remote sensor
2. Lens shift adjustment knobs
   (◂▭▸ Left/Right, ▲▭▼ Up/Down)
3. **POWER**/**TEMP**/**LIGHT** status indicator
   See Indicators on page 58.
4. TOF lens and front IR sensor
5. Projection lens
6. Camera sensor
7. Adjuster feet
8. Vent (air inlet)
9. Vent (air exhaust)
10. External control panel
    See Controls and functions on page 12.
11. Connector panel
    See Terminals on page 11.
12. Cable management hook
13. AC power jack
14. Kensington anti-theft lock slot
15. Speaker grill
16. Ceiling mount holes
17. Anti-theft security bar

Terminals

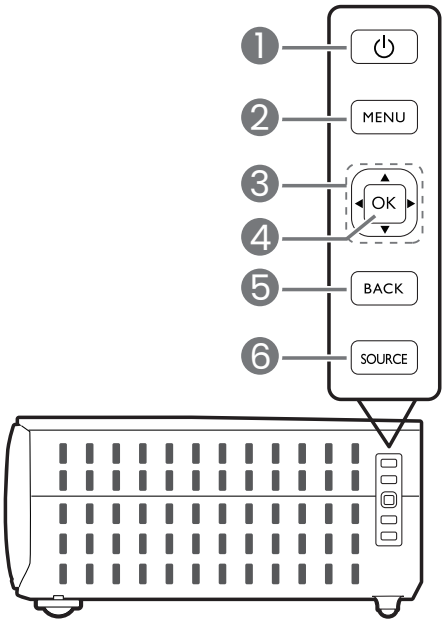


1. Audio output jack
2. HDMI input port 1 (Version 2.1)
3. HDMI input port 2 (Version 2.1)
   - Supports ARC/eARC output
4. HDMI input port 3 (Version 2.1)
5. USB 3.0 Type-A port
   - Supports 3 A (max.) power supply under projector power-on status
6. USB 2.0 Type-A port (SERVICE)
   - For firmware update/USB 5V trigger
7. RS-232 control port
8. Sync Out jack
9. RJ-45 LAN input jack

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.

   ON/ OFF

   Toggles the projector between standby mode and on.

2. **MENU**

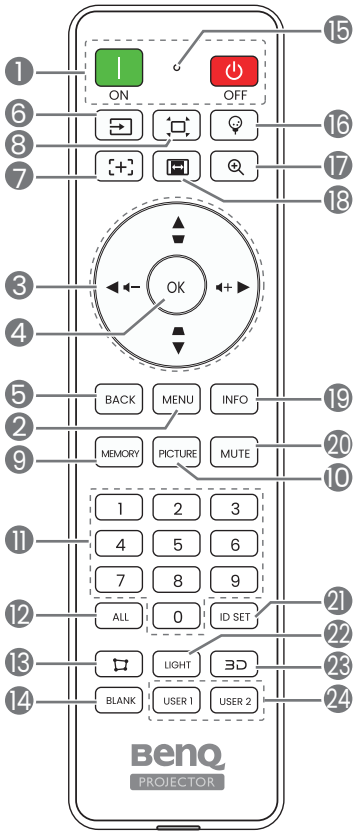
   Turns on/off the On-Screen Display (OSD) menu.

3. Arrow keys (▲, ▼, ◄, ►)

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

   Volume keys (🔉−/🔉+)

   Decreases or increase the projector volume.



4. **OK**

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

5. **BACK**

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

6. **SOURCE**

   Displays the source selection bar.

7. **FOCUS**

   Press to focus the image and then displays the adjustment page for manual adjustment.
   *Available on compatible projectors only.

8. **AUTO SCREEN FIT**

   Press to conduct auto screen fit.

9. **MEMORY**

   Displays the image memory menu.

10. **PICTURE**

    Displays the **Picture Mode** menu for selecting a picture mode.

11. **Numeric buttons**

    Enters numbers in network settings or when setting the remote control ID. Numeric buttons 1, 2, 3, 4 cannot be pressed when asked to enter password.

12. **ALL**

    Press and hold **ID SET** until the ID setting indicator lights up. Press **ALL** to clear current ID setting of the remote control. The ID is cleared successfully when you see the ID setting indicator starts flickering and then blackout.

13. **CORNER FIT**

    Opens the corner fit menu for image correction function.

14. **BLANK**

    No function.

15. **ID setting indicator**

16. **GOLF SETTING**

    Displays the golf setting menu.

17. **ZOOM**

    Press to display the **Focus & Zoom** menu to adjust optical zoom.

18. **SCREEN FILL**

    Displays the aspect ratio selection list.

19. **INFO**

    Displays the projector information.

20. **MUTE**

    Toggles projector audio between on and off.

21. **ID SET**

    Sets the code for this remote control. Press and hold **ID SET** until the ID setting indicator lights up. Enter the ID for the remote control (between 01~99). The remote control ID should be the same as the corresponding projector ID. The ID is saved successfully when you see the ID setting indicator starts flickering and then blackout.

22. **LIGHT**

    Selects an available **Light Source Mode**.

23. **3D**

    No function.

24. **USER 1**

    Switches to user defined picture mode.

    USER 2

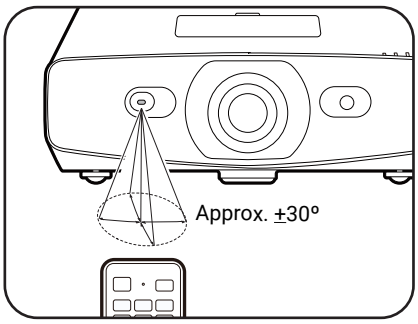
    No function.

Remote control effective range

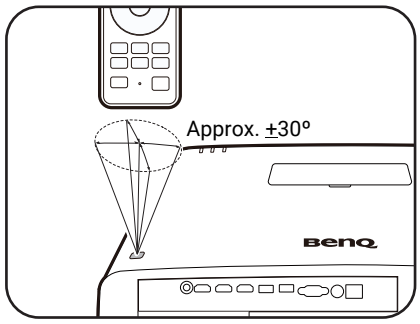
The remote control must be held at an angle within 30 degrees perpendicular to the projector's IR remote control sensor(s) to function correctly. The distance between the remote control and the sensor(s) should not exceed 8 meters (~ 26 feet).

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

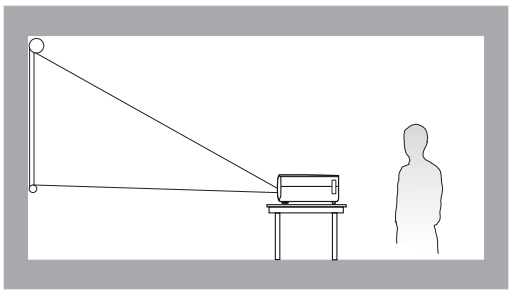
• Location and distance between the projector and the rest of your equipment

The projected image size and vertical offset depend on how far you place the projector, and the zoom setting you choose. There is more information from Projection dimensions on page 16 which can help decide exact distance and height of your projector.

You can install your projector in the following ways.

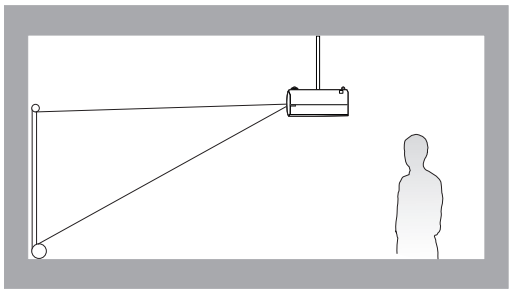
1. **Front**

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.



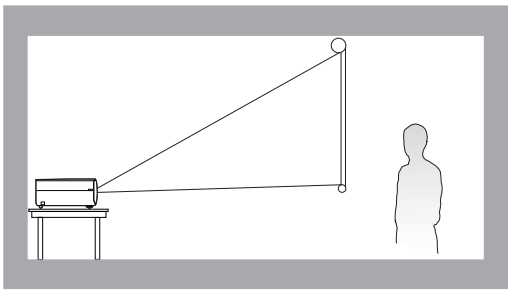
2. **Front Ceiling**

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.



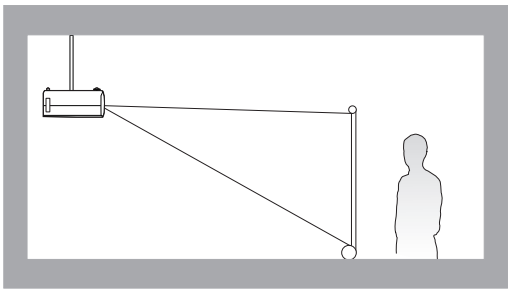
3. **Rear**

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



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.



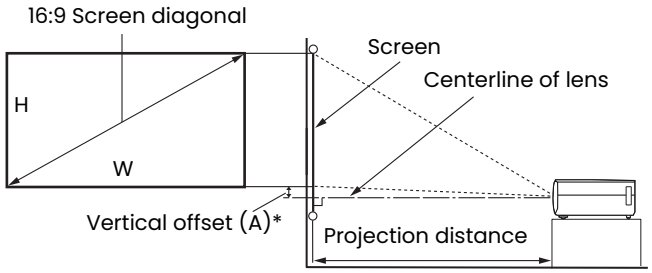
After turning on the projector, the projector will automatically select a suitable setting for the way the projector is installed. If not, go to the **Advanced** menu - **Installation** > **Projector Position**, press **OK** and press ◄/► to select a setting.

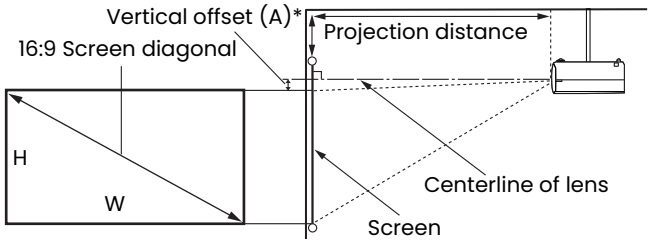
Obtaining a preferred projected image size

The distance from the projector lens to the screen, the zoom setting, 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





• *The vertical offset value is the vertical distance from the bottom edge of the image (when the projector is placed on a table, diagram on the left), or top edge of the image (when the projector is ceiling mounted, diagram on the right) to the centerline of lens.

• Due to the lens optical characteristics, every projector has its vertical offset ratio. The vertical offset value normally gets larger while the projection distance increases.

Screen size		Distance from screen (mm)		Image height (mm)	*Vertical offset (A)	
Diagonal		Min length	Max length		(Lowest lens position) (mm)	(Highest lens position) (mm)
inch	mm	(max. zoom)	(min. zoom)			
95	2413	1704	1872	1183	-1301	118
100	2540	1793	1970	1245	-1370	125
110	2794	1972	2167	1370	-1507	137
120	3048	2152	2364	1494	-1644	149
130	3302	2331	2561	1619	-1781	162
140	3556	2510	2758	1743	-1918	174
150	3810	2690	2955	1868	-2055	187
160	4064	2869	3152	1992	-2192	199
170	4318	3048	3349	2117	-2329	212
180	4572	3228	3547	2241	-2466	224
190	4826	3407	3744	2366	-2603	237
200	5080	3586	3941	2491	-2740	249
210	5334	3766	4138	2615	-2877	262
220	5588	3945	4335	2740	-3014	274
230	5842	4124	4532	2864	-3151	286
240	6096	4304	4729	2989	-3287	299
250	6350	4483	4926	3113	-3424	311
260	6604	4662	5123	3238	-3561	324
270	6858	4842	5320	3362	-3698	336
280	7112	5021	5517	3487	-3855	349
290	7366	5200	5714	3611	-3972	361
300	7620	5380	5911	3736	-4109	374

For example, if you are using a 120-inch screen, the recommended projection distance is between 2152 and 2364 mm.

If your measured projection distance is 300 cm, the closest range in the "Distance from screen (mm)" column is from 2869 to 3152 mm. Looking across this row shows that a 160" (about 4.1

m) screen is required. The projected image will be slightly higher/lower than the lens centerline with a vertical offset between -2192 to 199 mm.

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.

