

DLP Projector

Owner's Instructions

The appearance and the color may differ depending on the model.

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MAJOR SAFETY PRECAUTIONS

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1 Major Safety Precautions

1-1 Before You Start

Icons used in this manual

| Icon | NAME | MEANING |
|-----------------------------------------------------------------------------------|---------|---------------------------------------------------------------------------------|
|  | Caution | Indicates cases where the function may not work or the setting may be canceled. |
|  | Note | Indicates a hint or tip to operate a function. |

Using this Manual

- Make yourself fully aware of the safety precautions before using this product.
- If a problem occurs, refer to the 'Troubleshooting' section.

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1-2 Care and Maintenance

Cleaning the Surface and the Lens

Clean the projector using a soft dry cloth.


- Avoid cleaning the product with an inflammable substance such as benzene or thinner or with a wet cloth. This may result in a problem with the product.
- Avoid scratching the screen with your fingernails or a sharp object.

This may result in scratches or damage to the product.

- Avoid cleaning the product directly by spraying water onto the product.

If water enters the product, it may result in fire, electric shock or a problem with the product.

- A white stain may be generated on the surface of the projector if water gets on it.

 The appearance and the color may differ depending on models.



Cleaning Inside the Projector



For cleaning the interior of the projector, contact a Service Center.

- Contact a Service Center if dust or other substances are inside the projector.



1-3 Safety Precautions

Icons used for safety precautions

| Icon | NAME | MEANING |
|-------------------------------------------------------------------------------------|---------|-------------------------------------------------------------------------------------------------------------|
|  | Warning | Failing to follow the precautions marked with this sign, may result in a serious injury or even a fatality. |
|  | Caution | Failing to follow the precautions marked with this sign may result in a personal injury or property damage. |

Meaning of Signs



Do not perform.



Must be followed.



Do not disassemble.



The power plug must be unplugged from the wall outlet.



Do not touch.



Must be grounded to prevent electric shock.

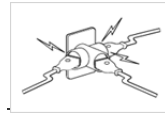
Power Related

The following images are for your reference and may differ depending on models and countries.

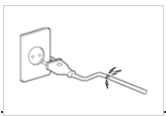
Warning



Plug the power plug in firmly.
• Otherwise, it may result in fire.



Avoid connecting multiple electric appliances to a single wall outlet.
• Otherwise, it may result in fire due to overheating of the wall outlet.



Avoid using a damaged power cord or plug or a loose power outlet.
• Otherwise, it may result in electric shock or fire.



Avoid bending or twisting the power cord excessively and avoid placing heavy objects on the cord.
• Otherwise, it may result in electric shock or fire due to a damaged power cord.



Avoid plugging in or unplugging the power supply with wet hands.
• Otherwise, it may result in electric shock.



To move the product, turn the power off and unplug the power cord and any other wires connected to the product.
• Otherwise, it may result in electric shock or fire due to the damaged power cord.



Make sure to connect the power cord to a grounded wall outlet (for insulation class 1 equipment only).
• Otherwise, it may result in electric shock or injury.

Caution



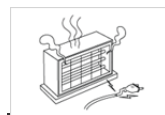
When unplugging the power plug from the wall outlet, make sure to hold the power plug by the plug and not by the cord.
• Failing to do so may result in electric shock or fire.



Do not turn the product on or off by plugging or unplugging the power plug. (Do not use the power plug as a power switch.)



Unplug the power plug before cleaning the product.
• There is a danger of electric shock or fire.



Keep the power cord away from sources of heat.



Connect the power plug to a wall outlet that can be easily reached.
• When a problem occurs with the product, you must unplug the power plug to cut the power off completely. You cannot cut the power off completely using only the power button on the product.

Installation Related

Warning



Avoid installing the product in a location exposed to direct sunlight and installing the product near a heat source such as a fire or heater.

- This may shorten the product life cycle or cause fire.



Avoid installing the product in a badly-ventilated location such as inside a bookshelf or closet.

- Otherwise, it may result in fire due to internal overheating.



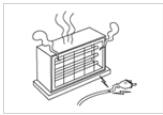
When installing the product in a cabinet or shelf, take care so that the front end of the product is completely supported by the cabinet or shelf.

- Failing to do so may result in the product falling and resulting in damage to the product or injury.
- Make sure to use a cabinet or shelf suitable to the size of the product.



When installing the product on a console or shelf, make sure that the front of the product does not protrude out of the console or shelf.

- Otherwise, this may cause the product to fall off and result in a malfunction or injury.



Keep the power cord away from heaters.

- The coating of the power cord may melt and cause electric shock or fire.



When thunder or lightning occurs, unplug the power cord.

- Failing to do so may result in electric shock or fire.



Do not install the product in a location exposed to dust, moisture (sauna), oil, smoke or water (rain drops) and do not install it in a vehicle.

- This may result in electric shock or fire.



Do not install the product in areas with heavy dust.

Caution



Take care not to block the vent with a table cloth or curtain.

- Otherwise, it may result in fire due to internal overheating.



Do not let the product drop while moving it.

- This may result in a problem with the product or injury.



When putting the product down, place it gently.

- Failing to do so may result in a problem with the product or injury.



Do not install the product at a height where children may reach it.

- If a child touches the product, the product may fall and this may result in injury.

Usage Related



Avoid inserting metal objects such as chopsticks, coins or hairpins, or inflammable objects into the product (the vents, ports, etc).

- If water or an alien substance enters the product, turn the power off, unplug the power cord and contact a Service Center.
- Otherwise, it may result in a problem with the product, electric shock or fire.



Do not let children place objects such as toys or cookies on the product.

- If a child tries to reach for any of these objects, the product may fall and cause harm.



Do not disassemble, or attempt to fix or modify the product.

- When the product requires repairs, contact a Service Center.



Do not look directly at the light of the lamp nor project the picture into someone's eyes.

- This is dangerous, especially for children.



Avoid using or placing inflammable spray or objects near the product.

- This may result in an explosion or fire.



When you remove batteries from the remote, be careful that they are not swallowed by children. Keep batteries out of the reach of children.

- If swallowed, see a doctor immediately.



Avoid placing a liquid container such as a vase, flowerpot, beverage, cosmetics or drugs, or a metal object over the product.

- If water or an alien substance enters the product, turn the power off, unplug the power cord and contact a Service Center.
- Otherwise, it may result in a problem with the product, electric shock or fire.

Caution



If the product generates a strange noise, a burning smell, or smoke, unplug the power plug immediately and contact a Service Center.

- Failing to do so may result in electric shock or fire.



If water or a foreign substance enters the product, turn the product off, unplug the power cord from a wall outlet, and contact a Service Center.



If the power plug pin or jack is exposed to dust, water or alien substances, clean it thoroughly.

- There is a danger of electric shock or fire.



Do not use the product while it indicates a malfunction, such as no sound or no picture.

- Turn the product off immediately, unplug the power cord from a wall outlet, and contact a Service Center.



When cleaning the product, disconnect the power cord and clean the product with a soft dry cloth.

- Avoid using chemicals such as wax, benzene, alcohol, thinner, mosquito-repellent, fragrance, lubrication or cleansing agent when cleaning the product.

This may result in the exterior being deformed or the print being removed.



When a gas leak occurs, do not touch the product or the power plug and ventilate immediately.

- A spark may result in an explosion or fire.
- During a thunder or lightning storm, do not touch the power cord or antenna cable



When not using the product for a long time, such as leaving your home, unplug the power cord from the wall outlet.

- Otherwise, it may cause dust accumulation and result in fire caused by overheating or a short circuit or result in an electric shock.



Do not touch the lens on the product.

- This may cause damage to the lens.



If the product is installed in a location where the operating conditions vary considerably, a serious quality problem may occur due to the surrounding environment. In this case, install the product only after consulting our Call Center.

- Places exposed to microscopic dust, chemicals, too high or low temperature, high humidity, such as airports or stations where the product is continuously used for a long time etc..



Do not touch any outer part of the product with tools such as a knife or a hammer.



If you drop the product or the case is damaged, turn the power off and unplug the power cord. Contact a Service Center.

- Failing to do so may result in fire or electric shock.



To clean dirt or stains on the front projection lens, use spray or a wet cloth dampened with neutral detergent and water.



Take care not to lose the lens cover of the product.

- The lens could get damaged.



Ask a Service Center to clean the interior of the projector at least once per year.



Make sure to place your remote control on a table or desk.

- If you step on the remote control, you may fall and hurt yourself or the product may be damaged.



Do not clean the product using water spray or a wet cloth. Avoid using any chemicals such as detergents, industrial or automotive polish, abrasive, wax, benzene, alcohol on any plastic part of the product such as projector case, since this may cause damage.



To avoid burning yourself, do not touch the vents or lamp cover while operating or right after turning off the product.



Do not use any undesignated battery.



Do not open any cover on the product.

- This would prove hazardous because of high-voltage current inside the product.



Be careful not to touch the ventilation hole while the projector is on as hot air comes out.



The ventilation hole is hot for some time though the projector is turned off. Keep you hands or body off the ventilation hole.



Do not place objects vulnerable to heat near the projector.



Be careful to keep your body away from the projector lamp. The lamp is hot.

(Children and those who have sensitive skin should be more careful.)












