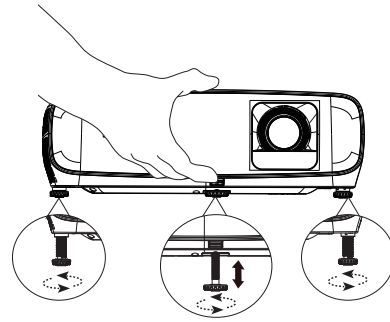# Adjusting the projected image

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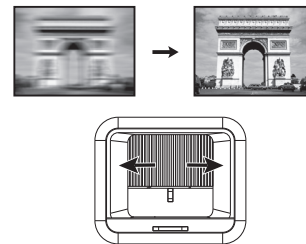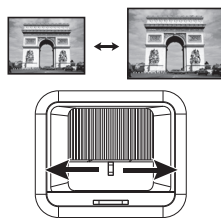
! Do not look into the lens while the lamp is on. The strong light from the lamp may cause damage to your eyes.

Fine-tuning the image size and clarity

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

Sharpen the image by rotating the focus ring.

Correcting keystone

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

To adjust the **Keystone**:

1. Select **Settings** from **BenQ Launcher** and press **OK**, or press ⚙ on the remote control or the projector.
2. Select **Display** > **Keystone** and press **OK**.
3. Disable the **Auto Keystone** setting.
4. Select **Keystone** and press **OK**.
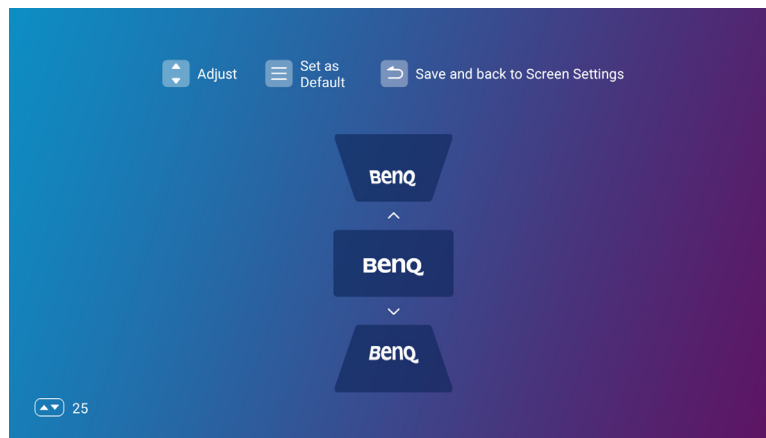
- To correct keystoning at the top of the image, use ▼ on your remote control.
- To correct keystoning at the bottom of the image, use ▲ on your remote control.
- To return to default keystone settings press ⊜ button on your remote control

📝 You may only make these adjustments if Auto Keystone is disabled in the Installation menu. See Keystone on page 40.

5. When you are done adjusting the keystone, press ⊃ to save your changes and return to the previous menu, or press ⌂ to save your changes and go back to the home screen directly.

BenQ Launcher

BenQ Launcher is the projector's operating system that allows you to project wirelessly, play media files or streaming apps, as well as adjust projector settings.

> Use your remote control to operate **BenQ Launcher** functions. The projector's control panel keys are limited to control projector functions.

The BenQ Launcher home page

When the projector is not projecting an image from a connected source it will display **BenQ Launcher** by default. If the projector is projecting from a source, you can return to **BenQ Launcher** home page by pressing ⌂ or ↩.

> Actual screen may vary based on your **BenQ Launcher** firmware version.

The **BenQ Launcher** home page offers the following features:

• **Wireless Projection** - Provides instructions on how to project wirelessly via iOS/Android devices or a laptop/PC.

• **Status Bar** - Displays the connection status, date, and time.

• **Source List** - Selects input source for **USB**, **HDMI1** or **HDMI2**.

• **App Shortcuts** - Quick accesses to the **Aptoide** app market, **WPS Office** app and other apps.

• **Settings** - Accesses to **General**, **Display**, and **Preference** menus.

Navigating the BenQ Launcher home page

1. From **BenQ Launcher** home page, press ▲/▼/◄/► on your remote control to select the desired function and press **OK**.

2. Follow on-screen instructions for further operations.

Using the app shortcuts

Press the down ▼ button from **BenQ Launcher** home page to access the app shortcuts section, which displays the pre-installed **Aptoide** app market for streaming apps, **WPS Office** app, as well as other apps that have been installed on the projector. Other default apps may appear based on language settings.

To access all the apps installed on the projector, see All Apps on page 36. For details on how to re-order the shortcuts see Home Screen on page 42.
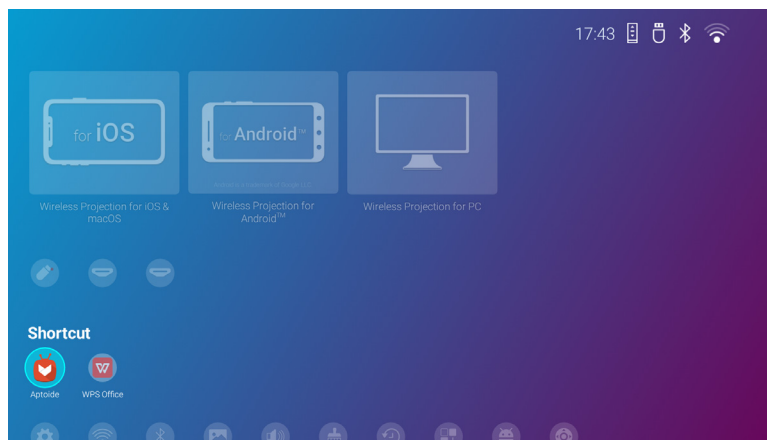
Using Voice Assistant

Press and hold the voice button to activate voice assistant. Hold this key and speak to the microphone at the top of the remote control while using voice assistant.
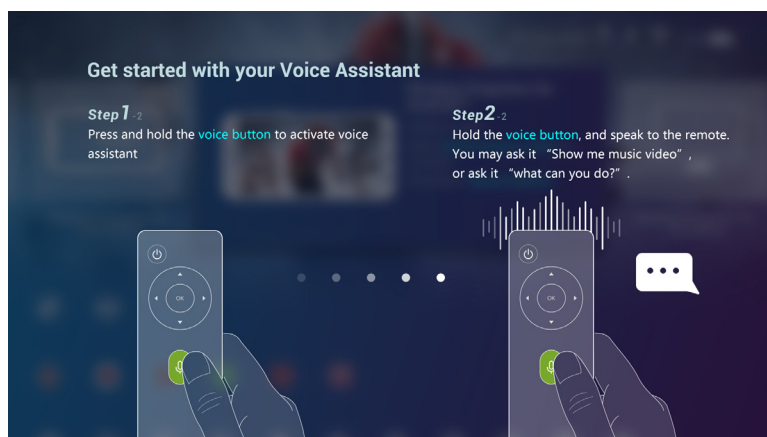
Using BenQ Launcher Settings

Select **Settings** from **BenQ Launcher** home page to access **General**, **Display** and **Preference** menus.

Actual screen may vary based on your **BenQ Launcher** firmware version.

For more information on the **Settings** see Using the Settings on page 34.

Typing texts

Various menus within **BenQ Launcher** may require to input text. To input text in a text field:

1. Select the text field where you want to input text.

2. Press **OK**, and a full alphanumeric keyboard will appear on screen.

3. Press ▲/▼/◄/► on your remote control to navigate the keyboard, and press **OK** to select the letter/key/symbol you want to enter into the text field.

4. Press ⊝ at anytime to exit out of the keyboard.

Actual keyboard types may vary based on your language preference setting. See Preference on page 42 for more information.