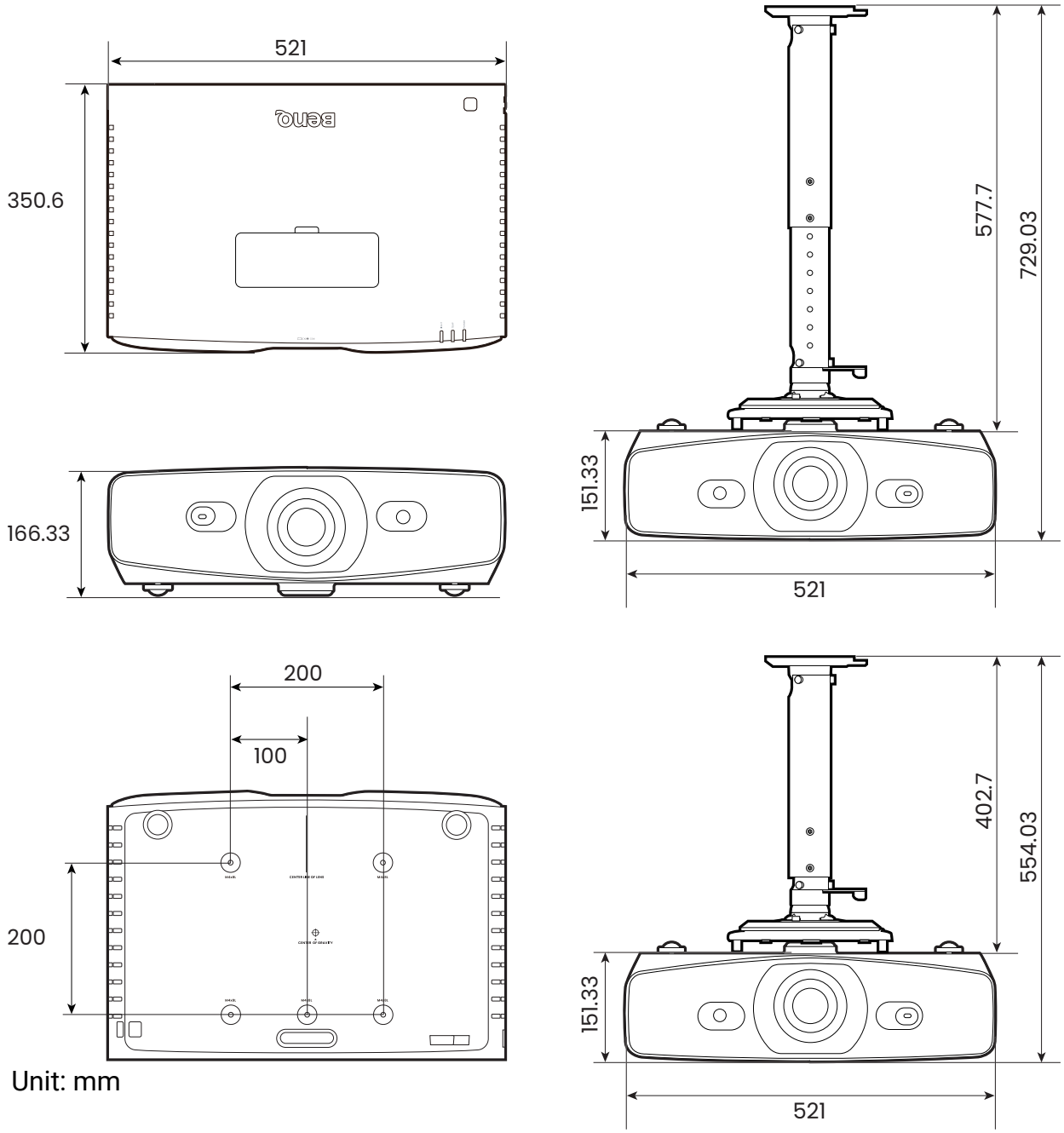
If you use a non-BenQ brand projector mounting kit, there is a safety risk that the projector may fall down due to an improper attachment through the use of the wrong gauge or length screws.

Before mounting the projector

- Purchase a BenQ projector mounting kit from the place you purchased your BenQ projector.
- BenQ recommends that you also use a security cable to secure both the base of the mounting bracket and the security bar on the projector. This will perform the secondary role of restraining the projector should its attachment to the mounting bracket become loose.
- 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 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

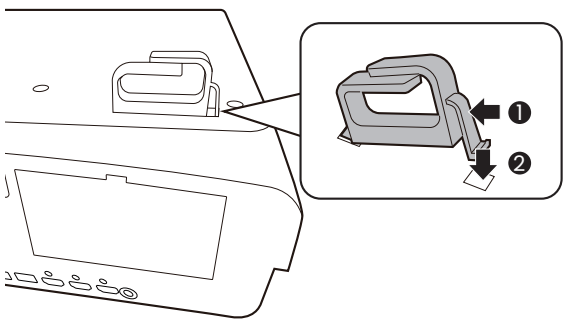
Ceiling/Wall mount screw: M4 x 8L mm



Unit: mm

Please refer to the user manual of the mounting kit or contact BenQ service center if any installation problem occurs.

Using the cable management hook



When ceiling mounting your projector, use the cable management hook to keep cables organized and secure.

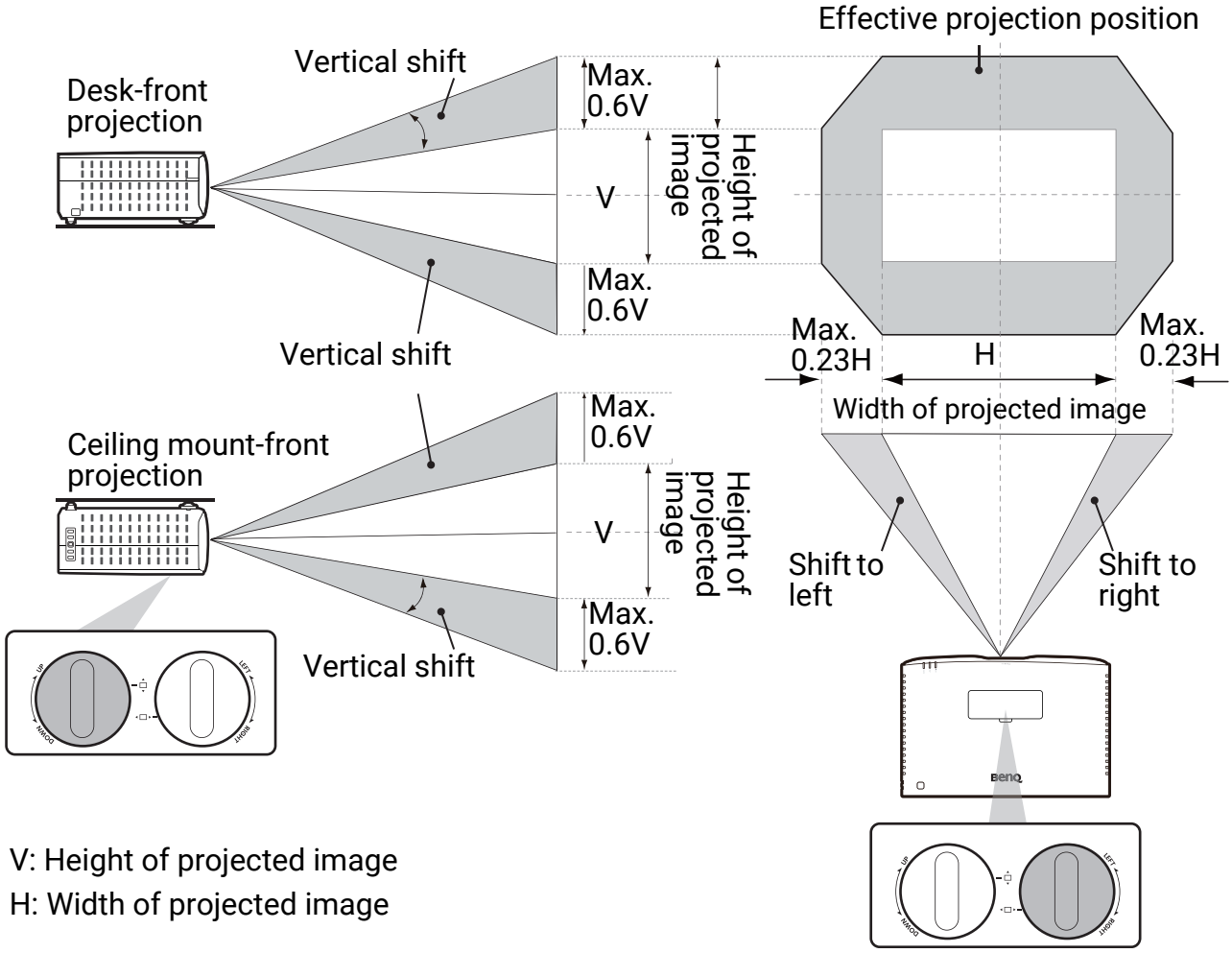
1. Locate the cable management hook slots on the projector, see Cable management hook on page 10.
2. Insert the fixed tab of the cable management hook into one slot, then press and hold the snap tab to click the other end into place, as illustrated.
3. Sort your cables through the slot to keep them organized.

Adjusting the projector position

Shifting the projection lens

The lens shift control provides flexibility for installing your projector. It allows the projector to be positioned off the center of the screen.

The lens shift is expressed as a percentage of the projected image height or width. You can turn the knobs on the projector to shift the projection lens in any direction within the allowable range depending on your desired image position.

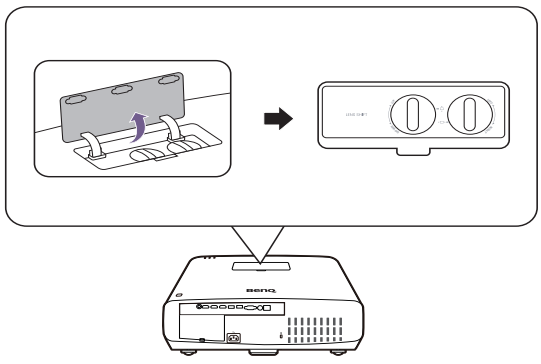


V: Height of projected image

H: Width of projected image

To reach the highest or lowest projection position:

1. Turn ▲□▼ (Up/Down).
2. When you feel it is reaching the limit, turn ◂□▸ to the left or right and turn ▲□▼ again.
3. Repeat the step above until the suitable position is found.



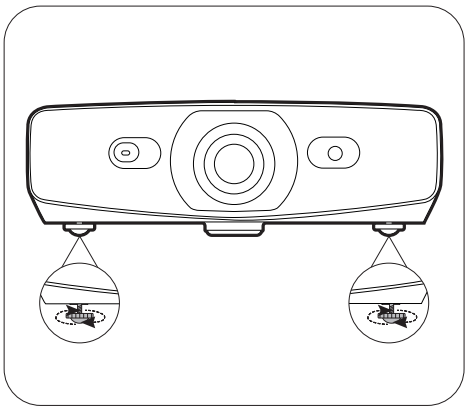
- Lens shift adjustment will not result in degraded picture quality.
- Please stop turning the adjustment knob when you hear a clicking sound indicating that the knob has reached its limit. Over-turning the knob may cause damage.

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 screw 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 light source is on. The strong light from the light source may cause damage to your eyes.

Fine-tuning the image size and clarity

Adjusting the focus

Adjust the focus of the image in one of the following situations:

- During initial setup
- After moving the projector
- After adjusting zoom
- When image is fuzzy and you wish to obtain a clearer image

To adjust the focus:

1. Press **FOCUS** on the remote control.
2. Press and hold ◄/► to adjust the focus.
3. Press **OK** to save and exit.

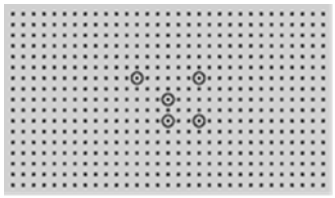
Using the Auto Screen Fit function

The **Auto Screen Fit** function automatically adjusts the focus, zoom, and aspect ratio of the projected image to fit the screen.

1. Instruction & preparation

   When **Auto Screen Fit** is activated, an instruction page will appear to guide you through the setup.

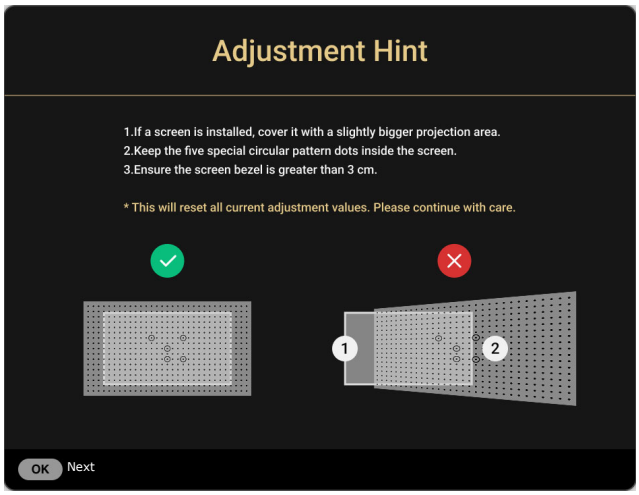
   The projector will project two sequential patterns:

	
Blank Image	Screen Fit Pattern

   Ensure that the 5 large circles in the Screen Fit Pattern are fully projected within the boundaries of your screen. Press OK to start the Auto Screen Fit process.

   Press **OK** to display the **Auto Screen Fit** function.

The instruction page will be displayed every time Auto Screen Fit is triggered.



2. Screen detection

   Once initiated, the projector projects a blank image and a Screen Fit pattern, and the built-in camera detects and calculates the aspect ratio of your screen. Concurrently, the system performs an initial Coarse Auto Focus.

3. EDID switch (Screen fill)

   Based on the detected screen, the system automatically selects the closest matching aspect ratio from six options (16:9 / 16:10 / 3:2 / 4:3 / 5:4 / 1:1) and configures the EDID accordingly to ensure the content fills the screen correctly.

4. Auto zoom

   The projector adjusts the lens automatically based on the screen borders to optimize the image size. A second Coarse Auto Focus will then run to ensure image clarity.

5. Auto screen fit

   The camera analyzes the projected dot patterns to identify whether the projection surface is flat or curved, then applies the appropriate correction:

   - For flat surfaces:

   The system automatically adjusts the four corners of the projected image to perfectly align with the inner frame of your screen.

   • Press **OK** to enter **Corner Fit** for fine-tuning.

   • Press **BACK** to return to **Auto Screen Fit**.

   - For curved surfaces:

   The system maps the surface using a high-density grid. It automatically adjusts up to 62 x 32 geometric points to perfectly mold the image to the curved surface. To ensure maximum accuracy, the system is set to a 62 x 32 grid by default.

   • Select **Exit** to end screen fitting.

   • Select **Geometry** to fine-tune the image.



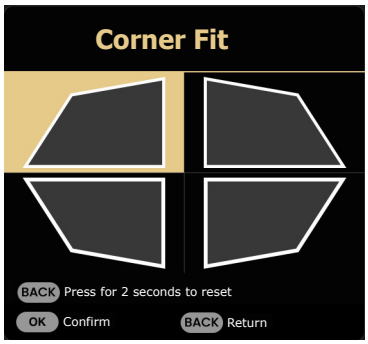
• The curve depth of the screen must be less than 30% of the screen width and must not exceed the maximum supported depth of 47.2 inches (1.2 m).

• The distance from the projector lens to the center of the curved screen must be less than 157.5 inches (4 m).

Adjusting Corner Fit

You can manually adjust four corners of the image by setting the horizontal and vertical values.