2 Installation and Connection

2-1 Package Contents

- Unpack the product and check if all of the following contents have been included.
- Store the packaging box in case you need to move the product at a later stage.



Projector

| CONTENTS | | | |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |  |  |
| Quick Guide | Product Warranty | User Manual (BP59-00137A) | Power Cord |
|  |  | | |
| Remote Control (BP59-00132A) / 1 Battery (CR 2025) | Cleaning Cloth (BN63-01798B) | | |
| SOLD SEPARATELY | | | |
|  |  |  |  |
| D-Sub Cable | HDMI Cable | Component(P _R , P _B , Y) Cable | S-VIDEO Cable |
|  | | | |
| VIDEO Cable | | | |

2-2 Installing the Projector

- Install the projector so that the beam from the projector is perpendicular to the screen.
 - Place the projector so that the lens is at the center of the screen. If the screen is not vertically installed, the picture on the screen may not be a rectangle.
 - Do not install the screen in bright surroundings. If the screen is too bright, the picture on the screen will not be displayed clearly.
 - When installing the screen in bright surroundings, use curtains.
 - You can install the projector in the following locations: Front-Floor / Front-Ceiling / Rear-Floor / Rear-Ceiling.(To view the installation position settings)

To view the picture when installing the projector behind the screen



Install a semi-transparent screen.
Select Menu > Setup > Install > Rear-Floor

To view the picture when installing the projector in the front of the screen



Install the projector in the front where you are watching the screen.
Select Menu > Setup > Install > Front-Floor

2-3 Leveling with Adjustable Feet



For level placement of the projector, adjust the Adjustable Feet of the projector.

- You may adjust the level of the projector up to 3 degrees.
Depending on the position of the projector, Keystone distortion of the image may appear.

2-4 Zoom and Focus Adjustment

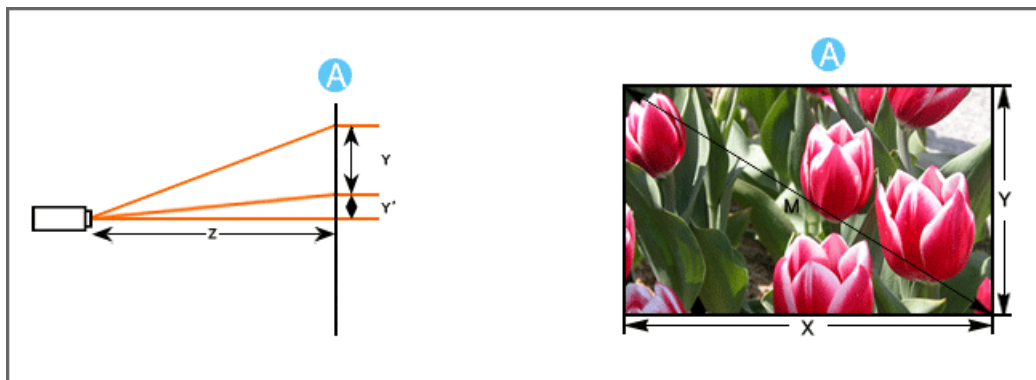


- ① **Zoom Knob** : You can adjust the size of the image within the zoom range by manipulating the Zoom Knob.
- ② **Focus Ring** : Focus the picture on the screen using the Focus Ring.

📌 If your product is installed at a location out of the specified projection distance (refer to Screen Size and Projection Distance), the focus cannot be adjusted correctly.

2-5 Screen Size and Projection Distance

Install the projector on a flat, even surface and level the projector using the adjustable feet to realize optimal picture quality. If images are not clear, adjust them using the Zoom Knob or Focus Ring, or move the projector forward and backward.



A. Screen / Z. Throw Distance / Y'. Distance from Lens Center to Image Bottom

X. Screen width / Y. Screen height / M. Screen Diagonal length

| SCREEN SIZE | | HORIZONTAL | VERTICAL | TELE | WIDE | OFFSET ' |
|-------------|------|---------------|---------------|---------------|---------------|---------------|
| | | X | Y | Z | | Y' |
| INCHES | MM | (MM / INCHES) | (MM / INCHES) | (MM / INCHES) | (MM / INCHES) | (MM / INCHES) |
| 40 | 1016 | 886 / 34.9 | 498 / 19.6 | 1762 / 69.4 | 1355 / 53.3 | 62 / 2.4 |
| 50 | 1270 | 1107 / 43.6 | 623 / 24.5 | 2203 / 86.3 | 1694 / 66.7 | 78 / 3.1 |
| 60 | 1524 | 1328 / 52.3 | 747 / 29.4 | 2643 / 104.1 | 2032 / 80 | 93 / 3.7 |
| 70 | 1778 | 1550 / 61.0 | 872 / 34.3 | 3084 / 121.4 | 2371 / 93.3 | 109 / 4.3 |
| 80 | 2032 | 1771 / 69.7 | 996 / 39.2 | 3524 / 138.7 | 2710 / 106.7 | 125 / 4.9 |
| 90 | 2286 | 1992 / 78.4 | 1121 / 44.1 | 3965 / 156.1 | 3048 / 120 | 140 / 5.5 |
| 100 | 2540 | 2214 / 87.2 | 1245 / 49.0 | 4405 / 173.4 | 3387 / 133.3 | 156 / 6.1 |
| 110 | 2794 | 2435 / 95.9 | 1370 / 53.9 | 4846 / 190.8 | 3726 / 146.7 | 171 / 6.7 |
| 120 | 3048 | 2657 / 104.6 | 1494 / 58.8 | 5287 / 208.1 | 4065 / 160.0 | 187 / 7.4 |

| SCREEN SIZE | | HORIZONTAL | VERTICAL | TELE | WIDE | OFFSET ' |
|-------------|------|---------------|---------------|---------------|---------------|---------------|
| | | X | Y | Z | | Y' |
| INCHES | MM | (MM / INCHES) | (MM / INCHES) | (MM / INCHES) | (MM / INCHES) | (MM / INCHES) |
| 130 | 3302 | 2878 / 113.3 | 1619 / 63.7 | 5727 / 225.5 | 4403 / 173.3 | 202 / 8.0 |
| 140 | 3556 | 3099 / 122.0 | 1743 / 68.6 | 6168 / 242.8 | 4742 / 186.7 | 218 / 8.6 |
| 150 | 3810 | 3321 / 130.7 | 1868 / 73.5 | 6608 / 260.2 | 5081 / 200.0 | 233 / 9.2 |
| 160 | 4064 | 3542 / 139.4 | 1992 / 78.4 | 7049 / 277.5 | 5419 / 213.3 | 249 / 9.8 |
| 170 | 4318 | 3763 / 148.1 | 2117 / 83.3 | 7489 / 294.8 | 5758 / 226.7 | 265 / 10.4 |
| 180 | 4572 | 3985 / 156.9 | 2241 / 88.2 | 7930 / 312.2 | 6097 / 240.0 | 280 / 11.0 |
| 190 | 4826 | 4206 / 165.6 | 2366 / 93.1 | 8370 / 329.5 | 6436 / 253.4 | 296 / 11.7 |
| 200 | 5080 | 4428 / 174.3 | 2491 / 98.1 | 8811 / 346.9 | 6774 / 266.7 | 311 / 12.2 |
| 210 | 5334 | 4649 / 183.0 | 2615 / 103.0 | 9251 / 364.2 | 7113 / 280.0 | 327 / 12.9 |
| 220 | 5588 | 4870 / 191.7 | 2740 / 107.9 | 9692 / 381.6 | 7452 / 293.4 | 342 / 13.5 |
| 230 | 5842 | 5092 / 200.5 | 2864 / 112.8 | 10133 / 398.9 | 7790 / 306.7 | 358 / 14.1 |
| 240 | 6096 | 5313 / 209.2 | 2989 / 117.7 | 10573 / 416.3 | 8129 / 320.0 | 374 / 14.7 |
| 250 | 6350 | 5535 / 217.9 | 3113 / 122.6 | 11014 / 433.6 | 8468 / 333.4 | 389 / 15.3 |
| 300 | 7620 | 6641 / 261.5 | 3736 / 147.1 | 13216 / 520.3 | 10161 / 400.0 | 467 / 18.4 |

 This projector is designed to show images optimally on a 100 ~ 120 inch screen.

2-6 Lamp Replacement

Cautions on Lamp Replacement

- The projector lamp is an expendable item. For best operating performance, replace the lamp according to the usage time. You can view the lamp usage time in the Information Display (INFO button).
- Use the recommended lamp when replacing. Replace with the same model provided with the projector.
 - Lamp Model Name : 220W Philips fusion lamp (BP96-02183A)
 - Lamp Manufacture : Philips Lighting
 - Lamp Life Time : 3000Hrs
 - Lamp Type : 220W UHP
- Check that the power cord is unplugged before replacing the lamp.
- Even after the power cord has been disconnected, the lamp will be hot. Allow it to cool down for at least 1 hour before changing the lamp.
- The lamp is located at the bottom of the product.
- Before you turn the projector over to change the lamp, cover the projector with a soft cloth on a flat surface.
- Do not leave the old lamp near inflammables or in reach of children. There is a danger of burn or injury.
- Remove dirt or foreign materials around or inside the lamp unit using a proper vacuum device.
- When handling the lamp, avoid touching any part of it except for the handles. If you handle the lamp incorrectly, it may affect the screen quality and shorten its lifetime.

