The color and the appearance may differ depending on the product, and the specifications are subject to change without prior notice to improve the performance. Recommended hours of use per day of this product is under 16 hours. If the product is used for longer than 16 hours a day, the warranty may be void.
# Table of contents

## Before Using the Product

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copyright</td>
<td>6</td>
</tr>
<tr>
<td>Safety Precautions</td>
<td>7</td>
</tr>
<tr>
<td>Symbols</td>
<td>7</td>
</tr>
<tr>
<td>Cleaning</td>
<td>7</td>
</tr>
<tr>
<td>Storage</td>
<td>8</td>
</tr>
<tr>
<td>Electricity and Safety</td>
<td>8</td>
</tr>
<tr>
<td>Installation</td>
<td>9</td>
</tr>
<tr>
<td>Operation</td>
<td>11</td>
</tr>
</tbody>
</table>

## Preparations

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Checking the Components</td>
<td>15</td>
</tr>
<tr>
<td>Components</td>
<td>15</td>
</tr>
<tr>
<td>Parts</td>
<td>16</td>
</tr>
<tr>
<td>Control Panel</td>
<td>16</td>
</tr>
<tr>
<td>Reverse Side</td>
<td>18</td>
</tr>
<tr>
<td>Anti-theft Lock</td>
<td>19</td>
</tr>
<tr>
<td>Remote Control</td>
<td>20</td>
</tr>
<tr>
<td>Before Installing the Product</td>
<td>22</td>
</tr>
<tr>
<td>(Installation Guide)</td>
<td></td>
</tr>
<tr>
<td>Tilting Angle and Rotation</td>
<td>22</td>
</tr>
<tr>
<td>Ventilation</td>
<td>22</td>
</tr>
<tr>
<td>Dimensions</td>
<td>23</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installing the Wall Mount</td>
<td>24</td>
</tr>
<tr>
<td>Installing the Wall Mount Kit</td>
<td>24</td>
</tr>
<tr>
<td>Wall Mount Kit Specifications</td>
<td>25</td>
</tr>
</tbody>
</table>

## Connecting and Using a Source Device

### Before Connecting

- Pre-connection Checkpoints 26

### Connecting to a PC

- Connection using the D-SUB cable (Analog type) 26
- Connection Using an HDMI Cable 27
- Connection Using an HDMI-DVI Cable 27

### Connecting to a Video Device

- Connection Using the AV Cable 28
- Connection Using an HDMI-DVI Cable 29
- Connection Using an HDMI Cable 29

### Connecting to an Audio System

- Connecting the antenna 30

### Connecting the LAN Cable

- Changing the Input source 32
  - Source 32

## Home feature

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Player</td>
<td>33</td>
</tr>
<tr>
<td>My Templates</td>
<td>34</td>
</tr>
<tr>
<td>Available features in the Player page</td>
<td>35</td>
</tr>
<tr>
<td>Player page Settings menu</td>
<td>36</td>
</tr>
<tr>
<td>When Content is Running</td>
<td>38</td>
</tr>
<tr>
<td>File Formats Compatible with Player</td>
<td>40</td>
</tr>
<tr>
<td>Clone Product</td>
<td>45</td>
</tr>
<tr>
<td>ID Settings</td>
<td>46</td>
</tr>
<tr>
<td>Device ID</td>
<td>46</td>
</tr>
<tr>
<td>PC Connection Cable</td>
<td>46</td>
</tr>
<tr>
<td>Connectivity</td>
<td>47</td>
</tr>
<tr>
<td>Network Settings</td>
<td>47</td>
</tr>
<tr>
<td>Wi-Fi Direct</td>
<td>47</td>
</tr>
<tr>
<td>Network Status</td>
<td>48</td>
</tr>
<tr>
<td>Picture Mode</td>
<td>49</td>
</tr>
<tr>
<td>On/Off Timer</td>
<td>50</td>
</tr>
<tr>
<td>On Timer</td>
<td>50</td>
</tr>
<tr>
<td>Off Timer</td>
<td>51</td>
</tr>
<tr>
<td>Holiday Management</td>
<td>51</td>
</tr>
<tr>
<td>Ticker</td>
<td>52</td>
</tr>
<tr>
<td>More settings</td>
<td>52</td>
</tr>
</tbody>
</table>
# Table of contents

## Screen Adjustment

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Picture Mode</td>
<td>53</td>
</tr>
<tr>
<td>Backlight / Contrast / Brightness / Sharpness / Color / Tint (G/R)</td>
<td>54</td>
</tr>
<tr>
<td>White Balance</td>
<td>56</td>
</tr>
<tr>
<td>2 Point</td>
<td>56</td>
</tr>
<tr>
<td>10 Point</td>
<td>56</td>
</tr>
<tr>
<td>White Balance</td>
<td>56</td>
</tr>
<tr>
<td>2 Point</td>
<td>56</td>
</tr>
<tr>
<td>10 Point</td>
<td>56</td>
</tr>
<tr>
<td>Gamma</td>
<td>57</td>
</tr>
<tr>
<td>Calibrated Value</td>
<td>57</td>
</tr>
<tr>
<td>Advanced Settings</td>
<td>58</td>
</tr>
<tr>
<td>Dynamic Contrast</td>
<td>59</td>
</tr>
<tr>
<td>Black Tone</td>
<td>59</td>
</tr>
<tr>
<td>Flesh Tone</td>
<td>59</td>
</tr>
<tr>
<td>RGB Only Mode</td>
<td>59</td>
</tr>
<tr>
<td>Color Space</td>
<td>59</td>
</tr>
<tr>
<td>Motion Lighting</td>
<td>59</td>
</tr>
<tr>
<td>Picture Options</td>
<td>60</td>
</tr>
<tr>
<td>Color Tone</td>
<td>61</td>
</tr>
<tr>
<td>Digital Clean View</td>
<td>61</td>
</tr>
<tr>
<td>MPEG Noise Filter</td>
<td>61</td>
</tr>
<tr>
<td>HDMI Black Level</td>
<td>62</td>
</tr>
<tr>
<td>Film Mode</td>
<td>62</td>
</tr>
<tr>
<td>Dynamic Backlight</td>
<td>62</td>
</tr>
<tr>
<td>Picture Size</td>
<td>63</td>
</tr>
<tr>
<td>Picture Size</td>
<td>63</td>
</tr>
<tr>
<td>Position</td>
<td>64</td>
</tr>
<tr>
<td>Zoom/Position</td>
<td>64</td>
</tr>
<tr>
<td>Resolution</td>
<td>65</td>
</tr>
<tr>
<td>Auto Adjustment</td>
<td>66</td>
</tr>
<tr>
<td>PC Screen Adjustment</td>
<td>66</td>
</tr>
<tr>
<td>Picture Off</td>
<td>67</td>
</tr>
<tr>
<td>Reset Picture</td>
<td>67</td>
</tr>
</tbody>
</table>

## OnScreen Display

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>PIP</td>
<td>68</td>
</tr>
<tr>
<td>PIP Settings</td>
<td>68</td>
</tr>
<tr>
<td>Display Orientation</td>
<td>70</td>
</tr>
<tr>
<td>Onscreen Menu Orientation</td>
<td>70</td>
</tr>
<tr>
<td>Source Content Orientation</td>
<td>70</td>
</tr>
<tr>
<td>Aspect Ratio</td>
<td>70</td>
</tr>
<tr>
<td>Screen Protection</td>
<td>71</td>
</tr>
<tr>
<td>Auto Protection Time</td>
<td>71</td>
</tr>
<tr>
<td>Screen Burn Protection</td>
<td>71</td>
</tr>
<tr>
<td>Message Display</td>
<td>74</td>
</tr>
<tr>
<td>Source Info</td>
<td>74</td>
</tr>
<tr>
<td>Multimedia Device Connection</td>
<td>74</td>
</tr>
<tr>
<td>No Signal Message</td>
<td>74</td>
</tr>
<tr>
<td>MDC Message</td>
<td>74</td>
</tr>
<tr>
<td>Menu Language</td>
<td>75</td>
</tr>
<tr>
<td>Reset OnScreen Display</td>
<td>75</td>
</tr>
</tbody>
</table>

## Sound Adjustment

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sound Mode</td>
<td>76</td>
</tr>
<tr>
<td>Sound Effect</td>
<td>77</td>
</tr>
<tr>
<td>Virtual Surround</td>
<td>77</td>
</tr>
<tr>
<td>Dialog Clarity</td>
<td>77</td>
</tr>
<tr>
<td>Equalizer</td>
<td>77</td>
</tr>
<tr>
<td>HDMI Sound</td>
<td>78</td>
</tr>
<tr>
<td>Dolby Digital Comp</td>
<td>78</td>
</tr>
<tr>
<td>Speaker Settings</td>
<td>79</td>
</tr>
<tr>
<td>Sound Output</td>
<td>79</td>
</tr>
<tr>
<td>Auto Volume</td>
<td>80</td>
</tr>
<tr>
<td>Reset Sound</td>
<td>80</td>
</tr>
</tbody>
</table>

## Broadcasting

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto Program</td>
<td>81</td>
</tr>
<tr>
<td>Auto Program</td>
<td>81</td>
</tr>
<tr>
<td>Antenna</td>
<td>82</td>
</tr>
<tr>
<td>Channel List</td>
<td>83</td>
</tr>
<tr>
<td>Added Ch.</td>
<td>83</td>
</tr>
<tr>
<td>Favorites 1 ~ Favorites 5</td>
<td>83</td>
</tr>
<tr>
<td>Options</td>
<td>83</td>
</tr>
<tr>
<td>Guide</td>
<td>84</td>
</tr>
<tr>
<td>Schedule Manager</td>
<td>85</td>
</tr>
</tbody>
</table>
# Table of contents

<table>
<thead>
<tr>
<th>Category</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Edit Channel</strong></td>
<td>86</td>
</tr>
<tr>
<td><strong>Edit Favorites</strong></td>
<td>88</td>
</tr>
<tr>
<td><strong>Audio Options</strong></td>
<td>91</td>
</tr>
<tr>
<td>Preferred Language</td>
<td>91</td>
</tr>
<tr>
<td>Multi-Track Sound</td>
<td>91</td>
</tr>
<tr>
<td><strong>Program Rating Lock</strong></td>
<td>92</td>
</tr>
<tr>
<td><strong>Channel Settings</strong></td>
<td>94</td>
</tr>
<tr>
<td>Fine Tune</td>
<td>94</td>
</tr>
<tr>
<td>Clear Scrambled Channel</td>
<td>94</td>
</tr>
<tr>
<td><strong>Network</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Network Status</strong></td>
<td>95</td>
</tr>
<tr>
<td><strong>Network Settings</strong></td>
<td>95</td>
</tr>
<tr>
<td>Network type</td>
<td>95</td>
</tr>
<tr>
<td>Network Settings (Wired)</td>
<td>96</td>
</tr>
<tr>
<td>Network Setting (Wireless)</td>
<td>98</td>
</tr>
<tr>
<td>WPS(PBC)</td>
<td>100</td>
</tr>
<tr>
<td><strong>Wi-Fi Direct</strong></td>
<td>101</td>
</tr>
<tr>
<td><strong>Multimedia Device Settings</strong></td>
<td>101</td>
</tr>
<tr>
<td><strong>Screen Mirroring</strong></td>
<td>102</td>
</tr>
<tr>
<td>Screen Mirroring</td>
<td>102</td>
</tr>
<tr>
<td><strong>Device Name</strong></td>
<td>102</td>
</tr>
<tr>
<td><strong>System</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Accessibility</strong></td>
<td>103</td>
</tr>
<tr>
<td>Voice Guide</td>
<td>103</td>
</tr>
<tr>
<td>Video Description</td>
<td>104</td>
</tr>
<tr>
<td>Caption</td>
<td>104</td>
</tr>
<tr>
<td>Menu Transparency</td>
<td>106</td>
</tr>
<tr>
<td>High Contrast</td>
<td>106</td>
</tr>
<tr>
<td>Enlarge</td>
<td>106</td>
</tr>
<tr>
<td><strong>Setup</strong></td>
<td>107</td>
</tr>
<tr>
<td>Initial settings (Setup)</td>
<td>107</td>
</tr>
<tr>
<td><strong>Time</strong></td>
<td>109</td>
</tr>
<tr>
<td>Clock</td>
<td>109</td>
</tr>
<tr>
<td>DST</td>
<td>110</td>
</tr>
<tr>
<td>Sleep Timer</td>
<td>110</td>
</tr>
<tr>
<td><strong>Auto Source Switching</strong></td>
<td>111</td>
</tr>
<tr>
<td>Auto Source Switching</td>
<td>111</td>
</tr>
<tr>
<td>Primary Source Recovery</td>
<td>111</td>
</tr>
<tr>
<td>Primary Source</td>
<td>111</td>
</tr>
<tr>
<td>Secondary Source</td>
<td>111</td>
</tr>
<tr>
<td><strong>Power Control</strong></td>
<td>112</td>
</tr>
<tr>
<td>Auto Power On</td>
<td>112</td>
</tr>
<tr>
<td>Max. Power Saving</td>
<td>112</td>
</tr>
<tr>
<td>Standby Control</td>
<td>113</td>
</tr>
<tr>
<td>Network Standby</td>
<td>113</td>
</tr>
<tr>
<td><strong>Eco Solution</strong></td>
<td>114</td>
</tr>
<tr>
<td>Energy Saving</td>
<td>114</td>
</tr>
<tr>
<td>Eco Sensor</td>
<td>114</td>
</tr>
<tr>
<td>Screen Lamp Schedule</td>
<td>114</td>
</tr>
<tr>
<td>No Signal Power Off</td>
<td>115</td>
</tr>
<tr>
<td><strong>Auto Power Off</strong></td>
<td>115</td>
</tr>
<tr>
<td><strong>Temperature Control</strong></td>
<td>116</td>
</tr>
<tr>
<td><strong>Device Manager</strong></td>
<td>116</td>
</tr>
<tr>
<td>Keyboard Settings</td>
<td>116</td>
</tr>
<tr>
<td>Mouse Settings</td>
<td>118</td>
</tr>
<tr>
<td><strong>Change PIN</strong></td>
<td>119</td>
</tr>
<tr>
<td><strong>Security</strong></td>
<td>120</td>
</tr>
<tr>
<td>Safety Lock</td>
<td>120</td>
</tr>
<tr>
<td>Button Lock</td>
<td>120</td>
</tr>
<tr>
<td>USB Auto Play Lock</td>
<td>120</td>
</tr>
<tr>
<td><strong>General</strong></td>
<td>121</td>
</tr>
<tr>
<td>Smart Security</td>
<td>121</td>
</tr>
<tr>
<td>BD Wise</td>
<td>122</td>
</tr>
<tr>
<td>Anynet+ (HDMI-CEC)</td>
<td>123</td>
</tr>
<tr>
<td>Troubleshooting for Anynet+</td>
<td>125</td>
</tr>
<tr>
<td>HDMI Hot Plug</td>
<td>127</td>
</tr>
<tr>
<td>DivX® Video On Demand</td>
<td>127</td>
</tr>
<tr>
<td>Game Mode</td>
<td>127</td>
</tr>
<tr>
<td><strong>Reset System</strong></td>
<td>128</td>
</tr>
</tbody>
</table>
Playing photos, videos and music (Media Play)

Read the following before using media play with a USB device 134
Using a USB device 136
Playing media content from a PC/mobile device 137

Features provided in the media content list page 138

Menu items in the media content list page 139
Available buttons and features during photo playback 140
Available buttons and features during video playback 141
Available buttons and features during music playback 142
Supported Subtitle and Media play file formats 143
Subtitle 143
Supported image resolutions 143
Supported music file formats 144
Supported Video Formats 144

Troubleshooting Guide
Requirements Before Contacting Samsung Customer Service Center 146
Testing the Product 146
Checking the Resolution and Frequency 146
Check the followings. 147
Q & A 154

Specifications
General 156
Power Consumption 158
Preset Timing Modes 159

Appendix
Responsibility for the Pay Service (Cost to Customers) 161
Not a product defect 161
A Product damage caused by customer's fault 161
Others 161

Optimum Picture Quality and Afterimage Burn-in Prevention 162
Optimum Picture Quality 162
Prevention of Afterimage Burn-in 162

License 164
Terminology 165
Copyright

The contents of this manual are subject to change without notice to improve quality.