1. Do one of the following steps to display the keystone correction page.
   • Go to **Basic** menu - **Corner Fit** and press **OK**.
   • Go to **Advanced** menu - **Installation** > **Corner Fit** and press **OK**.
2. Press ▲/▼/◄/► to select one corner and press **OK**.
3. Press ▲/▼ to adjust vertical values.
4. Press ◄/► to adjust horizontal values.



Adjusting Geometry

You can adjust the warping of the image by adjusting the warp pattern.

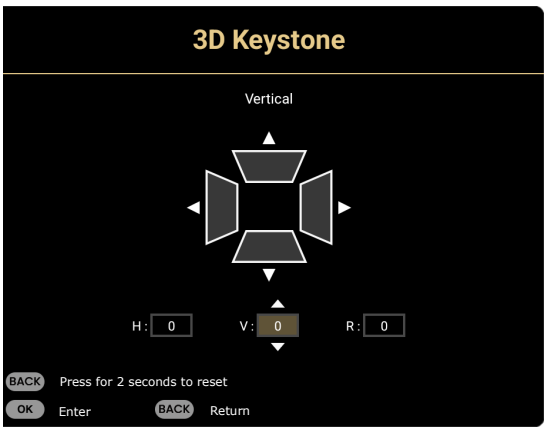
1. Go to **Geometry** menu - **Installation** > **Geometry** and press **OK**.
2. Press ▲/▼ to select one of the patterns.
3. Press ▲/▼/◄/► to fine tune the pattern.

Correcting keystone

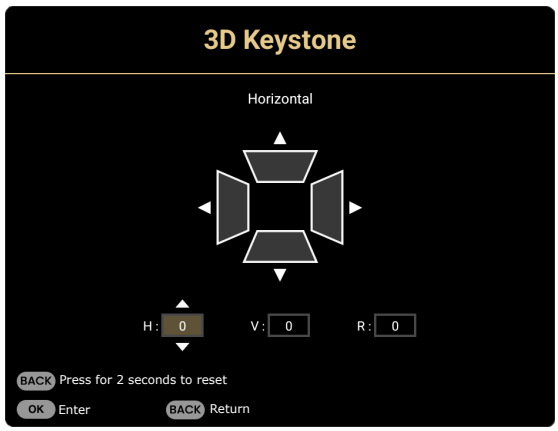
Keystoning refers to the situation where the projected image becomes a trapezoid due to angled projection.

To correct the distorted image:

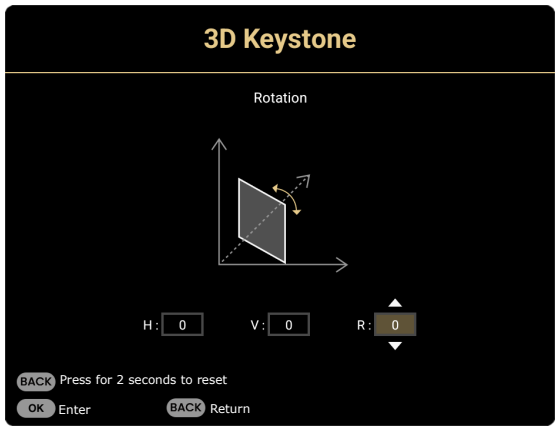
1. Display the **3D Keystone** correction page from the following menus.
   - The setup wizard during the projector initial setup
   - Go to the **Advanced** Menu **- Installation** > **3D Keystone** and press **OK**.



2. After the **3D Keystone** correction page appears:
   - Press ◄/► to select V, H, or R.
     Selecting V corrects the vertical sides keystone.
     Selecting H corrects the horizontal sides keystone.
     Selecting R rotates the projected image clockwise or counterclockwise.
   - Press ▲/▼ to adjust its value.
   - To automatically reset the H, V, R keystone settings, press **BACK** for 2 seconds..



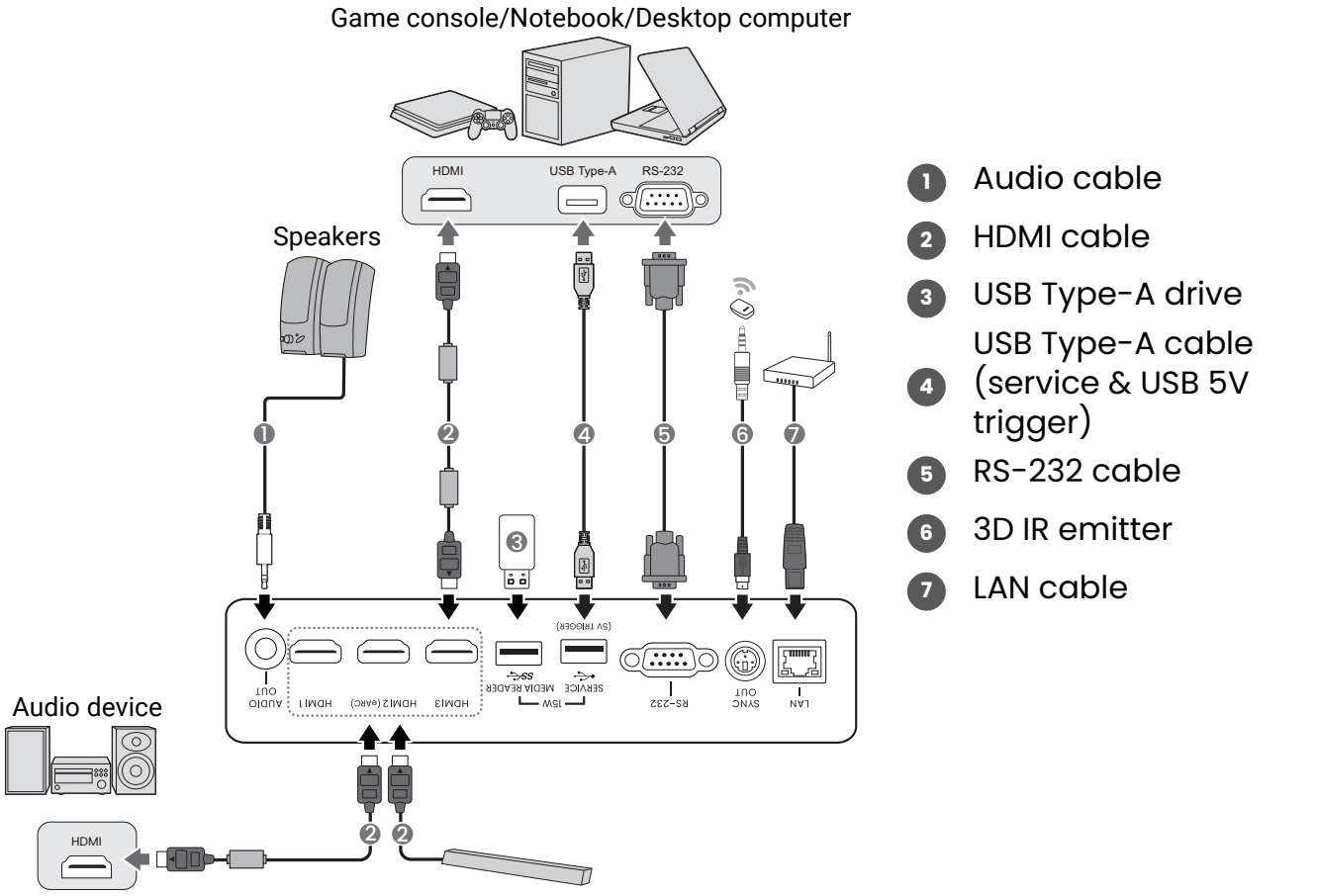
3. When done, press **BACK** to save your changes and exit.



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.



- In the connections above, some cables may not be included with the projector (see Shipping contents on page 8). 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.

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).

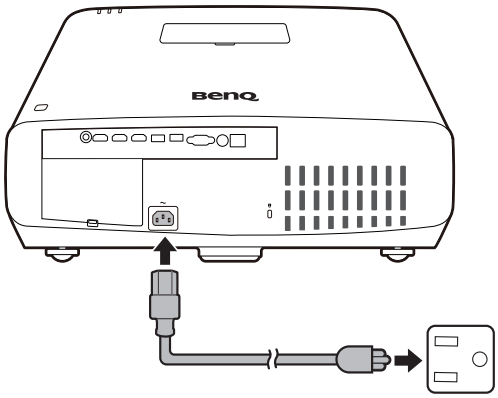
The built-in speaker(s) will be muted when the **AUDIO OUT** jack is connected.

The projector is only capable of playing mixed mono audio, even if a stereo audio input is connected.

Operation

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 ⏻ on the projector or ⏽ on the remote control to start the projector. The power indicator flashes green and stays green when the projector is on.

   The start up procedure takes about 15 seconds. In the later stage of starting up, a start-up logo is projected.

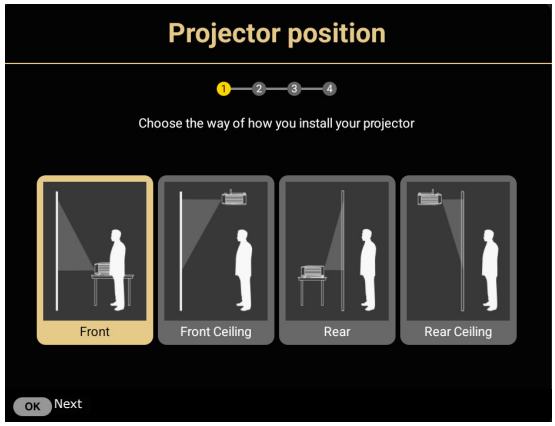
   The projector engages in auto focus and auto zoom to provide a clear picture.

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

Step 1:

Specify **Projector Position**.

For more information about projector position, see Choosing a location on page 15.



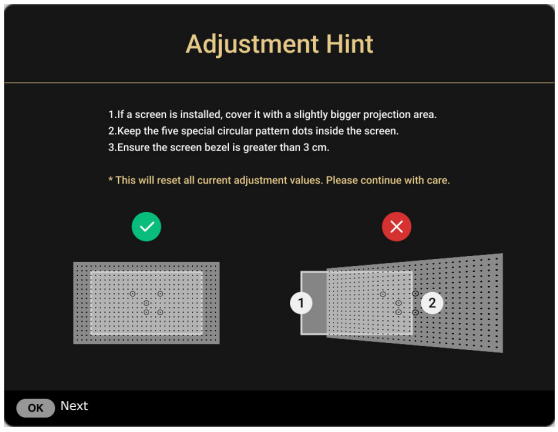
Step 2:

Specify OSD **Language**.



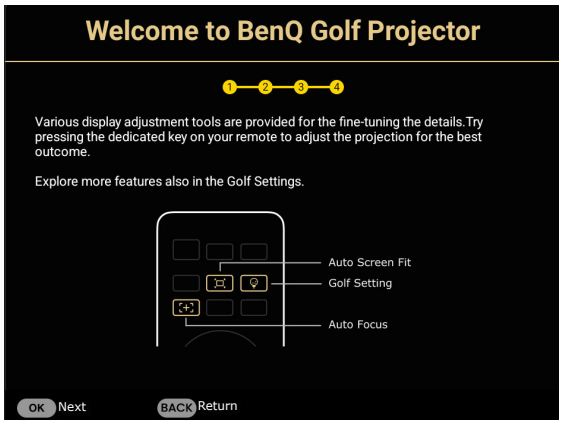
Step 3:

Select to engage **Auto Screen Fit** or setup manually by adjusting **Screen Fill** and **Corner Fit**.



Step 4:

The screen displays key buttons on the remote control for setting up BenQ golf settings.



4. Switch all of the connected equipment on.
5. 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 appear until an input signal is found.

   You can also press **SOURCE** to select your desired input signal. See Switching input signal on page 30.

- 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 light source.

- 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 63.
- If no signal is detected for 3 minutes, the projector automatically enters saving mode.

Using the menus

The projector is equipped with 2 types of On-Screen Display (OSD) menus for making various adjustments and settings. The **Basic** OSD menu provides primary menu functions while the **Advanced** OSD menu provides full menu functions.

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.

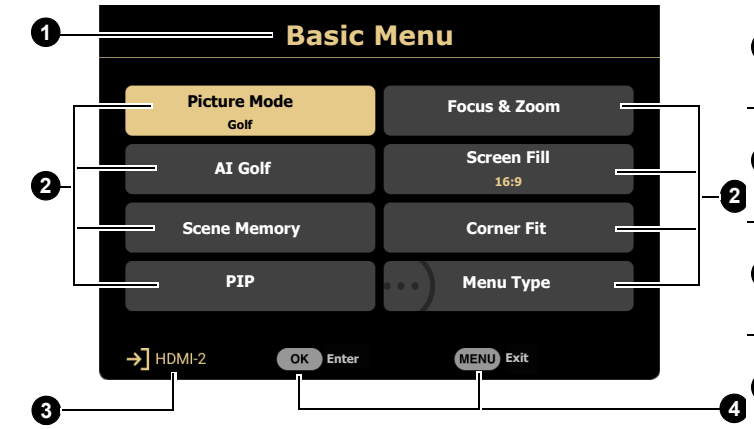
The first time you use the projector (after finishing the initial setup), press **MENU**, and the **Basic** OSD menu will be displayed.

If you intend to switch from the **Basic** OSD menu to the **Advanced** OSD menu, select **Advanced Menu** and press **OK**. Your projector will switch to the **Advanced** OSD menu.

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

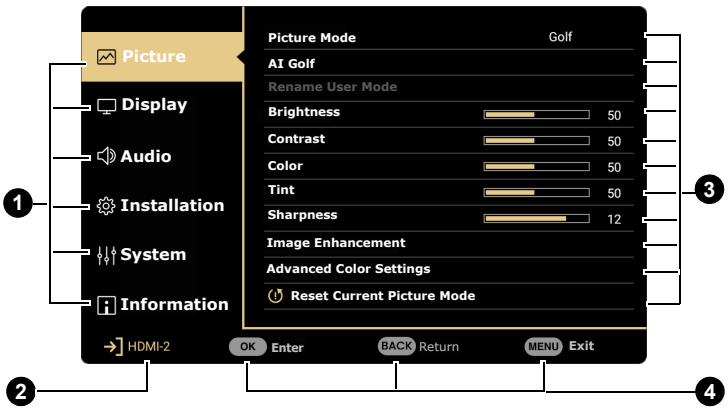
1. Go to **System** > **Menu Settings** > **Menu Type** and press **OK**.
2. Use ▲/▼ to select **Basic** and press **OK**. Your projector will switch to the **Basic** OSD menu.