Contains Mercury, Dispose According to Local, State or Federal Laws

Lamp Replacement Procedure

1. The lamp is very hot and operates with a high voltage. Allow it to cool down for at least 1 hour after disconnecting the power cord before changing the lamp.
2. The lamp is located at the bottom of the product.
Place the product so that its bottom looks upward and remove the screws that hold the lamp cover in place.
* When placing the product with the bottom upwards, make sure to place a soft cloth on the surface to prevent scratches.



3. Slide and open the cover in the direction of the arrow, as shown in the figure.



4. Remove the screws indicated in the figure.

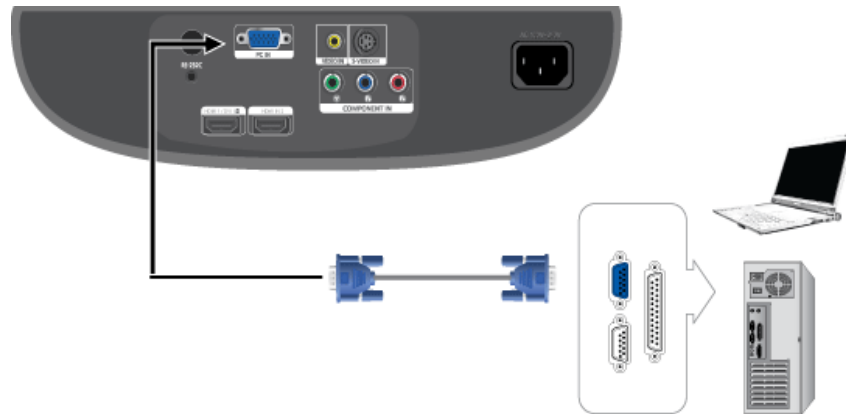


5. Hold and pull the lamp handle slightly, as shown in the figure.



 Inserting a new lamp is in the reverse order of the removal.

2-7 Connecting with a PC



1. Connect [PC IN] port on the rear side of the projector to the monitor output port of the PC using a PC video cable.
2. When connections are all completed, connect both power cords of the projector and the PC.

 This product supports plug and play and therefore, if you use Windows XP, you do not need to setup the driver on your PC.

Using the Projector

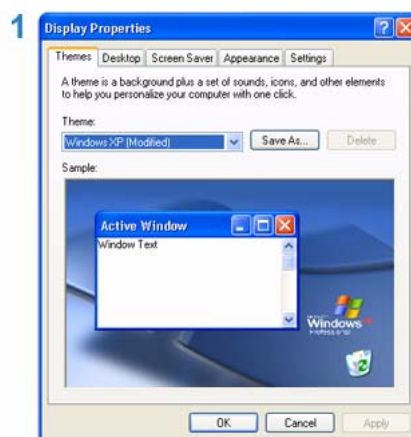
1. Turn on the projector and press the [PC] button to select <PC>.
If PC Mode is not available, check if the PC video cable is in place.
2. Turn on the PC and set the PC Environment when necessary.
3. Adjust the screen.(Auto Adjustment)

-  • Sound comes out from PC speakers.
- To avoid experiencing a blank screen when connecting a PC, set <PC> in the Edit Name menu. See section 3-5-1 for more detail.

2-8 Setting up the PC Environment

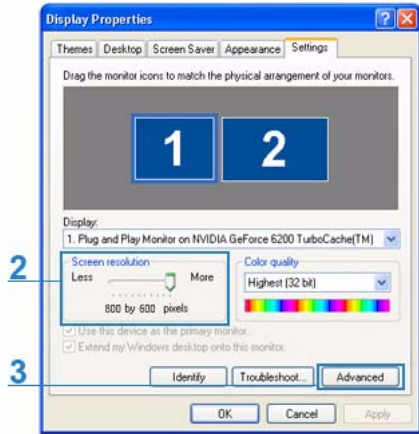
Check the following items before connecting your PC to your projector.

1. Click the right mouse button on the Windows desktop and click on [Properties].
<Display Properties> tab will appear.

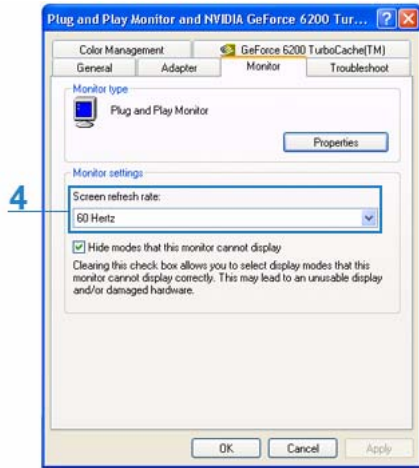


2. Click on [Settings] tab and set the <Screen resolution> by referring to <Resolution> described in the display mode table supported by this projector.
You do not have to change the <Color quality> setup.

3. Press the [Advanced] button. Another property window will appear.



4. Click on [Monitor] tab and set the <Screen refresh rate> by referring to <Vertical Frequency> described in the Supported Resolution/Size Modes table. This will set both the vertical and horizontal frequencies.



5. Click the [OK] button to close the window, and click the [OK] button of the <Display Properties> window to close the window. The computer may restart automatically.
 6. Shut down the PC and connect to the projector.

- Process might vary depending on your type of computer or Windows version. (For example, [Properties] appears instead of [Properties (R)] as shown in 1.)
- This product supports up to 32 bits per pixel when it is used as a PC monitor.
- Projected images may differ from the monitor depending on the monitor manufacturer or Windows versions.
- For connecting it to your PC, you must set your PC display properties to the values supported by the projector or <Mode Not Supported> may be displayed.

2-9 Supported Display Modes

| DISPLAY MODE | | DISPLAY FORMAT | HORIZONTAL FREQUENCY (KHZ) | VERTICAL FREQUENCY (HZ) | CLOCK FREQUENCY(MHZ) | POLARITY (H/V) |
|--------------|-----------|----------------|----------------------------|-------------------------|----------------------|----------------|
| IBM | 640 x 350 | 70Hz | 31.469 | 70.086 | 25.175 | +/- |
| IBM | 720 x 400 | 70Hz | 31.469 | 70.087 | 28.322 | -/+ |
| VESA DMT | 640 x 480 | 60Hz | 31.469 | 59.940 | 25.175 | -/- |

| DISPLAY MODE | | DISPLAY FORMAT | HORIZONTAL FREQUENCY (KHZ) | VERTICAL FREQUENCY (HZ) | CLOCK FREQUENCY(MHZ) | POLARITY (H/V) |
|--------------|------------|----------------|----------------------------|-------------------------|----------------------|----------------|
| MAC | 640 x 480 | 67Hz | 35.000 | 66.667 | 30.240 | -/- |
| VESA GTF | 640 x 480 | 70Hz | 35.000 | 70.000 | 28.560 | |
| VESA DMT | 640 x 480 | 72Hz | 37.861 | 72.809 | 31.500 | -/- |
| VESA DMT | 640 x 480 | 75Hz | 37.500 | 75.000 | 31.500 | -/- |
| VESA CVT | 720 x 576 | 60Hz | 35.910 | 59.950 | 32.750 | -/+ |
| VESA DMT | 800 x 600 | 56Hz | 35.156 | 56.250 | 36.000 | +/+ |
| VESA DMT | 800 x 600 | 60Hz | 37.879 | 60.317 | 40.000 | +/+ |
| VESA GTF | 800 x 600 | 70Hz | 43.750 | 70.000 | 45.500 | |
| VESA DMT | 800 x 600 | 72Hz | 48.077 | 72.188 | 50.000 | +/+ |
| VESA DMT | 800 x 600 | 75Hz | 46.875 | 75.000 | 49.500 | +/+ |
| MAC | 832 x 624 | 75Hz | 49.726 | 74.551 | 57.284 | -/- |
| VESA DMT | 1024 x 768 | 60Hz | 48.363 | 60.004 | 65.000 | -/- |
| VESA DMT | 1024 x 768 | 70Hz | 56.476 | 70.069 | 75.000 | -/- |
| VESA GTF | 1024 x 768 | 72Hz | 57.672 | 72.000 | 78.434 | |
| VESA DMT | 1024 x 768 | 75Hz | 60.023 | 75.029 | 78.750 | +/+ |
| VESA CVT | 1152 x 864 | 60Hz | 53.783 | 59.959 | 81.750 | -/+ |
| VESA GTF | 1152 x 864 | 70Hz | 63.000 | 70.000 | 96.768 | |
| VESA GTF | 1152 x 864 | 72Hz | 64.872 | 72.000 | 99.643 | |
| VESA DMT | 1152 x 864 | 75Hz | 67.500 | 75.000 | 108.000 | +/+ |
| MAC | 1152 x 870 | 75Hz | 68.681 | 75.062 | 100.000 | -/- |
| VESA CVT | 1280 x 720 | 60Hz | 44.772 | 59.855 | 74.500 | -/+ |
| VESA GTF | 1280 x 720 | 70Hz | 52.500 | 70.000 | 89.040 | |
| VESA GTF | 1280 x 720 | 72Hz | 54.072 | 72.000 | 91.706 | |
| VESA CVT | 1280 x 720 | 75Hz | 56.456 | 74.777 | 95.750 | -/+ |
| VESA DMT | 1280 x 768 | 60Hz | 47.776 | 59.870 | 79.500 | -/+ |
| VESA DMT | 1280 x 768 | 75Hz | 60.289 | 74.893 | 102.250 | -/+ |
| VESA DMT | 1280 x 800 | 60Hz | 49.702 | 59.810 | 83.500 | -/+ |
| VESA DMT | 1280 x 800 | 75Hz | 62.795 | 74.934 | 106.500 | -/+ |