Connection

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

1. Turn all equipment off before making any connections.
2. Use the correct signal cables for each source.
3. Ensure the cables are firmly inserted.
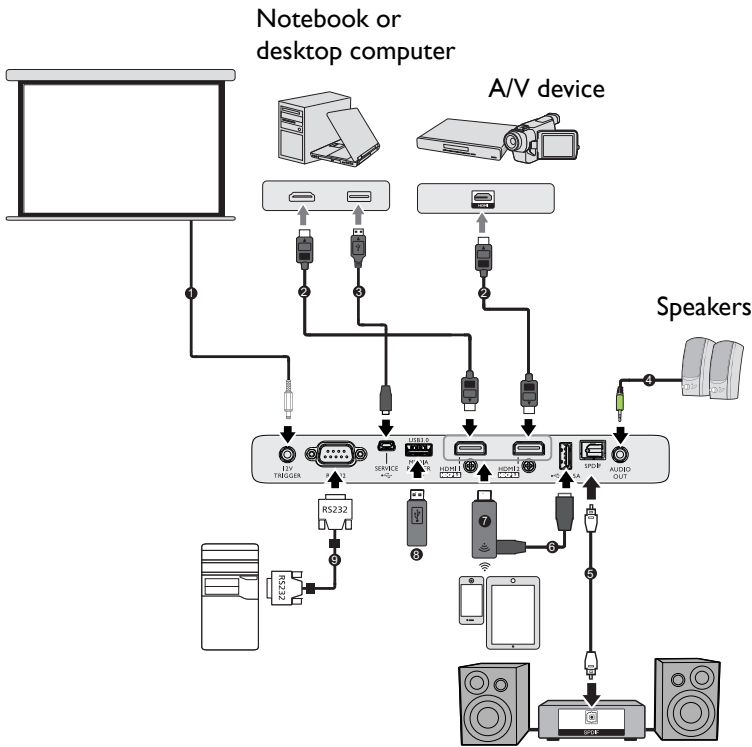
1	12V Trigger for screen control
2	HDMI cable
3	USB cable (Mini-B to A type)
4	Audio cable
5	SPDIF cable
6	USB cable (A to Micro B type) connect to the power port of HDMI wireless dongle
7	HDMI wireless dongle
8	USB Storage Device for Media Reader, Firmware Upgrade
9	RS232 cable

- In the connections above, some cables may not be included with the projector (see). 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.

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

- Please check your computer's baud rate at 9600 so that you can connect the projector by using a suitable RS-232 cable.

Wireless Connections

Connecting the projector to a wireless network

Before you can project wirelessly via the projector you must first connect the projector to a wireless network. To connect your projector to a wireless network, or to switch wireless networks:

> 🖊 If you have already connected the projector to a wireless network during the setup wizard you may skip the steps in this section.
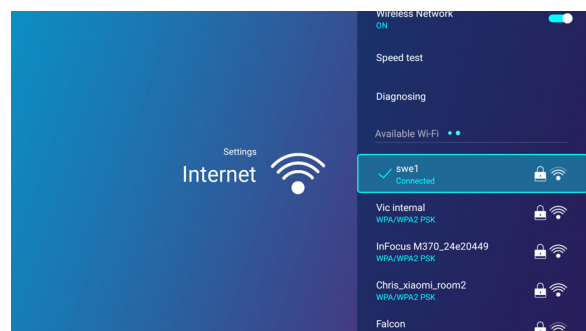
1. Power on the projector (see Starting up the projector on page 14).

2. On the home page of **BenQ Launcher** interface, select **Wireless Network Setting** and press **OK** to access the wireless settings.

3. Select **Wireless Network** and press **OK** to enable wireless network.
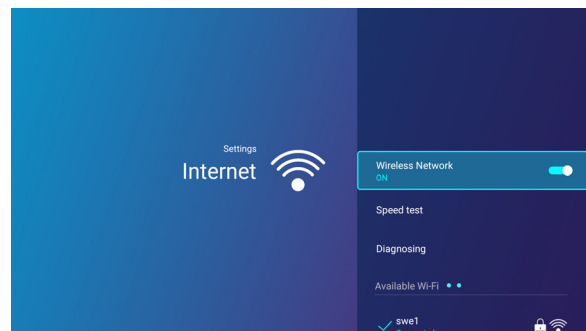
4. Select the **SSID** for the wireless AP you want to connect to and press **OK**.

> 🖊
> - It is highly recommended to use 5G frequency for better performance.
> - To connect to a hidden wireless network select **Add New Network** and enter the **SSID**, security setting, and password for the network.
>   - The list of available wireless networks will be refreshed every 10 seconds. If the desired SSID is not listed please wait for refreshing to complete.

5. If you chose a secured **SSID** for the first time, a window appears prompting you to enter the appropriate password. Use the virtual keypad to enter the password. After you have entered the password, select **Next** and the projector will automatically connect.

6. Once you have successfully connected to the wireless AP a wireless connection icon will appear at the top right corner of **BenQ Launcher** interface. You can now connect your devices wirelessly to the projector to project videos.
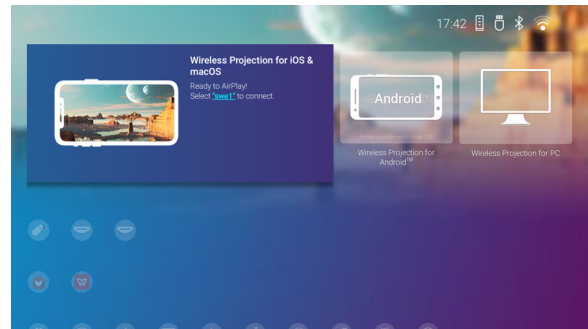
Wireless Projection for iOS & macOS®

To connect an iOS device to the projector and project video via AirPlay:

1. On the home page of **BenQ Launcher** interface, select **Wireless Projection for iOS & macOS** and press **OK**.
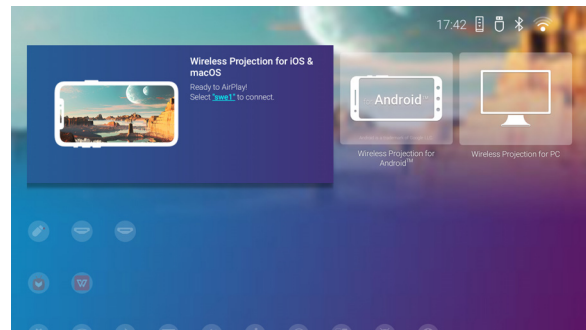
2. On your iOS mobile device's wireless menu connect to the wireless network shown on the **Wireless Projection for iOS & macOS** screen and then select **Next**.

3. Follow the instructions shown on the **Wireless Projection for iOS & macOS** screen to project your iOS device's screen via AirPlay.

4. Select **Finished** on the **Wireless Projection for iOS & macOS** menu to finish the tutorial and return to the home screen.

Once you have finished projecting, disable AirPlay on your iOS device to end the connection.

Wireless Projection for Android™

To connect an Android™ device to the projector and project video:

1. On the home page of **BenQ Launcher** interface, select **Wireless Projection for Android™** and press **OK**.

2. On your Android mobile device's wireless menu connect to the wireless network shown on the **Wireless Projection for Android™** screen and then select **Next**.

3. Follow the instructions shown on the **Wireless Projection for Android™** screen to project your Android device's screen.
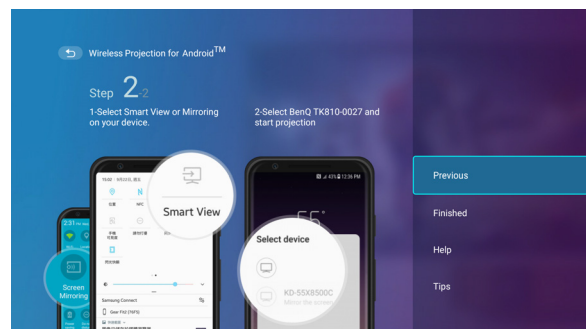
4. Select **Finished** on the **Wireless Projection for Android™** screen to finish the tutorial and return to the home screen.