Overview of the **Basic** OSD menu.



1. Menu type
2. Sub-menu and status
3. Current input signal
4. Function keys

Overview of the **Advanced** OSD menu.



1. Main menu
2. Current input signal
3. Sub-menu and status
4. Function keys

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

Securing the projector

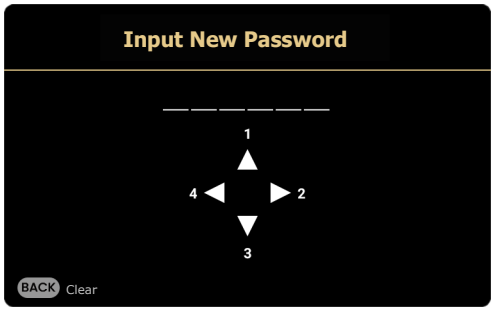
The projector has to be installed in a safe place to prevent theft. Otherwise, purchase a security cable to secure the projector. A security bar is located on the right side of the projector. See item 17 on page 10. Insert a security cable to the opening of the security bar and secure it to a nearby fixture or heavy furniture.

You can also purchase a lock, such as the Kensington lock, to secure the projector. There is a Kensington lock slot on the rear side of the projector. See item 14 on page 10. A Kensington security cable lock is usually a combination of key(s) and the lock. Refer to the lock's documentation for finding out how to use it.

Utilizing the password function

Setting a password

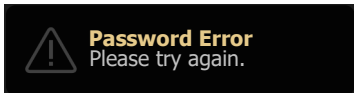
1. Go to **Advanced** menu - **System** > **Security Settings** > **Password**. Press **OK**. The **Password** page appears.
2. Highlight **Change Password** and press **OK**.
3. The four arrow keys (▲, ►, ▼, ◄) respectively represent 4 digits (1, 2, 3, 4). According to the password you desire to set, press the arrow keys to enter six digits for the password.
4. Confirm the new password by re-entering the new password.
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.

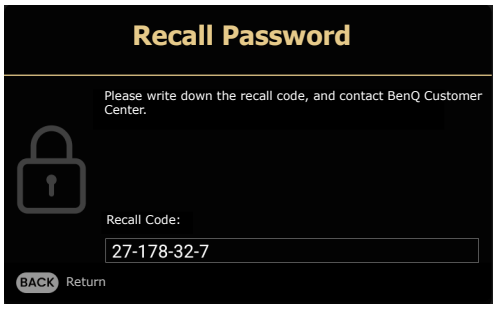
If you forget the password

If you enter the wrong password, the password error message will appear, and the **Input 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 30.



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 **OK** for 3 seconds. The projector will display a coded number on the screen.
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** > **Security Settings** > **Password**. Press **OK**. The **Password** page appears.
2. Highlight **Change Password** and press **OK**.
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 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** > **Security Settings** > **Power On Lock** and press **OK** and ◄/► to select **Off.** The message **Input Password** appears. Enter the current password.

- If the password is correct, the OSD menu will disappear. 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.

Switching input signal

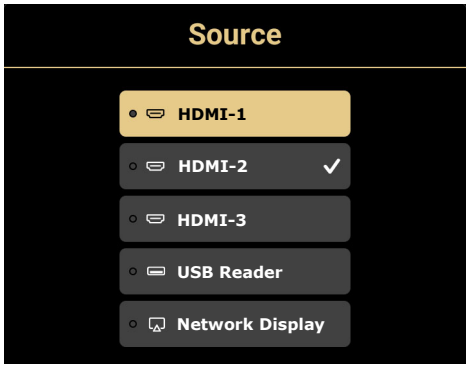
The projector can be connected to multiple devices at the same time. However, it can only display one full screen at a time. When starting up, the projector automatically searches for the available signals.

Be sure the **Advanced** menu - **Display** > **Auto Source Search** is **On** if you want the projector to automatically search for the signals.

To manually 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 picture from the selected source will appear. 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 screen fill setting, which may cause some image distortion or loss of picture clarity. See **Screen Fill on page 46**.

Controlling the projector through a Wired or Wireless LAN environment

Wired LAN allows you to manage the projector from a computer using a web browser when the computer and the projector are properly connected to the same local area network.

Configuring the Wired LAN

If you are in a DHCP environment:

1. Take a RJ45 cable and connect one end to the RJ45 LAN input jack of the projector and the other end to the RJ45 port.

   When connecting the RJ45 cable, avoid coiling and intertwining the cable as it may cause signal noise or interruption.

2. Make sure the menu type is **Advanced**. See Using the menus on page 28 for how to switch to the **Advanced** OSD menu.
3. Go to the **Advanced** menu - **System** > **Network Settings** menu.
4. Highlight **Wired LAN** and then press **OK**. The **Wired LAN** page is displayed.
5. Press ▲/▼ to highlight **DHCP** and press ◄/► to select **On**.
6. Press ▲/▼ to highlight **Apply** and press **OK**.
7. Go back to the **Network Settings** page.
8. Press ▲/▼ to highlight **AMX Device Discovery** and press ◄/► to select **On** or **Off**. When **AMX Device Discovery** is **On**, the projector can be detected by AMX controller.
9. Please wait for around 15 - 20 seconds, and then re-enter the **Wired LAN** page.
10. The **IP Address**, **Subnet Mask**, **Default Gateway**, and **DNS Server** settings will be displayed. Note down the IP address displayed in the **IP Address** row.

    If the **IP Address** still does not display, contact your ITS administrator.

If you are in a non-DHCP environment:

1. Repeat steps 1-4 above.

2. Press ▲/▼ to highlight **DHCP** and press ◄/► to select **Off**.
3. Contact your ITS administrator for information on the **IP Address**, **Subnet Mask**, **Default Gateway**, and **DNS Server** settings.
4. Press ▲/▼ to select the item you want to modify and press **OK**.
5. Press ◄/► to move the cursor and then press ▲/▼ to enter the value.
6. To save the setting, press **OK**. If you do not want to save the setting, press **BACK**.
7. Press **BACK** to return to the **Network Settings** page, press ▲/▼ to highlight **AMX Device Discovery** and press ◄/► to select **On** or **Off**.
8. Press **BACK** to exit the menu.

Configuring the Wireless LAN

If you are in a DHCP environment:

1. Go to the **Advanced** menu - **System** > **Network Settings** menu.
2. Highlight **Wireless LAN** and then press **OK**. The **Wireless LAN** page is displayed.
3. Press ▲/▼ to highlight **Wi-Fi** and press ◄/► to select **On**.
4. Press ▲/▼ to highlight **Apply** and press **OK**.
5. Press ▲/▼ to highlight **Wi-Fi Hotspot** and press ◄/► to select **On**.
6. Press ▲/▼ to highlight **Network List** > **DHCP** and press ◄/► to select **On**.
7. Press ▲/▼ to highlight **Apply** and press **OK**.
8. Go back to the **Network Settings** page.
9. Press ▲/▼ to highlight **AMX Device Discovery** and press ◄/► to select **On** or **Off**. When **AMX Device Discovery** is **On**, the projector can be detected by AMX controller.
10. Please wait for around 15 - 20 seconds, and then re-enter the **Wireless LAN** > **Network List** page.
11. The **Status**, **IP Address**, **Subnet Mask**, **Default Gateway**, and **DNS Server** settings will be displayed. Note down the IP address displayed in the **IP Address** row.

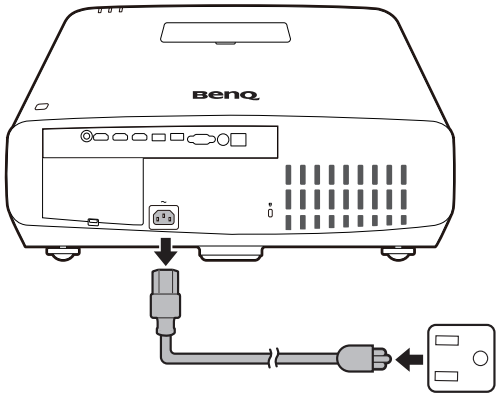
If the **IP Address** still does not display, contact your ITS administrator.

If you are in a non-DHCP environment:

1. Repeat steps 1-5 above.
2. Press ▲/▼ to highlight **DHCP** and press ◄/► to select **Off**.
3. Contact your ITS administrator for information on the **IP Address**, **Subnet Mask**, **Default Gateway**, and **DNS Server** settings.
4. Press ▲/▼ to select the item you want to modify and press **OK**.
5. Press ◄/► to move the cursor and then press ▲/▼ to enter the value.
6. To save the setting, press **OK**. If you do not want to save the setting, press **BACK**.
7. Press **BACK** to return to the **Network Settings** page, press ▲/▼ to highlight **AMX Device Discovery** and press ◄/► to select **On** or **Off**.
8. Press **BACK** to exit the menu.

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 light source shuts down, and the fans will continue to run for approximately 15 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 light source, the projector will not respond to any commands during the cooling process.

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.

Basic menu

Structure

Menu	(Ref. Page)	Options
Picture Mode	**(37)**	**Bright/Bright Presentation/Bright Golf/Golf/Cinema/Game/ Sports/HDR10/HDR Golf/HDR Game/HLG/User**
AI Presentation **AI Golf** **AI Cinema** **AI Game** **AI Sports** **AI User**	**(39)**	**AI Master Switch**
		AI PQ Enhancer
		AI Contrast Enhancer
		AI Resolution Enhancer
		AI Noise Reduction
Scene Memory	**(47)**	**Scene-1/Scene-2/Scene-3/Scene-4/Scene-5**
PIP	**(44)**	**On/Off/Position/Size**
Focus & Zoom	**(46)**	**Auto Focus/Manual Focus & Zoom/Focus Key Setting**
Screen Fill	**(46)**	**16:9/16:10/3:2/4:3/5:4/1:1**
Corner Fit	**(46)**	(Corner fit setup page)
Menu Type	**(48)**	**Basic/Advanced**

Advanced menu

1. Main menu: **Picture**

Structure

Menu	Options	
Picture Mode		**Bright/Bright Presentation/Bright Golf/Golf/Cinema/Game/Sports/ HDR10/HDR Golf/HDR Game/HLG/User**
AI Presentation **AI Golf** **AI Cinema** **AI Game** **AI Sports** **AI User**	**AI Master Switch/AI PQ Enhancer**	**Off/On**
	AI Contrast Enhancer/AI Resolution Enhancer/AI Noise Reduction	**Off/Low/Middle/High**
Rename User Mode		
Brightness		**0–100**
Contrast		**0–100**
Color		**0–100**
Tint		**0–100**
Sharpness		**0–15**
Image Enhancement	**Pixel Enhancer**	**0–20**
	Motion Enhancer/Smooth Transition/ Dynamic Color Enhancer/Global Contrast Enhancer/Local Contrast Enhancer	**Off/Low/Middle/High**
	Ambient Visual Enhancer	**Off/On**

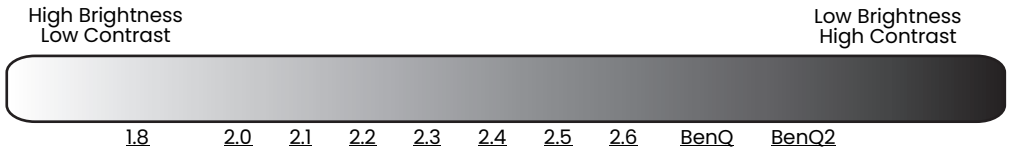
Menu	Options			
Advanced Color Settings	Gamma Selection		1.8/2.0/2.1/2.2/2.3/2.4/2.5/2.6/BenQ/BenQ2	
	Color Temperature Tuning	Color Temperature	Native/Normal/Cool/Warm	
		R Gain/ G Gain/ B Gain	0–200	
		R Offset/ G Offset/ B Offset	0–511	
		Reset	Reset/Cancel	
	Adv. Color Temperature Tuning	5%/10%/20%/ 30%/40%/50%/ 60%/70%/80%/ 90%/100%	R/G/B	0–100
		Reset		
	Color Management	R/G/B/C/M/Y/FT	Hue/Saturation/Gain	0–400
		White Balance	R Gain/G Gain/B Gain	0–400
		Reset		
	Brilliant Color		0~10	
	HDR Brightness		-2/-1/0/1/2	
	Noise Reduction		Off/Low/Middle/High	
	Light Source Mode		Normal/ECO/Dynamic/Custom	
	Custom Brightness		40%~100%	
Reset Current Picture Mode			Reset/Cancel	

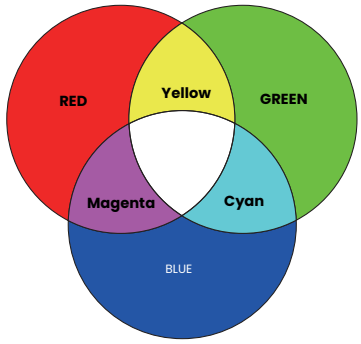
Function descriptions

Menu	Descriptions
Picture Mode	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. • **Bright** Maximizes the brightness of the projected image. This mode is suitable for environments where extra-high brightness is required, such as using the projector in well lit rooms. • **Bright Presentation** Designed for commercial settings, this mode accommodates slightly brighter ambient conditions. • **Bright Golf** Designed for indoor golf setups to deliver enhanced brightness and vivid color performance under ambient light conditions. • **Golf** Designed for golf simulators. This mode optimizes the blue sky and the green grass color. • **Cinema** Delivers more accurate cinematic color reproduction at lower brightness levels. This mode is suitable for playing movies in a totally dark environment as if in a commercial cinema. • **Game** Designed for playing games. This mode enhances the details of images and vivid color performance and details. • **Sports** With well-saturated colors and higher brightness level, this mode is best for watching sporting events in a bright room. • **HDR10/HDR Golf/HDR Game** Delivers High Dynamic Range effects with higher contrasts of brightness and colors for HDR Blu-ray movies or HDR games. After auto-detecting metadata or EOTF info from HDR contents, HDR10 and HDR Game are available for selection. HDR10 is best for displaying Blu-ray movies, while HDR Game is used to activate Game Settings menu for HDR gameplay. • **HLG** Delivers High Dynamic Range effects with higher contrasts of brightness and colors. **Picture Mode** will be switched to **HLG** automatically while detecting metadata or EOTF info from HLG streaming contents. • **User** Recalls the settings customized based on the current available picture modes. See **Rename User Mode on page 38**.