© 2015 Samsung Electronics

Samsung Electronics owns the copyright for this manual.

Use or reproduction of this manual in parts or entirety without the authorization of Samsung Electronics is prohibited.

Microsoft, Windows are registered trademarks of Microsoft Corporation.

VESA, DPM and DDC are registered trademarks of the Video Electronics Standards Association.

Ownership of all other trademarks is attributed to their due owner.
Safety Precautions

Caution

RISK OF ELECTRIC SHOCK. DO NOT OPEN

Caution: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER. (OR BACK)
THERE ARE NO USER SERVICEABLE PARTS INSIDE.
REFER ALL SERVICING TO QUALIFIED PERSONNEL.

This symbol indicates that high voltage is present inside.
It is dangerous to make any kind of contact with any internal part of this product.

This symbol alerts you that important literature concerning operation and maintenance has been included with this product.

Cleaning

Exercise care when cleaning as the panel and exterior of advanced LCDs are easily scratched.
Take the following steps when cleaning.
The following images are for reference only. Real-life situations may differ from what is shown in the images.

1. Power off the product and computer.
2. Disconnect the power cord from the product.
   — Hold the power cable by the plug and do not touch the cable with wet hands. Otherwise, an electric shock may result.
3. Wipe the product with a clean, soft and dry cloth.
   • Do not use detergents that contain alcohol, solvent or surface-active agents.
   • Do not spray water or detergent directly on the product.
4. Wet a soft and dry cloth in water and wring thoroughly to clean the exterior of the product.
5. Connect the power cord to the product when cleaning is finished.
6. Power on the product and computer.

Symbols

Warning

A serious or fatal injury may result if instructions are not followed.

Caution

Personal injury or damage to properties may result if instructions are not followed.

Activities marked by this symbol are prohibited.

Instructions marked by this symbol must be followed.
Storage
Due to the characteristics of high-glossy products, using a UV humidifier nearby may create white-colored stains on the product.
Contact Customer Service Center if the inside of the product needs cleaning (service fee will be charged).

Electricity and Safety
The following images are for reference only. Real-life situations may differ from what is shown in the images.

**Warning**

Do not use a damaged power cord or plug, or a loose power socket.
- An electric shock or fire may result.

Do not use multiple products with a single power socket.
- Overheated power sockets may cause a fire.

Do not touch the power plug with wet hands. Otherwise, an electric shock may result.

Insert the power plug all the way in so it is not loose.
- An unsecure connection may cause a fire.

Connect the power plug to a grounded power socket (type 1 insulated devices only).
- An electric shock or injury may result.

Do not bend or pull the power cord with force. Be careful not to leave the power cord under a heavy object.
- Damage to the cord may result in a fire or electric shock.

Do not place the power cord or product near heat sources.
- A fire or electric shock may result.

Clean any dust around the pins of the power plug or the power socket with a dry cloth.
- A fire may result.
Caution

Do not disconnect the power cord while the product is being used.
• The product may become damaged by an electric shock.

Only use the power cord provided with your product by Samsung. Do not use the power cord with other products.
• A fire or electric shock may result.

Keep the power socket where the power cord is connected unobstructed.
• The power cord must be disconnected to cut off power to the product when an issue occurs.
• Note that the product is not completely powered down by using only the power button on the remote.

Hold the plug when disconnecting the power cord from the power socket.
• An electric shock or fire may result.

Installation

Warning

DO NOT PLACE CANDLES, INSECT REPELANTS OR CIGARETTES ON TOP OF THE PRODUCT. DO NOT INSTALL THE PRODUCT NEAR HEAT SOURCES.
• A fire may result.

Have a technician install the wall-mount hanger.
• Installation by an unqualified person can result in an injury.
• Only use approved cabinets.

Do not install the product in poorly ventilated spaces such as a bookcase or closet.
• An increased internal temperature may cause a fire.

Install the product at least 10 cm away from the wall to allow ventilation.
• An increased internal temperature may cause a fire.

Keep the plastic packaging out of the reach of children.
• Children may suffocate.
Bend and keep part of the outdoor TV antenna cable hanging downwards (the part inside the room) to prevent rainwater from entering the product.
  • If rainwater enters the product, a fire or electric shock can occur.

When using an outdoor antenna, be sure to install the antenna away from nearby power lines to prevent the antenna from collapsing onto them in strong winds.
  • A collapsed antenna can cause an electric shock or injury.

Do not install the product on an unstable or vibrating surface (insecure shelf, sloped surface, etc.)
  • The product may fall and become damaged and/or cause an injury.
  • Using the product in an area with excess vibration may damage the product or cause a fire.

Do not install the product in a vehicle or a place exposed to dust, moisture (water drips, etc.), oil, or smoke.
  • A fire or electric shock may result.

Do not expose the product to direct sunlight, heat, or a hot object such as a stove.
  • The product lifespan may be reduced or a fire may result.

Do not install the product within the reach of young children.
  • The product may fall and injure children.
  • As the front is heavy, install the product on a flat and stable surface.

Edible oil, such as soybean oil, can damage or deform the product. Do not install the product in a kitchen or near a kitchen counter.
**Caution**

Do not drop the product while moving.
- Product failure or personal injury may result.

Do not set down the product on its front.
- The screen may become damaged.

When installing the product on a cabinet or shelf, make sure that the bottom edge of the front of the product is not protruding.
- The product may fall and become damaged and/or cause an injury.
- Install the product only on cabinets or shelves of the right size.

Set down the product gently.
- Product failure or personal injury may result.

Installing the product in an unusual place (a place exposed to a lot of fine dust, chemical substances, extreme temperatures or a significant presence of moisture, or a place where the product will operate continuously for an extended period of time) may seriously affect its performance.
- Be sure to consult Samsung Customer Service Center if you want to install the product at such a place.

**Operation**

**Warning**

There is a high voltage inside the product. Never disassemble, repair or modify the product yourself.
- A fire or electric shock may result.
- Contact Samsung Customer Service Center for repairs.

Before moving the product, turn off the power switch and disconnect the power cord, antenna cable and all other connected cables.
- Damage to the cord may result in a fire or electric shock.

If the product generates abnormal sounds, a burning smell or smoke, disconnect the power cord immediately and contact Samsung Customer Service Center.
- An electric shock or fire may result.

Do not let children hang from the product or climb on top of it.
- Children may become injured or seriously harmed.

If the product is dropped or the outer case is damaged, turn off the power switch and disconnect the power cord. Then contact Samsung Customer Service Center.
- Continued use can result in a fire or electric shock.
Do not leave heavy objects or items that children like (toys, sweets, etc.) on top of the product.

- The product or heavy objects may fall as children try to reach for the toys or sweets resulting in a serious injury.

During a lightning or thunderstorm, remove the power cable and do not touch the antenna cable.

- A fire or electric shock may result.

Do not drop objects on the product or apply impact.

- A fire or electric shock may result.

Do not move the product by pulling the power cord or any cable.

- Product failure, an electric shock or fire may result from a damaged cable.

If a gas leakage is found, do not touch the product or power plug. Also, ventilate the area immediately.

- Sparks can cause an explosion or fire.

Do not lift or move the product by pulling the power cord or any cable.

- Product failure, an electric shock or fire may result from a damaged cable.

Do not use or keep combustible spray or an inflammable substance near the product.

- An explosion or fire may result.

Ensure the vents are not blocked by tablecloths or curtains.

- An increased internal temperature may cause a fire.

Do not insert metallic objects (chopsticks, coins, hairpins, etc) or objects that burn easily (paper, matches, etc) into the product (via the vent or input/output ports, etc).

- Be sure to power off the product and disconnect the power cord when water or other foreign substances have entered the product. Then contact Samsung Customer Service Center.
- Product failure, an electric shock or fire may result.

Do not place objects containing liquid (vases, pots, bottles, etc) or metallic objects on top of the product.

- Be sure to power off the product and disconnect the power cord when water or other foreign substances have entered the product. Then contact Samsung Customer Service Center.
- Product failure, an electric shock or fire may result.
Leaving the screen fixed on a stationary image for an extended period of time may cause afterimage burn-in or defective pixels.

- Activate power-saving mode or a moving-picture screen saver if you will not be using the product for an extended period of time.

Disconnect the power cord from the power socket if you do not plan on using the product for an extended period of time (vacation, etc).

- Dust accumulation combined with heat can cause a fire, electric shock or electric leakage.

Use the product at the recommended resolution and frequency.

- Your eyesight may deteriorate.

Do not hold the product upside-down or move it by holding the stand.

- The product may fall and become damaged or cause an injury.

Looking at the screen too close for an extended period of time can deteriorate your eyesight.

Do not use humidifiers or stoves around the product.

- A fire or electric shock may result.

Rest your eyes for more than 5 minutes for every 1 hour of product use.

- Eye fatigue will be relieved.

Do not touch the screen when the product has been turned on for an extended period of time as it will become hot.

Store small accessories out of the reach of children.

Exercise caution when adjusting the product angle or stand height.

- Your hand or finger may get stuck and injured.
- Tilting the product at an excessive angle may cause the product to fall and an injury may result.

Do not place heavy objects on the product.

- Product failure or personal injury may result.

When using headphones or earphones, do not turn the volume too high.

- Having the sound too loud may damage your hearing.
Be careful that children do not place the battery in their mouths when removed from the remote control. Place the battery in a location that children or infants cannot reach.

- If children have had the battery in their mouths, consult your doctor immediately.

When replacing the battery, insert it with the right polarity (+, -).

- Otherwise, the battery may become damaged or it may cause fire, personal injury or damage due to leakage of the internal liquid.

Use only the specified standardized batteries, and do not use a new battery and a used battery at the same time.

- Otherwise, the batteries may be damaged or cause fire, personal injury or damage due to a leakage of the internal liquid.

The batteries (and rechargeable batteries) are not ordinary refuse and must be returned for recycling purposes. The customer is responsible for returning the used or rechargeable batteries for recycling.

- The customer can return used or rechargeable batteries to a nearby public recycling center or to a store selling the same type of the battery or rechargeable battery.
Checking the Components

Components

- Contact the vendor where you purchased the product if any components are missing.
- The appearance of the components may differ from the images shown.
- A stand is not provided with the product. To install a stand, you can purchase one separately.
The color and shape of parts may differ from what is shown. Specifications are subject to change without notice to improve quality.

### Panel Key

#### Buttons

<table>
<thead>
<tr>
<th>Buttons</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>POWER</td>
<td>Power on the product. If you press the button when the product is turned on, the control menu will be displayed.</td>
</tr>
<tr>
<td></td>
<td>To exit the OSD menu, press and hold the panel key for at least one second.</td>
</tr>
<tr>
<td>MOVE</td>
<td>Move to the upper or lower menu. You can also adjust the value of an option.</td>
</tr>
<tr>
<td></td>
<td>Change the channel in TV mode.</td>
</tr>
<tr>
<td>MOVE</td>
<td>Move to the left or right menu.</td>
</tr>
<tr>
<td></td>
<td>You can adjust the volume by moving the panel key left or right when the control menu is not displayed.</td>
</tr>
<tr>
<td>REMOTE</td>
<td>Press a button on the remote control pointing at the sensor on the front of the product to perform the corresponding function.</td>
</tr>
<tr>
<td></td>
<td>Using other display devices in the same space as the remote control of this product can cause the other display devices to be inadvertently controlled.</td>
</tr>
</tbody>
</table>

#### Remote sensor

- Use the remote control within 7 m to 10 m from the sensor on the product at an angle of 30° from the left and right.
- Store used batteries out of reach of children and recycle.
- Do not use a new and used battery together. Replace both batteries at the same time.
- Remove batteries when the remote control is not to be used for an extended period of time.
If you press the button on the panel key when the product is turned on, the control menu will be displayed.

**Control menu**

<table>
<thead>
<tr>
<th>Buttons</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="button-source.png" alt="Source" /></td>
<td>Select the connected input source. Move the panel key right to select Source in the control menu. When the list of input sources is displayed, move the panel key left or right to select the desired input source. Next, press the panel key.</td>
</tr>
<tr>
<td><img src="button-menu.png" alt="Menu" /></td>
<td>Display the OSD menu. Move the panel key left to select Menu in the control menu. The OSD control screen will appear. Move the panel key right to select the desired menu. You can select a sub-menu item by moving the panel key up, down, left, or right. To change settings, select the desired menu and press the panel key.</td>
</tr>
<tr>
<td><img src="button-home.png" alt="Home" /></td>
<td>Enter Go to Home mode. Move the panel key up to select Home in the control menu.</td>
</tr>
<tr>
<td><img src="button-power-off.png" alt="Power Off" /></td>
<td>Power off the product. Move the panel key down to select Power Off in the control menu. Next, press the panel key.</td>
</tr>
<tr>
<td><img src="button-return.png" alt="Return" /></td>
<td>Exit the control menu.</td>
</tr>
</tbody>
</table>
Reverse Side

The color and shape of parts may differ from what is shown. Specifications are subject to change without notice to improve quality.

<table>
<thead>
<tr>
<th>Port</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC IN</td>
<td>Connects to a source device using a D-SUB cable.</td>
</tr>
<tr>
<td>LAN</td>
<td>Connects to MDC using a LAN cable.</td>
</tr>
<tr>
<td>USB (0.5A), USB (1.0A)</td>
<td>Connect to a USB memory device.</td>
</tr>
<tr>
<td>HDMI 1, HDMI 2 (ARC), HDMI 3 (DVI)</td>
<td>Connects to a source device using an HDMI cable.</td>
</tr>
<tr>
<td>ANT IN</td>
<td>Connect to an antenna cable.</td>
</tr>
<tr>
<td>AV IN VIDEO / L-AUDIO-R</td>
<td>Connect to an external device using a video or Audio cable.</td>
</tr>
<tr>
<td>PC AUDIO IN</td>
<td>Receives sound from a PC via an audio cable.</td>
</tr>
<tr>
<td>AUDIO OUT</td>
<td>Connects to the audio of a source device.</td>
</tr>
<tr>
<td>RS232C IN</td>
<td>Connects to MDC using an RS232C adapter.</td>
</tr>
</tbody>
</table>
Anti-theft Lock

An anti-theft lock allows you to use the product securely even in public places.

The locking device shape and locking method depend on the manufacturer. Refer to the user guide provided with your anti-theft locking device for details.

The following images are for reference only. Real-life situations may differ from what is shown in the images.