Once you have finished projecting, disable screencasting on your Android device to end the connection.
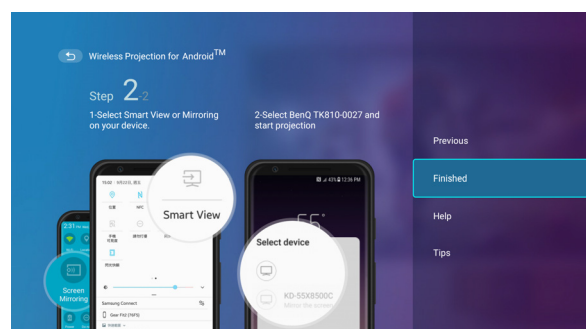
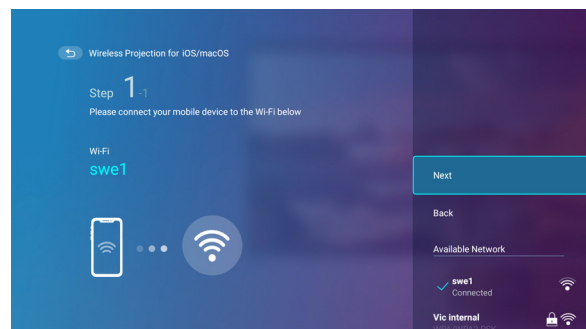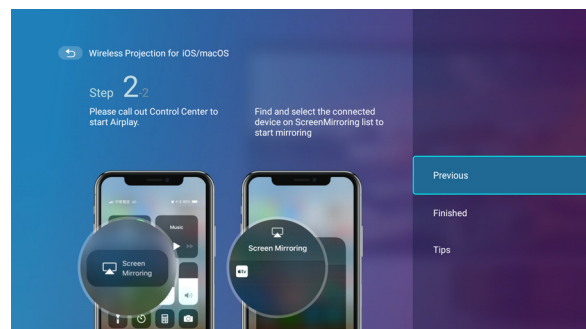# Wireless Projection for PC

To connect a PC to the projector and project video:

1. On the home page of **BenQ Launcher** interface, select **Wireless Projection for PC** and press **OK**.
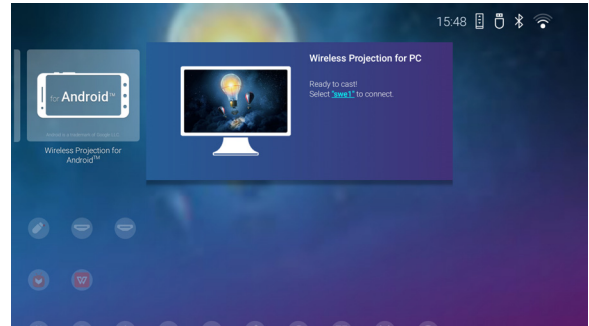
2. On your PC's wireless menu connect to the wireless network shown on the **Wireless Projection for PC** screen and then select **Next**.
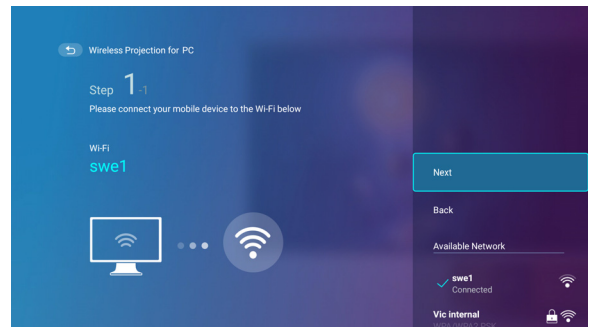
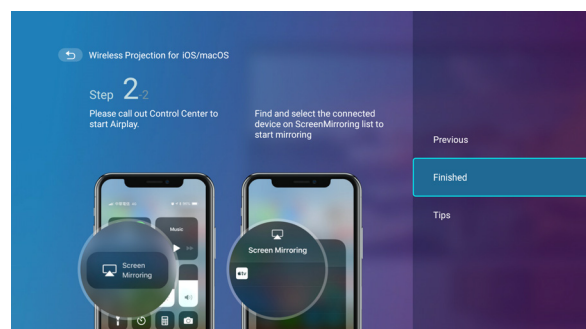3. Follow the instructions shown on the **Wireless Projection for PC** screen to project your PC's screen.
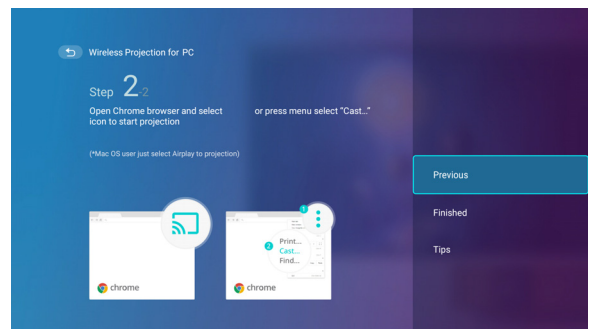
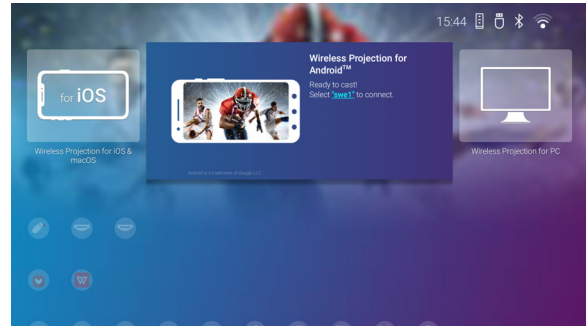4. Select Finished on the **Wireless Projection for PC** screen to finish the tutorial and return to the home screen.

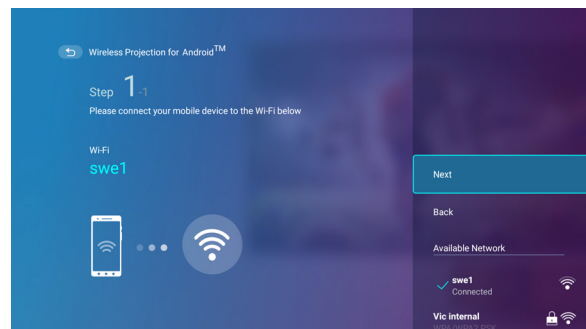Once you have finished projecting, disable screencasting on your PC to end the connection.
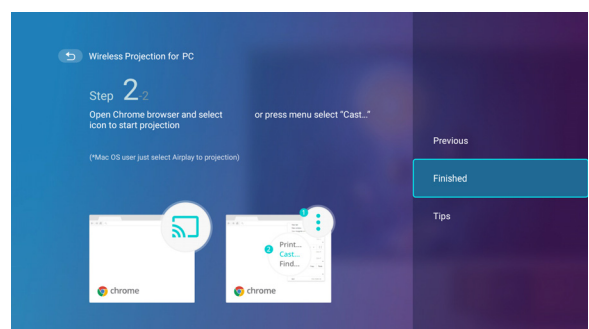
Wireless Hotspot

In situations where the projector is out-of-range of a wireless network (for example while on a camping trip), you can configure the projector to act as a wireless hotspot to create a closed network for devices to connect directly to the projector via a wireless connection and to project files from their local storage.

The projector will have no access to the Internet while in wireless hotspot mode.

To create a wireless hotspot:

1. On the home page of **BenQ Launcher** interface, select **Settings** and press **OK**.

2. Select **Hotspot** and press **OK**.
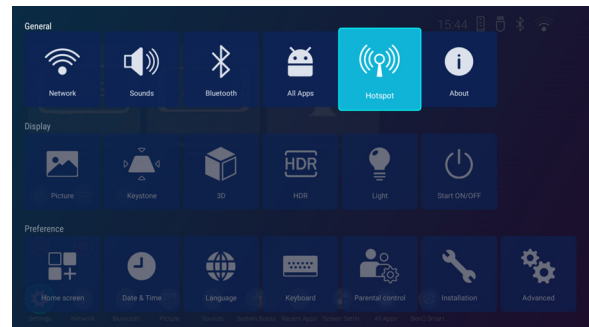
3. (Optional) Select **Hotspot Password** and press **OK** to change the password of the Wi-Fi hotspot.
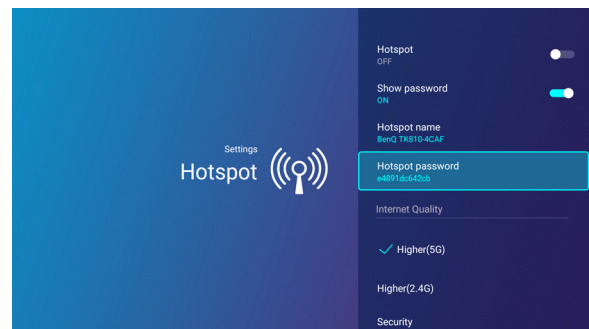
4. Select **Hotspot** and press **OK** to enable Wi-Fi hotspot.
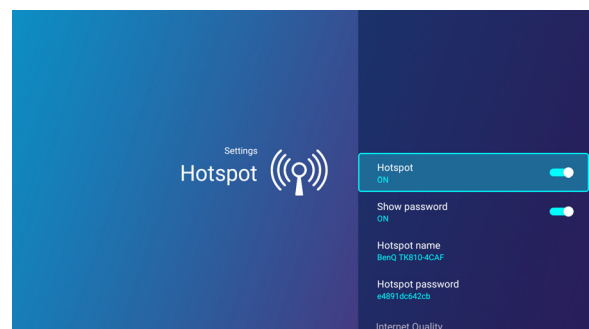
5. Once wireless hotspot is enabled, use the name shown in the **Hotspot Name** field as the SSID to connect to from your mobile device's wireless menu, enable **Show Password** to use the password shown in the **Hotspot Password** field as the connection password.
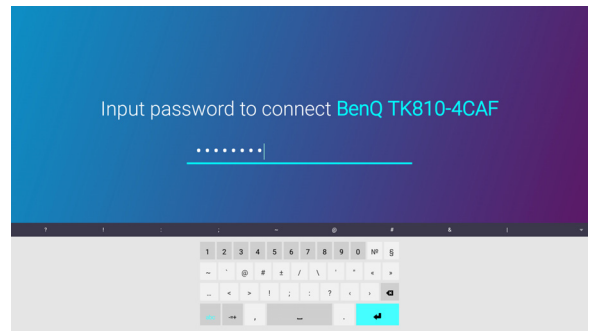
6. If the wireless hotspot can not be found by your device, select **2.4G** under the **Internet Quality**.
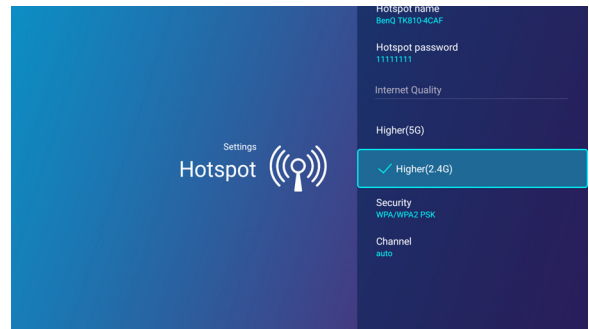
7. Select **Security** and press **OK** to change security Setting.
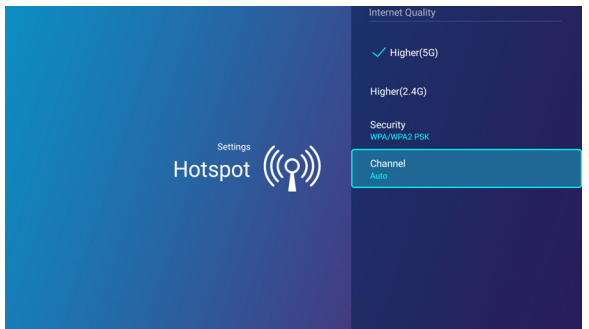
8. Select **Channel** and press **OK** to choose the best wireless channel.

After the wireless hotspot is setup, follow the corresponding connection instructions described in the previous section(s) to connect to the projector directly and project video.
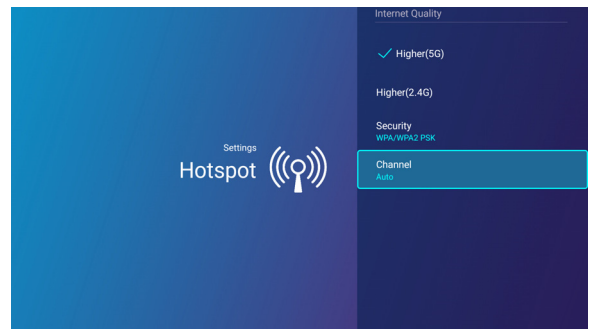
Bluetooth Connections

The projector allows the following types of Bluetooth connections:

• Connect to a Bluetooth-enabled speaker or headphones to output audio directly for greater sound particularly in outdoor settings.

• Connect a mobile device to the projector to broadcast audio through the projector's speakers.

Pairing/Connecting to a Bluetooth speaker or headphones

Pairing is the process by which your projector creates a connection to a Bluetooth speaker or headphones for the first time. Once both devices have been successfully paired each device will have the corresponding device's pairing information stored internally and both will be able to connect automatically when they are within an ~8 meter range of each other and Bluetooth is enabled on the projector.

To pair your projector to a Bluetooth speaker or headphones:

1. Enter **Settings**.

2. Select **Bluetooth** and press **OK**.

3. Enable **Bluetooth**.

4. Activate Bluetooth-pairing mode on the speaker or headphones.
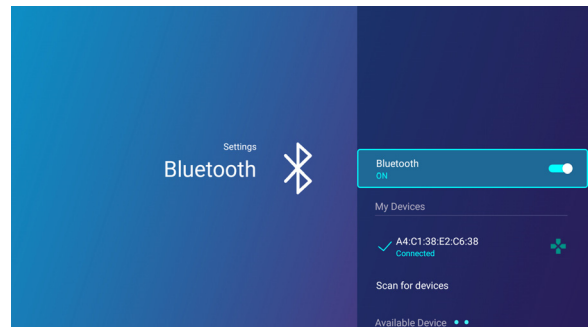
5. Select the speaker or headphones from the Available Device list and in the Bluetooth setting menu press **OK**.

6. When the projector and speaker or headphones have successfully connected the device listing in the Bluetooth setting menu will be labeled **Connected**, you can now output the audio from the projector to the speaker or headphone.
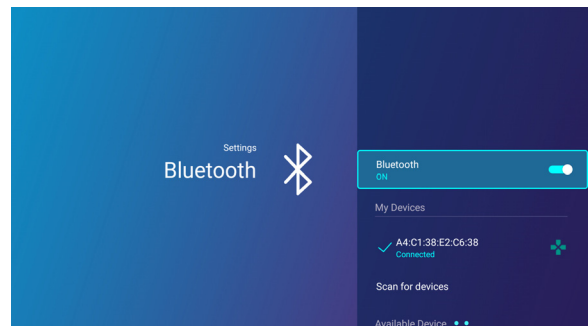
Once you have successfully paired your projector with the Bluetooth speaker, pairing information will be stored on both devices and a connection will automatically be made when Bluetooth is enabled on both devices and both devices are within range of each other.

Ending the Bluetooth connection

In cases where you want to disconnect a speaker or headphones from the projector and connect to another speaker or headphones follow the steps below:

1. Enter **Settings**.

2. Select **Bluetooth** and press **OK**.

3. Select the already connected speaker or headphones from the **Available Device** list in the **Bluetooth** menu and press **OK**.

4. Confirm that you want to disconnect the speaker or headphones from the projector.

5. Activate Bluetooth-pairing mode on the new speaker or headphones.

6. Select the new speaker or headphones from the **Available Device** list in the **Bluetooth** setting menu and press **OK**.

• If you are unable to find the speaker or headphones from the list of Bluetooth devices on the first try, ensure that pairing mode is activated on the device, then select Scan for devices in the Bluetooth setting menu to restart the scanning process.

• The projector cannot be used as a Bluetooth speaker.

Deactivating the Bluetooth speaker or headphones

To deactivate Bluetooth on the projector so that it no longer outputs its audio to a separate speaker or headphones:

1. Enter **Settings**.

2. Select **Bluetooth** and press **OK**.

3. Select **Bluetooth** and press **OK** disable Bluetooth.
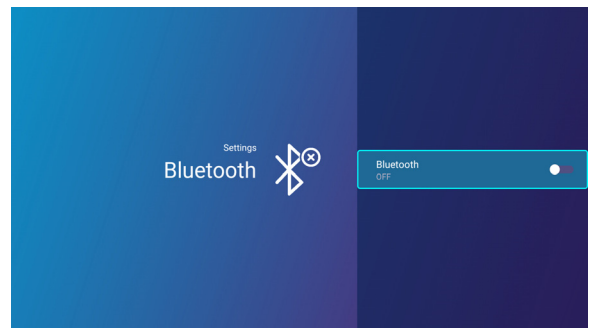
USB Connections

USB source allows you to access images, videos, and audio files for projection via internal memory or a USB flash drive.