Menu	Descriptions
AI Presentation **AI Golf** **AI Cinema** **AI Game** **AI Sports** **AI User**	• **AI Master Switch** Use the AI Master Switch to enable or disable the following four AI functions: AI PQ, AI Contrast, AI Resolution, and AI Noise. When disabled, these functions are grayed out, while retaining their previous settings. • **AI PQ Enhancer** Analyzes the input signal to automatically enhance skin tones, as well as images of food, architecture, and other scenes. • **AI Contrast Enhancer** Precisely adjusts contrast in targeted areas, delivering vivid, layered visuals with striking extreme contrast effects. • **AI Resolution Enhancer** When using non-4K resolution signals, this function enhances the image to 4K resolution to provide more detailed and refined picture quality. • **AI Noise Reduction** Comprehensively analyzes the current, previous, and subsequent frames to reduce image noise while mitigating motion blur, optimizing overall picture performance.
Rename User Mode	There is one user-definable mode if the current available picture modes are not suitable for your need. You can use one of the picture modes (except **User** mode) as a starting point and customize the settings. Select to rename the customized picture mode (**User).** The new name can be up to 9 characters including English letters (A-Z, a-z), digits (0-9), and space (_). 1. Go to **Picture** > **Picture Mode**. 2. Press ◄/► to select **User**. 3. Press ▼ to highlight **Rename User Mode** and press **OK**. The **Rename User Mode** page is displayed. 4. Use ▲/►/▼/◄, and **OK** to set desired characters. 5. Press ▼, highlight **Confirm**, and press **OK**.
Brightness	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.
Contrast	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.
Color	Adjusts the color saturation level - the amount of each color in a video picture. Lower settings produce less saturated colors; setting to the minimum value makes the image black and white. If the setting is too high, colors on the image will be overpowering, which makes the image unrealistic.
Tint	Adjusts the red and green color tones of the picture. The higher the value, the more greenish the picture becomes. The lower the value, the more reddish the picture becomes.
Sharpness	Adjust the picture to look sharper or softer. The higher the value, the sharper the picture becomes.

Menu	Descriptions
Image Enhancement	• **Pixel Enhancer** It is a super-resolution technology which radically enhances Full HD content in terms of colors, contrast, and textures. It's also a Detail Enhancement Technology refining surface details for true-to-life images that pop off the screen. Users can adjust levels of sharpness and detail enhancement for optimal viewing. • **Motion Enhancer** Enhances picture smoothness by motion estimation/motion compensation. • **Smooth Transition** Optimizes gradient transitions for specific scenes, eliminate transition banding, and achieve smoother, more natural visual effects. • **Dynamic Color Enhancer** Optimizes specific color rendition to boost local color intensity in the frame. • **Global Contrast Enhancer** Analyzes the entire frame of video content and enhances its contrast. • **Local Contrast Enhancer** Divides video content into different "zones" and dims the dark parts of the screen without affecting the bright areas. This makes the contrast look great for watching movies, especially in a dark environment. • **Ambient Visual Enhancer** Dynamically adjust the projector's picture quality based on the amount of light in the room (ambient light).

Menu	Descriptions
Advanced Color Settings	• **Gamma Selection** Gamma refers to the relationship between input source and picture brightness. • **1.8/2.0/2.1/BenQ/BenQ2**: 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. • **2.4/2.5**: Best for viewing movies in a dark environment. • **2.6**: Best for viewing movies which are mostly composed of dark scenes.  • **Color Temperature Tuning** There are several preset color temperature settings available. The available settings may vary according to the signal type selected. • **Native**: With the light source'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. • **Normal**: Maintains normal colorings for white. • **Cool**: Makes images appear bluish white. • **Warm**: Makes images appear reddish white. You can also set a preferred color temperature by adjusting the following options. • **R Gain**/**G Gain**/**B Gain**: Adjusts the contrast levels of Red, Green, and Blue. • **R Offset**/**G Offset**/**B Offset**: Adjusts the brightness levels of Red, Green, and Blue. To return all the settings to the factory default values, highlight **Reset Color Temperature Tuning**, and press **Reset**. • **Adv. Color Temperature Tuning** Used for fine-tuning **White Balance** from the bright part to the dark part of the video by different brightness levels. These levels are divided into 11 points according to each signal level (%). You can adjust the intensity of Red/Green/Blue in the range of 0~100 for the color temperature of selected point at different brightness level. Selecting **Reset** returns all settings in this menu to the factory preset values.

Menu	Descriptions
Advanced Color Settings (Continued)	• **Color Management** The **Color Management** provides 8 sets (RGBCMYFW) of colors to be adjusted. When you select each color, you can independently adjust its range and saturation according to your preference. To make adjustments, press the ▲/▼ arrows to highlight an independent color from among Red (R), Green (G), Blue (B), Cyan (C), Magenta (M), Yellow (Y), or Flesh Tone (FT), and press **OK**. The following menu items are displayed for your choice. • **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. • **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. If you selected **White Balance** (W), you can adjust the contrast levels of Red, Green, and Blue by selecting **R Gain**, **G Gain**, and **B Gain**. To return all the settings to the factory default values, highlight **Reset**, and press **OK**. **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. • **Brilliant Color** This feature utilizes a new color-processing algorithm and system level enhancements to enable higher brightness while providing truer, more vibrant colors in picture. It enables a greater than 50% brightness increase in mid-tone images, which are common in video and natural scenes, so the projector reproduces images in realistic and true colors. If you prefer images with that quality, select a desired level. • **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. • **Noise Reduction** Reduces electrical image noise caused by different media players.

Menu	Descriptions
Advanced Color Settings (Continued)	• **Light Source Mode** Selects a suitable light source power from among the provided modes. See Extending light source life on page 57. • **Custom Brightness** Adjusts the light power manually. This mode is only available when the **Light Source Mode** is set at **Custom**.
Reset Current Picture Mode	Returns all of the adjustments you've made for the selected **Picture Mode** (including the preset and **User** modes) to the factory preset values. 1. Press **OK**. The confirmation message is displayed. 2. Use ◄/► to select **Reset** and press **OK**. The current picture mode returns to the factory preset settings.  The following settings will still remain: **Picture Mode**.

2. Main menu: **Display**

Structure

Menu			Options
Fast Mode			**Off/On**
24P True Cinema			**Off/On**
Auto Source Search			**Off/On**
PIP	**On/Off**		
	Position		**Upper Right/Middle Right/ Lower Right/Upper Left/ Middle Left/Lower Left**
	Size		**Small/Medium/Large**
Sync Out	**Sync Out Mode**		**Off/Camera Trigger**
	Frequency		**120Hz/240Hz**
	Delay		**0~120/0~60**
HDMI Settings	**HDMI Format**		**Auto/Limited/Full**
	HDMI EDID	**HDMI-1**	**Standard/Enhanced**
		HDMI-2	**Standard/Enhanced**
		HDMI-3	**Standard/Enhanced**
	Source Rename	**HDMI-1**	
		HDMI-2	
		HDMI-3	
Reset Display			**Reset/Cancel**

Function descriptions

Menu	Descriptions
Fast Mode	The following projector settings can minimize the response time between the input source and the displayed image. Please set your projector OSD and input timing at these conditions to enjoy low latency gaming experience. • 0 for **3D Keystone**, **Corner Fit**, **Geometry**, and **Mask**. • **16:9** for **Screen Fill** • 4K 60Hz, or 1080p 60Hz/120Hz/240Hz for the input timing • **Fast Mode** Minimizes the response time between the input source and the displayed image. **ALLM** denotes Auto Low-latency Mode. **Fast Mode** can only be enabled for below input timing adopted by most of popular games: • 1080p 60Hz/120Hz/240Hz • 4K 60Hz
24P True Cinema	Most movies are shot at 24 frames per second (fps). In order to display movies exactly as the director intended, this function accepts high definition sources at 24 fps without judder in Cinema and HDR modes to preserve the purity of the original image.

Menu	Descriptions
Auto Source Search	Allows the projector to automatically search for a signal.
PIP	Under **HDMI1**, **HDMI2**, and **HDMI3** sources, you can activate **Network Display** for PIP (Picture-in-Picture) display.
Sync Out	High-speed Camera external trigger signal output.
HDMI Settings	• **HDMI Format** Selects a suitable RGB color range to correct the color accuracy. • **Auto**: Automatically selects a suitable color range for the incoming HDMI signal. • **Limited**: Utilizes the Limited range RGB 16-235. • **Full**: Utilizes the Full range RGB 0-255. • **HDMI EDID** Switches between **Enhanced** for HDMI 2.0 EDID and **Standard** for HDMI 1.4 EDID. Selecting **Standard** which supports up to 1080p 60Hz may solve abnormal display issues with some old players. • **Source Rename** Renames the current input source to your desired name. On the **Source Rename** page: 1. Press **OK** to display the on-screen keyboard. 2. Press ▲/▼/◄/► to select each desired digit/letter, and press **OK** to confirm each input. 3. Repeat the step above and when done, highlight **Commit**. Press **OK** and the source name changes.
Reset Display	Returns all the settings in the **Display** main menu to the factory default values.

3. Main menu: **Audio**

Structure

Menu	Options
Audio Output	**Internal Speaker/3.5mm Jack/HDMI eARC**
Audio Output Format	**Auto/LPCM/RAW**
Mute	**Off/On**
Volume	**0 – 20**
Reset Audio	**Reset/Cancel**

Function descriptions

Menu	Descriptions
Audio Output	Selects an audio output source from built-in speakers (**Internal Speaker**), the audio output jack (**3.5mm Jack**), or the **HDMI eARC**.
Audio Output Format	The following audio formats are provided to achieve the audio performance you desire. • **Auto** selects a suitable output format for the audio system. • **LPCM** supports 2-channel audio output. • **RAW** supports 5.1/7.1-channel audio output.
Mute	Select **On** to temporarily turn off the projector's internal speaker, the volume being output from the audio output jack, or the volume being output from **HDMI eARC**. To restore the audio, select **Off**.
Volume	Adjusts the volume level of the projector's internal speaker, the volume being output from the audio output jack. If the **Mute** function is activated, adjusting **Volume** will turn off the **Mute** function.
Reset Audio	Returns all of the adjustments you've done under the **Audio** menu to the factory preset values.

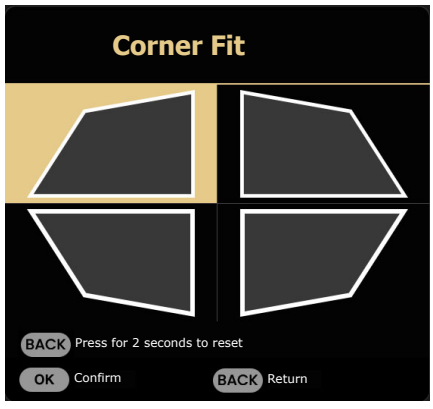
4. Main menu: **Installation**

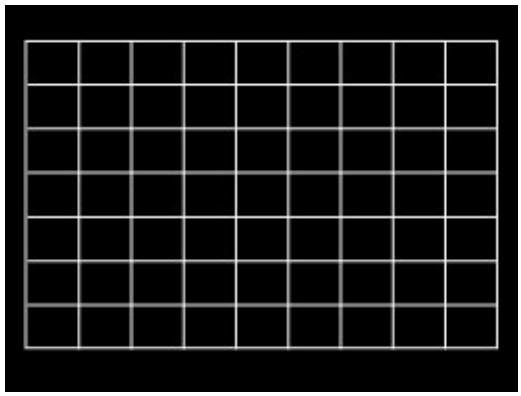
Structure

Menu	Options	
Projector Position	**Front/Front Ceiling/Rear/Rear Ceiling**	
Auto Screen Fit		
Focus & Zoom	**Auto Focus**	
	Manual Focus & Zoom	
	Focus Key Setting	**Auto/Manual**
Screen Fill	**Screen Fill**	**16:9/16:10/3:2/4:3/5:4/1:1**
	EDID Auto Change	**On/Off**
Corner Fit		
Geometry		
3D Keystone		

Menu	Options
Test Pattern	
Mask	**Modes of adjustment/Top/Bottom/Left/Right/Reset**
Scene Memory	**Save Scene Memory/Apply Scene Memory/Rename**

Function descriptions

Menu	Descriptions
Projector Position	The projector can be installed on a ceiling or behind a screen, or with one or more mirrors. See Choosing a location on page 15 for details.
Auto Screen Fit	Automatically captures and calculates the screen size, and then switches the projection image into the correct aspect ratio. It then continues with optical correction using motor zoom and digital correction (corner fit) functions to fill the full image to the screen. Lastly, it proceeds with quick focus to clarify the image.
Focus & Zoom	• **Auto Focus/Manual Focus & Zoom** When **Auto Focus** is off, the **Manual Focus & Zoom** page is displayed to allow user to manually fine-tune the projected image. • **Focus Key Setting** Select **Auto** to use the **FOCUS** button on the remote control to perform **Auto Focus**. Select **Manual** to use the **FOCUS** button on the remote control to perform **Manual Focus & Zoom**.
Screen Fill	• **Screen Fill** Select the screen aspect ratio. The native resolution changes in accordance with user's selection. • **EDID Auto Change** Changes the EDID based on the select aspect ratio. When this option is turned off, EDID is switched to 16:9.
Corner Fit	You can manually adjust the four corners of the image by setting the horizontal and vertical values. To adjust the corners of the image: 1. Display the correction page. 2. Press ▲/▼/◄/► to select one corner and press **OK**. 3. Press ▲/▼ to adjust vertical values. 4. Press ◄/► to adjust horizontal values. 
Geometry	5. You can manually adjust image distortion to adapt to curved screens. Control points can be added gradually as needed, with a maximum support of 8×16. The curve depth of the screen must be less than 30% of the screen width, and must not exceed the maximum supported depth of 1.5 meters.
3D Keystone	See Adjusting Corner Fit on page 23 for details. This image adjustment might impact latency. We suggest setting the **3D Keystone** values to 0 to enjoy low latency gaming.