To lock an anti-theft locking device:

1. Fix the cable of your anti-theft locking device to a heavy object such as a desk.
2. Put one end of the cable through the loop on the other end.
3. Insert the locking device into the anti-theft lock slot at the back of the product.
4. Lock the locking device.

- An anti-theft locking device can be purchased separately.
- Refer to the user guide provided with your anti-theft locking device for details.
- Anti-theft locking devices can be purchased at electronics retailers or online.
Remote Control

Using other display devices in the same space as the remote control of this product can cause the other display devices to be inadvertently controlled.

A button without a description in the image below is not supported on the product.

- Press to select additional channels (digital) being broadcasted by the same station. For example, to select channel "54-3", press "54", then press "+" and "3".

- Adjust the volume.

- Display or hide the onscreen display menu, or return to the previous menu.

- Go to Home Launch Button.

- Channel List Launch Button.

- Power on the product.

- Source button.

- Change the input source.

- Number buttons
  - Enter the password in the OSD menu.
  - Returns to the previous channel.
  - Mute the sound.
  - Unmuting the sound: Press MUTE again or press the volume control (+ VOL -) button.
  - Change the channel in TV mode.

- GUIDE Launch Button.

- HOME Launch Button.

- Displays the Electronic Program Guide (EPG).
Display information about the current input source.
Move to the upper, lower, left or right menu, or adjust an option’s setting. Confirm a menu selection.
Exit the current menu.
Manually select a connected input source from PC, HDMI, AV or MagicInfo E.
In TV mode, configure settings such as the program guide for digital channels. In other modes, manually select a connected source device. In media and HDMI-CEC modes, configure settings for the functions assigned to the color buttons on the remote control. Enable or disable lock mode.
Used in Anynet+ mode and multimedia mode.

Remote control button functions may differ for different products.

Quickly select frequently used functions.
Return to the previous menu.
It sets safe lock function.
Activates/deactivates PIP. Selects the input source for the PIP window.
Changes the picture size.

To place batteries in the remote control
Before Installing the Product (Installation Guide)

To prevent injury, this apparatus must be securely attached to the floor/wall in accordance with the installation instructions.

- Ensure that an authorized installation company installs the wall mount.
- Otherwise, it may fall and cause personal injury.
- Make sure to install the specified wall mount.

**Tilting Angle and Rotation**

- Contact Samsung Customer Service Center for further details.
- The product can be tilted at a maximum angle of 15° from a perpendicular wall surface.
- To use the product vertically (portrait), turn it clockwise so that the LED is pointing down.

**Ventilation**

**Installation on a Perpendicular Wall**

A Minimum 40 mm
B Ambient temperature: Under 35°C

- When installing the product on a perpendicular wall, allow at least 40 mm of space between the product and wall surface for ventilation and ensure that the ambient A temperature is kept below 35°C.
**Installation on an Indented Wall**

Contact Samsung Customer Service Center for further details.

**Plane view**

- A Minimum 40 mm
- B Minimum 70 mm
- C Minimum 50 mm
- D Minimum 50 mm
- E Ambient temperature: Under 35°C

When installing the product on an indented wall, allow at least the space specified above between the product and wall for ventilation and ensure that the ambient temperature is kept below 35°C.

---

**Dimensions**

<table>
<thead>
<tr>
<th>Model name</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>RH48E</td>
<td>1076.1(42.4)</td>
<td>1056.1(41.6)</td>
<td>594.7(23.4)</td>
<td>624.4(24.6)</td>
<td>67.1(2.6)</td>
</tr>
<tr>
<td>RH55E</td>
<td>1231.6(48.5)</td>
<td>1211.6(47.7)</td>
<td>682.3(26.9)</td>
<td>711.9(28.0)</td>
<td>67.8(2.7)</td>
</tr>
</tbody>
</table>

---

All drawings are not necessarily to scale. Some dimensions are subject to change without prior notice. Refer to the dimensions prior to performing installation of your product. Not responsible for typographical or printed errors.
Installing the Wall Mount

Installing the Wall Mount Kit

The wall mount kit (sold separately) allows you to mount the product on the wall.
For detailed information on installing the wall mount, see the instructions provided with the wall mount.
We recommend you contact a technician for assistance when installing the wall mount bracket.
Samsung Electronics is not responsible for any damage to the product or injury to yourself or others if you elect to install the wall mount on your own.
Wall Mount Kit Specifications (VESAs)

- Install your wall mount on a solid wall perpendicular to the floor. Before attaching the wall mount to surfaces other than plaster board, please contact your nearest dealer for additional information.
- If you install the product on a slanted wall, it may fall and result in severe personal injury.

- Samsung wall mount kits contain a detailed installation manual and all parts necessary for assembly are provided.
- Do not use screws that are longer than the standard length or do not comply with the VESA standard screw specifications. Screws that are too long may cause damage to the inside of the product.
- For wall mounts that do not comply with the VESA standard screw specifications, the length of the screws may differ depending on the wall mount specifications.
- Do not fasten the screws too firmly. This may damage the product or cause the product to fall, leading to personal injury. Samsung is not liable for these kinds of accidents.
- Samsung is not liable for product damage or personal injury when a non-VESA or non-specified wall mount is used or the consumer fails to follow the product installation instructions.
- Do not mount the product at more than a 15 degree tilt.
- Always have two people mount the product on a wall.
- Standard dimensions for wall mount kits are shown in the table below.

<table>
<thead>
<tr>
<th>Model name</th>
<th>VESA screw hole specs (A * B) in millimeters</th>
<th>Standard Screw</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>RH48E</td>
<td>400 x 400 (15.7 x 15.7)</td>
<td>M8</td>
<td>4</td>
</tr>
<tr>
<td>RH55E</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Do not install your Wall Mount Kit while your product is turned on. It may result in personal injury due to electric shock.
Before Connecting

Pre-connection Checkpoints

— Before connecting a source device, read the user manual provided with it. The number and locations of ports on source devices may differ from device to device.
— Do not connect the power cable until all connections are completed. Connecting the power cable during connection may damage the product.
— Connect the sound ports correctly: left = white and right = red.
— Check the types of ports at the back of the product you want to connect.

Connecting to a PC

• Do not connect the power cable before connecting all other cables. Ensure you connect a source device first before connecting the power cable.
• A PC can be connected to the product in a variety of ways. Select a connection method suitable for your PC.
— Connecting parts may differ in different products.

Connection using the D-SUB cable (Analog type)
Connection Using an HDMI Cable

Connection Using an HDMI-DVI Cable

After connecting a computer to the product with an HDMI-DVI cable, make sure to configure the settings as shown below to enable the video and audio from the computer.

- **Sound** → set **HDMI Sound** to **PC(DVI)**
- **Picture** → set each screen mode to **Text** under **Picture Mode**
- **System** → **General** set **HDMI Hot Plug** to **Off**

HDMI 1, HDMI 2 (ARC), HDMI 3 (DVI)

PC AUDIO IN
Connecting to a Video Device

- Do not connect the power cable before connecting all other cables. Ensure you connect a source device first before connecting the power cable.
- You can connect a video device to the product using a cable.

- Connecting parts may differ in different products.
- Press the SOURCE button on the remote control to change the source.

Connection Using the AV Cable
Connection Using an HDMI-DVI Cable

Audio will not be enabled if the product is connected to a video device using an HDMI-DVI cable. To resolve this, additionally connect an audio cable to the audio ports on the product and video device.

After connecting a video device to the product with an HDMI-DVI cable, make sure to configure the settings as shown below to enable the video and audio from the video device.

- **Sound** → set HDMI Sound to PC(DVI)
- **Picture** → set each screen mode to Video/Image under Picture Mode
- **System** → General → set HDMI Hot Plug to On

Supported resolutions include 1080p (50/60Hz), 720p (50/60Hz), 480p, and 576p.

To view content with a video device connected to the monitor, select **Picture** and change **Picture Mode** to Video/Image for the optimum picture quality.

---

Connection Using an HDMI Cable

**Using an HDMI cable (up to 1080p)**

- For better picture and audio quality, connect to a digital device using an HDMI cable.
- An HDMI cable supports digital video and audio signals, and does not require an audio cable.
  - To connect the product to a digital device that does not support HDMI output, use an HDMI-DVI and audio cables.
- The picture may not display normally (if at all) or the audio may not work if an external device that uses an older version of HDMI mode is connected to the product. If such a problem occurs, ask the manufacturer of the external device about the HDMI version and, if out of date, request an upgrade.
- Be sure to use an HDMI cable with a thickness of 14 mm or less.
- Be sure to purchase a certified HDMI cable. Otherwise, the picture may not display or a connection error may occur.
- A basic high-speed HDMI cable or one with ethernet is recommended. This product does not support the ethernet function via HDMI.
Connecting to an Audio System

Connecting parts may differ in different products.

Connecting the antenna

Connecting parts may differ in different products.

When the product is powered on for the first time, basic settings are configured automatically. Take extra care to ensure the wires inside the antenna cable are not bent.
Connecting the LAN Cable

Connecting parts may differ in different products.

- Use Cat7(*STP Type) cable for the connection.
  *Shielded Twist Pair
Changing the Input source

Source

SOURCE → Source

Source allows you to select a variety of sources and change source device names.

You can display the screen of a source device connected to the product. Select a source from source list to display the screen of the selected source.

- The input source can also be changed by using the SOURCE button on the remote control.
- The screen may not display correctly if an incorrect source is selected for the source device you want to convert to.
- To view detailed information about connected source devices, press the TOOLS button from the Source page.

Edit Name

SOURCE → Source → TOOLS → Edit Name → ENTER

Customize the name of a connected external device.

- The list can include the following source devices. Source devices on the list differ depending on the selected source.

  PC / Cable STB / Satellite STB / PVR STB / Game / Blu-ray / DVD / VCR / AV Receiver / Camcorder / DVI PC / DVI Devices / TV / IPTV / HD DVD / DMA

Information

SOURCE → Source → TOOLS → Information → ENTER

You can see detailed information about the selected external device.

- The displayed image may differ depending on the model.
Chapter 04
Home feature

This feature is provided in Support → Go to Home.
Accessible using the HOME button on the remote control.

Player

Play a range of content such as channels with schedules assigned, templates or files.
Play channels or content using any of the following methods.

HOME ➔ Player ➔ ENTER ➔

- The displayed image may differ depending on the model.
My Templates

Play a template in My Templates stored in the internal memory of the product.

* The displayed image may differ depending on the model.
Available features in the Player page

The Player list page provides the following features.

- **Device**
  - Select either Internal or USB to search for a desired device list.
  - All / Internal / USB

- **Content**
  - Select a content type as criterion to search for a desired content list.
  - All / Video / Image / PDF / Flash / Office / My Templates

- **Sort By**
  - Specify the content sort criterion.
  - File name / Recently Played

- **Options**

Menu items in the Player page

<table>
<thead>
<tr>
<th>Option Name</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Play Selected</td>
<td>Select and play desired content.</td>
</tr>
<tr>
<td>Send</td>
<td>Copy content to another storage device.</td>
</tr>
<tr>
<td>Delete</td>
<td>Delete desired content.</td>
</tr>
<tr>
<td>Settings</td>
<td>Configure detailed properties of content.</td>
</tr>
<tr>
<td></td>
<td>See the following page for details on the Settings feature.</td>
</tr>
</tbody>
</table>
Player page Settings menu

**Settings**

### Default Storage
Select the storage location that you want to download scheduled channels from the network to.
- **Internal / USB**

### Picture Size
Set the screen size for content.
- If **Picture Size** is set to **Video** or **Image**
  - **Full Screen / Original Size / Screen Fit**
- If **Picture Size** is set to **PDF** or **Office**
  - **Full Screen / Original Size**
- This feature is only available for **Video**, **Image**, **PDF** and **Office** files.

### Display Duration
Set the duration for each page in a slideshow.
- This feature is only available for **Image**, **PDF**, **Flash** and **Office** files.

### Transition Effect
Configure transition effects between pages or scenes in a slideshow or video file.
- **None / Fade1 / Fade2 / Blind / Spiral / Checker / Linear / Stairs / Wipe / Random**
- This feature is only available for **Image** files.

### Content Orientation
Switch the orientation of playing content to **Landscape** or **Portrait** mode.
- **Landscape / Portrait**
- If **Content Orientation** is **Portrait** view, it does not support VP8 video codec.
- **Source** is not available when **Content Orientation** is set to **Portrait**.
Default Content
This default content will be displayed if you run a channel while no programs are scheduled on the channel.

• None

Safely Remove
Safely removes USB memory

Reset
Restore all the values under Settings to the default when the product was purchased.
When Content is Running

Viewing the details of the content that is running

Press the INFO button on the remote control.

- **Name**
- **Current Time**
- **Software Version**: Displays the software version of a device
- **MAC ID**: Displays the original identification number of a device
- **USB**: Displays the connection status of a USB device
- **Default Storage**: View the destination folder where distributed content is saved.
  - **Internal** is displayed if no external device is connected.

The displayed image may differ depending on the model.
Press the **TOOLS** button on the remote control during content playback to configure settings such as **Picture Mode** and **Sound Mode**.

- **Playlist**
  View a list of content items currently playing.

- **Input Source**
  Switch to another input source that contains content.
  - This option appears only when an input source that contains content files is connected.

- **Music**
  Set the background music for the content currently playing.

- **Picture Mode**
  Customizes the screen settings for the content currently playing
  - Shop & Mall / Office & School / Terminal & Station / Video Wall / Calibration

- **Sound Mode**
  Customizes the audio settings for the content currently playing
  - Standard / Music / Movie / Clear Voice / Amplify

- **Repeat**
  Set the repeat mode.
  - One / All
File Formats Compatible with Player

- Supported file systems include FAT32, EXFAT and NTFS.
- A file with a vertical and horizontal resolution larger than the maximum resolution cannot be played.
  Check the vertical and horizontal resolution of the file.
- Check the supported video and audio Codec types and Versions.
- Check the supported file versions.
  - Flash player 11.0 and older and Flash Air 3.0 and older versions are supported.
  - PowerPoint version up to 97 – 2007 is supported
- Only the last USB device that was connected is recognized.

Template files and LFD(.lfd) files

Restrictions
- Ensure a distributed folder (content / schedules) exists in Internal / USB memory.

Playback restrictions
- A maximum of two video (Video) files can be played.
- More than one Flash file cannot be played.
- For Office files (PPT and Word files) and PDF files, only one file type is supported at a time.
- More than one sound output cannot be used.
- Playback priority: Flash file > network BGM > local BGM > video file in the main frame selected by the user.

Sound output restrictions
- More than one sound output cannot be used.
- Playback priority: Flash file > network BGM > local BGM > video file in the main frame selected by the user.

Network Schedule Multiframe

Playback restrictions
- A maximum of two video files (Video) can be played simultaneously.
- In portrait playback mode, only one video file can be played at a time.
- More than one Flash file cannot be played.
- For Office files (PPT and Word files) and PDF files, only one file type is supported at a time.
- LFD(.lfd) files are not supported.

Sound output restrictions
- More than one sound output cannot be used.
- Playback priority: Flash file > network BGM > local BGM > video file in the main frame selected by the user.