To access the **USB** source in the **BenQ Launcher** home page press the down button ▼ on your remote control, and then select **USB**.
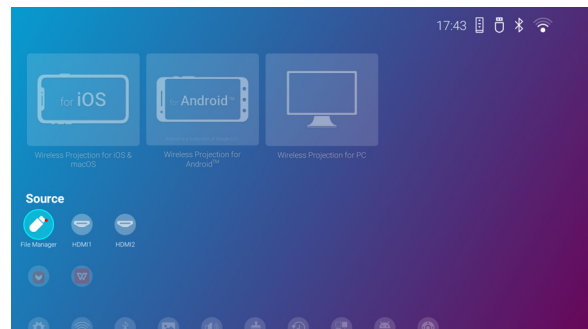
Select **Removable Disk** or **Internal Storage**.
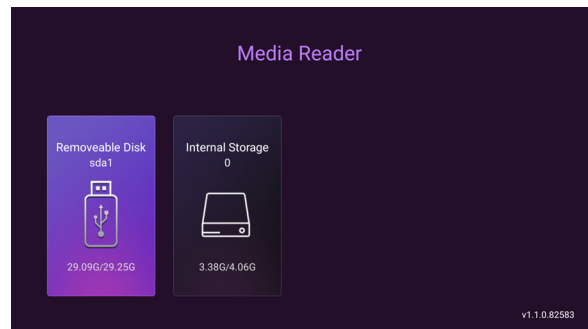
Each selection has a sub-directory that lists files for each of the following categories: **All**, **Video**, **Picture**, **Music**, **Doc**, and **App**.

Presenting from a Media Reader

The USB port on the projector allows you to browse the image and document files stored on a USB flash drive connected to the projector. It can elimate the need for a computer source.
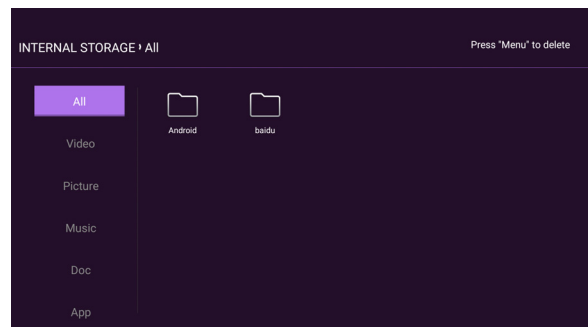
Supported files formats

Video format	Audio format	Photo format
• MPEG1	• MPEG1/2 Layer1	• JPEG Base-line
• MPEG4	• MPEG1/2 Layer2	• JPEG Progressive
• H.263	• FLAC	• PNG non-interlace
• Motion JPEG		• PNG interlace
		• BMP

Software update

It is suggested that users regularly update their projector with the latest version of the firmware to optimize the user experience. The projector uses Over-the-Air (OTA) updates or USB updates to install the update file wirelessly.

To update software via internet:

1. Go to **Settings** > **General** > **About** > **Software Update** menu and press **OK**.

2. Select **Update** and press **OK**.

3. Select **DOWNLOAD** to download the update file.

4. Once the download is completed, the projector will restart automatically. Do not turn off or unplug the projector before the projector is finished updating and **BenQ Launcher** reappears on the screen.
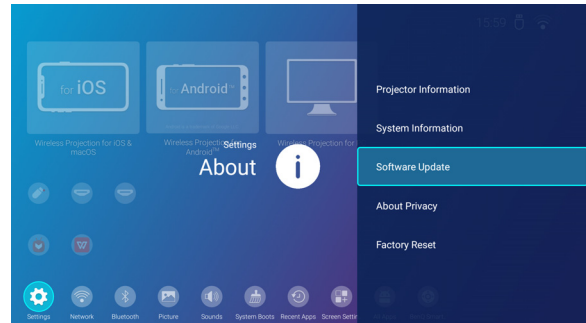
If you select **CANCEL** when the system upgrade message appears, a red dot will appear at the top right of the **Settings** > **General** > **About** menu, as a reminder that a newer version of firmware is available on the BenQ OTA server. Users can use the **Software Update** > **Update** function in the **Settings** > **General** > **About** menu to upgrade the system at any time.
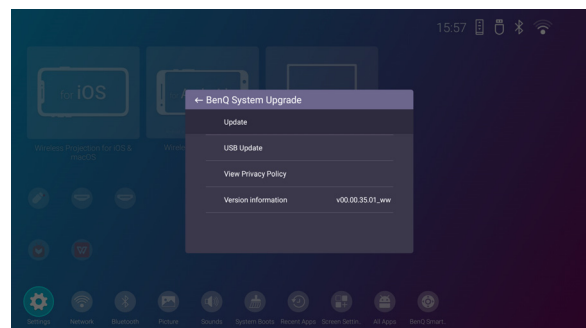
To udpate software via USB flash drive:

1. Download the latest firmware version from BenQ Website.

2. File name will be: update_signed.zip. Unzip the file and save firmware in USB.

3. Insert USB key in USB 3.0 port.

4. Go to **Settings** > **General** > **About** > **Software Update** and press **OK**.

5. Select **USB Update** to select **On**.

6. In the process of upgrading, please keep power on until updating finished.

7. When you see this message, firmware upgrade is done.
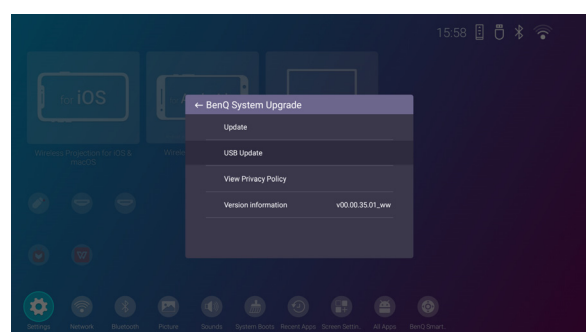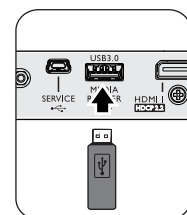
Navigating the Settings

To let you make various adjustments or settings on the projector, its wireless connections, and the projected image, **BenQ Launcher** provides a **Settings** menu. To access the **Settings**, press ⚙ , or select **Settings** from **BenQ Launcher** home page.
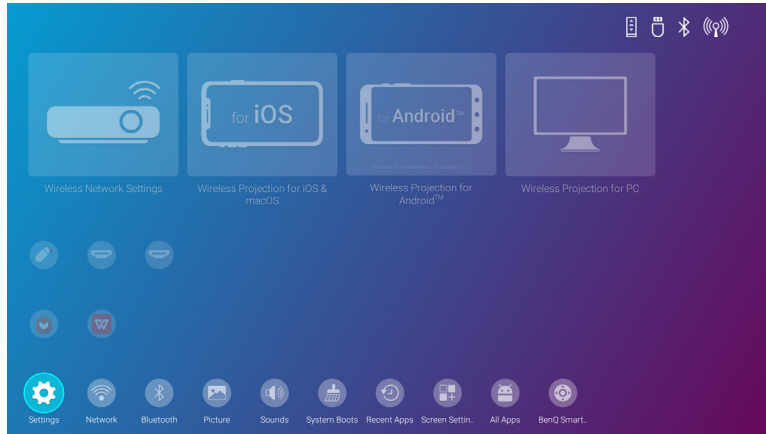
The following is the **Settings** menu:
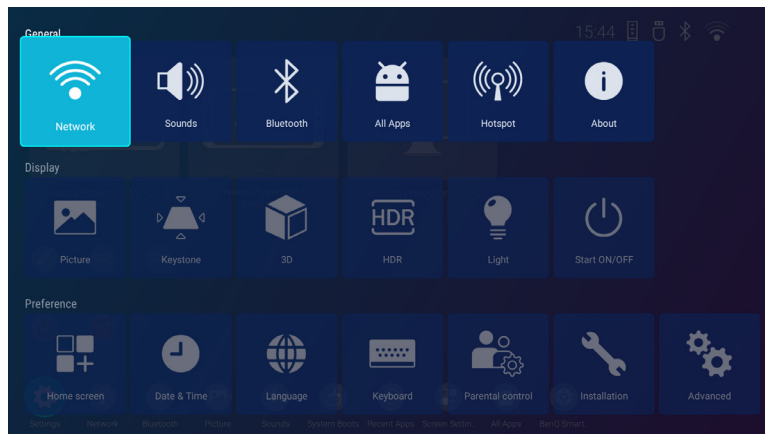
Using the Settings

To access the various settings menus:

• Use the left and right arrow keys (◄/►) to move through the main settings menus.

• Use **OK** to select the desired menu.

When configuring items within a menu:

• Use the up and down arrow keys (▲/▼) to move to the item you want to configure.

• Use left and right arrow keys (◄/►) to toggle through the available options.

• Use **OK** to enable/disable options or select sub-menu options.

• Use the back button ⟲ to return to the main settings menu.

• Use the home button ⌂ to return to **BenQ Launcher** home page.