Menu	Descriptions
Test Pattern	Adjusts the image size and focus and check that the projected image is free from distortion. 
Mask	Masks certain parts of the projected image. 1. Select the **Modes of Adjustment** first by pressing ◄/►. 2. Press ▲/▼ to highlight the area you want to adjust and press ◄/► to adjust its range. Enacting the **Reset** function will return all items in the **Mask** menu to the factory preset values. Pressing **OK** clears the values of selected item.
Scene Memory	This projector offers 5 selectable scene memories, each storing settings such as picture mode, screen fill, position, focus, zoom, geometry, input source and 5V USB trigger, etc. Users can effortlessly switch between golf and entertainment scenes without complex setup.

5. Main menu: **System**

Structure

Menu			Options
Language			English/Français/Deutsch/Italiano/Español/ Русский/繁體中文/简体中文/日本語/한국어/ Svenska/Nederlands/Türkçe/Čeština/ Português/ไทย/Polski/Magyar/Hrvatski/ Română/Norsk/Dansk/Български/ Suomi/Indonesian/Ελληνικά/العربية/हिंदी
Splash Screen			BenQ/Black/Custom
			Select image/Cancel
Menu Settings	Menu Type		Basic/Advanced
	Menu Display Time		5 sec/10 sec/20 sec/30 sec/Always
	Menu Position		Center/Top-Left/Top-Right/ Bottom-Right/Bottom-Left
Power Management	ECO Mode		On/Off
	Quick Wake Up		Off/On
	Network Standby		Off/On
	Auto Disable Network Standby Mode		Never/20 min/1 hr/3 hr/6 hr
Operation Settings	Power On/Off Settings	Direct Power On	Off/On
		Signal Power On	HDMI1/HDMI2/HDMI3
		Auto Power Off	1 min/3 min/10 min/15 min/ 20 min/25 min/30 min/Disable
	HDMI-CEC	HDMI Device Control	Off/On
		HDMI Power On/Off Link	Off/On
	Baud Rate		9600/19200/38400/57600/115200
	Projector ID Setting		Off/01/02/.../99
	High Altitude Mode		Off/On
	USB 5V Trigger		Off/On
	LED Indicator		Off/On
	Panel Key Lock		Off/On

Menu	Options		
Network Settings	**Wired LAN**	**Status**	**Connect/Disconnect**
		DHCP	**Off/On**
		IP Address	
		Subnet Mask	
		Default Gateway	
		DNS Server	
		Apply	
	Wireless LAN	**Wi-Fi**	**Off/On**
		Wi-Fi Hotspot	**Wi-Fi Hotspot/Wi-Fi Band/Hotspot Name/Password**
		Network List	Selecting connected networks: **Forget the network/DHCP/ IP Address/Subnet Mask/Default Gateway/DNS Server/Apply**
			Selecting other networks: **Password**
		Others	**SSID/Encryption/Password/Apply**
	AMX Device Discovery		**On/Off**
	MAC Address (Wired)		
	MAC Address (Wireless)		
Security Settings	**Password**		
	Power On Lock		**Off/On**
	(OK)		**Yes/No**
Light Source Information	**Light Source Usage Time**		
	Normal Mode		
	ECO Mode		
	Dynamic		
	Custom Mode		
Firmware Upgrade			
Factory Default			**Reset/Cancel**
Reset System			**Reset/Cancel**

Function descriptions

Menu	Descriptions
Language	Sets the language for the On-Screen Display (OSD) menus.
Splash Screen	Allows you to select which logo screen will be displayed during projector start-up.
Menu Settings	• **Menu Type** Sets the OSD menu type according to your needs. • **Menu Display Time** Sets the length of time the OSD will remain active after your last key press. • **Menu Position** Sets the On-Screen Display (OSD) menu position.
Power Management	• **ECO Mode** When turned on, the projector maintains at normal standby mode with less than 0.5 W power consumption. • **Quick Wake Up** When activated, the projector enters sleep mode after power off and can wake up quickly next startup. Standby power consumption is less than 2W. • **Network Standby** When activated, the projector maintains at network standby mode with less than 2W power consumption. It can be woken up via WOL in this state. • **Auto Disable Network Standby Mode** Allows the projector to disable the network function after a set period of time after it enters standby mode. For instance, if 20 min is selected, the projector is able to provide the network function for 20 minutes after it enters standby mode.

Menu	Descriptions
Operation Settings	• **Power On/Off Settings** • **Direct Power On**: Allows the projector to turn on automatically once the power is fed through the power cord. • **Signal Power On**: Sets whether to turn the projector directly on without pressing the power button when the projector is in standby mode and detects a HDMI signal with 5V power. • **Auto Power Off**: Allows the projector to turn off automatically if no input signal is detected after a set period of time to prevent unnecessary waste of light source life.  Changing this setting will make power consumption higher. • **HDMI-CEC** Enables user to control the CEC device with the projector's remote control. • **Projector ID Setting** Sets the projector ID for this projector (between 01~99). When multiple adjacent projectors are in operation at the same time, switching the projector ID codes can prevent interference from other remote controls. After the Projector ID is set, switch to the same ID for the remote control to control this projector. See Projector & Remote control on page 12. **Set the ID** 1. Press and hold **ID SET** until the ID setting indicator lights up. 2. Enter the ID for the remote control (between 01~99). The remote control ID should be the same as the corresponding projector ID. 3. The ID is saved successfully when you see the ID setting indicator starts flickering and then blackout. **Clear the ID** 1. Press and hold **ID SET** until the ID setting indicator lights up. 2. Press **ALL** to clear current ID setting of the remote control. The ID is cleared successfully when you see the ID setting indicator starts flickering and then blackout. • **Baud Rate** Selects a baud rate that is identical with your computer's so that you can connect the projector using a suitable RS-232 cable. This function is intended for qualified service personnel.

Menu	Descriptions
Operation Settings (Cont.)	• **High Altitude Mode** We recommend you use the **High Altitude Mode** when your environment is between 1501 m–3000 m above sea level, and ambient temperature is between 0°C–30°C. Operation under **"High Altitude Mode"** may cause a higher decibel operating noise level because of increased fan speed necessary to improve overall system cooling and performance. If you use this projector under other extreme conditions excluding the above, it may display auto shut-down symptoms, which is designed to protect your projector from over-heating. In cases like this, you should switch to High Altitude mode to solve these symptoms. However, this is not to state that this projector can operate under any and all harsh or extreme conditions.  Do not use the **High Altitude Mode** 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. • **USB 5V Trigger** Enables or disables the USB 5V trigger function. When USB 5V trigger is off, it will not send the signal out when projector is on. • **LED Indicator** You can turn off the LED warning lights. This is to avoid any light disturbance when viewing images in a dark room. • **Panel Key Lock** With the control keys on the projector locked, you can prevent your projector settings from being changed accidentally (by children, for example). When the **Panel Key Lock** is on, no control keys on the projector will operate except ⏻ **POWER**. To release panel key lock, press and hold ► (the right key) on the projector or remote control for 3 seconds.  If you turn off the projector without disabling panel key lock, the projector will still be in locked status the next time it is turned on.

Menu	Descriptions
Network Settings	• **Wired LAN** See Configuring the Wired LAN on page 31. • **Wireless LAN** See Configuring the Wireless LAN on page 32. • **AMX Device Discovery** When this function is **On**, the projector can be detected by AMX controller. • **MAC Address (Wired)** Displays the mac address for this projector. • **MAC Address (Wireless)** Displays the mac address for this projector. This is available only after a Wi-Fi dongle is connected to the projector.
Security Settings	**Password/Power On Lock** See Utilizing the password function on page 29.
Light Source Information	This menu page displays the following information: • **Light Source Usage Time** • Light hours used under **Normal Mode**, **ECO Mode**, **Dynamic** and **Custom Mode**.
Firmware Upgrade	To enable this function, select **On**. When you turn on the projector, the system will check the QOTA server for a newer version of the firmware. If an update is available, a notice will be displayed when you turn off the projector. If you choose to allow the update, the projector will install the firmware and then turn off once the process is complete. The next time you turn on the projector, it will show the update status.
Factory Default	Returns all settings to the factory preset values.  The following settings will still remain: **Projector Position**, **Screen Fill**, **Corner Fit**, **Geometry**, **3D Keystone**, **Light Source Information**, **Firmware Upgrade**.
Reset System	Returns all the settings in the **System** main menu to the factory default values.  The following settings will still remain: **Light Source Information**, **Firmware Upgrade**.

6. Main menu: **Information**

Structure

Menu	Options
Detected Resolution	
Source	
Picture Mode	
Light Source Mode	
Color System	
Dynamic Range	
Light Source Usage Time	
Projector ID	
Firmware Version	
Service Code	

Function descriptions

Menu	Descriptions
Detected Resolution	Shows the timing of the input signal.
Source	Shows the current signal source.
Picture Mode	Shows the selected mode in the **Picture** menu.
Light Source Mode	Shows the used light source mode.
Color System	Shows the input system format.
Dynamic Range	Shows the picture dynamic range, e.g. HDR10, HLG, etc.
Light Source Usage Time	Shows the number of hours the light has been used.
Projector ID	Shows projector ID of the projector.
Firmware Version	Shows the firmware version of your projector.
Service Code	Shows the projector’s serial number.

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.

Please note that it is normal to have some dust on the lens surface. If it needs lens clean, please never remove any parts of the projector.

Contact your dealer or local customer service center if the projector fails to operate as expected.

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 33 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 61 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.

Light source information

Getting to know the light hour

When the projector is in operation, the duration (in hours) of light source usage is automatically calculated by the built-in timer:

- Time used in **Normal Mode** = x hours
- Time used in **ECO Mode** = y hours
- Time used in **Dynamic** mode = z hours
- Time used in **Custom Mode** = a hours

For time used in each light source 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 light source information:

Go to the **Advanced** menu **- System** > **Light Source Information** and press **OK**. The **Light Source Information** page appears.

You can also get the light hour information on the **Information** menu.

Extending light source life

Setting the **Light Source Mode**

Go to the **Advanced Menu - Picture** > **Advanced Color Settings** > **Light Source Mode** and press ◄/► to select a suitable light source power from among the provided modes.

Setting the projector in **ECO**, **Dynamic**, or **Custom** mode extends light life.

Light Source Mode	Descriptions
Normal	Provides full light brightness.
ECO	Lowers brightness to extend the light life and decreases the fan noise.
Dynamic	Lowers brightness to offer a longer light source life.
Custom	Enables the light source brightness adjustment bar so that you can adjust the setting to your liking.

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 light source life.

To set **Auto Power Off**, go to the **Advanced** menu **- System** > **Operation Settings** > **Power On/Off Settings** > **Auto Power Off**, and press **OK**, ◄/► to set a period of time.

Changing this setting will make power consumption higher.

Indicators

Indicator			Status & Description
○ POWER	○ TEMP	○ LIGHT	
Power events			
	○	○	Stand-by mode
	○	○	Powering up
	○	○	Normal operation
	○	○	Normal power-down cooling
			Download
	○		CW start fail
	○		Phosphor wheel start fail
	○		Light source life exhausted
	○	○	Burn-in ON
			Burn-in OFF
Light source events			
○	○		Light source error in normal operation
○	○		Light is not lit up
Thermal events			
		○	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)
		○	Fan 4 error (the actual fan speed is outside the desired speed)
		○	Fan 5 error (the actual fan speed is outside the desired speed)
		○	Fan 6 error (the actual fan speed is outside the desired speed)
		○	Temperature 1 error (over limited temperature)



○: **Off**

: Orange On

: Green On

: Red On

: Orange Flashing

: Green Flashing

: 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 **SOURCE** key.

Blurred image

Cause	Remedy
The projection lens is not correctly focused.	Adjust the focus.
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.

Abnormal image

Cause	Remedy
The image is abnormal.	• Ensure the video source cable is connected properly, and that the video source is turned on. • Ensure that the air intake or exhaust is not blocked.

Auto Screen Fit does not function properly

Cause	Remedy
The adjustment markers are outside of or on the border of the screen.	Adjust the distance between the projector and the screen.
Screen ratio is incorrect.	• Adjust the projection angle, ensure that the projector aims directly at the screen. • Use the **Corner Fit** function to fill the corners.
The adjustment markers are within the screen, but the screen ratio is incorrect.	Adjust the projection angle, ensure that the projector aims directly at the screen.

Cause	Remedy
The projector cannot detect a screen.	• Dim the ambient light to ensure screen detection. • Clean the focus lens, ensure that it is clean and not obstructed. • Ensure that the screen shape is a right rectangle. • Ensure that the screen border is 6 cm in width. • Ensure that the color of the screen border is matted black or matted dark gray to provide a sharp contrast against the light color of the screen.

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 Entering the password recall procedure on page 30.

Specifications

Projector specifications

All specifications are subject to change without notice.