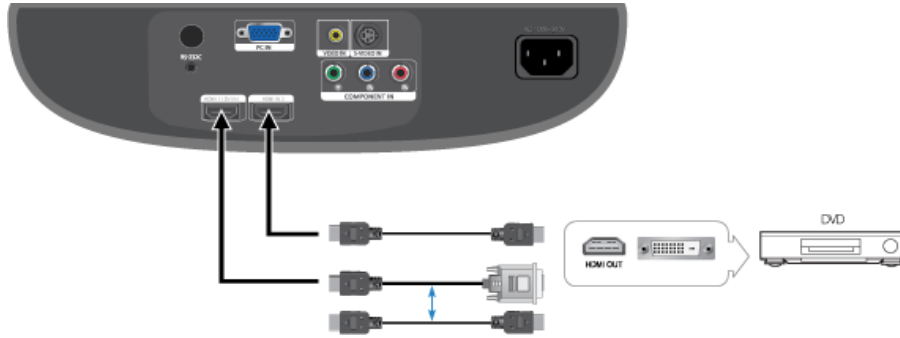
| DISPLAY MODE | | DISPLAY FORMAT | HORIZONTAL FREQUENCY (KHZ) | VERTICAL FREQUENCY (HZ) | CLOCK FREQUENCY(MHZ) | POLARITY (H/V) |
|--------------|----------------|----------------|----------------------------|-------------------------|----------------------|----------------|
| VESA DMT | 1280 x 800 | 60Hz | 60.000 | 60.000 | 108.000 | +/+ |
| VESA GTF | 1280 x 960 | 70Hz | 69.930 | 70.000 | 120.839 | |
| VESA GTF | 1280 x 960 | 72Hz | 72.072 | 72.000 | 124.540 | |
| VESA CVT | 1280 x 960 | 75Hz | 75.231 | 74.857 | 130.000 | -/+ |
| VESA DMT | 1280 x 1024 | 60Hz | 63.981 | 60.020 | 108.000 | +/+ |
| VESA GTF | 1280 x 1024 | 70Hz | 74.620 | 70.000 | 128.943 | |
| VESA GTF | 1280 x 1024 | 72Hz | 76.824 | 72.000 | 132.752 | |
| VESA DMT | 1280 x 1024 | 75Hz | 79.976 | 75.025 | 135.000 | +/+ |
| VESA DMT | 1440 x 900 | 60Hz | 55.935 | 59.887 | 106.500 | -/+ |
| VESA DMT | 1440 x 900 | 75Hz | 70.635 | 74.984 | 136.750 | -/+ |
| VESA DMT | 1600 x 1200 | 60Hz | 75.000 | 60.000 | 162.000 | +/+ |
| VESA DMT | 1680 x 1050 RB | 60Hz | 64.674 | 59.883 | 119.000 | +/- |
| VESA DMT | 1680 x 1050 | 60Hz | 65.290 | 59.954 | 146.250 | -/+ |
| VESA CVT | 1920 x 1080RB | 60Hz | 66.587 | 59.934 | 138.500 | +/- |
| VESA DMT | 1920 x 1200 RB | 60Hz | 74.038 | 59.950 | 154.000 | +/- |

2-10 Connecting the Power



1. Plug the power cord into the power terminal on the rear side of the projector.

2-11 Connecting a DVD player/Cable/Satellite Box to HDMI/DVI



1. Connecting using an HDMI/DVI cable
 - Connect the [HDMI 1/DVI IN] terminal on the back of the projector and the DVI output terminal of the DVD player/Cable/Satellite box using an HDMI/DVI cable.

Connecting using an HDMI cable

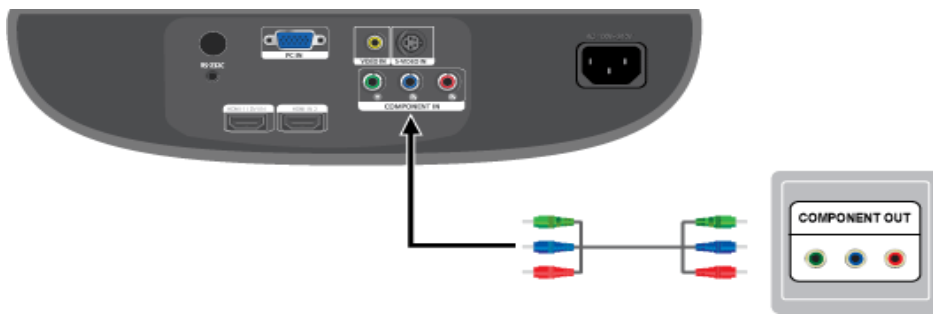
- Connect the [HDMI 1/DVI IN] or [HDMI IN 2] terminal on the back of the projector and the HDMI output terminal of the DVD player/Cable/Satellite box using an HDMI cable.
2. When the connection is finished, connect the power of your projector and DVD player/Cable/Satellite box.

Using the Projector

1. Turn on the projector and press the [HDMI] button to select <HDMI1> or <HDMI2>.

- This projector does not support sound. (Separate audio system is needed for sound.)

2-12 Connecting a DVD player/Cable/Satellite Box via Component



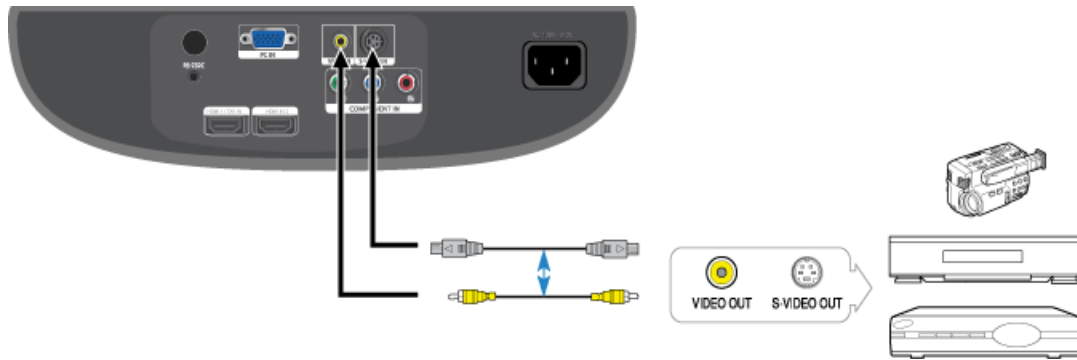
1. Connect the [COMPONENT IN (Y/P_B/P_R)] input port at the back of the projector to the Component port at the back of the DVD player/Cable/Satellite box with a Component cable.
2. When the connection is finished, connect the power of your projector and DVD player/Cable/Satellite box.

Using the Projector

1. Turn on the projector and press the [COMP] button to select <Component>.

- Component Ports are marked as (Y/P_B/P_R), (Y, B-Y, R-Y) or (Y, Cb, Cr), depending on the manufacturer.

2-13 Connecting to VCR/Camcorder



1. Connect [VIDEO IN(yellow)] input port of the projector to the VIDEO (yellow) OUT port of video equipment using a video cable.
If the video equipment has S-VIDEO OUT port, connect it to [S-VIDEO IN] input port of the projector.
Using the S-VIDEO connection provides a higher visual quality.
2. When finishing connecting the devices, connect the power of the projector and the VCR/Camcorder.

Using the Projector

1. Turn on the projector and press the [Video] button to select <Video>.
or
Press the [S-VIDEO] button to select <S-Video>.

- Check that the projector and the video equipment are turned off before connecting cables.
- This projector does not support sound. (Separate audio system is needed for sound.)




3 Using

3-1 Product Features

- Optical engine with advanced DLP technology
 - Full 1920x1080 HD panel.
 - 6 segment color wheel to implement optimal colors.
 - 220W Lamp designed to improve luminance
- Vivid colors
 - Quality picture tuning focused on improving color - this unit aims at realizing color coordinates that meet broadcasting standards on video production.
- Minimized fan noise and light leakage
 - The airflow and fan installation structure are optimized to minimize fan noise and beam leakage.
- Various Input Ports
 - Abundant input terminals are available, such as two HDMI (supporting HDCP) terminals and a component terminal, etc., to enhance connectivity with peripheral devices.
- User adjustments
 - This unit allows adjustment of each input port.
 - The unit has a reference pattern that can be used for positioning and adjustment.