General

Network	• **Wireless Network Setting**: Enables **Wireless Network Setting** for the projector. See Connecting the projector to a wireless network on page 23. • **Speed Test**: Tests the speed of the projector's Internet connection. • **Diagnosing**: Diagnoses the status of the projector's Internet connection. • **SSID List**: Lists the available wireless access points which the projector can connect to. See Connecting the projector to a wireless network on page 23. • The **SSID List** is only available when **Wireless Network Setting** is enabled. • To connect to a hidden **Wireless Network Setting** select **Add New Network** and enter the SSID, security setting, and password for the network.
Sounds	• **Sound Mode**: Utilizes sound enhancement technology, which incorporates Waves' algorithms to deliver great effects of the bass and treble and provide you with immersive cinematic audio experience. The following preset sound modes are provided: **Standard**, **Cinema**, **Music**, **Game**, **Sports**, and **User**. The **User** mode allows you to personalize the sound settings. When selecting the **User** mode, you may make manual adjustments with the **User Mode Setting** function. If the **Mute** function is activated, adjusting **Sounds** menu will turn off the **Mute** function. • **User Mode Setting**: Select desired frequency bands (100 Hz, 300 Hz,1k Hz, 3k Hz, and 10k Hz) to adjust the levels according to your preference. The settings made here define the **User** mode. • **Mute**: Temporarily turns off the sound. • **Volume**: Adjusts the sound level. • **L/R Switch**: Switch the left/right audio channels. • **SPDIF**: Enable or disable S/PDIF. • **ON/OFF Ring Tone**: Turns on or off the ring tone when the projector is in startup and shutdown process. The only way to change **ON/OFF Ring Tone** is setting **On** or **Off** here. Setting the sound mute or changing the sound level will not affect the **ON/OFF Ring Tone**. • **Reset Audio Settings**: All of the adjustments you've done for the **Sound** menu return to the factory preset values.

Bluetooth	• **Bluetooth**: Enables Bluetooth for the projector, allowing the projector to output its audio to a Bluetooth speaker or headphones. • **Scan for devices**: Selects the speaker or headphones from the **Available Device**. • **Available Device**: Lists the available Bluetooth devices which the projector can pair and connect to. Select Scan for devices if you want to refresh the list of devices. The **Available Device** is only available when **Bluetooth** is enabled.
All Apps	Access all the apps that have been installed on the projector. Press **OK** to active app. Press ⊜ to access more options as below: • **Open**: Press **OK** to launch the selected app. • **Permission Settings**: Press **OK** to enter the selected app permission settings. • **Uninstall**: Press **OK** to uninstall the selected app.
Hotspot	• **Hotspot**: Enables or disables hotpost. See Wireless Hotspot on page 28. • **Show Password**: Enables or disables to show the password of the projector's wireless network hotspot when **Security** is set to WPA/WPA2 PSK. • **Hotspot Name**: Displays the name for the projector's wireless network hotspot, which appears in the wireless network list for devices looking to connect directly to the projector. • **Hotspot Password**: Shows or hides Hotspot Password. • **Internet Quality**: Sets 5G or 2.4G frequency. • **Security**: Press **OK** to choose security type. • **Channel**: Press **OK** to set wireless channel for best.
About	• **Projector Information**: Displays information on the current status of the projector including the current **Source, Picture mode, Dynamic Range, Resolution, Color System, Color Gamut, Light Usage Time, 3D Format, System Version, BenQ Launcher Version**, and **Service Code**. • **System Information**: Displays hardware/software information for the projector including **Android Version, Internal storage**, and **Mac address**. • **Software Update**: See Software update on page 33. • **About Privacy**: Displays the BenQ privacy announcement. • **Reset All Settings**: Returns all settings to the factory preset values.

 When QOTA icon displays in **BenQ Launcher** hoem page, it indicates that a newer version of the projector's firmware is available. In such circumstances, users can click this icon to start the firmware update. QOTA icon will disappear once the projector is updated with the latest version of firmware. See Software update on page 33.

Display

Picture	**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. • **Living Room**: With well-saturated color, fine-tuned sharpness and a higher brightness level, **Living Room** mode is perfect for watching movies in a living room where there is a small amount of ambient light. • **Cinema**: Complement with accurate color and deepest contrast at lower brightness level, Cinema mode is suitable for playing movies in an environment with a bit of ambient light, like in living room. • **Sports**: Complement with Sport Mode settings which is suitable for watching sport events in a bright room with ambient light. • **User**: Recalls the settings customized based on the current available picture modes. • **3D**: Is appropriate for playing 3D images and 3D video clips. This mode is only available when 3D function is enabled. • **HDR10**: Delivers High Dynamic Range effects with higher contrasts of brightness and colors. This mode is only available when: **HDR** is set at **Auto**, and **HDR10** content is detected. • **HLG**: Delivers Hybrid Long Gamma effects by adding a logarithmic curve with extra brightness over the top of the signal. This mode is only available when: **HDR** is set at **Auto**, and **HLG** content is detected.

Picture (Continued)	**User Mode Management** • **Load Settings From** 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 the **User**) as a starting point and customize the settings. 1. Go to **Picture** > **Picture mode**. 2. Press ◄/► to select **User**. 3. Press ▼ to highlight **User Mode Management** and press **OK**. 4. Press ▼ to select **Load Settings From** and press **OK**. 5. Press ▼ to select a picture mode that is closest to your need. 6. Press ▼ to select the sub-menu items you want to change and adjust the values with ◄/►. The adjustments define the selected user mode.
	Adjust • **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:** Lower setting produces less saturated colors. If the setting is too high, colors on the image will be overpowering, which makes the image unrealistic. • **Tint**: The higher the value, the more greenish the picture becomes. The lower the value, the more reddish the picture becomes. • **Sharpness:** The higher the value, the sharper the picture becomes.
	Advanced • **Gamma Selection**: Gamma refers to the relationship between input source and picture brightness. Choose a preferred gamma mode from among 1.8/2.0/2.1/2.2/2.3/2.4/2.5/2.6/BenQ.

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

	• **Color Temperature**: There are several preset color temperature settings available. The available settings may vary according to the signal type selected.
	
	    • **Preset**: Selects a color temperature from among **Normal**, **Cool**, **Lamp Native**, or **Warm**.
	
	You can also set a preferred color temperature by adjusting the following options.
	
	    • **Red Gain**/**Green Gain**/**Blue Gain**: Adjusts the contrast levels of Red, Green, and Blue.
	
	    • **Red Offset**/**Green Offset**/**Blue Offset**: Adjusts the brightness levels of Red, Green, and Blue.

Picture (Continued)	• **Color Management**: This function provides six sets (RGBCMYW) of colors to be adjusted. When you select each color, you can independently adjust its range and saturation according to your preference.
	
	    • **Primary Color**: Selects a color from among **R** (Red), **G** (Green), **B** (Blue), **C** (Cyan), **M** (Magenta), **Y** (Yellow), or **W** (White).
	
	    • **Hue**: Increase in the range will include colors consisted of more proportions of its two adjacent colors. Please refer to the illustration for how the colors relate to each other. For example, if you select Red and set its range at 0, only pure red in the projected picture will be selected. Increasing its range will include red close to yellow and red close to magenta.
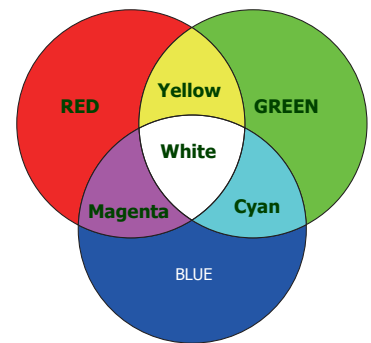	
	    • **Saturation**: Adjusts the values to your preference. Every adjustment made will reflect to the image immediately. For example, if you select Red and set its value at 0, only the saturation of pure red will be affected.
	
	🖊️
	
	Saturation is the amount of that color in a video picture. Lower settings produce less saturated colors; a setting of "0" removes that color from the image entirely. If the saturation is too high, that color will be overpowering and unrealistic.
	
	    • **Gain**: Adjusts the values to your preference. The contrast level of the primary color you select will be affected. Every adjustment made will reflect to the image immediately.
	
	🖊️
	
	When "**White**" is selected, "**Hue/Saturation/Gain**" is changed into "**Red Gain/Green Gain/Blue Gain**".