Optical

Resolution
3840 x 2160 4K

Display system
1-CHIP DMD

Lens
F = 1.83 to 1.86, f = 8.6 to 9.4 mm

Light source
Laser

Electrical

Power supply
AC100–240V, 4.2 A, 50–60 Hz (Automatic)

Power consumption
Max.: 370.9 W@100VAC
< 2 W (LAN Standby)
< 0.5 W (Standby)

Mechanical

Weight
10.2 Kg ± 300 g (22.49 ± 0.66 lbs)

Output terminals

Speaker
10 watt x 1

Audio signal output
3.5 mm audio jack x 1
HDMI-2 eARC

Input terminals

Digital
(External)
- HDMI-1 (2.1, HDCP 2.3)
- HDMI-2 (2.1, HDCP 2.3, CEC/ARC/eARC)
- HDMI-3 (2.1, HDCP 2.3)

3D VESA
Sync out x 1

USB
(External)
- USB 3.0 (5V 3A max.): Media Reader
- USB 2.0 (5V 1.5A): USB 5V Trigger and service

Control

IR receiver x 2

RS-232 serial control
9 pin x 1

LAN control
RJ45 x 1

Environmental Requirements

Operating temperature
0°C–40°C at sea level (Normal mode > 35°C @ Eco light source power)

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

Operating/Storage relative humidity
10%–90% (without condensation)

Operating altitude
0–1499 m at 0°C–35°C (Normal mode > 35°C @ Eco light source power)
1500–3000 m at 0°C–30°C (Normal mode > 35°C @ Eco light source power)(with High Altitude Mode on)

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

Repairing

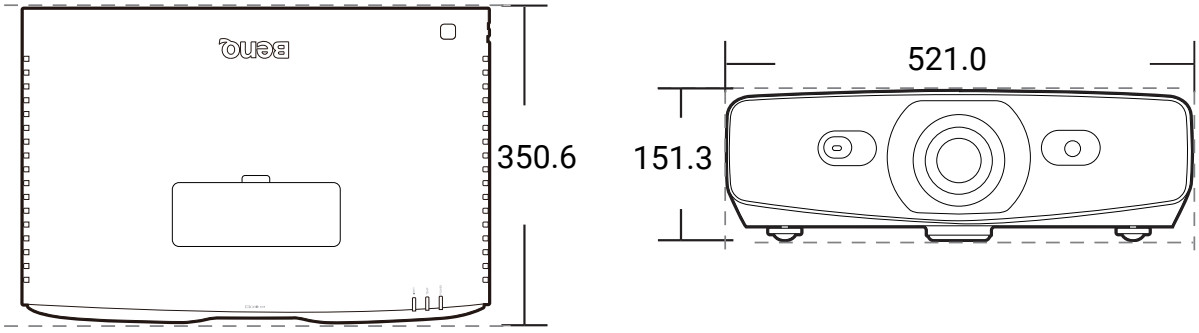
Please visit below website and choose your country to find your service contact window.
http://www.benq.com/welcome

Transporting

Original packing or equivalent is recommended.

Dimensions

521.0 mm (W) x 350.6 mm (D) x 151.3 mm (H)



Unit: mm

Timing chart

Supported timing for HDMI (HDCP) input

• PC timings

Resolution	Mode	Refresh rate (Hz)	H-frequency (kHz)	Clock (MHz)	Supported 3D format		
					Frame Sequential	Top Bottom	Side by Side
640 x 480	VGA_60	59.940	31.469	25.175			
	VGA_72	72.809	37.861	31.500			
	VGA_75	75.000	37.500	31.500			
	VGA_85	85.008	43.269	36.000			
720 x 400	720 x 400_70	70.087	31.469	28.3221			
800 x 600	SVGA_60	60.317	37.879	40.000			
	SVGA_72	72.188	48.077	50.000			
	SVGA_75	75.000	46.875	49.500			
	SVGA_85	85.061	53.674	56.250			
	SVGA_120 (Reduce Blanking)	119.854	77.425	83.000			
1024 x 768	XGA_60	60.004	48.363	65.000			
	XGA_70	70.069	56.476	75.000			
	XGA_75	75.029	60.023	78.750			
	XGA_85	84.997	68.667	94.500			
	XGA_120 (Reduce Blanking)	119.989	97.551	115.500			
1152 x 864	1152 x 864_75	75.00	67.500	108.000			
1024 x 576	BenQ Notebook Timing	60.00	35.820	46.996			
1024 x 600	BenQ Notebook Timing	64.995	41.467	51.419			
1280 x 720	1280 x 720_60	60	45.000	74.250			
1280 x 768	1280 x 768_60	59.870	47.776	79.5			
1280 x 800	WXGA_60	59.810	49.702	83.500			
	WXGA_75	74.934	62.795	106.500			
	WXGA_85	84.880	71.554	122.500			
	WXGA_120 (Reduce Blanking)	119.909	101.563	146.25			
1280 x 1024	SXGA_60	60.020	63.981	108.000			
	SXGA_75	75.025	79.976	135.000			
	SXGA_85	85.024	91.146	157.500			
1280 x 960	1280 x 960_60	60.000	60.000	108			
	1280 x 960_85	85.002	85.938	148.500			
1360 x 768	1360 x 768_60	60.015	47.712	85.500			
1440 x 900	WXGA+_60	59.887	55.935	106.500			
1400 x 1050	SXGA+_60	59.978	65.317	121.750			
1600 x 1200	UXGA	60.000	75.000	162.000			
1680 x 1050	1680 x 1050_60	59.954	65.290	146.250			
640 x 480@67Hz	MAC13	66.667	35.000	30.240			
832 x 624@75Hz	MAC16	74.546	49.722	57.280			
1024 x 768@75Hz	MAC19	75.020	60.241	80.000			
1152 x 870@75Hz	MAC21	75.06	68.68	100.00			

Resolution	Mode	Refresh rate (Hz)	H-frequency (kHz)	Clock (MHz)	Supported 3D format		
					Frame Sequential	Top Bottom	Side by Side
1920 x 1080@60Hz	1920 x 1080_60 (CEA-861)	60	67.5	148.5			
1920 x 1200@60Hz	1920 x 1200_60 (Reduce Blanking)	59.95	74.038	154			
1920 x 1080@120Hz	1920 x 1080_120	120.000	135.000	297			
1920 x 1200@120Hz	1920 x 1200_120 (Reduce Blanking)	119.909	152.404	317.00			
1920 x 1080@240Hz	1920 x 1080_240	240.000	270.000	594			
3840 x 2160	3840 x 2160_30 For 4K2K model	30	67.5	297			
3840 x 2160	3840 x 2160_60 For 4K2K model	60	135	594			

- ▲: Supports auto-detecting and manually setting 3D format.
- V: Supports manually setting 3D format.
- The timings showing above may not be supported due to EDID file and VGA graphics card limitations. It is possible that some timings cannot be chosen.

• Video timings

Timing	Resolution	Horizontal frequency (KHz)	Vertical frequency (Hz)	Dot Clock Frequency (MHz)	Supported 3D format			
					Frame Sequential	Frame Packing	Top Bottom	Side by Side
480i	720 (1440) x 480	15.73	59.94	27				
480p	720 x 480	31.47	59.94	27				
576i	720 (1440) x 576	15.63	50	27				
576p	720 x 576	31.25	50	27				
720/50p	1280 x 720	37.5	50	74.25				
720/60p	1280 x 720	45.00	60	74.25				
1080/24P	1920 x 1080	27	24	74.25				
1080/25P	1920 x 1080	28.13	25	74.25				
1080/30P	1920 x 1080	33.75	30	74.25				
1080/50i	1920 x 1080	28.13	50	74.25				
1080/60i	1920 x 1080	33.75	60	74.25				
1080/50P	1920 x 1080	56.25	50	148.5				
1080/60P	1920 x 1080	67.5	60	148.5				
1080/120p	1920 x 1080	135	120	297				
1080/240P	1920 x 1080	270	240	594				
2160/24P	3840 x 2160	54	24	297				
2160/25P	3840 x 2160	56.25	25	297				
2160/30P	3840 x 2160	67.5	30	297				
2160/50P	3840 x 2160	112.5	50	594				
2160/60P	3840 x 2160	135	60	594				

- ▲: Supports auto-detecting and manually setting 3D format.
- V: Supports manually setting 3D format.
- The timings showing above may not be supported due to EDID file and VGA graphics card limitations. It is possible that some timings cannot be chosen.

• Supported detail timings for sampling and color depth

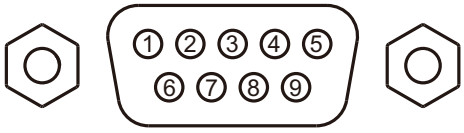
Display format (refresh rate)	Chroma subsampling	8 Bit	10 Bit	12 Bit
4K/60p (60 Hz)	4:4:4	v	v	v
	4:2:2	v	v	v
	4:2:0	v	v	v
4K/60p (50 Hz)	4:4:4	v	v	v
	4:2:2	v	v	v
	4:2:0	v	v	v
4K/30p (30 Hz)	4:4:4	v	v	v
	4:2:2	v	v	v
	4:2:0			
4K/24p (24 Hz)	4:4:4	v	v	v
	4:2:2	v	v	v
	4:2:0			
1080P/60P (60 Hz)	4:4:4	v	v	v
	4:2:2	v	v	v
	4:2:0			
1080P/50P (50 Hz)	4:4:4	v	v	v
	4:2:2	v	v	v
	4:2:0			
1080P/30P (30 Hz)	4:4:4	v	v	v
	4:2:2	v	v	v
	4:2:0			
1080P/24P (24 Hz)	4:4:4	v	v	v
	4:2:2	v	v	v
	4:2:0			

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>
	Write	HDMI1	<CR>*sour=hdmi#<CR>
	Write	HDMI2	<CR>*sour=hdmi2#<CR>
	Write	HDMI3	<CR>*sour=hdmi3#<CR>
	Write	USB Reader	<CR>*sour=usbreader#<CR>
	Write	Network Display	<CR>*sour=network#<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>
	Write	Audio Output Setting	<CR>*audiooutput=value#<CR>
	Read	Audio Output Status	<CR>*audiooutput=?#<CR>
	Write	Audio-HDMI	<CR>*audiosour=hdmi#<CR>
	Write	Audio-HDMI2	<CR>*audiosour=hdmi2#<CR>
	Write	Audio-HDMI3	<CR>*audiosour=hdmi3#<CR>
	Read	Audio pass Status	<CR>*audiosour=?#<CR>

Function	Type	Operation	ASCII
Picture Mode	Write	Bright Presentation	<CR>*appmod=brightpreset#<CR>
	Write	Bright	<CR>*appmod=bright#<CR>
	Write	Cinema	<CR>*appmod=cine#<CR>
	Write	Golf	<CR>*appmod=golf#<CR>
	Write	Game	<CR>*appmod=game#<CR>
	Write	Sport	<CR>*appmod=sport#<CR>
	Write	Bright Golf	<CR>*appmod=brigolf#<CR>
	Write	User	<CR>*appmod=user#<CR>
	Write	HDR10	<CR>*appmod=hdr#<CR>
	Write	HDR Game	<CR>*appmod=hdrgame#<CR>
	Write	HDR Golf	<CR>*appmod=hdrgolf#<CR>
	Write	HLG	<CR>*appmod=hlg#<CR>
	Write	Set Fast Mode on	<CR>*fastmode=on#<CR>
	Write	Set Fast Mode off	<CR>*fastmode=off#<CR>
	Read	Get Fast Mode status	<CR>*fastmode=?#<CR>
	Write	Set 24P True Cinema on	<CR>*24pcinema=on#<CR>
	Write	Set 24P True Cinema off	<CR>*24pcinema=off#<CR>
	Read	Set 24P True Cinema status	<CR>*24pcinema=?#<CR>
	Read	Picture Mode	<CR>*appmod=?#<CR>
AI Master	Write	Set AI Master on	<CR>*aimaster=on#<CR>
	Write	Set AI Master off	<CR>*aimaster=off#<CR>
	Read	Set AI Master status	<CR>*aimaster=?#<CR>
	Write	Set AI PQ Enhancer on	<CR>*aipqehc=on#<CR>
	Write	Set AI PQ Enhancer off	<CR>*aipqehc=off#<CR>
	Read	Set AI PQ Enhancer status	<CR>*aipqehc=?#<CR>
	Write	Set AI Contrast Enhancer	<CR>*aicoehc=value#<CR>
	Read	Set AI Contrast Enhancer status	<CR>*aicoehc=?#<CR>
	Write	Set AI Resolution Enhancer	<CR>*aireehc=value#<CR>
	Read	Set AI Resolution Enhancer status	<CR>*aireehc==?#<CR>
	Write	Set AI Noise Reduction	<CR>*ainr=value#<CR>
	Read	Set AI Noise Reduction status	<CR>*ainr=?#<CR>