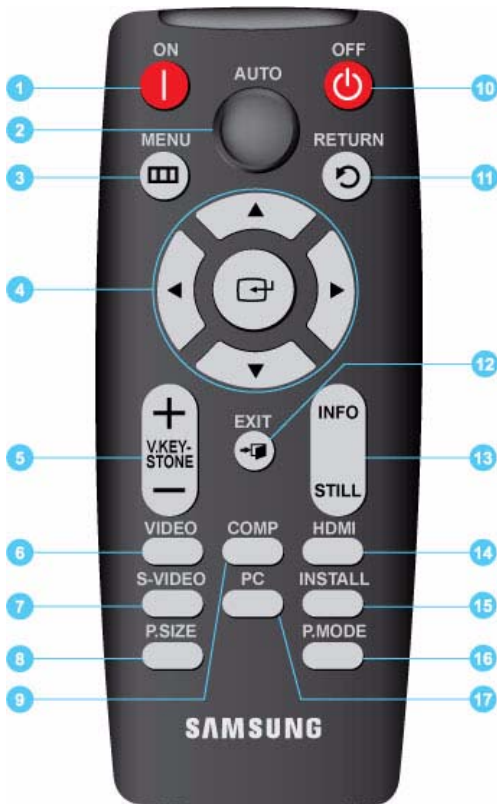
3-2 Front, Upper



| NAME | DESCRIPTION |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Indicators | - STAND BY (Blue LED) - LAMP (Blue LED) - TEMP (Red LED)  Refer to the LED Indications. |
| 2. Focus Ring | Used for Focus Adjustment. |
| 3. Remote Control Signal Receiver | - |
| 4. Lens | - |
| 5. Adjustable Feet | You can adjust the screen position by moving the adjustable feet up and down. |
| 6. Zoom Knob | Used to enlarge or reduce image size. |
| 7. POWER (⏻) Button | Used to turn the projector on or off. |
| 8. SOURCE Button | Use this button to select the external device signal. |
| 9. MENU Button | Used to display Menu Screen. |
| 10. Move \blacktriangleleft \blacktriangleright / Select  button | \blacktriangleleft \blacktriangleright /  : Use this button to move to or select an item within a menu. |

 •The buttons on the top of the projector are touch buttons. Touch them lightly with your fingers to use them.

3-3 Remote Control



1. **ON Button** (I)
Used to turn on the projector.
2. **AUTO Button**
Adjusts the Picture automatically. (Available in < PC> Mode Only)
3. **MENU Button** (III)
Used to display the Menu Screen.
4. **Move** (▼▲◀▶) / (G) Button
Used to move to or select each menu item.
5. **V. KEYSTONE Button** (+-)
Use this when the screen is displayed in a trapezoid shape.
6. **VIDEO Button**
Used to switch to <VIDEO> Mode.
7. **S-VIDEO Button**
Used to switch to <S-VIDEO> Mode.
8. **P.SIZE Button**
Used to adjust the size of picture screen.
9. **COMP Button**
Used to switch to <COMPONENT> Mode.
10. **OFF Button** (⏻)
Used to turn off the projector.
11. **RETURN Button** (↶)
Returns to the previous menu.
12. **EXIT Button** (↵)
Used to make Menu Screen disappear.
13. **INFO STILL Button**
INFO: Used to check source signals, picture setup, PC screen adjustment and lamp lifespan.
STILL: Used to see still images.
14. **HDMI Button**
Used to switch to <HDMI> Mode.
15. **INSTALL Button**
Used to flip or reverse the projected image.
16. **P.MODE Button**
Used to select Picture Mode.
17. **PC Button**
Used to switch to <PC> Mode.

- 🔑 Make sure to place your remote control on a table or desk.
If you step on the remote control, you may fall and hurt yourself or the product may be damaged.
- 🔑 You can use the remote control up to a distance of about 23 feet(7 m) from the product.

3-4 LED Indications


LED Indications

●:Light is On ●:Light is Blinking ○:Light is Off

| STAND BY | LAMP | TEMP | INFORMATION |
|----------|------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ● | ○ | ○ | If you press the POWER button on the remote control or projector, the screen appears within 30 seconds. |
| ● | ● | ○ | The projector is in normal operating condition. |
| ● | ● | ○ | This state appears when the projector is preparing an operation after the POWER button on the projector or the remote control has been pressed. |
| ○ | ● | ○ | The POWER button is pressed to turn off the projector, and the cooling system is in operation to cool off the inside of the projector. (Lasts for about 1 minute) |
| ● | ○ | ● | Refer to Action 1 below if the cooling fan inside the projector is not in normal operation condition. |
| ○ | ● | ● | Refer to Action 2 below if the lamp cover protecting the lamp unit is not closed properly. |
| ○ | ○ | ● | Power is turned off automatically when temperature inside of the projector goes beyond the control limit. Refer to Action 3. |
| ● | ● | ● | A problem has occurred when operating the IC in the product. Refer to Action 4. |
| ● | ● | ● | A problem has occurred with the operation of the lamp. Refer to Action 5. |
| ● | ● | ● | The lifetime of the lamp has expired. Refer to Action 6. |
| ● | ● | ○ | The memory in the product is not operating normally. Contact a Service Center. |
| ● | ● | ● | The power for the product is not operating normally. Contact a Service Center. |
| ● | ● | ● | A problem has occurred when operating the color wheel in the product. Refer to Action 4. |





Clearing Indicator Problems

| CLASSIFICATION | STATE | MEASURES |
|----------------|--------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action 1 | When the cooling fan system is not in normal operating condition. | If the symptom remains even after disconnecting and then reconnecting the power cord and turning the projector on again, contact a Samsung service center. |
| Action 2 | When the lamp cover protecting the lamp unit is not properly closed or the sensor system is not in normal operating condition. | Check whether the screws at the bottom side of the projector are fastened correctly. If they are abnormally fastened, contact a Samsung service center. |
| Action 3 | When temperature inside of the projector becomes too high. | Adjust the installation state of your projector by referring to the Installation Precautions section listed above. Cool down your projector sufficiently and then operate it again. If the same problem occurs continually, contact a Samsung service center. |
| Action 4 | No video | Disconnect and reconnect the power cord and start the projector again. If the same symptom still occurs, contact a Samsung service center. |
| Action 5 | The lamp malfunctions after power turns off abnormally or after powering on right after turning off the projector. | Turn the power off, wait for a sufficient amount of cooling time and then turn the power on to operate. If the same problem occurs continually, contact a Samsung service center. |
| Action 6 | When the screen becomes darker | Check the lamp usage time on the Information Display screen. If you need to replace the lamp, contact a Samsung service center. |

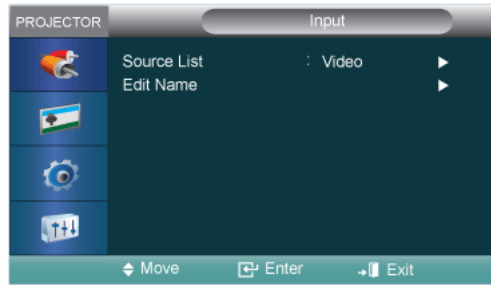
 This Projector uses a cooling fan system to keep the unit from overheating. Operation of the cooling fan may cause noise, which does not affect the product performance and is part of normal operation.


3-5 Using the Screen Adjustment Menu (OSD: On Screen Display)

The Screen Adjustment Menu (OSD: On Screen Display) Structure

| MENU | SUB-MENU | | | | |
|---------------------------------------------------------------------------------------------|---------------|----------------|-------------------|-------------------|---------------|
|  Input | Source List | Edit Name | | | |
|  Picture | Mode | Size | Position | Digital NR | Black Level |
| | Color Pattern | Overscan | 1080/24fps Mode | Film Mode | |
|  Setup | Install | Lamp Mode | V-Keystone | Background | Test Pattern |
| | PC | Color Standard | Factory Default | | |
|  Option | Language | Menu Position | Menu Transparency | Menu Display Time | Auto Power On |
| | Sleep Timer | LED Indicator | Buzz | Information | |





3-5-1. Input









| MENU | DESCRIPTION |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Source List | You can select a device connected to the projector to display. <HDMI1>- <HDMI2>-<Component>- <S-Video>-<Video>-<PC> |
| Edit Name | You can edit the names of devices connected to the projector. <ul style="list-style-type: none"> • <VCR>- <DVD>-<Cable STB>- <Satellite STB>-<PVR STB>-<AV Receiver>-<Game>-<Camcorder>-<PC>-<TV>-<IPTV>-<Blu-Ray>-<HD DVD>-<DMA> <p> To avoid experiencing a blank screen when connecting a PC, set <PC> in the <Edit Name> menu.</p> |