  Network BGM: Settings can be configured in step 1 when creating a server schedule.
  Local BGM: BGM settings can be configured using the tools displayed after the TOOLS button is pressed during Player playback.
  User-selected main frame: Main frame settings can be configured in step 2 when creating a server schedule.
## Contents

<table>
<thead>
<tr>
<th>File Extension</th>
<th>Container</th>
<th>Video Codec</th>
<th>Resolution</th>
<th>Frame rate (fps)</th>
<th>Bit rate (Mbps)</th>
<th>Audio Codec</th>
</tr>
</thead>
<tbody>
<tr>
<td>*.asf</td>
<td>ASF</td>
<td>MPEG4 SP / ASP</td>
<td></td>
<td></td>
<td></td>
<td>AAC</td>
</tr>
<tr>
<td>*.wmv</td>
<td>MP4</td>
<td>HE-AAC</td>
<td></td>
<td></td>
<td></td>
<td>HE-AAC</td>
</tr>
<tr>
<td>*.mp4</td>
<td>3GP</td>
<td>WMA</td>
<td></td>
<td></td>
<td></td>
<td>WMA</td>
</tr>
<tr>
<td>*.mov</td>
<td>VRO</td>
<td>DD+</td>
<td></td>
<td></td>
<td></td>
<td>DD+</td>
</tr>
<tr>
<td>*.3gp</td>
<td>VOB</td>
<td>MPEG(MP3)</td>
<td></td>
<td></td>
<td></td>
<td>MPEG(MP3)</td>
</tr>
<tr>
<td>*.vro</td>
<td>PS</td>
<td>DTS Core</td>
<td></td>
<td></td>
<td></td>
<td>DTS Core</td>
</tr>
<tr>
<td>*.mpg</td>
<td>TS</td>
<td>G.711(ALaw,μ-Law)</td>
<td></td>
<td></td>
<td></td>
<td>G.711(ALaw,μ-Law)</td>
</tr>
<tr>
<td>*.mpeg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*.ts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*.tp</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*.trp</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*.flv</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*.vob</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*.svi</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*.m2ts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*.mts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*.divx</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Video
- 3D video is not supported.
- Content with a resolution larger than the resolution specified in the table above is not supported.
- Video content with a Bit rate or Frame rate larger than the rate specified in the table above can cause choppy video during playback.
- Video content will not play, or not play correctly, if there is an error in the content or the container.
- Some USB/digital camera devices may not be compatible with the player.
- Supports up to H.264, Level 4.1
- H.264 FMO / ASO / RS, VC1 SP / MP / AP L4 and AVCHD are not supported.
- For all Video codecs except MVC, VP8, VP6:
  - Below 1280 x 720: 60 frame max
  - Above 1280 x 720: 30 frame max
- GMC 2 or higher is not supported.
- Supports only BD MVC Spec.
- Only one video file can play at a time if video files on the monitor use incompatible codecs or the resolution is 1080 x 1920.
- When a single video file is playing, Seamless mode is not supported under the following conditions:
  - Incompatible codec (MVC, VP3, MJPEG) ↔ Incompatible codec
  - Incompatible codec ↔ Compatible codec
  - The resolution is different from that of the monitor
  - The frequency is different from that of the monitor

### Audio
- Audio content with a Bit rate or Frame rate larger than the rate specified in the table above can cause choppy audio during playback.
- Video content will not play, or not play correctly, if there is an error in the content or the container.
- Some USB/digital camera devices may not be compatible with the player.
- Supports up to WMA 10 Pro 5.1 channel. WMA lossless audio is not supported.
- QCELP, AMR NB/WB are not supported.

### Image
- Compatible image file format: JPEG, PNG, BMP
  - 32-bit, 24-bit and 8-bit BMP files are supported.
- Supported maximum resolution: 4096 x 4096
- Supported maximum file size: 20MB
- Supported image effects: 9 effects (Fade1, Fade2, Blind, Spiral, Checker, Linear, Stairs, Wipe, Random)
<table>
<thead>
<tr>
<th>Flash</th>
<th>Power Point</th>
<th>PDF</th>
</tr>
</thead>
</table>
| • Flash player 11.0 and older and Flash Air 3.0 and older versions are supported. | • Compatible document file formats  
  - Extension : ppt, pptx  
  - Version : Office 97 ~ Office 2007 | • Compatible document file formats  
  - Extension : pdf |
| • Flash Animation         | • Functions not supported       | • Functions not supported |
|  - Compatible file format : SWF |  - Animation effect              |  - Content less than 1 pixel not supported because of performance degradation issue. |
| • Recommended resolution : 960 x 540 |  - 3D shapes (which will be displayed in 2D) |  - Masked Image, Tiled Image content not supported. |
|  - Caution                |  - Header and footer (some subitems are not supported) |  - Content with Rotated Text, not supported. |
|  Performance comparable to Flash Player on a Windows operating system cannot be guaranteed |  - Word Art                      |  - 3D Shadow Effects not supported. |
|  Optimization is needed during content creation |  - Align                        |  - Some characters not supported |
| • Flash Video             |  - A group alignment error may occur |  (Special characters may be corrupted) |
|  - Compatible file format : FLV |  - Office 2007                  |                           |
|  - Video                  |  SmartArt is not fully supported. 97 out of 115 subitems are supported. |                           |
|  Codec : H.264 BP         |  - Object insertion             |                           |
|  Resolution : 1920 x 1080 |  - Half-width characters        |                           |
| • Audio                   |  - Letter spacing               |                           |
|  Codec : H.264 BP         |  - Charts                       |                           |
|  - Caution                |  - Charts                       |                           |
|  F4V file format is not supported |  - Vertical text                |                           |
|  Screen Video is not supported |  - some subitems are not supported |                           |
|                           |  - Slide notes and handout      |                           |
WORD

- Compatible document file formats
  - Extension: .doc, .docx
  - Version: Office 97 ~ Office 2007

- Functions not supported
  - Page background effect
  - Some paragraph styles
  - Word Art
  - Align
    A group alignment error may occur
  - 3D shapes (which will be displayed in 2D)
  - Office 2007
    SmartArt is not fully supported. 97 out of 115 subitems are supported.
  - Charts
  - Half-width characters
  - Letter spacing
  - Vertical text
    some subitems are not supported
  - Slide notes and handout
Export settings on the product to an external storage device. You can also import settings from an external storage device. This option is useful when assigning the same settings to several products.

**When a duplicate file is not found on the external storage device**

1. Connect the external storage device, then run the **Clone Product** function.
2. The *No cloning file found on the external storage device* message appears.

**When a duplicate file is found on the external storage device**

1. Connect the external storage device, then run the **Clone Product** function.
2. The *Settings file found on the external storage device. Please select an option.* message appears.

Run the **Import from External Storage** or **Export to External Storage** function.
- **Import from External Storage**: Copy settings saved on an external storage device to the product.
- **Export to External Storage**: Copy settings on the product to an external storage device.

After configuration is complete, the product is rebooted automatically.

* The displayed image may differ depending on the model.
ID Settings

Assign an ID to a set.

Device ID

Enter the ID number of the product connected to the input cable for input signal reception. (Range: 0~224)

- Press ▲/▼ to select a number, and press ENTER.
- Enter the number you want using the number buttons on the remote control.

PC Connection Cable

Select a method to connect to MDC to receive the MDC signal.

- **RS232C cable**
  Communicate with MDC via the RS232C-stereo cable.

- **RJ-45 (LAN)/Wi-Fi Network**
  Communicate with MDC via the RJ45 cable.
Network Settings

Connect to a wireless network and use the product as a TV+signage using MagicInfo Express Content Creator on your PC.

Network type

- Wireless / Wired

Wi-Fi Direct

Set to connect the product to wireless mobile devices. Using this function, you can connect wireless mobile devices with your product directly without a router.

To use this function, your mobile device should be supported by the Wi-Fi Direct.
Network Status

HOME → Network Status → ENTER

The displayed image may differ depending on the model.

Check the current network and Internet connection.
Select a picture mode (Picture Mode) suitable for the environment where the product will be used. Video/Image mode improves the picture quality of the video device. Text mode improves the picture quality of the computer.

- **Shop & Mall**
  Suitable for shopping malls.
  - Select either Video/Image or Text depending on the picture mode.

- **Office & School**
  Suitable for offices and schools.
  - Select either Video/Image or Text depending on the picture mode.

- **Terminal & Station**
  Suitable for bus terminals and train stations.
  - Select either Video/Image or Text depending on the picture mode.

- **Video Wall**
  Suitable for environments where videowall display are used.
  - Select either Video/Image or Text depending on the picture mode.

- **Calibration**
  In this mode, the brightness, color, gamma and uniformity settings customized using the color calibration program Advanced Color Management are applied.
  - To apply the Calibration mode properly, make sure you configure the picture quality settings, such as brightness, color, gamma and uniformity, using the color calibration program Advanced Color Management.
  - To download the Advanced Color Management program, visit www.samsung.com/displaysolutions.

- **BD Wise**
  Provides the optimal picture quality for Samsung DVD, Blu-ray and Home Theater products which support BD Wise. When BD Wise is turned On, the picture mode is automatically changed to the optimal resolution.
  - Available when you connect Samsung products that support BD Wise through an HDMI cable to the product.
  - The BD Wise function is enabled only when a source device with the BD Wise function is connected.
On/Off Timer

HOME ➔ On/Off Timer ➔ ENTER ➔

The displayed image may differ depending on the model.

You must set Clock Set before you can use this feature.

On Timer

Set On Timer so that your product turns on automatically at a time and on a day of your choosing. The power is turned on with the specified volume or input source. On Timer: Set the on timer by making a selection from one of the seven options. Ensure you set the current time first. (On Timer 1 ~ On Timer 7)

• Setup: Select Off, Once, Everyday, Mon~Fri, Mon~Sat, Sat~Sun or Manual. If you select Manual, you can choose the days you want On Timer to turn on your product.
  - The check mark indicates days you've selected.
• Time: Set the hour and minute. Use the number buttons or the up and down arrow keys to enter numbers. Use the left and right arrow buttons to change entry fields.
• Volume: Set the desired volume level. Use the left and right arrow buttons to change the volume level.
• Source: Select the input source of your choice.
• Antenna (when the Source is set to TV): Select Air or Cable.
• Channel (when the Source is set to TV): Select the desired channel.
• Content (when the Source is set to Internal/USB): From the USB device or internal memory device, select a folder containing content you want to play when the product turns on. Content can include music, photo or video files.
  - This function is available only when a USB device is connected.
  - If there is no music file on the USB device or you don't select a folder containing a music file, the Timer function does not operate correctly.
  - If there is only one photo file in the USB, the Slide Show will not play.
  - If a folder name is too long, the folder cannot be selected.
  - Each USB you use is assigned its own folder. When using more than one of the same type of USB, make sure the folders assigned to each USB have different names.
  - We recommend that you use a USB memory stick and a multi card reader when using On Timer.
  - The On Timer function may not work with USB devices with a built-in battery, MP3 players, or PMPs made by some manufacturers because the product can take too long to recognize these devices.
**Off Timer**

Set the off timer (Off Timer) by making a selection from one of the seven options. (Off Timer 1 ~ Off Timer 7)

- **Setup**: Select Off, Once, Everyday, Mon~Fri, Mon~Sat, Sat~Sun or Manual.
  
  If you select Manual, you can choose the days you want Off Timer to turn off your product.
  
  - The check mark indicates days you’ve selected.

- **Time**: Set the hour and minute. Use the number buttons or the up and down arrow keys to enter numbers. Use the left and right arrow buttons to change entry fields.

**Holiday Management**

Timer will be disabled during a period specified as a holiday.

- **Add Holiday**: Specify the period you want to add as a holiday.
  
  Select the start and end dates of the holiday you want to add using the ▲/▼ buttons, and click the Save button.
  
  The period will be added to the list of holidays.
  
  - **Start**: Set the start date of the holiday.
  
  - **End**: Set the end date of the holiday.
  
  - **Delete**: Delete selected items from the list of holidays.
  
  - **Edit**: Select a holiday item and then change the date.

- **Set Applied Timer**: Set the On Timer and Off Timer to not activate on public holidays.
  
  - Press ▶ to select the On Timer and Off Timer settings you do not want to activate.
  
  - The selected On Timer and Off Timer will not activate.
Ticker

HOME ➔ Ticker ➔ ENTER ➔

The displayed image may differ depending on the model.

Input text while a video or image is displayed and display the text on the screen.

- Off / On
- Message: Enter a message to display on the screen.
- Time: Set the Start Time and End Time to display a Message.
- Font Options: Specify the text font and color for the message.
- Position: Select an orientation to display a Message.
- Scroll: Specify the scroll Direction and Speed for the message.
- Preview: Preview configured caption settings.

More settings

HOME ➔ More settings ➔ ENTER ➔

The displayed image may differ depending on the model.

Set a variety of features.

• Off / On
• Message: Enter a message to display on the screen.
• Time: Set the Start Time and End Time to display a Message.
• Font Options: Specify the text font and color for the message.
• Position: Select an orientation to display a Message.
• Scroll: Specify the scroll Direction and Speed for the message.
• Preview: Preview configured caption settings.
Chapter 05
Screen Adjustment

Configure the Picture settings (Backlight, Color Tone, etc.). The layout of the Picture menu options may vary depending on the product.

Picture Mode

MENU → Picture → Picture Mode → ENTER

Select a picture mode (Picture Mode) suitable for the environment where the product will be used.

- **Video/Image** mode improves the picture quality of the video device. **Text** mode improves the picture quality of the computer.

- **Shop & Mall**
  Suitable for shopping malls.
  - Select either Video/Image or Text depending on the picture mode.

- **Office & School**
  Suitable for offices and schools.
  - Select either Video/Image or Text depending on the picture mode.

- **Terminal & Station**
  Suitable for bus terminals and train stations.
  - Select either Video/Image or Text depending on the picture mode.

- **Video Wall**
  Suitable for environments where videowall display are used.
  - Select either Video/Image or Text depending on the picture mode.

- **Calibration**
  In this mode, the brightness, color, gamma and uniformity settings customized using the color calibration program **Advanced Color Management** are applied.
  - To apply the Calibration mode properly, make sure you configure the picture quality settings, such as brightness, color, gamma and uniformity, using the color calibration program **Advanced Color Management**.
  - To download the Advanced Color Management program, visit [www.samsung.com/displaysolutions](http://www.samsung.com/displaysolutions).

- **BD Wise**
  Provides the optimal picture quality for Samsung DVD, Blu-ray and Home Theater products which support **BD Wise**.
  When **BD Wise** is turned On, the picture mode is automatically changed to the optimal resolution.
  - Available when you connect Samsung products that support **BD Wise** through an HDMI cable to the product.
  - The **BD Wise** function is enabled only when a source device with the **BD Wise** function is connected.

- The displayed image may differ depending on the model.
Backlight / Contrast / Brightness / Sharpness / Color / Tint (G/R)

MENU → Picture → ENTER

Your product has several options for adjusting picture quality.

<table>
<thead>
<tr>
<th>Picture Mode</th>
<th>Picture Mode settings</th>
<th>Adjustable options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shop &amp; Mall, Office &amp; School, Terminal &amp; Station, Video Wall</td>
<td>Video/Image</td>
<td>Backlight / Contrast / Brightness / Sharpness / Color / Tint (G/R)</td>
</tr>
<tr>
<td>Text</td>
<td></td>
<td>Backlight / Contrast / Brightness / Sharpness</td>
</tr>
<tr>
<td>Calibration</td>
<td></td>
<td>Backlight</td>
</tr>
<tr>
<td>BD Wise</td>
<td></td>
<td>Backlight / Contrast / Brightness / Sharpness / Color / Tint (G/R)</td>
</tr>
</tbody>
</table>

When you make changes to Backlight, Contrast, Brightness, Sharpness, Color or Tint (G/R), the OSD will be adjusted accordingly.