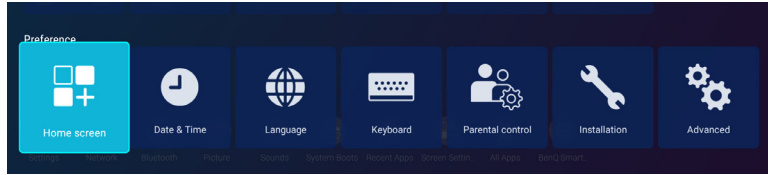|		
Picture (Continued)	• **CinemaMaster**	
	• **Color Enhancer**: Allows you to fine-tune the saturation of colors with larger flexibility. It modulates complex color algorithms to flawlessly render saturated colors, fine gradients, intermediate hues and subtle pigments.	
	• **Flesh Tone**: Provides a smart adjustment of hue only for calibrating people's skin color, not other colors in the image. It prevents discoloration of skin tones from the light of the projection beam, portraying every skin tone in its most beautiful shade.	
	• **Pixel Enhancer 4K**: 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 refines 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 4K**: You can use this feature to smooth fast-moving videos by comparing consecutive image frames ans inserting an intermediate image frame between them.	
	• **Noise Reduction**: Reduces electrical image noise caused by different media players.	
	• **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.	
	• **LumiExpert**: To actively detects ambient light conditions in viewing environment and automatically adjusts balanced visual brightness for maximum comfort. Available under any picture mode, except for Brightness mode and 3D.	
	• **On**/**Off**: Selects to enable or disable the LumiExpert.	
	• **Level**: Adjusts the gamma offset in each picture mode but except for Brightness and 3D mode.	
	• **Light Mode**: Selects a suitable lamp power from among the provided modes. See Extending light source life on page 47.	
	• **Reset Current Picture Mode** Returns all of the adjustments you've made for the selected **Picture mode** to the factory preset values.	
Keystone	• **Auto Keystone**: Enable this function to allow the projector to automatically adjust the keystone settings when powered on. See Correcting keystone on page 17.	
	• **Keystone**: Displays **Vertical Keystone** (w/ Auto) menu same as setup wizard.	

3D	This projector features a 3D function which enables you to enjoy the 3D movies, videos, and sporting events in a more realistic way by presenting the depth of the images. You need to wear a pair of 3D glasses to view the 3D images. • **3D Mode**: The default setting is **Auto** and the projector automatically chooses an appropriate 3D format when detecting 3D contents. If the projector cannot recognize the 3D format, manually choose a 3D mode according to your preference. • **3D Sync Invert**: When your 3D image is distorted, enable this function to switch between the image for the left eye and the right eye for more comfortable 3D viewing experience.
HDR	The projector supports **HDR** imaging sources. It can automatically detect the dynamic range of the source for SDR or HDR10 or HLG, and optimize settings to reproduce contents under wider dynamic range. Meanwhile, the **Picture mode** cannot be adjusted after switching to **HDR**. It also includes **HDR Brightness**.
Light	• **Light Timer**: See Getting to know the light hour on page 46. • **Reset Light Timer**: See Resetting the light timer on page 50.
Start ON/OFF	• **Auto 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 life. • **Direct Power On**: Allows the projector to turn on automatically once the power is fed through the power cord. • **Quick Cooling**: Selecting **On** enables the function and the projector cooling time will be shortened to a few seconds. If you attempt to restart the projector right after the quick cooling process, it may not be turned on successfully and will rerun its cooling fans.

Preference

Home Screen	Allows you to edit **Shortcut** or **Settings** displayed in **BenQ Launcher** home page. • **Shortcut**: Edits to adjust or show/hide apps for **Shortcut** displayed in **BenQ Launcher**. 　• **Auto**: When **Auto** is **On**, the system will edit **Shortcut** apps automatically. 　• **Manual**: When **Auto** is **Off**, you can enter **Manual** to edit **Shortcut** apps. • **Settings**: Edits to adjust or show/hide settings for **Settings** displayed in **BenQ Launcher**.
Date & Time	• **Automatic Date & Time**: Enables Automatic Date & Time for the projector. • **Time Zone**: Sets the time zone for the projector. • **Format**: Sets the date and time display format.
Language	Sets the language of the system.
Keyboard	• **BenQ Keyboard**: Displays current keyboard. • **BenQ Keyboard Setting**: Add keyboard languages, and sets keyboard type.
Parental Control	Allows parents to restrict the access of the projector to their children. • **System Passcode**: Enables or disables the **System Passcode** for the projector by inputting the **System Passcode**. • **Change System Passcode**: Allows you to change the **System Passcode**. You are required to input the **System Passcode** before change. • **Forget Passcode**: Scan the QR code on the screen to decode your **System Passcode**. • **Auto Power Off**: Enters **System Passcode** to enables or disables **Auto Power Off**. • **Time Setting**: Sets the length of time the projector will turn off automatically. You are required to input the **System Passcode** before change.

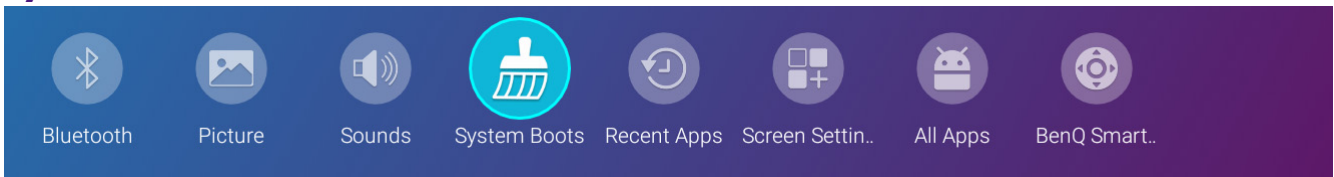|	
Installation	• **Projector installation**: The projector can be installed on a ceiling or behind a screen, or with one or more mirrors. • **Test Pattern**: Adjusts the image size and focus and check that the projected image is free from distortion. • **High Altitude** We recommend you use the **High Altitude** when your environment is between 1500 m –3000 m above sea level, and ambient temperature is between 0°C–30°C. Operation under "**High Altitude**" 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** 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. • **12V Trigger**: If **On** is selected, the projector will send electronic signal out when it is turned on.
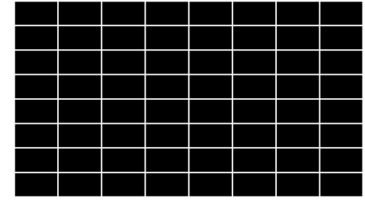
Advanced	• **HDMI Format**
	
	Selects a suitable color format to optimize display quality.
	
	  • **Auto**: Automatically selects a suitable color space and gray level for the incoming HDMI signal.
	  • **RGB Limited**: Utilizes the Limited range RGB 16-235.
	  • **RGB Full**: Utilizes the Full range RGB 0-255.
	  • **YUV Limited**: Utilizes the Limited range YUV 16-235.
	  • **YUV Full**: Utilizes the Full range YUV 0-255.
	
	• **HDMI Equalizer**
	
	Adjusts the equalizer gain settings for an HDMI signal. The higher the setting, the stronger the gain value. If there are more than one HDMI port on the projector, select the HDMI port first before adjusting the value.
	
	• **HDMI EDID**
	
	Switch HDMI EDID between HDMI 1.4 or HDMI 2.0 in order to solve compatibility issue with uncertain old players.
	
	  • **Enhanced**: Enhanced mode can switch to HDMI 2.0 EDID
	  • **Standard**: Standard: Standard mode can switch to HDMI 1.4 EDID.
	
	• **Audio Return (HDMI-1)**
	
	Enable or disable the Audio Return function which is only support on HDMI-1.
	
	  • **On**: Enable Audio Return to return audio to speaker. When connecting to ARC (Audio Return Channel) compatible speaker to the projector with HDMI cables, the audio can be returned to these speaker from the projector.
	  • **Off**: Disable Audio Return function.
	
	• **LED Indicator**
	
	You can turn off the LED warning lights. This is to avoid any light disturbance when viewing images in a dark room.
	
	• **Menu Settings**: Sets the parameter tuning position.

Other menus

The other menus are available in **BenQ Launcher** home page.

System Boots

Select **System Boots** menu to clear temporary caches in **BenQ Launcher**.