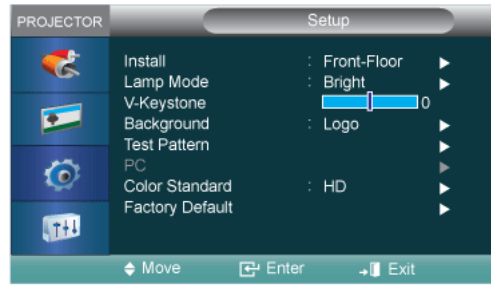
3-5-2. Picture




| MENU | DESCRIPTION |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mode | <p>Select a desired picture mode.</p> <ul style="list-style-type: none"> •<Mode> <ul style="list-style-type: none"> • <Vivid> : Select this mode for a more vivid picture. • <Dynamic > : Select this mode for a brighter and sharper picture than Standard Mode. • <Standard> : This is the picture mode optimized to the standard broadcast signal. • <Movie1>,<Movie2> : Optimize the picture for watching movies. • <User 1>,<User 2>,<User 3> : Select when you adjust the picture to suit your preference. •<Contrast > : Used to adjust the contrast between the object and the background. •<Brightness > : Used to adjust brightness of the entire picture. •<Sharpness > : Used to adjust the sharpness of the picture. <p> You can not set in <PC> mode.</p> <ul style="list-style-type: none"> •<Color > : Used to adjust color lighter or darker. <p> You can not set in <PC> mode.</p> <ul style="list-style-type: none"> •<Tint> : Used to obtain more natural color of objects using Green or Red enhancement. <p> You can not set in <PC> mode.</p> <ul style="list-style-type: none"> • <Color Temperature> : You can change tint of the entire screen to suit your needs. <ul style="list-style-type: none"> •<Color Temperature> <ul style="list-style-type: none"> • <9300K> : The color temperature appropriate to very bright places such as a shop. • <8000K > : This color temperature is appropriate for very bright places and is the default setting for Dynamic Picture Mode. The sharpness and brightness are emphasized. • <6500K > : This temperature is used for most video productions. It is the default setting for Movie1, and may deliver the most precise tint. • <5500K > : Used to deliver optimal image quality for black-and-white films. •<R-Gain >-<G-Gain >-<B-Gain >-<R-Offset >-<G-Offset >-<B-Offset > • <Gamma > : An image compensation function that controls the settings according to the video properties. <ul style="list-style-type: none"> •<Film >: The best setting for watching a film. •<Video > : The best setting for watching a TV program. •<Graphic >: The best setting when you have a PC connected. • <Save > : Used to save custom picture settings. <ul style="list-style-type: none"> •<User1>-<User2>-<User3> • <Reset > : Restores the mode settings to the factory defaults. <ul style="list-style-type: none"> •<OK>-<Cancel> |
| Size | <p>You can select a screen size according to the type of scene.</p> <p><16:9>-<Zoom 1 >-<Zoom 2 >-<Wide Fit>-<Anamorphic>-<4:3></p> <p> • In the <PC> mode, only the <16:9> and <4:3> modes are supported.</p> <ul style="list-style-type: none"> • In the <HDMI1,2>(576p,480p,576i,480i resolutions) and <Component>(576p,480p,576i,480i resolutions) modes, the <Wide Fit> mode is not supported. • In the <Video> and <S-Video> mode, the <Wide Fit> and <Anamorphic> modes are not supported. |
| Position | Adjust the screen position if it is not aligned. |

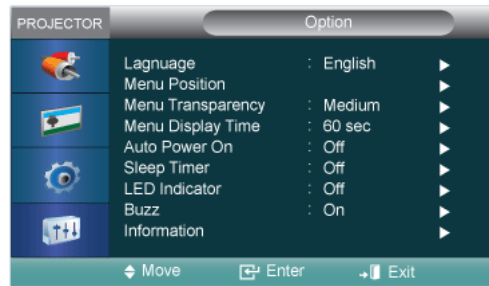
| MENU | DESCRIPTION |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Digital NR | <p>When a dotted line is displayed or the screen shakes, you can view the picture with better visual quality by enabling Noise Reduction.</p> <ul style="list-style-type: none"> • <Off >-<On> <p> You can not set in <PC> mode.</p> |
| Black Level | <p>If the picture seems too dark, you can set a brighter black level.</p> <p> • You can not set in <PC> mode.</p> <ul style="list-style-type: none"> • The Black Level can only be selected in <Component>, <Video>, <S-Video>, <HDMI 1> and <HDMI 2> modes. <p>For <Video>, <Component> and <S-Video> Modes</p> <ul style="list-style-type: none"> • <0 IRE> : Default black level. • <7.5 IRE> : Set the black level so it is darker. <p>For <HDMI 1>, <HDMI 2> Modes</p> <ul style="list-style-type: none"> • <Low > : Set the brightness standard for dark signals to a low setting. If the input signal is an [HDMI-Video] type, unclear screens are displayed normally. • <Normal > : Set the brightness standard for dark signals to a high setting. If the input signal is an [HDMI-PC] type, dark screens are displayed bright. |
| Color Pattern | <p>You can filter the color of the entire screen according to your taste. Make optimal display settings for movies.</p> <p> You can not set in <PC> mode.</p> <ul style="list-style-type: none"> • <Off >: Shows the picture in the original color. • <Monochrome >: Shows the picture in black and white by filtering out all color signals. • <Red >: Shows the picture in red by filtering out the green and blue color signals. • <Green >: Shows the picture in green by filtering out the red and blue color signals. • <Blue >: Shows the picture in blue by filtering out the red and green color signals. |
| Overscan | <p>Using this function, you can cut the edge of the picture when unnecessary information or images appear on the edge of the picture.</p> <p> You can not set in <PC> mode.</p> <ul style="list-style-type: none"> • <Off >-<On> |
| 1080/24 fps Mode | <p>This function displays the full 1080P@24Hz native HD signals which have 24 frames per second with minimal scene distortion, as in a movie. Though the difference is small, this function implements the highest screen quality.</p> <p> You can adjust <1080p/24 fps Mode> mode in <HDMI 1>, <HDMI 2> and <Component> modes only.</p> <ul style="list-style-type: none"> • <Off >: Displays scenes where 24 frames are lengthened to 60 frames. Because of this process, screen judder may be generated. • <On >: Displays scenes where 24 frames are lengthened to 48 frames. All scenes are displayed regularly without any screen judder. |
| Film Mode | <p>Using this function, you can set the display mode optimized for playing movies. <Film Mode> provides optimal display settings for movies.</p> <p> Film Mode is only supported for <Video>, <S-Video> and <Component>(480i,576i).</p> <ul style="list-style-type: none"> • <Off >-<On> |

3-5-3. Setup



| MENU | DESCRIPTION |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Install | <p>To tailor the picture to the installation location, you can invert the projected images vertically/horizontally.</p> <ul style="list-style-type: none"> • <Front-Floor >: Normal Image • <Front-Ceiling >: Horizontally/Vertically Reversed Image • <Rear-Floor>: Horizontally Reversed Image • <Rear-Ceiling > : Vertically Reversed Image |
| Lamp Mode | <p>Used to set the image brightness by adjusting the amount of light generated by the lamp.</p> <p><Theater >: This mode is for reducing the brightness of the lamp in dark environments to prevent glare when viewing pictures. It also reduces the lamp power consumption, resulting in a decrease in the general power output of the projector.</p> <p><Bright >: This feature increases the lamp brightness. You may hear increased fan noise in this mode.</p> |
| V-Keystone | <p>If video scenes are distorted or tilted, you can compensate for this using the vertical Keystone function.</p> <p>As the Vertical Keystone function compensates for screen distortions via software, we recommend installing the projector so that no screen distortions occur in the horizontal and vertical directions, rather than using the vertical keystone function.</p> |
| Background | <p>If there is no signal from a TV station or an external device connected to the projector, the screen will have the Samsung logo or will turn blue or black. If there is a signal, the logo or color will disappear to display normal pictures.</p> <ul style="list-style-type: none"> • <Logo > -<Blue > -<Black > |
| Test Pattern | <p>Generated by the projector itself. Utilized as standard to optimize the installation of the projector.</p> <ul style="list-style-type: none"> • <Crosshatch > - You can check whether the picture is distorted or not. • <Screen Size > - You can refer to picture format sizes such as 1.78 : 1 or 1.33 : 1. • <Red> - Red Screen, only for color adjustment. • <Green > - Green Screen, only for color adjustment. • <Blue > - Blue Screen, only for color adjustment. • <White > - White Screen, only for color adjustment. • <6500K_White > - White Screen, brings out the white tones for a more real white. <p>The Red/Green/Blue colors of the test patterns are only for the color adjustment procedures, and may not comply with the actual colors displayed during video playback.</p> |
| PC | <p>Eliminates or reduces noise that causes unstable screen quality, such as screen shaking. If the noise is not removed using Fine Adjustment, adjust the frequency to the maximum and then perform Fine Adjustment again.</p> <p> Only activated in the PC environment. (Component signals are not supported)</p> <ul style="list-style-type: none"> • <Auto Adjustment> : Used to adjust frequency and phase of PC screen automatically. • <Coarse > : Used to adjust frequency when vertical lines appear on PC screen. • <Fine> : Used to fine tune the PC screen. • <Zoom > : Used to extend PC screen from the center. • <Reset > : Using this function, you can reset the PC menu settings to the factory default settings. |
| Color Standard | <p>You may adjust the color standard to suit the color standard of the input signal.</p> <ul style="list-style-type: none"> • <HD> : High Definition, 1125 scan lines. • <SMPTE_C> : Standardized for Video Equipment by the Society of Motion Picture and Television Engineers. • <EBU> : Regulations and standards for European Broadcasting Production and Technology, standardized by the European Broadcasting Union. |
| Factory Default | <p>Using this function, you can reset various settings to the factory default.</p> |