You can adjust and store settings for each external device you have connected to an input on the product.

Lowering picture brightness reduces power consumption.

The displayed image may differ depending on the model.
Color Temperature

MENU → Picture → Color Temperature → ENTER

Adjust the color temperature (Red / Green / Blue). (Range: 2800K–16000K)

- Enabled when Color Tone is set to Off
- Color Temperature is disabled if Picture Mode is set to Calibration or BD Wise

The displayed image may differ depending on the model.
White Balance

MENU → Picture → White Balance → ENTER

2 Point
Adjust the color temperature for a more natural picture.
- **R-Offset / G-Offset / B-Offset**: Adjust each color's (red, green, blue) darkness.
- **R-Gain / G-Gain / B-Gain**: Adjust each color's (red, green, blue) brightness.
- **Reset**: Suitable for environments where videowall display are used.

10 Point
Controls the white balance in 10 point interval by adjusting the red, green, and blue brightness.
- **10 Point (Off / On)**
  - **Level, Red, Green, Blue** and **Reset** are enabled only when 10 Point is set to On.
- **Level**: Select interval to adjust.
- **Red**: Adjust the red level.
- **Green**: Adjust the green level.
- **Blue**: Adjust the blue level.
- **Reset**: Suitable for environments where videowall display are used.

- Some external devices may not support this function.
- Enabled when **Picture Mode** is set to **Office & School (Video/Image)**.

- The displayed image may differ depending on the model.
Gamma

Adjust the primary color intensity.
- If Picture Mode is set to Calibration, Gamma is disabled.

Calibrated Value

Select whether to apply the brightness, color, gamma and uniformity settings customized using the color calibration program Advanced Color Management to the Information and Advertisement modes.

- Don’t Apply / Apply
- To download the Advanced Color Management program, visit www.samsung.com/displaysolutions.
- If Picture Mode is set to Calibration, Calibrated Value is disabled.
### Advanced Settings

**MENU → Picture → Advanced Settings → ENTER**

#### Advanced Settings

<table>
<thead>
<tr>
<th>Dynamic Contrast</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black Tone</td>
<td>Darkest</td>
</tr>
<tr>
<td>Flesh Tone</td>
<td>0</td>
</tr>
<tr>
<td>RGB Only Mode</td>
<td>Off</td>
</tr>
<tr>
<td>Color Space</td>
<td>Native</td>
</tr>
<tr>
<td>Motion Lighting</td>
<td>Off</td>
</tr>
</tbody>
</table>

#### Picture Mode Settings and Adjustable Options

<table>
<thead>
<tr>
<th>Picture Mode Settings</th>
<th>Adjustable Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shop &amp; Mall, Office &amp; School, Video Wall</td>
<td>Video/Image, Dynamic Contrast / Black Tone / Flesh Tone / RGB Only Mode / Color Space</td>
</tr>
<tr>
<td>Terminal &amp; Station</td>
<td>Video/Image, Dynamic Contrast / Black Tone / Flesh Tone / RGB Only Mode / Color Space / Motion Lighting</td>
</tr>
<tr>
<td>BD Wise</td>
<td>Dynamic Contrast / Black Tone / Flesh Tone / RGB Only Mode / Color Space</td>
</tr>
</tbody>
</table>

---

The displayed image may differ depending on the model.

---

If **Picture Mode** is set to **Calibration**, **Advanced Settings** is disabled.
Advanced Settings

- Dynamic Contrast: High
- Black Tone: Darkest
- Flesh Tone: 0
- RGB Only Mode: Off
- Color Space: Native
- Motion Lighting: Off

The displayed image may differ depending on the model.

**Dynamic Contrast**
Adjust the screen contrast.
- Off / Low / Medium / High

**Black Tone**
Select the black level to adjust the screen depth.
- Off / Dark / Darker / Darkest

**Flesh Tone**
Emphasize pink Flesh Tone.

**RGB Only Mode**
Displays the Red, Green and Blue color for making fine adjustments to the hue and saturation.
- Off / Red / Green / Blue

**Color Space**
Adjusts the range and variety of colors (the color space) available to create images.
- Auto / Native / Custom
  To adjust Color, Red, Green, Blue and Reset, set Color Space to Custom.

**Motion Lighting**
Reduces power consumption by reducing screen brightness when the picture on the screen is in motion.
- Off / On
<table>
<thead>
<tr>
<th>Picture Options</th>
<th>Picture Mode settings</th>
<th>Adjustable options</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Color Tone</strong></td>
<td>Video/Image</td>
<td>Color Tone / Digital Clean View / MPEG Noise Filter / HDMI Black Level / Film Mode / Dynamic Backlight</td>
</tr>
<tr>
<td>Digital Clean View</td>
<td>Off</td>
<td></td>
</tr>
<tr>
<td>MPEG Noise Filter</td>
<td>Off</td>
<td></td>
</tr>
<tr>
<td>HDMI Black Level</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>Film Mode</td>
<td>Off</td>
<td></td>
</tr>
<tr>
<td>Dynamic Backlight</td>
<td>Off</td>
<td></td>
</tr>
</tbody>
</table>

*The displayed image may differ depending on the model.*
### Color Tone

If Picture Mode is set to Text
- Off / Cool / Standard / Warm

If Picture Mode is set to Video/Image or BD Wise
- Off / Cool / Standard / Warm1 / Warm2
  - If Picture Mode is set to Calibration, Color Tone is disabled.
  - Settings can be adjusted and stored for each external device connected to an input on the product.

### Digital Clean View

If the broadcast signal received by your product is weak, you can activate the Digital Clean View feature to reduce any static and ghosting that may appear on the screen.
- Off / Low / Medium / High / Auto / Auto Visualization
  - Auto Visualization: When changing analog channels, displays signal strength.
  - Received signal intensity is the strongest when the bar is green.
  - When the signal is weak, try all the options until the product displays the best picture.

### MPEG Noise Filter

Reduces MPEG noise to provide improved picture quality.
- Off / Low / Medium / High / Auto
HDMI Black Level
Selects the black level on the screen to adjust the screen depth.

- **Auto / Low / Normal**

  Available only in **HDMI** mode (AV Timing: 480p, 576p, 720p, 1080i, 1080p).

Film Mode
This mode is suitable to view movies.
Sets the product to automatically sense and process film signals from all sources and adjust the picture for optimum quality.

- **Off / Auto1 / Auto2**

  Available in **TV, AV, HDMI** (1080i).

Dynamic Backlight
Automatically adjust the backlight to provide the best possible screen contrast under the current conditions.

- **Off / On**
Choose size and aspect ratio picture displayed on screen.

**Picture Size**

Different screen adjustment options are displayed depending on the current input source.

- **16:9**: Sets the picture to 16:9 wide mode.
- **Zoom1**: Use for moderate magnification. Cuts off the top and sides.
- **Zoom2**: Use for a stronger magnification.
- **Smart View 1**: Reduces the 16:9 picture by 50%.
  - Smart View 1 is enabled only in HDMI mode.
- **Smart View 2**: Reduces the 16:9 picture by 25%.
  - Smart View 2 is enabled only in HDMI or DTV mode.
- **Wide Fit**: Enlarges the aspect ratio of the picture to fit the entire screen.
- **4:3**: Sets the picture to basic (4:3) mode.
  - Do not set your product to 4:3 format for a long time.
  - The borders displayed on the left and right, or top and bottom of the screen may cause image retention (screen burn) which is not covered by the warranty.
- **Screen Fit**: Displays the full image without any cut-off when HDMI (720p / 1080i / 1080p) signals are inputted.
- **Custom**: Changes the resolution to suit the user’s preferences.
- **Original Ratio**: If the input source is PC, HDMI (PC connection), the video will display in the original aspect ratio.

*The displayed image may differ depending on the model.*
Position

Adjusts the picture position. Position is only available if Picture Size is set to Zoom1, Zoom2, Wide Fit, Screen Fit or Custom.

To use the Position function after selecting Zoom1, Zoom2, Wide Fit, Screen Fit or Custom, follow these steps.

1. Press the ▼ button to select Position. Press the □ button.
2. Press the ▲ or ▼ button to move the picture up or down.
3. Press the □ button.

Zoom/Position

Adjusts the picture zoom and position. This option is available when the input source is set to HDMI (1080i/1080p), AV. Picture Size must be set to Custom for the option to be available.

1. Press the ▼ button to select Zoom/Position. Press the □ button.
2. Select the Zoom or Position. Press the □ button.
3. Press the ▲/▼/◄/► button to move the picture.
4. Press the □ button.

If you want to reset the picture to its original position, select Reset in the Zoom/Position screen.

The picture will be set to its default position.
Resolution

If the picture is not normal even when the resolution of the graphics card is one of the following, you can optimize the picture quality by selecting the same resolution for the product as the PC using this menu.

Available resolutions: Off / 1024x768 / 1280x768 / 1360x768 / 1366x768
Auto Adjustment

Adjust frequency values/positions and fine tune the settings automatically.

MENU → Picture → Auto Adjustment → ENTER

- Available in PC mode only.
- The displayed image may differ depending on the model.

PC Screen Adjustment

MENU → Picture → PC Screen Adjustment → ENTER

- Available in PC mode only.
- The displayed image may differ depending on the model.

- Coarse / Fine
  Removes or reduces picture noise. If the noise is not removed by Fine-tuning alone, use the Coarse function to adjust the frequency as best as possible (Coarse) and Fine-tune again. After the noise has been reduced, re-adjust the picture so that it is aligned with the center of screen.

- Position
  To adjust the PC's screen position if it is not centered or does not fit the product screen. Press the ▲ or ▼ button to adjust the Vertical Position. Press the ◄ or ► button to adjust the Horizontal Position.

- Image Reset
  Resets the image to the default settings.
Picture Off

Selecting Picture Off switches off the screen. The volume is not disabled. To switch the screen on, press any button other than the volume button.

Reset Picture

 Resets your current picture mode to its default settings.

~ The displayed image may differ depending on the model.
Chapter 06
OnScreen Display

### PIP

MENU → OnScreen Display → PIP → ENTER

<table>
<thead>
<tr>
<th>Display Orientation</th>
<th>Screen Protection</th>
<th>Message Display</th>
<th>Menu Language</th>
<th>Reset OnScreen Display</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>English</td>
<td></td>
</tr>
</tbody>
</table>

### PIP Settings

The picture from the external video source will be in the main screen and the picture from the product will be in the PIP sub-picture screen.

<table>
<thead>
<tr>
<th>Main picture</th>
<th>Sub picture</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC</td>
<td>AV / TV</td>
</tr>
<tr>
<td>AV</td>
<td>PC / HDMI</td>
</tr>
<tr>
<td>TV</td>
<td>PC / HDMI</td>
</tr>
<tr>
<td>HDMI</td>
<td>AV / TV / PC</td>
</tr>
</tbody>
</table>

- If Source Content Orientation is set to Portrait, PIP is disabled.

- The displayed image may differ depending on the model.
- For PIP sound, refer to the Sound Select instructions.
- If you turn the product off while watching in the PIP mode, PIP mode will remain after power Off/On.
- You may notice that the picture in the PIP screen becomes slightly unnatural when you use the main screen to view a game or karaoke.
• **PIP (Off / On):** Activate or deactivate the PIP function.
• **Source:** You can select a source of the sub picture.
• **Antenna (Air / Cable):** Select either Air or Cable as the input source for the sub-screen.
  — This option is enabled if the secondary display is set to TV.
• **Channel:** Select the channel for the sub-screen.
  — This option is enabled if the secondary display is set to TV.
• **Size (0x0, 0x0, 0x0, 0x0, 0x0, 0x0):** Select a size for the sub-picture.
• **Position (0x0, 0x0, 0x0, 0x0, 0x0):** Select a position for the sub-picture.
  — In double ([0x0, 0x0, 0x0, 0x0, 0x0] mode, you cannot select Position.
• **Sound Select (Main / Sub):** You can choose to listen to the sound from the Main picture or the Sub picture.

*The displayed image may differ depending on the model.*
Display Orientation

MENU → OnScreen Display → Display Orientation → ENTER

Onscreen Menu Orientation
Set the menu screen orientation.
- Landscape: Display the menu in landscape mode (default).
- Portrait: Display the menu in portrait mode on the right side of the product screen.

Source Content Orientation
Set the orientation of content from external devices connected to the product.
- Landscape: Display the screen in landscape mode (default).
- Portrait: Display the screen in portrait mode.

- If PIP is set to On, Source Content Orientation is disabled.

Aspect Ratio
Set the rotated screen to be either full screen or original.
- Full Screen: Display the rotated screen in full screen.
- Original: Display the rotated screen in the original aspect ratio.

- Available only when Source Content Orientation is set to Portrait
- If PIP is set to On, Aspect Ratio is disabled.

- The displayed image may differ depending on the model.
Screen Protection

MENU → OnScreen Display → Screen Protection → ENTER

Auto Protection Time

If the screen displays a still image for a certain period of time you define, the product activates the screen saver to prevent the formation of burnt in ghost images on the screen.

• Off / 2 hours / 4 hours / 8 hours / 10 hours

Screen Burn Protection

To reduce the possibility of screen burn, this unit is equipped with Screen Burn Protection screen burn prevention technology.

Screen Burn Protection moves the picture slightly on the screen.

The Screen Burn Protection Time setting allows you to program the time between movements of the picture in minutes.

Pixel Shift

Minimize image retention by finely moving pixels horizontally or vertically.

• Pixel Shift (Off / On)

  — Horizontal, Vertical and Time are enabled only when Pixel Shift is set to On.

  • Horizontal: Sets how many pixels the screen moves horizontally.

  • Vertical: Sets how many pixels the screen moves vertically.

  • Time: Set the time interval for performing the horizontal or vertical movement, respectively.

Available Pixel Shift Settings and Optimum Settings.

<table>
<thead>
<tr>
<th>Available Settings</th>
<th>Optimum Settings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horizontal (pixels)</td>
<td>0 ~ 4</td>
</tr>
<tr>
<td>Vertical (pixels)</td>
<td>0 ~ 4</td>
</tr>
<tr>
<td>Time (minute)</td>
<td>1 min. ~ 4 min.</td>
</tr>
</tbody>
</table>

The Pixel Shift value may differ depending on the product size (inches) and mode.

Displaying a still image or a 4:3 output for an extended period of time may cause image retention. This is not a defect in the product.

If Picture Size is set to Screen Fit, Pixel Shift is disabled.

The displayed image may differ depending on the model.
Screen Burn Protection

Pixel Shift

Timer

Immediate Display Off
Side Gray Off

Timer

You can set the timer for Screen Burn Protection.
The Screen Burn Protection feature stops automatically after a specified period of time.

Timer

Off
Repeat: Display the image retention-preventive pattern set in Mode at specified time intervals (Period).
Interval: Display the image retention-preventive pattern set in Mode for a specified period of time (from Start Time to End Time).

Mode, Period, Time, Start Time and End Time are enabled only when Timer is set to Repeat or Interval.

- Mode: Select a screen protective pattern to display.
  - Pixel: Pixels on the screen alternate black continuously.
  - Rolling Bar: A vertical bar moves left to right.
  - Fading Screen: The entire screen becomes brighter, then darker.
  - The Rolling Bar and Fading Screen patterns appear only once regardless of the specified repeat period or time.