Function	Type	Operation	ASCII
Picture Settings	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	Tint +	<CR>*tint=+#<CR>
	Write	Tint -	<CR>*tint=-#<CR>
	Write	Set Tint value	<CR>*tint=value#<CR>
	Read	Get Tint value	<CR>*tint=?#<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=native#<CR>
	Read	Color Temperature Status	<CR>*ct=?#<CR>
	Write	Reset Color Temperature Adjust	<CR>*rstctsetting#<CR>
	Write	Adv. Color Temperature Tuning	<CR>*ctpercent=aabbccdd#<CR>
	Read	Adv. Color Temperature Tuning	<CR>*ctpercent=?#<CR>
	Write	Adv. Color Temperature Tuning Reset	<CR>*rstadvctsetting#<CR>
	Write	Vertical Keystone +	<CR>*vkeystone=+#<CR>
	Write	Vertical Keystone -	<CR>*vkeystone=-#<CR>
	Read	Vertical Keystone value	<CR>*vkeystone=?#<CR>
	Write	Horizontal Keystone +	<CR>*hkeystone=+#<CR>
	Write	Horizontal Keystone -	<CR>*hkeystone=-#<CR>
	Read	Horizontal Keystone value	<CR>*hkeystone=?#<CR>
	Write	Rotate Keystone +	<CR>*rkeystone=+#<CR>
	Write	Rotate Keystone -	<CR>*rkeystone=-#<CR>
	Write	Rotate Keystone value set	<CR>*rkeystone=value#<CR>
	Read	Rotate Keystone value	<CR>*rkeystone=?#<CR>
	Write	Pixel Enhancer 4K Setting	<CR>*pixelehc=value#<CR>
	Read	Query Pixel Enhancer 4K	<CR>*pixelehc=?#<CR>
	Write	Local Contrast Enhancer Setting	<CR>*lce=value#<CR>
	Read	Query Local Contrast Enhancer Setting	<CR>*lce=?#<CR>
	Write	Global Contrast Enhancer Setting	<CR>*gce=value#<CR>
	Read	Query Global Contrast Enhancer Setting	<CR>*gce=?#<CR>
	Write	Set Ambient Visual Enhancer on	CR>*ambientehc=on#<CR>
	Write	Set Ambient Visual Enhancer off	CR>*ambientehc=off#<CR>
	Read	Set Ambient Visual Enhancer status	CR>*ambientehc=?#<CR>
	Write	MEMC Setting	<CR>*memc=value#<CR>
	Read	Query MEMC Setting	<CR>*memc=?#<CR>

Function	Type	Operation	ASCII
Picture Setting	Write	Noise Reduction	<CR>*noiserdt=value#<CR>
	Read	Noise Reduction status	<CR>*noiserdt=?#<CR>
	Write	Set HDR Brightness value	<CR>*hdrbri=value#<CR>
	Read	Get HDR Brightness value	<CR>*hdibri=?#<CR>
	Write	Smooth Transition	<CR>*smoothtr=value#<CR>
	Read	Smooth Transition status	<CR>*smoothtr=?#<CR>
	Write	Brilliant color	<CR>*BC=value#<CR>
	Read	Brilliant color status	<CR>*BC=?#<CR>
	Write	Reset current picture settings	<CR>*rstcurpicsetting#<CR>
Operation Settings	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	Screen Fill setting 16:9	<CR>*scrfill=16:9#<CR>
	Write	Screen Fill setting 16:10	<CR>*scrfill=16:10#<CR>
	Write	Screen Fill setting 3:2	<CR>*scrfill=3:2#<CR>
	Write	Screen Fill setting 4:3	<CR>*scrfill=4:3#<CR>
	Write	Screen Fill setting 5:4	<CR>*scrfill=5:4#<CR>
	Write	Screen Fill setting 1:1	<CR>*scrfill=1:1#<CR>
	Read	Query Screen Fill	<CR>*scrfill=?#<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	PIP ON	<CR>*PIP=on#<CR>
	Write	PIP OFF	<CR>*PIP=off#<CR>
	Read	PIP Status	<CR>*PIP=?#<CR>
	Write	PIP Position Upper Right	<CR>*PIPP=UR#<CR>
	Write	PIP Position Middle Right	<CR>*PIPP=MR#<CR>
	Write	PIP Position Lower Right	<CR>*PIPP=LR#<CR>
	Write	PIP Position Upper Left	<CR>*PIPP=UL#<CR>
	Write	PIP Position Middle Left	<CR>*PIPP=ML#<CR>
	Write	PIP Position Lower Left	<CR>*PIPP=LL#<CR>
	Read	PIP Position status	<CR>*PIPP=?#<CR>
	Write	Set PIP Size	<CR>*PIPS=Value#<CR>
	Read	PIP Size status	<CR>*PIPS=?#<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	Auto Focus	<CR>*focus=auto#<CR>
	Write	Focus +	<CR>*focus=+#<CR>
	Write	Focus –	<CR>*focus=-#<CR>

Function	Type	Operation	ASCII
Operation Settings	Write	Set Focus position	<CR>*focus=value#<CR>
	Read	Get Focus position	<CR>*focus=?#<CR>
	Write	Optical Zoom in	<CR>*optzoom=+#<CR>
	Write	Optical Zoom out	<CR>*optzoom=-#<CR>
	Write	Set Optical Zoom position	<CR>*optzoom=value#<CR>
	Read	Get Optical Zoom position	<CR>*optzoom=?#<CR>
	Write	4 Corners Top-Left-X Decrease	<CR>*cornerfittlx=-#<CR>
	Write	4 Corners Top-Left-X Increase	<CR>*cornerfittlx=+#<CR>
	Write	4 Corners Top-Left-X Setting	<CR>*cornerfittlx=value#<CR>
	Read	4 Corners Top-Left-X Status	<CR>*cornerfittlx=?#<CR>
	Write	4 Corners Top-Left-Y Decrease	<CR>*cornerfittly=-#<CR>
	Write	4 Corners Top-Left-Y Increase	<CR>*cornerfittly=+#<CR>
	Write	4 Corners Top-Left-Y Setting	<CR>*cornerfittly=value#<CR>
	Read	4 Corners Top-Left-Y Status	<CR>*cornerfittly=?#<CR>
	Write	4 Corners Top-Right-X Decrease	<CR>*cornerfittrx=-#<CR>
	Write	4 Corners Top-Right-X Increase	<CR>*cornerfittrx=+#<CR>
	Write	4 Corners Top-Right-X Setting	<CR>*cornerfittrx=value#<CR>
	Read	4 Corners Top-Right-X Status	<CR>*cornerfittrx=?#<CR>
	Write	4 Corners Top-Right-Y Decrease	<CR>*cornerfittry=-#<CR>
	Write	4 Corners Top-Right-Y Increase	<CR>*cornerfittry=+#<CR>
	Write	4 Corners Top-Right-Y Setting	<CR>*cornerfittry=value#<CR>
	Read	4 Corners Top-Right-Y Status	<CR>*cornerfittry=?#<CR>
	Write	4 Corners Bottom-Left-X Decrease	<CR>*cornerfitblx=-#<CR>
	Write	4 Corners Bottom-Left-X Increase	<CR>*cornerfitblx=+#<CR>
	Write	4 Corners Bottom-Left-X Setting	<CR>*cornerfitblx=value#<CR>
	Read	4 Corners Bottom-Left-X Status	<CR>*cornerfitblx=?#<CR>
	Write	4 Corners Bottom-Left-Y Decrease	<CR>*cornerfitbly=-#<CR>
	Write	4 Corners Bottom-Left-Y Increase	<CR>*cornerfitbly=+#<CR>
	Write	4 Corners Bottom-Left-Y Setting	<CR>*cornerfitbly=value#<CR>
	Read	4 Corners Bottom-Left-Y Status	<CR>*cornerfitbly=?#<CR>
	Write	4 Corners Bottom-Right-X Decrease	<CR>*cornerfitbrx=-#<CR>
	Write	4 Corners Bottom-Right-X Increase	<CR>*cornerfitbrx=+#<CR>
	Write	4 Corners Bottom-Right-X Setting	<CR>*cornerfitbrx=value#<CR>
	Read	4 Corners Bottom-Right-X Status	<CR>*cornerfitbrx=?#<CR>
	Write	4 Corners Bottom-Right-Y Decrease	<CR>*cornerfitbry=-#<CR>
	Write	4 Corners Bottom-Right-Y Increase	<CR>*cornerfitbry=+#<CR>
	Write	4 Corners Bottom-Right-Y Setting	<CR>*cornerfitbry=value#<CR>
	Read	4 Corners Bottom-Right-Y Status	<CR>*cornerfitbry=?#<CR>
	Write	Apply Scene Memory-1	<CR>*memload=m1#<CR>
	Write	Apply Scene Memory-2	<CR>*memload=m2#<CR>
	Write	Apply Scene Memory-3	<CR>*memload=m3#<CR>
	Write	Apply Scene Memory-4	<CR>*memload=m4#<CR>
	Write	Apply Scene Memory-5	<CR>*memload=m5#<CR>
	Read	Query Apply Scene Memory Status	<CR>*memload=?#<CR>
	Write	Open Warping	<CR>*warping=on#<CR>
	Write	Close Warping	<CR>*warping=off#<CR>
	Read	Query Warping Status	<CR>*warping=?#<CR>

Function	Type	Operation	ASCII
Operation Settings	Write	Reset Warping	<CR>*warping=reset#<CR>
	Write	Set the number of Warping control points	<CR>*warpingconfig=X,Y#<CR>
	Read	Read the number of Warping control points	<CR>*warpingconfig=?#<CR>
	Write	Set Warping Control Point Data	<CR>*warpingsetting=idx,idy,X,Y#<CR>
	Write	Batch Setting Control Point Data	<CR>*warpingscript=D1 D2 D3 D4 D5
	Read	Read Warping Control Point Data	<CR>*warpingsetting=idx,idy?#<CR>
	Write	Open Warping Test Pattern	<CR>*warpingpattern=on#<CR>
	Write	Close Warping Test Pattern	<CR>*warpingpattern=off#<CR>
	Read	Read projector resolution	<CR>*resolution=?#<CR>
	Write	Direct Power On-off	<CR>*directpower=off#<CR>
	Read	Direct Power On-Status	<CR>*directpower=?#<CR>
	Write	HDMI1 Signal Power On-basic	<CR>*hdmi1autopower=basic<CR>
	Write	HDMI1 Signal Power On-advanced	<CR>*hdmi1autopower=advanced#<CR
	Write	HDMI1 Signal Power On-off	<CR>*hdmi1autopower=off#<CR>
	Read	Query HDMI1 Signal Power On-Status	<CR>*hdmi1autopower=?#<CR>
	Write	HDMI2 Signal Power On-basic	<CR>*hdmi2autopower=basic<CR>
	Write	HDMI2 Signal Power On-advanced	<CR>*hdmi2autopower=advanced#<CR
	Write	HDMI2 Signal Power On-off	<CR>* hdmi2autopower=off#<CR>
	Read	Query HDMI2 Signal Power On-Status	<CR>*hdmi2autopower=?#<CR>
	Write	HDMI3 Signal Power On-basic	<CR>*hdmi3autopower=basic<CR>
	Write	HDMI3 Signal Power On-advanced	<CR>*hdmi3autopower=advanced#<CR
	Write	HDMI3 Signal Power On-off	<CR>* hdmi3autopower=off#<CR>
	Read	Query HDMI3 Signal Power On-Status	<CR>*hdmi3autopower=?#<CR>
	Write	LED Indicator Setting	<CR>*ledind=on#<CR>
	Read	Query LED Indicator	<CR>*ledind=?#<CR>
	Write	Auto Power Off timer Setting	<CR>*autopowofftmr=value#<CR>
	Read	Query Auto Power Off timer	<CR>*autopowofftmr=?#<CR>
	Write	Device firmware auto update Setting	<CR>*fwotadetect=on#<CR>
	Read	Query device firmware auto update Setting	<CR>*fwotadetect=?#<CR>
	Write	USB 5V Trigger Setting	<CR>*usbtri=on#<CR>
	Read	Query USB 5V Status	<CR>*usbtri=?#<CR>
	Write	HDMI EDID Setting	<CR>*hdmiedid=value#<CR>
	Read	Query HDMI EDID	<CR>*hdmiedid=?#<CR>
	Write	CEC Control Setting	<CR>*ceccontrol=on#<CR>
	Read	Query CEC Control	<CR>*ceccontrol=?#<CR>
	Write	Power On Link Setting	<CR>*powonlink=on#<CR>
	Read	Query Power On Link	<CR>*powonlink=?#<CR>
	Write	Power Off Link Setting	<CR>*powofflink=off#<CR>
	Read	Query Power Off Link	<CR>*powofflink=?#<CR>
	Write	Standby Settings-Network on	<CR>*standbynet=on#<CR>
	Write	Standby Settings-Network off	<CR>*standbynet=off#<CR>
	Read	Standby Settings-Network Status	<CR>*standbynet=?#<CR>
	Read	Mac Address	<CR>*macaddr=?#<CR>
	Read	Serial Number	<CR>*serialnumber=?#<CR>

Function	Type	Operation	ASCII
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 Hour	<CR>*ltim=?#<CR>
	Write	Normal mode	<CR>*lampm=lnor#<CR>
	Write	Eco mode	<CR>*lampm=eco#<CR>
	Write	Dynamic	<CR>*lampm=dym#<CR>
	Write	Custom mode	<CR>*lampm=custom#<CR>
	Write	ECO Mode On	<CR>*eco=on#<CR>
	Write	ECO Mode Off	<CR>*eco=off#<CR>
	Read	ECO Mode Status	<CR>*eco=?#<CR>
	Write	Quick Wake Up On	<CR>*quwake=on#<CR>
	Write	Quick Wake Up Off	<CR>*quwake=off#<CR>
	Read	Quick Wake Up Status	<CR>*quwake=?#<CR>
	Write	Set Auto Disable Network Standby Mode	<CR>*Autodisnet=Value#<CR>
	Read	Set Auto Disable Network Standby Mode Status	<CR>*Autodisnet=?#<CR>
	Write	Light level for custom mode	<CR>*lampcustom=value#<CR>
	Read	Light level status for custom mode	<CR>*lampcustom=?#<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	Format F/W version	<CR>*formatfwversion=?#<CR>
	Read	MCU F/W Version	<CR>*mcufwversion=?#<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	Set Test Pattern	<CR>*testpattern=value#<CR>
	Read	Get Test Pattern status	<CR>*testpattern=?#<CR>
	Read	Mac Address	<CR>*macaddr=?#<CR>
	Write	Splash Screen - BenQ	<CR>*splash=benq#<CR>
	Write	Splash Screen - Black	<CR>*splash=black#<CR>
	Write	Splash Screen - Custom	<CR>*splash=custom#<CR>
	Read	Splash Screen value	<CR>*splash=?#<CR>
	Write	High Altitude mode on	<CR>*Highaltitude=on#<CR>
	Write	High Altitude mode off	<CR>*Highaltitude=off#<CR>
	Read	High Altitude mode status	<CR>*Highaltitude=?#<CR>