3-5-4. Option



| MENU | DESCRIPTION |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Language | You can select the language used for the menu screen. <ul style="list-style-type: none"> • <English> - <Deutsch> - <Nederlands> - <Español> - <Français> - <Italiano> - <Svenska> - <Português> - <Русский> - <中国語> - <中國語 (繁體)> - <한국어> |
| Menu Position | You can move Menu Position up/down/left/right. |
| Menu Transparency | You can set the transparency of menu. <ul style="list-style-type: none"> • <High> - <Medium> - <Low> - <Opaque> |
| Menu Display Time | You can set the display time of the menu. <ul style="list-style-type: none"> • <5 sec> - <10 sec> - <30 sec> - <60 sec> - <90 sec> - <120 sec> - <Stay On > |
| Auto Power On | If the power is supplied to the projector, it is turned on automatically without pressing the Power button. <ul style="list-style-type: none"> • <Off> - <On> |
| Sleep Timer | If there is no input signal for the specified time, the projector is turned off automatically. (There must be no button input from the remote control or on the top of the projector for the specified time.) <ul style="list-style-type: none"> • <Off> - <10 min> - <20 min> - <30 min> |
| LED Indicator | You can turn the LED indicators on your projector on or off according to your requirements. <ul style="list-style-type: none"> • <Off> : This mode disables the operating LED. However, the LED will come on regardless of the LED setting when the power is turned on or off or when the projector is in an abnormal state. • <On> : This mode enables the operating LED so that it can display the current operating state of the projector. |
| Buzz | You can turn on or off the sound when pressing one of the buttons on your projector. <ul style="list-style-type: none"> • <Off> - <On> |
| Information | You can check external source signals, picture setup, PC picture adjustment. |

4 Troubleshooting

4-1 Before Requesting Service

 Please check the following before requesting After-Sales service. If the problem continues, please contact your nearest Samsung Electronics Service Center.


| | Symptoms | Troubleshooting |
|-----------------------------|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Installation and Connection | No Power. | Check the power cable connections. |
| | I want to install my projector on the ceiling. | The ceiling installation support is sold separately. Contact your local product distributor. |
| | External Source can not be selected. | Be sure that the connection cable(s) is properly connected to the proper port. If the device is not connected properly, it can not be selected. |
| Menu and Remote Control | Remote control does not work. | Be sure that the proper external source is selected. Check the remote control battery. If there is something wrong with it, replace it with a new battery of the recommended size. Be sure to aim the remote at sensor on the front or back of the unit and at a distance of no more than approximately 23 feet(7 m). Remove any obstacles between your remote control and the product. Direct light from 3-way light bulbs or other lighting devices on the remote sensor of the projector may affect the sensitivity and cause the remote control to malfunction. Check if the remote control battery compartment is empty. Check whether the LED indicator on the top of the projector is turned on. |
| | I cannot select a menu. | Check if the menu is displayed in gray. A gray-colored menu is unavailable. |


| | Symptoms | Troubleshooting |
|--------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Screen and External Source | Cannot see picture images. | <p>Be sure that the power cord of the projector is connected.</p> <p>Be sure that the proper input source is selected.</p> <p>Check that the connectors are properly connected to the ports at the back of the projector.</p> <p>Check the Remote Control batteries.</p> <p>Be sure that the <Color>, <Brightness> settings are not at their lower limit.</p> |
| | Poor color. | Adjust the <Tint> and <Contrast>. |
| | Images are not clear. | <p>Adjust the focus.</p> <p>Check that the projection distance is either too far or too near to the screen.</p> |
| | Strange noise. | If a strange sound continues, contact our Service Center. |
| | The operating LED is lit up. | Refer to Corrective Actions According to LED Indications. |
| | Lines appear on screen. | Because noise may occur when using your PC, adjust the frequency of the screen. |
| | No external device screen is displayed. | Check the operating status for the external device and check whether the adjustment items, such as the Brightness and the Contrast have been changed correctly in the <Mode> command screen of the Projector menu. |
| | Only blue screen appears. | Be sure to properly connect the external devices. Check the connection cables again. |
| Screen appears in black and white or odd color./ screen is too dark or bright. | <p>As mentioned above, check the adjustment items such as the <Brightness>, <Contrast > and <Color> in the menu.</p> <p>Check <Color Pattern> in the OSD menus.</p> <p>If you want to restore various settings to their factory defaults, run <Factory Default>from the menu.</p> | |

5 More Information

5-1 Specifications

| MODEL | | SP-A600B |
|------------------------------|--------------------------|-------------------------------------------------------------------------------------------|
| Panel | Size | 16.5 mm / 0.65 inches |
| | Resolution | FHD (1920x1080) |
| | Manufacturer | Texas Instrument |
| Lamp | Type | 220 W UHP (Theater mode : 187 W) |
| | Life Time | 3,000 Hours |
| | Manufacturer | Philips |
| Color | | 62.2 M (1920 x 1080 x 3 x 10bit) |
| Resolution | Optimum resolution | 1920 x 1080 @ 60 Hz |
| | Maximum resolution | 1920 x 1200 @ 60 Hz (Reduce Blanking) |
| Input video signal | | Video, S-Video, Component, Analog PC, 2 x HDMI |
| Input synchronization signal | | Separate H/V sync |
| Maximum Pixel Clock | | 162 MHz |
| Diagonal screen size | | 1016 ~7620 mm (40 ~ 300 inches) |
| Projection Range | | 1.3 m ~ 13 m (53.3 ~ 520.3 inches) |
| Power | Power Consumption | Less than 275 W |
| | Voltage | 110/220 Vac +/-10 %, 50/60 Hz +/-3 Hz |
| Noise | | 24dB(Theater) |
| Dimensions | | 343.1 mm(W) x 162.4 mm(H) x 347.2 mm(D) / 13.5 inches(W) x 6.4 inches(D) x 13.7 inches(H) |
| Weight | | 4.7 kg / 10.4 lbs |
| Key Features | Brightness | 1000 ANSI |
| | Contrast | 3000:1 |
| | Keystone | Vertical |
| User Environ- ment | Temperature and Humidity | Operating: Temperature 32 °F ~ 104 °F (0 °C ~ 40 °C), Humidity (10 % ~ 80 %) |
| | | Storage : Temperature -4 °F ~ 113 °F (-20 °C ~ 45 °C) , Humidity (5 % ~ 95 %) |

 This Class B equipment is designed for home and office use. The equipment has been registered regarding EMI for residential use. It may be used in all areas. Class A is for office use. Class A is for business while class B emits less electromagnetic waves than class A.

 The DMD Panel used in DLP Projectors consists of several hundred thousand micro mirrors. As with other visual display elements, the DMD Panel may include a few bad pixels. Samsung and the DMD Panel manufacturer have a rigid, bad pixel identification and limitation procedure in place and products will not exceed the maximum number of bad pixels set by our standards. Rarely, non-displayable pixels may exist, however it does not affect the picture quality nor the lifespan of the product.

Communication Format (Complies with the RS232C Standard)

- Baud rate : 9,600 bps
- parity : None
- Data bits : 8, stop bit : 1
- Flow Control : None

Serial Communication Protocol

1. Command Packet Structure [7bytes]

| | | | | | | |
|------|------|------|------|------|-------|----|
| 0x08 | 0x22 | cmd1 | cmd2 | cmd3 | value | CS |
|------|------|------|------|------|-------|----|

- A command packet consists of 7 bytes in total.
- The two bytes 0x08 and 0x22 signify that the packet is for serial communication.
- The following 4 bytes represent a pre-defined command that can be defined by the user.
- The last byte is the checksum which checks the validity of the current packet.
- Header [2 Byte]: Pre-defined values fixed to 0x08 and 0x22.
- Cmd1 [1 Byte]: The first value of the code defined in the command list (Hexadecimal)
- Cmd2 [1 Byte]: The second value of the code defined in the command list (Hexadecimal)
- Cmd3 [1 Byte]: The third value of the code defined in the command list (Hexadecimal)
- Value [1 Byte]: Input parameter for the command (Default: 0) (Hexadecimal)
- CS [1 Byte]: Checksum (the 2's complement of the sum of all the values except for the CS value.)

2. Response Packet Structure [3 Bytes]

1. Success

| | | |
|------|------|------|
| 0x03 | 0x0C | 0xF1 |
|------|------|------|

2. Fail

| | | |
|------|------|------|
| 0x03 | 0x0C | 0xFF |
|------|------|------|

- When the received packet from an external device has a valid value, a Success packet is sent. Otherwise, a Fail packet is sent.
- A Fail packet is sent if:
 - The received packet length is not equal to 7 bytes.
 - The 2 byte packet header value is not equal to 0x08, 0x22.
 - The check sum is incorrect.
- Failure detection by an external device
 - An external device classifies the packet as Fail if it does not receive a Success packet within 100ms.

- Transmit the following control command to transmit one or more control commands if there was a successful response for the previous transmission or there was no response in over 3 seconds.
- While controlling the Projector using a Computer, you cannot check the Projector' s status change using the Computer nor will it be displayed on the Projector's screen. Transmit the INFORMATION command to display the current information on the Projector's screen.
- All the control commands apply to the input source and the Projector's status currently displayed.