- Period: Specify the time interval to activate the Screen Burn Protection function.
  - The option is enabled when Repeat is selected for Timer.

- Time: Specify the duration to keep the Screen Burn Protection function on.
  - Enabled when Timer is set to Repeat and Mode is set to Pixel.

- Start Time: Set the start time to activate the screen protection function.
  - The option is enabled when Interval is selected for Timer.

- End Time: Set the end time to deactivate the screen protection function.
  - The option is enabled when Interval is selected for Timer.

The displayed image may differ depending on the model.
Screen Burn Protection

Pixel Shift

Timer

Immediate Display

Side Gray

Immediate Display

Select the screen saver you want to display immediately.

- Off / Pixel / Rolling Bar / Fading Screen

Side Gray

When the screen is set to 4:3 aspect ratio, adjust the brightness of white margins on sides to protect the screen.

- Off / Light / Dark

- The displayed image may differ depending on the model.
**Message Display**

- The displayed image may differ depending on the model.

**Source Info**
Select whether to display the source OSD when the input source changes.
- Off / On

**Multimedia Device Connection**
It sets whether to restrict the wireless function on Allshare.
- Off / On

**No Signal Message**
Select whether to display the no-signal OSD when no signal is detected.
- Off / On

**MDC Message**
Select whether to display the MDC OSD when the product is controlled by the MDC.
- Off / On
Menu Language

Set the menu language.

- A change to the language setting will only be applied to the onscreen menu display. It will not be applied to other functions on your PC.

Reset OnScreen Display

This option returns the current settings under OnScreen Display to the default factory settings.
Sound Adjustment

Configure the sound (Sound) settings for the product.

Sound Mode

MENU  →  Sound  →  Sound Mode  →  ENTER

You can select a sound mode to suit your personal preferences.
• **Standard**: Selects the normal sound mode.
• **Music**: Emphasizes music over voices.
• **Movie**: Provides the best sound for movies.
• **Clear Voice**: Emphasizes voices over other sounds.
• **Amplify**: Increase the intensity of high-frequency sound to allow a better listening experience for the hearing impaired.

If **Speaker Settings** is set to **External**, **Sound Mode** is disabled.

THE DISPLAYED IMAGE MAY DIFFER DEPENDING ON THE MODEL.
Configure your preferred sound effect for output sound.

- If Speaker Settings is set to External, Sound Effect is disabled.
- Available only when Sound Mode is set to Standard.

**Virtual Surround**

This function provides a virtual 5.1 channel surround sound experience through a pair of speakers using HRTF (Head Related Transfer Function) technology.

- Off / On

**Dialog Clarity**

This function allows you to increase the intensity of a voice over background music or sound effects so that dialog can be heard more clearly.

- Off / On

**Equalizer**

Use Equalizer to customize sound setting for each speaker.

- Balance L/R: Adjusts the balance between the right and left speaker.
- 100Hz / 300Hz / 1kHz / 3kHz / 10kHz (Bandwidth Adjustment): Adjusts the level of specific bandwidth frequencies.
- Reset: Resets the equalizer to its default settings.
HDMI Sound

Select whether to hear from AV(HDMI) or PC(DVI).
- AV(HDMI) / PC(DVI)

Dolby Digital Comp

Set Dolby Digital Compression mode.
- Line / RF

The displayed image may differ depending on the model.
Speaker Settings

MENU → Sound → Speaker Settings → ENTER

Sound Output

If you are listening to the sound track of a broadcast or movie through an external receiver, you may hear a sound echo caused by the difference in decoding speed between the product’s speakers and the speakers attached to your audio receiver. If this occurs, set the product to External.

- External / Internal / Receiver / TV SoundConnect

  When you set Speaker Settings to External, the product’s speakers are turned off. You will hear sound through the external speakers only. When the Speaker Settings is set to Internal, both the product’s speakers and the external speakers are on. You will hear sound through both.

  If there is no video signal, both the product’s speakers and the external speakers will be mute.

TV SoundConnect

You can connect Samsung Bluetooth audio devices to the SMART Signage TV. They must be paired using the SMART Signage TV’s Bluetooth function. For more information on pairing, refer to the Samsung Bluetooth audio device’s operating manual.

Samsung Audio Device List

Displays a list of paired Samsung audio devices. Select a device to display its menu options. You can activate/deactivate the audio device or remove it from the list.

Add New Device

Adds a new device to the list of paired devices. If Add New Device is set to Off, the connection signals from new devices are ignored.

- On / Off

  Bluetooth is a short-distance wireless communication protocol allowing information exchange between connected mobile phones, laptops, earphones and headphones with Bluetooth compatible devices.

  TV SoundConnect and Bluetooth headphones can’t be used simultaneously.
Auto Volume

MENU → Sound → Auto Volume → ENTER

- The displayed image may differ depending on the model.

The volume can vary depending on the channel. Automatically equalize the volume level when switching to another channel.

- Off / Normal / Night

Normal equalizes the volume level on each channel, so that when you change channels, the volume level is the same.

Night equalizes and decrease the volume level on each channel, so each channel is quieter. Night is useful at night, when you may want to keep the volume low.

- To use the volume control of a connected source device, set Auto Volume to Off. A change to the volume control of the connected source device may not be applied if Auto Volume is set to Normal or Night.
- If Speaker Settings is set to External, Auto Volume is disabled.

Reset Sound

MENU → Sound → Reset Sound → ENTER

- The displayed image may differ depending on the model. Reset all sound settings to the factory defaults.
Auto Program

The Auto Program function memorises all channels that are available over the air or through your cable system and adds them to the Channel List.

To start Auto Program, follow these steps:

### Auto Program

1. Push MENU → Broadcasting → Auto Program → ENTER on your remote. The Auto Program screen appears.

2. On the Auto Program screen, select the source of your product signal.
   - **Air**: If your product is connected to an antenna choose Air, and then press ENTER. The product will automatically start memorizing channels.
   - **Cable**: If your product is connected to a cable outlet, choose Cable, and then press ENTER. Go to Step 3.

3. On the cable type screen, use the ▲/▼ buttons to select the type of digital and analog cable systems you have: STD, HRC, or IRC. Most systems are STD (Standard). When done, select Next, and then press ENTER. The product will start memorizing channels.

   - Channel memorization can take up to 45 minutes, depending on your cable system.
   - Memorized channels are added to the Added Ch. list. These are the channels you will see when you use the channel buttons on your remote.

### Cancelling Auto Program

1. Press the Stop button.


3. Press the Yes button.
Antenna

Before your television can begin memorizing the available channels, you must specify the type of signal source that is connected to the LED display.

- Air / Cable

The displayed image may differ depending on the model.

Available in TV mode only.
Register or delete channels. Add favorite channels or rename analog channels. Select a desired channel from **Channel List** to view the channel instantly.

---

To navigate **Channel List** faster, press the channel buttons. The channel list changes page by page.

---

**Added Ch.**

Shows all added channels.

**Favorites 1 ~ Favorites 5**

Shows all favorite channels, in up to five groups. Each group has a separate screen.

---

The TV displays favorite groups only if you have added favorites using **Edit Favorites**.

---

**Options**

- **Antenna**
  
  Select either **Air** or **Cable** as digital channel mode.

- **Edit Favorites**
  
  Edit favorite channel lists from **Edit Channel**.

---

**Icons found in the channel list page**

- **A**: Analog channel
- **❤**: A channel that is selected
The Guide provides an overview of each digital channel’s program lineup. You can check the program schedules and set up a Schedule Manager.

The information in the Guide is for digital channels only. Analog channels are not supported.

You can press the color keys on the remote to access optional functions.

Quick Navigation
Search channel information quickly.

Schedule Manager
Access the Schedule Manager function.
You can view information on the Schedule Manager.
Schedule Manager

MENU  →  Broadcasting  →  Schedule Manager  →  ENTER

Broadcasting

Schedule Manager

Watch a desired channel at a scheduled time.

• **Antenna**: Select either **Air** or **Cable** as digital channel mode.
• **Channel**: Select the desired channel.
• **Repeat**: **Once** / **Manual** / **Sat~Sun** / **Mon~Fri** / **Everyday**
  — Select **Manual** if you want to configure settings by day of the week.
• **Date**: Select the desired date.
• **Start Time**: Set the time to watch the desired channel.

* The displayed image may differ depending on the model.
* Available in **TV** mode only.
Manage channels saved on your TV. Delete channels, re-register deleted channels or rename analog channels.

**Edit Channel**

MENU → Broadcasting → Edit Channel → ENTER

Icons found in the edit channel page

- \[\text{A}\]: Analog channel
- \[\text{\textbullet}\] : A channel that is selected

Deleting/registering channels

Deleting channels

1. Select channels to delete from the screen. To cancel, select again. To select all channels, select Options from the screen and then select Select All from the sub-menu items.

   Alternatively, press and hold the button on the remote control for about three seconds to run Select All / Deselect All.

2. After selecting channels, select Delete from the screen to delete the channels.

Re-registering deleted channels

Register deleted channels again, if required. Deleted channels are grayed out and can only be found in the list of all channels. The register function is enabled for deleted channels only.

1. Select Options from the screen. Sub-menu items are displayed. Select Category from the sub-menu items and then select All.

2. From the list of all channels, select deleted channels you want to register again. To cancel, select again. To select all channels, select Options from the screen and then select Select All from the sub-menu items.

   Alternatively, press and hold the button on the remote control for about three seconds to run Select All / Deselect All.

3. After selecting channels, select Add from the screen to re-register the channels.
**Editing registered channels**

Select **Options** from the edit channel page. The following functions are provided in the page.

Provided functions may vary depending on the broadcast signal.

<table>
<thead>
<tr>
<th>Option Name</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select All</td>
<td>Select all channels in the <strong>Edit Channel</strong> page.</td>
</tr>
<tr>
<td>Deselect All</td>
<td>Deselect all channels.</td>
</tr>
<tr>
<td>Antenna</td>
<td>Select either <strong>Air</strong> or <strong>Cable</strong> as digital channel mode.</td>
</tr>
<tr>
<td>Category</td>
<td>Channels saved on your TV are classified under the <strong>All</strong> and <strong>Added Ch.</strong> categories. Select a desired category.</td>
</tr>
<tr>
<td>Edit Favorites</td>
<td>Set frequently viewed channels as favorite channels.</td>
</tr>
<tr>
<td>Rename Channel</td>
<td>Change the names of analog channels to suit your preferences. A channel name can be up to five characters long.</td>
</tr>
<tr>
<td>Information</td>
<td>View information about the current broadcast program on the air.</td>
</tr>
</tbody>
</table>
Edit Favorites

MENU → Broadcasting → Edit Favorites → ENTER

- The displayed image may differ depending on the model.
- Available in TV mode only.

Creating a favorite channel list

Set frequently viewed channels as favorite channels. Favorite channels are indicated by a symbol in the Edit Channel or Channel List page. A maximum of five favorite channel lists are allowed. Create different favorite channel lists for each family member.

Adding the current channel to a favorite channel list

Add the channel you are currently watching to a favorite channel list.

1. Press the TOOLS button while watching TV. Sub-menu items are displayed. Select Edit Favorites from the sub-menu items.
2. From the displayed prompt box, select a favorite channel list to save the current channel to. Select OK.
3. The current channel is added in the selected favorite channel list. Select OK.

Adding multiple channels to a favorite channel list

Add multiple channels to a favorite channel list, if required.

1. Select Edit Favorites from Channel List.
2. Select desired channels from the channel list in the center of the screen.
3. Select Change Fav. from the screen to change the favorite channel list on the right to another desired favorite channel list.
4. Select Add from the screen. The selected channels will create a favorite channel list.
Viewing channels saved under a favorite channel list

Favorite channel lists are only displayed if they have been created previously. When changing the channel using the channel buttons, channels saved in favorite channel lists can only be accessed.

1. Select Channel List from the Broadcasting menu. The channel list is displayed.
2. Select a favorite channel list among Favorites 1 – Favorites 5.
3. Select channels from the selected favorite channel list.

Selecting Channel List while watching a favorite channel will display the updated favorite channel list.

Editing favorite channel lists

Select Options from the edit favorite channel list page. The following sub-menu items are displayed.

<table>
<thead>
<tr>
<th>Option Name</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copy to Favorites</td>
<td>Copy channels from a favorite channel list to another favorite channel list.</td>
</tr>
<tr>
<td>Rename Favorites</td>
<td>Change the name of a favorite channel list.</td>
</tr>
<tr>
<td>Antenna</td>
<td>Select either the Air or Cable signal.</td>
</tr>
<tr>
<td>Edit Channel</td>
<td>Manage saved channels.</td>
</tr>
<tr>
<td>Information</td>
<td>View information about the current broadcast program on the air.</td>
</tr>
</tbody>
</table>

Deleting channels from a favorite channel list

Delete channels from a favorite channel list, if required.

1. Select Change Fav. from the screen to change the favorite channel list on the right to another desired favorite channel list.
2. Select channels to delete from the selected favorite channel list.
3. Select Delete from the screen. The selected channels are deleted from the favorite channel list.

Changing the order of channels in a favorite channel list

Change the order of channels saved in a favorite channel list, if required.

1. Select Change Fav. from the screen to change the favorite channel list on the right to another desired favorite channel list.
2. Select channels to rearrange from the selected favorite channel list.
3. Select Change order from the screen, and then change the order of the selected channels. To apply the new order of the channels, press the E button.
**Renaming a favorite channel list**

Change the name of a favorite channel list, if required.

1. Select **Change Fav.** from the screen to change the favorite channel list on the right to another desired favorite channel list.
2. Select **Options** from the screen. Sub-menu items are displayed.
3. Select **Rename Favorites** from the sub-menu items. A prompt box appears.
4. Change the favorite channel list using the prompt box. The name for a favorite channel list can be up to 20 characters long.

**Copying channels between favorite channel lists**

Copy channels from a favorite channel list to another favorite channel list, if required.

1. Select **Change Fav.** from the screen to change the favorite channel list on the right to another desired favorite channel list.
2. Select channels to copy from the favorite channel list on the right.
3. Select **Options** from the screen. Sub-menu items are displayed.
4. Select **Copy to Favorites** from the sub-menu items. A prompt box appears.
5. Select favorite channel lists to copy the channels to using the prompt box. The channels are saved to the selected favorite channel lists.

- To use **Copy to Favorites**, make sure channels are saved in a favorite channel list.
Audio Options

MENU  →  Broadcasting  →  Audio Options  →  ENTER

Audio Options

- Preferred Language
  - English

- Multi-Track Sound
  - Stereo

Preferred Language
(for digital broadcasts)

Use the up and down arrow keys to select a language, and then press .

Digital-TV broadcasts can simultaneously transmit many audio tracks (for example, simultaneous translations of the program into foreign languages).

- You can only select a language from among the ones being broadcasted.

Multi-Track Sound

Select an option using the up and down arrow keys, and then press .

- **Mono**: Choose for channels that are Broadcasting in mono or if you are having difficulty receiving a stereo signal.
- **Stereo**: Choose for channels that are Broadcasting in stereo.
- **SAP**: Choose to listen to the Separate Audio Program, which is usually a foreign-language translation.

- Depending on the program being broadcast, you can listen to Mono, Stereo, or SAP.

- The displayed image may differ depending on the model.