Recent Apps
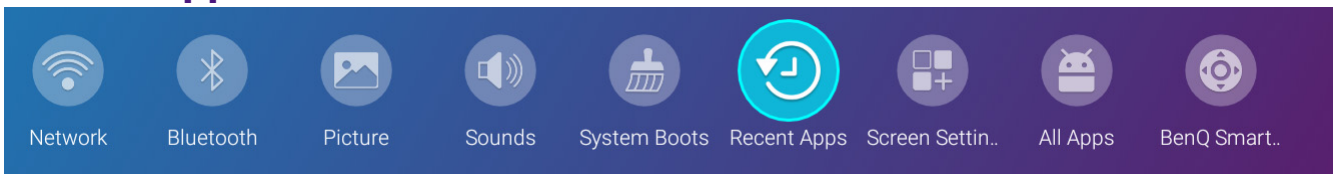
Select **Recent Apps** menu to access a list of apps that have been recently used.

• Select any icon and press the down button (▼) to remove the icon from the list of recently used apps.

• Select any icon and press the menu button (☰) on the remote control to clear all icons from the list of recently used apps.

BenQ Smart Control
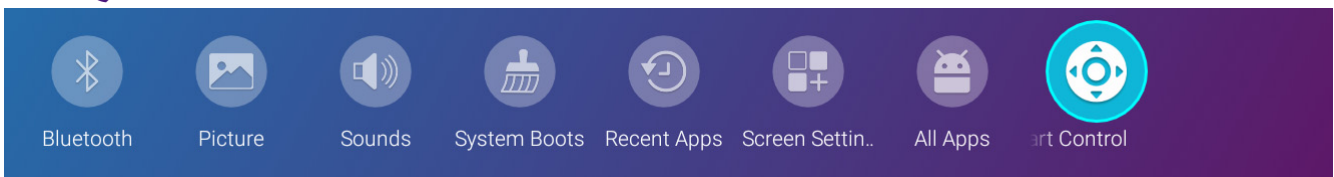
Select **BenQ Smart Control** menu to download smart control app for better control.

• Please make your mobile device and projector connect to the same wireless network, and then scan the QR code displayed on the screen or enter the web site address displayed on the screen to download the **BenQ Smart Control** app on your smart phone.
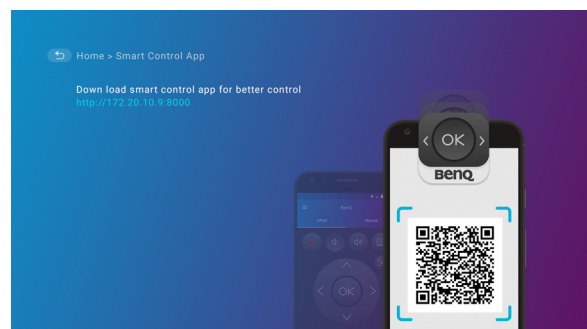
If you are unable to install the **BenQ Smart Control** app, make sure your smart phone is allowed to install of apps from sources other than the Play Store or App Store.

Maintenance

Care of the projector

Cleaning the lens

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

• Use a canister of compressed air to remove dust.

• If there is dirt or smears, use lens-cleaning paper or moisten a soft cloth with lens cleaner and gently wipe the lens surface.

• Never use any type of abrasive pad, alkaline/acid cleaner, scouring powder, or volatile solvent, such as alcohol, benzene, thinner or insecticide. Using such materials or maintaining prolonged contact with rubber or vinyl materials may result in damage to the projector surface and cabinet material.

Cleaning the projector case

Before you clean the case, turn the projector off using the proper shutdown procedure as described in 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 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 information

Getting to know the light hour

When the projector is in operation, the duration (in hours) of light usage is automatically calculated by the built-in timer. The method of calculating the equivalent lamp hour is as follows:

1. Light Usage Time = (x+y+z) hours, if
   Time used in Normal mode = x hours
   Time used in Eco mode = y hours
   Time used in SmartEco mode = z hours

2. Equivalent Light Usage Time = α hours

$\alpha = \frac{A'}{X} \times X + \frac{A'}{Y} \times Y + \frac{A'}{Z} \times Z$, if

X = light source life spec of Normal mode

Y = light source life spec of Eco mode

Z = light source life spec of SmartEco mode

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

For Time used in each lamp mode shown in OSD menu:

- Time used is accumulated and rounded down to an integer in <u>Hours</u>.

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

When you calculate Equivalent Light Usage Hour manually, it will probably have deviation from the value shown in OSD menu since projector system calculates Time used for each lamp mode in "<u>Minutes</u>" then rounds down to an integer in hours shown in OSD.

To obtain the light hour information:

1. From **BenQ Launcher** home page, go to **Settings** > **Display** > **Light** and press **OK**. The **Light** page appears.

2. Press ▼ to select **Light Timer** and press **OK**. The **Light Timer** information is displayed.

Extending light source life

• Setting the **Light Mode**

From **BenQ Launcher** home page, go to **Settings** > **Display** > **Picture** > **Advanced** and press **OK**. Press ▼ to select **Light Mode** and select a suitable lamp power from among the provided modes.

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

Light Mode	Description
Normal	Provides full light brightness
Economic	Lowers brightness to extend the light life and decreases the fan noise
SmartEco	Adjusts the light power automatically depending on the content brightness level while optimizing display quality

• Setting **Auto 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 Off**, go to **Settings** > **Display** > **Start ON/OFF** > **Auto Off** and select a setting.
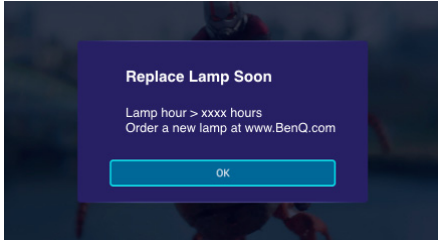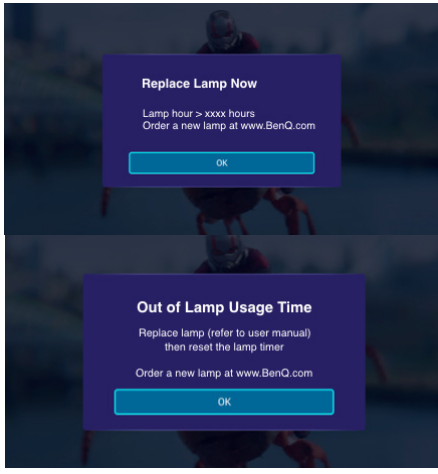
Timing of replacing the lamp

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

• The apparent brightness of the projected image will vary depending on the ambient lighting conditions, selected input signal contrast/brightness settings, and is directly proportional to projection distance.

• The lamp brightness will decline over time and may vary within the lamp manufacturers specifications. This is normal and expected behavior.

• The **LAMP indicator light** and **TEMPerature warning light** will light up if the lamp becomes too hot. Turn the power off and let the projector cool for 45 minutes. If the Lamp or Temp indicator still lights up after turning the power back on, please contact your dealer. See Indicators on page 51.

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

Replace Lamp Soon Lamp hour > xxxx hours Order a new lamp at www.BenQ.com OK	It is strongly recommended that you replace the lamp at this age. The lamp is a consumable item. The lamp brightness diminishes with use. This is normal lamp behavior. You can replace the lamp whenever you notice that the brightness level has significantly diminished. Press **OK** to dismiss the message.
Replace Lamp Now Lamp hour > xxxx hours Order a new lamp at www.BenQ.com OK **Out of Lamp Usage Time** Replace lamp (refer to user manual) then reset the lamp timer Order a new lamp at www.BenQ.com OK	The lamp MUST be replaced before the projector will operate normally. Press **OK** to dismiss the message.

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

Replacing the lamp

- To reduce the risk of electrical shock, always turn the projector off and disconnect the power cord before changing the lamp.
- To reduce the risk of severe burns, allow the projector to cool for at least 45 minutes before replacing the lamp.
- To reduce the risk of injuries to fingers and damage to internal components, use caution when removing lamp glass that has shattered into sharp pieces.
- To reduce the risk of injuries to fingers and/or compromising image quality by touching the lens, do not touch the empty lamp compartment when the lamp is removed.
- This lamp contains mercury. Consult your local hazardous waste regulations to dispose of this lamp in a proper manner.
- To assure optimal performance from the projector, it is recommended that you purchase a qualified projector lamp for lamp replacement.
- If lamp replacement is performed while the projector is suspended upside-down, make sure that no one is underneath the lamp socket to avoid any possible injury or damage to the human eyes caused by fractured lamp.
- Ensure good ventilation when handling broken lamps. We recommend that you use respirators, safety glasses, goggles or face shield and wear protective clothing such as gloves.

1. Turn the power off and disconnect the projector from the power outlet. If the lamp is hot, avoid burns by waiting for approximately 45 minutes until the lamp has cooled.