Command Table

| CONTROL ITEM | | | | CMD1 | CMD2 | CMD3 | VALUE |
|--------------|-------------|-----------|-------------|------|------|------|-------|
| General | Power | Power | Display OSD | 0x00 | 0x00 | 0x00 | 0 |
| | | | OK | | | | 1 |
| | | | Cancel | | | | 2 |
| Input | Source List | HDMI | HDMI 1 | 0x0A | 0x00 | 0x01 | 0 |
| | | | HDMI 2 | | | | 1 |
| | | Component | Component | | | 0x02 | 0 |
| | | S-Video | S-Video | | | 0x03 | 0 |
| | | Video | Video | | | 0x04 | 0 |
| | | PC | PC | | | 0x05 | 0 |

| CONTROL ITEM | | | | CMD1 | CMD2 | CMD3 | VALUE | | |
|--------------|-------------------|-----------|---------|------|------|------|---------|---------|---------|
| Picture | Mode | Vivid | | 0x0B | 0X00 | 0x00 | 0 | | |
| | | Dynamic | | | 0X00 | | 0X00 | 1 | |
| | | Standard | | | | | | 2 | |
| | | Movie1 | | | | | | 3 | |
| | | Movie2 | | | | | | 4 | |
| | | User1 | | | | | | 5 | |
| | | User2 | | | | | | 6 | |
| | | User3 | | | | | | 7 | |
| | Contrast | 0~100 | | | 0X01 | 0x00 | (0~100) | | |
| | Brightness | 0~100 | | | 0X02 | 0x00 | (0~100) | | |
| | Sharpness | 0~100 | | | 0X03 | 0x00 | (0~100) | | |
| | Color | 0~100 | | | 0X04 | 0x00 | (0~100) | | |
| | Tint (G/R) | G50 / R50 | | | 0X05 | 0x00 | (0~100) | | |
| | Color Temperature | 9300K | | | 0x06 | 0x00 | 0 | | |
| | | 8000K | | | 0x06 | 0x00 | 1 | | |
| | | 6500K | | | | | 2 | | |
| | | 5500K | | | | | 3 | | |
| | WB | R-Offset | '-50~50 | | 0x07 | 0x00 | 0x00 | (0~100) | |
| | | G-Offset | '-50~50 | | | | | 0x01 | (0~100) |
| | | B-Offset | '-50~50 | | | | | 0x02 | (0~100) |
| | | R-Gain | | | | | | 0x03 | (0~100) |
| | | G-Gain | | | | | | 0x04 | (0~100) |
| | | B-Gain | | | | | | 0x05 | (0~100) |
| | Gamma | Film | | | 0x08 | 0x00 | 0x00 | 0 | |
| | | Video | | | | | | | 1 |
| | | Graphic | | | | | | | 2 |


| CONTROL ITEM | | | | CMD1 | CMD2 | CMD3 | VALUE |
|--------------|-----------------|--------------|-------------|------|------|------|-------|
| Picture | Save | User1 | Display OSD | 0x0B | 0x09 | 0x00 | 0 |
| | | | OK | | | | 1 |
| | | | Cancel | | | | 2 |
| | | User2 | Display OSD | | | 0x01 | 0 |
| | | | OK | | | | 1 |
| | | | Cancel | | | | 2 |
| | | User3 | Display OSD | | | 0x02 | 0 |
| | | | OK | | | | 1 |
| | | | Cancel | | | | 2 |
| | Reset | | | | 0x0A | 0x00 | 0 |
| | Size | 16:9 | | | 0x0B | 0x00 | 0 |
| | | Zoom1 | | | | | 1 |
| | | Zoom2 | | | | | 2 |
| | | Wide Fit | | | | | 3 |
| | | Anamorphic | | | | | 4 |
| | | 4:3 | | | | | 5 |
| | Digital NR | Off | | | 0x0C | 0x00 | 0 |
| | | On | | | | | 1 |
| | Black Level | 0 IRE/NORMAL | | | 0x0D | 0x00 | 0 |
| | | 7.5 IRE/LOW | | | | | 1 |
| | Color Pattern | Off | | | 0x0E | 0x00 | 0 |
| | | Monochrome | | | | | 1 |
| | | Red | | | | | 2 |
| | | Green | | | | | 3 |
| | | Blue | | | | | 4 |
| | Overscan | Off | | | 0x0F | 0x00 | 0 |
| | | On | | | | | 1 |
| | 1080/24fps Mode | Off | | | 0x10 | 0x00 | 0 |
| | | On | | | | | 1 |
| | Film Mode | Off | | | 0x11 | 0x00 | 0 |
| On | | | | 1 | | | |
| Position | (Continuous) | LEFT | | 0x12 | 0x00 | 0 | |
| | | RIGHT | | | | 1 | |
| | (Continuous) | DOWN | | 0x13 | 0x00 | 0 | |
| | | Up | | | | 1 | |

| CONTROL ITEM | | | | CMD1 | CMD2 | CMD3 | VALUE |
|--------------|--------------|-----------------|-------------|------|------|------|---------|
| Setup | install | Front-Floor | | 0x0C | 0x00 | 0x00 | 0 |
| | | Front-Ceiling | | | | | 1 |
| | | Rear-Floor | | | | | 2 |
| | | Rear-Ceiling | | | | | 3 |
| | Lamp Mode | Theater | | | 0x01 | 0x00 | 0 |
| | | Bright | | | | | 1 |
| | V-Keystone | | '-50~50 | | 0x02 | 0x00 | (0~100) |
| | Background | Logo | | | 0x03 | 0x00 | 0 |
| | | Blue | | | | | 1 |
| | | Black | | | | | 2 |
| | Test Pattern | Crosshatch | | | 0x04 | 0x00 | 0 |
| | | Screen size | | | | | 1 |
| | | Red | | | | | 2 |
| | | Green | | | | | 3 |
| | | Blue | | | | | 4 |
| | | White | | | | | 5 |
| | | 6500K_White | | | | | 6 |
| | | Off | | | | | 7 |
| | PC | Auto Adjustment | | | 0x05 | 0x00 | 0 |
| | | Coarse | UP | | 0x06 | 0x00 | 0 |
| | | | DOWN | | | | 1 |
| | | Fine | UP | | 0x07 | 0x00 | 0 |
| | | | DOWN | | | | 1 |
| | | Reset | Display OSD | | 0x08 | 0x00 | 0 |
| | | | OK | | | | 1 |
| | Cancel | | 2 | | | | |
| | Zoom | X1 | | | 0x09 | 0x00 | 0 |
| | | X2 | | | | | 1 |
| | | X3 | | | | | 2 |
| | | X4 | | | | | 3 |
| | | LEFT | | | 0x0A | 0x00 | 0 |
| | | RIGHT | | | | | 1 |
| UP | | | 2 | | | | |
| DOWN | | | 3 | | | | |

| CONTROL ITEM | | | | CMD1 | CMD2 | CMD3 | VALUE |
|--------------|-------------------|-------------|--|------|------|------|-------|
| Setup | Color Standard | HD | | 0x0C | 0x0B | 0x00 | 0 |
| | | SMPTE-C | | | | | 1 |
| | | EBU | | | | | 2 |
| | Factory Default | Display OSD | | | 0x0C | 0x00 | 0 |
| | | OK | | | | | 1 |
| | | Cancel | | | | | 2 |
| Option | Language | English | | 0x0D | 0x00 | 0x00 | 0 |
| | | Deutsch | | | | | 1 |
| | | Nederlands | | | | | 2 |
| | | Español | | | | | 3 |
| | | Français | | | | | 4 |
| | | Italiano | | | | | 5 |
| | | Svenska | | | | | 6 |
| | | Português | | | | | 7 |
| | | Русский | | | | | 8 |
| | | 中国語 | | | | | 9 |
| | | 中國語（繁體） | | | | | A |
| | | 한국어 | | | | | B |
| | Menu Position | LEFT | | 0x01 | 0x00 | 0 | |
| | | RIGHT | | | | 1 | |
| | | UP | | | | 2 | |
| | | DOWN | | | | 3 | |
| | Menu Transparency | High | | 0x02 | 0x00 | 0 | |
| | | Medium | | | | 1 | |
| | | Low | | | | 2 | |
| | | Opaque | | | | 3 | |
| | Menu Display Time | 5 sec | | 0x03 | 0x00 | 0 | |
| | | 10 sec | | | | 1 | |
| | | 30 sec | | | | 2 | |
| | | 60 sec | | | | 3 | |
| | | 90 sec | | | | 4 | |
| | | 120 sec | | | | 5 | |
| | | Stay On | | | | 6 | |

| CONTROL ITEM | | | | CMD1 | CMD2 | CMD3 | VALUE |
|--------------|---------------|--------|--|------|------|------|-------|
| Option | Auto Power On | OFF | | 0x0D | 0x04 | 0x00 | 0 |
| | | ON | | | | | 1 |
| | Sleep Timer | OFF | | | 0x05 | 0x00 | 0 |
| | | 10 min | | | | | 1 |
| | | 20 min | | | | | 2 |
| | | 30 min | | | | | 3 |
| | LED Indicator | OFF | | | 0x06 | 0x00 | 0 |
| | | ON | | | | | 1 |
| | Buzz | OFF | | | 0x07 | 0x00 | 0 |
| | | ON | | | | | 1 |
| | Information | | | | 0x08 | 0x00 | 0 |

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