- Available in TV mode only.
Program Rating Lock

MENU → Broadcasting → Program Rating Lock → ENTER

Program Rating Lock

- **On**
- **Off**

**TV Rating**
- Young children / TV-Y7: Children 7 and over
- General audience / TV-G: Viewers 12 and over
- Parental guidance / TV-PG: Parents strongly cautioned
- Viewers 14 and over / TV-14: Viewers 14 and over
- Mature audience / TV-MA: Mature

**Movie Rating (MPAA)**
- General audience (no restrictions) / G
- Parental guidance suggested / PG
- Restricted. Children under 17 should be accompanied by an adult / PG-13: Parents strongly cautioned
- No children under age 17 / NC-17: No children under age 17
- Adults only / R
- Not rated / NR

- Fantasy violence / FV
- Violence / V
- Sexual situation / S
- Adult Language / L
- Sexually Suggestive Dialog / D

To block certain content, you select a lock, and press E (That is, you “click it”). For example, click the lock at the intersection of TV and TV-MA, and you block all programs that are rated violent and for mature adults. The locks are also assigned to related groups. For example, if you click TV-Y under All, then TV-Y7 will also automatically be blocked. Similarly, if you click TV-G under All, then all the categories in the young adult group will be blocked (TV-G, TV-PG, TV-14 and TV-MA). The sub-ratings (D, L, S, V) work similarly. So, if you block the L sub-rating in TV-PG, then the L sub-ratings in TV-14 and TV-MA will automatically be blocked.

To unblock a category, click the lock. To unblock all the categories in a row, click the lock under All.

To watch a blocked program, you must enter the Security code when requested.

**Movie Rating (MPAA)**: You can block movies based on their MPAA rating. The Motion Picture Association of America (MPAA) has implemented a rating system that provides parents or guardians with advanced information on which films are appropriate for children.

**Movie Rating (MPAA)** displays a column with locks and the following ratings categories.

- General audience (no restrictions) / G
- Parental guidance suggested / PG
- Restricted. Children under 17 should be accompanied by an adult / PG-13: Parents strongly cautioned
- Restricted. Children under 17 should be accompanied by an adult / PG-17
- No children under age 17 / NC-17: No children under age 17
- Adults only / R
- Not rated / NR

To block certain content, you select a lock, and press E (That is, you “click it”). For example, click the X lock and you block all X-rated movies. The rating categories are also grouped so that clicking one category blocks all the categories a parent would block along with it. For example, if you block the PG-13 category, then R, NC-17 and X will automatically be blocked also.
• **Canadian English Rating**: You can block TV programs based on their Anglophone Canadian rating. **Canadian English Rating** displays a column with locks and the following ratings categories.

  - **C**: Programming intended for children under age 8. / **C8+**: Programming generally considered acceptable for children 8 years and over to watch on their own. / **G**: General programming, suitable for all audiences. / **PG**: Parental Guidance. / **14+**: Programming contains themes or content which may not be suitable for viewers under the age of 14. / **18+**: Adult programming.

    To block certain content, you select a lock, and press \( \text{E} \) (That is, you "click it"). For example, click the \( \text{18+} \) lock and you block all TV programs rated \( \text{18+} \). The rating categories are also grouped so that clicking one category blocks all the categories a parent would block along with it. For example, if you block the **G** category, then **PG**, **14+** and **18+** will automatically be blocked.

    To unblock a category, click the lock.

• **Canadian French Rating**: You can block TV programs based on their French Canadian rating. **Canadian French Rating** displays a column with locks and the following ratings categories.

  - **G**: General / **8 ans+**: Programming generally considered acceptable for children 8 years and over to watch on their own. / **13 ans+**: Programming may not be suitable for children under the age of 13. / **16 ans+**: Programming is not suitable for children under the age of 16. / **18 ans+**: Programming restricted to adults.

    To block certain content, you select a lock, and press \( \text{E} \) (That is, you "click it"). For example, click the \( \text{18 ans+} \) lock and you block all TV programs rated \( \text{18 ans+} \). The rating categories are also grouped so that clicking one category blocks all the categories a parent would block along with it. For example, if you block the \( \text{18 ans+} \) category, then **13 ans+**, **16 ans+** and **18 ans+** will automatically be blocked also.

    To unblock a category, click the lock.

• **Downloadable U.S. Rating**: Parental restriction information you can use while watching DTV channels.

  - If information is not downloaded from the Broadcasting station, **Downloadable U.S. Rating** menu is deactivated.
  - Parental restriction information is automatically downloaded while you watch DTV channels. It may take several seconds.
  - The **Downloadable U.S. Rating** menu is available for use after information is downloaded from the Broadcasting station. However, depending on the information from the Broadcasting station, it may not be available for use.
  - Parental restriction levels differ depending on the Broadcasting station. The default menu name and **Downloadable U.S. Rating** change depending on the downloaded information.
  - Even if you set the on-screen display to another language, the **Downloadable U.S. Rating** menu will appear in English only.
  - Blocking one rating level will automatically block other categories that deal with more sensitive material.
  - The rating titles (For example: Humor Level, etc) and TV ratings (For example: DH, MH, H, etc) may differ depending on the Broadcasting station.
Channel Settings

MENU → Broadcasting → Channel Settings → ENTER

Broadcasting

Channel Settings

Fine Tune
(analog channels only)
If the reception is clear, you do not have to fine tune the channel, as this is done automatically during the search and store operation. If the signal is weak or distorted, fine tune the channel manually. Scroll to the left or right until the image is clear.

- Settings are applied to the channel you're currently watching.
- Fine tuned channels that have been saved are marked with an asterisk (*) on the right-hand side of the channel number in the channel banner.
- To reset the fine-tuning, select Reset.

Clear Scrambled Channel
(digital channels only)
This function filters out scrambled channels after Auto Program is completed. This process may take up to 20~30 minutes.

How to Stop the Clear Scrambled Channel function

1. Press the Enter button to select Stop.
2. Press the Up button to select Yes.
3. Press the Enter button.

- This function is only available in Cable mode.

The displayed image may differ depending on the model.
Available in TV mode only.
Network Status

MENU → Network → Network Status → ENTER

You can check the current network and Internet status.

You are connected to the Internet. If you have any problems using online services, please contact your Internet Service Provider.

Network Settings

MENU → Network → Network Settings → ENTER

Connect to a wireless network and use the product as a TV+signage using MagicInfo Express Content Creator on your PC.

Network Settings

Select your network type.

Network type

Wireless / Wired

The displayed image may differ depending on the model.
**Network Settings (Wired)**

**Connecting to a Wired Network**

There are three ways to attach your product to your LAN using cable.

- You can attach your product to your LAN by connecting the LAN port on the back of your product to an external modem using a LAN cable. See the diagram below.

- You can attach your product to your LAN by connecting the LAN port on the back of your product to an IP Sharer which is connected to an external modem. Use LAN cable for the connection. See the diagram below.

- Depending on how your network is configured, you may be able to attach your product to your LAN by connecting the LAN port on the back of your product directly to a network wall outlet using a LAN cable. See the diagram below. Note that the wall outlet is attached to a modem or router elsewhere in your house.

If you have a Dynamic Network, you should use an ADSL modem or router that supports the Dynamic Host Configuration Protocol (DHCP). Modems and routers that support DHCP automatically provide the IP address, subnet mask, gateway, and DNS values your product needs to access the Internet so you do not have to enter them manually. Most home networks are Dynamic Networks.

Some networks require a Static IP address. If your network requires a Static IP address, you must enter the IP address, subnet mask, gateway, and DNS values manually on your product Cable Setup Screen when you set up the network connection. To get the IP address, subnet mask, gateway, and DNS values, contact your Internet Service Provider (ISP).

If you have a Windows computer, you can also get these values through your computer.

- You can use ADSL modems that support DHCP if your network requires a Static IP address.
- ADSL modems that support DHCP also let you use Static IP addresses.
Set the network connection to use Internet services such as perform software upgrades.

**Automatic Network Settings (Wired)**

Connect to the network using a LAN cable.
Make sure a LAN cable is connected first.

**How to set up automatically**

1. Set **Network type** to **Wired** from the **Network Settings** page.

2. Press the **Connect** button to start **Network Settings**.
   - The **Connect** button is only enabled when the LAN cable is properly connected.

3. The network test screen appears and verifies the network connection.
   - When the connection has been verified, the "Wired network and internet connection completed." message appears.
   - If the connection process fails, check the LAN port connection.
   - If the automatic process cannot find the network connection values or if you want to set the connection manually, go to the next section, network setup.

**Manual Network Settings (Wired)**

Offices may use static IP addresses.
If this is the case, ask the network administrator for the IP address, subnet mask, gateway and DNS server address. Enter these values manually.

**Getting the Network Connection Values**

To view the Network connection values on most Windows computers, follow these steps.

1. Right click the Network icon on the bottom right of the screen.

2. In the pop-up menu that appears, click Status.

3. On the dialog that appears, click the **Support** tab.

4. On the **Support** Tab, click the **Details** button. The Network connection values are displayed.

**How to set up manually**

1. Set **Network type** to **Wired** from the **Network Settings** page.

2. Press the **Connect** button to start **Network Settings**.
   - The **Connect** button is only enabled when the LAN cable is properly connected.

3. The network test screen appears and the verification process starts. Press **Stop**. The verification process stops.

4. Select **IP Settings** on network connection screen. The **IP Settings** screen appears.

5. Select the field at the top, press **E** and then set **IP Settings** to **Enter manually**. Repeat the entry process for each field in the **IP Address**.
   - Setting IP settings to **Enter manually** automatically changes DNS setting to **Enter manually**

6. When done, select **OK** at the bottom of the page, and then press **E**. The network test screen appears and the verification process starts.

7. When the connection has been verified, the "Wired network and internet connection completed." message appears.
Network Setting (Wireless)

Connecting to a Wireless Network

Samsung recommends using IEEE 802.11n. When you play video over a network connection, the video may not play smoothly.

— Select a channel for the wireless IP sharer that is not currently being used. If the channel set for the wireless IP sharer is currently being used by another device nearby, this will result in interference and communication failure.

— Your product supports only the following wireless network security protocols.

If you select the Pure High-throughput (Greenfield) 802.11n mode and the Encryption type is set to WEP, TKIP or TKIP AES (WPS2Mixed) on your AP or wireless router, Samsung products will not support a connection in compliance with new Wi-Fi certification specifications.

— If your wireless router supports WPS (Wi-Fi Protected Setup), you can connect to the network via PBC (Push Button Configuration) or PIN (Personal Identification Number). WPS will automatically configure the SSID and WPA key in either mode.

— Connection Methods: You can setup the wireless network connection in three ways. Auto Setup (Using the Auto Network Search function), Manual Setup, WPS(PBC)

Automatic Network Setup (Wireless)

Most wireless networks have an optional security system that requires devices that access the network to transmit an encrypted security code called an Access or Security key. The Security key is based on a Pass Phrase, typically a word or a series of letters and numbers of a specified length you were asked to enter when you set up security for your wireless network. If you use this method of setting up the network connection, and have a Security key for your wireless network, you will have to enter the Pass Phrase during the the automatic or manual setup process.

How to set up automatically

1. Set Network type to Wireless from the Network Settings page.

2. The Network function searches for available wireless networks. When done, it displays a list of the available networks.

3. In the list of networks, press the ▲ or ▼ button to select a network, and then press the □ button twice.

   — If the desired wireless router does not appear, select Refresh to search again.

   — If the router cannot be found after retrying, select the Stop button. The Add Network button appears.

4. If the Enter password. screen appears, go to step 5. If you select a wireless router that does not have security, go to step 7.

5. If the router has security, enter the Enter password. (Security key or PIN).
6. When done, use the right arrow button to move the cursor to Done, and then press Enter. The network connection screen appears and the verification process starts.

A connection with the router is established, but the Internet cannot be accessed.

7. When the connection has been verified, the “Your wireless network and Internet connection are setup and ready to use.” message appears.

How to set up manually

1. Set Network type to Wireless from the Network Settings page.

2. The Network function searches for available wireless networks. When done, it displays a list of the available networks.

3. In the list of networks, press the ▲ or ▼ button to select a network, and then press the Enter button twice.

If the desired wireless router does not appear, select Refresh to search again.

If the router cannot be found after retrying, select the Stop button.

The Add Network button appears.

4. If the Enter password. screen appears, go to step 5. If you select a wireless router that does not have security, go to step 7.

5. If the router has security, enter the Enter password. (Security key or PIN).

6. When done, use the right arrow button to move the cursor to Done, and then press Enter. The network connection screen appears and the verification process starts.

7. Select Stop while network connections are being attempted. This will stop the connection.

8. Select IP Settings on network connection screen. The IP Settings screen appears.

9. Select the field at the top, press Enter, and then set IP Settings to Enter manually. Repeat the entry process for each field in the IP Address.

Setting IP Settings to Enter manually automatically changes DNS Setting to Enter manually.

Manual Network Setup (Wireless)

Offices may use static IP addresses.

If this is the case, ask the network administrator for the IP address, subnet mask, gateway and DNS server address. Enter these values manually.

Getting the Network Connection Values

To view the Network connection values on most Windows computers, follow these steps.

1. Right click the Network icon on the bottom right of the screen.

2. In the pop-up menu that appears, click Status.

3. On the dialog that appears, click the Support tab.

4. On the Support Tab, click the Details button. The Network connection values are displayed.
10 When done, select OK at the bottom of the page, and then press Enter. The network test screen appears and the verification process starts.

11 When the connection has been verified, the "Your wireless network and Internet connection are setup and ready to use." message appears.

WPS(PBC)

How to set up using WPS(PBC)

If your router has a WPS(PBC) button, follow these steps.

1. Set Network type to Wireless from the Network Settings page.
2. Select WPS(PBC), press Enter, and then press Enter again.
3. Press the WPS(PBC) button on your router within 2 minutes. Your product automatically acquires all the network setting values it needs and connects to your network.
4. The network connection screen appears, and network setup is done.
To use this function, your mobile device should be supported by the Wi-Fi Direct.

Wi-Fi Direct

MENU 🌐 → Network → Wi-Fi Direct → ENTER ➔

Set to connect the product to wireless mobile devices. Using this function, you can connect wireless mobile devices with your product directly without a router.

**To connect your mobile device with your product using Wi-Fi Direct, follow these steps:**

1. Go to Wi-Fi Direct screen. The product starts to search devices.

2. Turn on the Wi-Fi Direct function on your device. Select the desired Wi-Fi device.
   - PBC (Push Button Configuration): Press the WPS(PBC) button on your Wi-Fi device within 2 minutes. Your product automatically acquires all the network setting values it needs and connects to your network.
   - PIN: Input the displayed PIN on your device.

   If you want to disconnect the device, select the connected Wi-Fi device, and then select **Disconnected**.

Multimedia Device Settings

MENU 🌐 → Network → Multimedia Device Settings → ENTER ➔

Allow other devices such as smart phones and tablets on your network, to share content with your product.
Screen Mirroring

Connect a mobile device that supports the mirroring function to the product. This allows the screen and sound from the mobile device to be outputted on the product. Mirroring refers to outputting the screen and sound from a mobile device on a display device.

To use Screen Mirroring, make sure the mobile device supports the mirroring function such as AllShare Cast, WiDi (version 3.5 or higher) and Miracast. To check if the mirroring function is available, visit the mobile device manufacturer website.

Screen or sound output may be choppy if there is network congestion.

Screen Mirroring

Run the mirroring function from the mobile device. The mobile device automatically searches and displays the product in a list.

If the mobile device cannot connect to the product, turn them off and then on again, and try again.

Device Name

Select or enter a device name. This name can be shown on network remote controls over the network.

- User Input / [Signage]Display 1 ~ 6
Chapter 10
System

Accessibility

MENU ➔ System ➔ Accessibility ➔ ENTER ➔

Accessibility

<table>
<thead>
<tr>
<th>Voice Guide</th>
<th>Off</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video Description</td>
<td>Off</td>
</tr>
<tr>
<td>Caption</td>
<td>Off</td>
</tr>
<tr>
<td>Menu Transparency</td>
<td>Medium</td>
</tr>
<tr>
<td>High Contrast</td>
<td>Off</td>
</tr>
<tr>
<td>Enlarge</td>
<td>Off</td>
</tr>
</tbody>
</table>

- The displayed image may differ depending on the model.

Voice Guide

Voice Guide

Switch Voice Guide on or off. The language used for Voice Guide will be the same as the current menu language.

- Off / On

Volume, Speed, Pitch and Description Level are enabled only when Voice Guide is set to On.

Volume

Set the volume level for the Voice Guide.

- High / Medium / Low

Speed

Set the speed of the Voice Guide.

- Fast / Normal / Slow

Pitch

Tune the pitch of the Voice Guide.

- High / Medium / Low
Video Description

Add video description to the main audio to help the visually impaired.

Caption

You can switch the caption function on or off.

If captions are not available, they will not be displayed on the screen.

- **Off / On**

  The **Caption** feature does not work with devices connected to the product through the **HDMI** or **PC** input jacks.

Caption Mode

You can select the desired caption mode.

- The availability of captions depends on the program being Broadcasted.

- **Default / CC1 ~ CC4 / Text1 ~ Text4** - The analog **Caption** function operates in either analog product channel mode or when a signal is supplied from an external device to the product.
  (Depending on the Broadcasting signal, the analog **Caption** function may or may not work with digital channels.)
Digital Caption Options
(digital channels only)
Configure the subtitle settings such as size and color.
Adjusts the each option. When done, select Close.

- **Size**: Options include Default, Small, Standard, Large and Extra Large. The default is Standard.
- **Font Style**: Select the caption fonts.
- **Font Color**: You can change the color of the letters. Options include Default, White, Black, Red, Green, Blue, Yellow, Magenta and Cyan. The default is White.
- **Background Color**: You can change the background color of the caption. Options include Default, White, Black, Red, Green, Blue, Yellow, Magenta and Cyan. The default is Black.
- **Window Color**: Select the color you want the window of your digital captions to be.
- **Font Opacity**: This adjusts the opacity of text. Options include Default, Transparent, Translucent, Solid and Flashing.
- **Background Opacity**: This adjusts the opacity of the caption background. Options include Default, Transparent, Translucent, Solid and Flashing.
- **Edge Type**: Select the type of the outline you want on your digital captions.
- **Edge Color**: Select the color outline you want on your digital captions.
- **Return to Default**: Returns to the default settings of the broadcasting station for the captions.

You cannot set both the Font Color and the Background Color to the same color.
### Accessibility

<table>
<thead>
<tr>
<th>Feature</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voice Guide</td>
<td>Off</td>
</tr>
<tr>
<td>Video Description</td>
<td>Off</td>
</tr>
<tr>
<td>Caption</td>
<td>Off</td>
</tr>
<tr>
<td><strong>Menu Transparency</strong></td>
<td><strong>Medium</strong></td>
</tr>
<tr>
<td>High Contrast</td>
<td>Off</td>
</tr>
<tr>
<td>Enlarge</td>
<td>Off</td>
</tr>
</tbody>
</table>

- The displayed image may differ depending on the model.

---

### Menu Transparency

Adjust transparency of menu box.

- High / Medium / Low

### High Contrast

Set the background and font to high-contrast colors in Menu. Menu transparencies become opaque when the option is selected.

- Off / On

### Enlarge

Set whether to enlarge highlighted item in Menu.

- Off / On
Setup

MENU → System → Setup → ENTER

System

Accessibility

Setup

Time

Auto Source Switching

Power Control

Eco Solution

Temperature Control

77

The displayed image may differ depending on the model.

Initial settings (Setup)

After powering on the product for the first time, configure basic settings such as the language, channel and time.

Press the button.

Initial Setup automatically changes Source to TV.

1 Menu Language

Selecting a language.

Press the button, and then press the button. Specify the OSD menu language.

2 Display Orientation

Landscape / Portrait

Configure the menu page orientation.

3 Network Settings

Set up your network connection. Press the button to start. If you do not know your network setup information or want to set it later, select Skip. You can set up the network connection later using the Network menu.

4 Configure your TV

Antenna / No TV (display only)

Select the broadcast signal connected to the product.

5 Auto Program

Both / Air / Cable

This feature automatically searches and configures broadcast signals connected to the product.

To configure settings later, press the Stop button.

6 Clock Set

Set the current date and time, and then select Next.
7 Device Name
   - User Input / [Signage]Display 1 ~ 6
     Select or enter a device name.
     This name can be shown on network remote controls over the network.

8 Setup Complete
   Congratulations! Setup is complete and you’re ready to get started.
   To watch TV using the product now, select OK.
You can configure Clock Set or Sleep Timer. You can also set the product to automatically turn on or off at a specified time using the Timer function.

**Clock**

Set the current year, date and time.

Press the INFO button if you want to view the current time.

**Clock Mode**

Set the current time manually or automatically.

**Auto**: Have the product set the current time automatically using the time from a digital channel.

- You must have the cable or an antenna connected to the product to set the time automatically.

**Manual**: Set the current time manually.

**Clock Set**

Select Clock Set. Select Date or Time, and then press ENTER.

Use the number buttons to enter numbers or press the up and down arrow buttons. Use the left and right arrow buttons to move from one entry field to the next. Press ENTER when done.

- Available only when Clock Mode is set to Manual.

- You can set the Date and Time directly by pressing the number buttons on the remote control.

**Time Zone**

Select your time zone.

- This function is only available when the Clock Mode is set to Auto.

**Time Offset**

If the current time that has been automatically set is different from the actual time, adjust the hour between the interval -12 hours and +12 hours.

- Time Offset is only available when Clock Mode is set to Auto and the antenna is connected.

- When the current time information cannot be received through the signal from a broadcaster, the current time is set through the network (e.g., when watching TV through a cable broadcast receiver or satellite receiver).
DST
Switches the DST (Daylight Saving Time) function on or off.

Off / Auto / Manual
- **Start Date**: Set the start date of Daylight Saving Time.
- **End Date**: Set the end date of Daylight Saving Time.
- **Time Offset**: Select the correct time offset your timezone.

Start Date, End Date, and Time Offset are enabled only when DST is set to Manual.

Sleep Timer
Automatically shuts off the product after a preset period of time.

(Off / 30 min. / 60 min. / 90 min. / 120 min. / 150 min. / 180 min.)

Use the up and down arrows to select a period of time, and then press . To cancel Sleep Timer, select Off.
Turning on the display with **Auto Source Switching On**, and the previous video source selection is not active, the display will automatically search the different video input sources for active video.

### Auto Source Switching

**Auto Source Switching**

When the **Auto Source Switching** is **On**, the display video source will automatically be searched for active video.

The **Primary Source** selection will be activated, if the current video source is not recognized.

**Secondary Source** selection will become active, if no primary video source is available.

If both the primary and secondary input sources are not recognized, the display will perform two searches for an active source, each search checking the primary and then secondary source. If both searches fail, the display will return to the first video source and display a message indicating that there is no signal.

When the **Primary Source** selection is set to **All**, the display will search all the video source inputs twice in sequence looking for an active video source, returning back to the first video source in the sequence if no video is found.

### Primary Source Recovery

Select whether to restore the selected primary input source when a primary input source is connected.

---

The **Primary Source Recovery** function is disabled if **Primary Source** is set to **All**.

### Primary Source

Specify **Primary Source** for the automatic input source.

### Secondary Source

Specify **Secondary Source** for the automatic input source.

---

The **Primary Source Recovery** function is disabled if **Primary Source** is set to **All**.

---

The displayed image may differ depending on the model.
Power Control

MENU → System → Power Control → ENTER

- The displayed image may differ depending on the model.

Auto Power On
This feature automatically turns on the product as soon as it is plugged in. Pressing the power button is not needed.
• Off / On

Max. Power Saving
Turns off the product to reduce power consumption after the PC has been left idle for a specified period of time.
• Off / On
- Available only PC, HDMI mode.
Standby Control

You can set the screen standby mode to be applied when an input signal is received.

- **Auto**
  Power-saving mode will activate if no input signals are detected even though a source device is connected to the display.
  The message **No Signal** will appear if no source device is connected.

- **Off**
  The message **No Signal** will appear if no input signals are detected.

- The Standby Control option is only enabled when **Source** is set to **PC** or **HDMI**.
- If **No Signal** is displayed although a source device is connected, check the cable connection.
- If **No Signal Message** is set to **Off**, the **No Signal** message does not appear.
  If this is the case, set **No Signal Message** to **On**.

- **On**
  Power-saving mode will activate if no input signals are detected.

### Network Standby

This feature keeps the network power on when the product turns off.

- **Off / On**
Eco Solution

MENU → System → Eco Solution → ENTER

- The displayed image may differ depending on the model.

Energy Saving
Reduce the power consumption by adjusting the screen brightness.

- Off / Low / Medium / High

Eco Sensor
To enhance your power savings, the picture settings will automatically adapt to the light in the room.

- Off / On

When Eco Sensor is On, the display brightness may change (become slightly darker or brighter) depending on the surrounding light intensity.

Min. Backlight
When Eco Sensor is On, you can manually adjust the minimum screen brightness. Min. Backlight is the darkest backlight mode. Make sure the Min. Backlight setting is lower than the Backlight setting.

Screen Lamp Schedule
Enable or disable the lamp schedule.

- Off / On

Schedule 1, Schedule 2

Time
The panel brightness will change to the brightness set in Time at a specified time.

Lamp
Adjust the panel brightness. A value closer to 100 makes the panel brighter.

- 0 ~ 100
No Signal Power Off

Save power by turning the device off when no signal is received from any source.

- Off / 15 min. / 30 min. / 60 min.

- Disabled when an attached PC is in power saving mode.

- The product will automatically power off at a specified time. The time can be changed as required.

Auto Power Off

The product will automatically turn off if you don’t press a button on the remote or touch a button on product front panel within select hours to prevent overheating.

- Off / 4 hours / 6 hours / 8 hours

Temperature Control

This function detects the internal temperature of the product. You can specify the temperature range that is acceptable. The default temperature is set to 77°C.

The recommended operating temperature for this product is 75 to 80°C (based on an ambient temperature of 40°C).

- The screen will become darker if the current temperature exceeds the specified temperature limit. If the temperature continues to rise, the product will power off to prevent overheating.
Device Manager

MENU → System → Device Manager → ENTER

- The displayed image may differ depending on the model.

Device Manager

- Keyboard Settings
- Mouse Settings

Configure options for external input devices connected to the product.

Keyboard Settings

Connecting a keyboard to the product displays the Keyboard Settings menu.

Select Keyboard

Select a keyboard you want to use from the available connected keyboards.

- It is possible to use only one connected keyboard.

Add Bluetooth Keyboard

Connecting a Bluetooth keyboard

1. Place the Bluetooth keyboard into standby status.

2. Select MENU → System → Device Manager → Keyboard Settings → Add Bluetooth Keyboard. The SMART Signage TV automatically scans for available keyboards.

- If your keyboard was not detected, position the keyboard close to the SMART Signage TV, and then select Refresh. The SMART Signage TV scans for available keyboards again.

3. Select the Bluetooth keyboard from the scan list, and then select Pair and connect. A number appears on the screen.

4. Enter the number using the Bluetooth keyboard. This pairs the Bluetooth keyboard to the SMART Signage TV.
Keyboard Options

— Depending on the country.

Keyboard Language
Specify the keyboard input language.

Keyboard Type
Specify the keyboard type.

Switch Input Language
Configure the key combination used to change the input language.
Mouse Settings

Connecting a mouse to the product displays the Mouse Settings menu.

Select Mouse

Configure mouse connection settings or options for connected mouse devices.

Among connected mouse devices, only one mouse can be used.

Add Bluetooth Mouse

Connecting a Bluetooth mouse

1 Place the Bluetooth mouse in standby status.

2 Select MENU → System → Device Manager → Mouse Settings → Add Bluetooth Mouse.

3 Select the Bluetooth mouse from the scanned list, and then select Pair and connect. This pairs the Bluetooth mouse to the SMART Signage TV.

Mouse Options

Depending on the country.

Primary Button

Select a button on the mouse that will perform basic functions (click and enter).

• Left (default) / Right

Pointer Speed

Set the mouse pointer speed.

• Slow / Standard / Fast
Change PIN

MENU → System → Change PIN → ENTER

The Change PIN screen will appear.
Choose any 4 digits for your PIN and enter it in Enter New PIN. Reenter the same 4 digits in Confirm New PIN.
When the Confirm screen disappears, press the Close button. The product has memorized your new PIN.

Default password: 0 - 0 - 0 - 0

* The displayed image may differ depending on the model.
Security

MENU → System → Security → ENTER

Security

<table>
<thead>
<tr>
<th>Feature</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety Lock</td>
<td>Off</td>
</tr>
<tr>
<td>Power On Button</td>
<td>On</td>
</tr>
<tr>
<td>Button Lock</td>
<td>Off</td>
</tr>
<tr>
<td>USB Auto Play Lock</td>
<td>Off</td>
</tr>
</tbody>
</table>

The displayed image may differ depending on the model.

### Safety Lock

Enter your 4 digit PIN number. The default PIN number is "0-0-0-0".

If you want to change the PIN number, use the Change PIN function.

It sets safe lock function.

- **Off / On**

All the menus and buttons of the product and remote control, except for the LOCK button on the remote control, will be locked by the Safety Lock function.

To unlock the menus and buttons, press the LOCK button and then enter the password (default password: 0 - 0 - 0 - 0).

### Power On Button

Enable or disable the power button on the remote control when Safety Lock is On.

- **Off / On**

### Button Lock

This menu can be used to lock the buttons on the product.

Only the remote control can control the product if Button Lock is set to On.

- **Off / On**

### USB Auto Play Lock

Select whether to automatically play MagicInfo content saved on a connected USB device.

- **Off**
  
  Play MagicInfo content saved on the USB device automatically.

- **On**
  
  Do not play MagicInfo content saved on the USB device automatically.

---

Connecting a USB device containing MagicInfo content displays "USB Auto Play Lock : On" for five seconds.
The displayed image may differ depending on the model.

### General

**Smart Security**

Security provided to protect your TV and connected storage devices against viruses includes.

**Smart Security**

Use this option to turn Smart Security protection On/Off.

- Off / On

**Scan**

Inspect the TV and connected storage devices to check for viruses.

**Isolated List**

This is the list of items that have been isolated for containing viruses.

**Allowed List**

This is the list of items that have been allowed as not containing viruses.

**Settings**

Set the Smart Security options.

**Auto Scan**

Scan automatically when the TV is turned on.

- Off / On

**Move to Isolated List automatically**

Moves viruses to the Isolated List automatically.

- Off / On
**BD Wise**

Provides the optimal picture quality for Samsung DVD, Blu-ray and Home Theater products which support BD Wise. When BD Wise is turned On, the picture mode is automatically changed to the optimal resolution.

- **Off / On**

  - Available when you connect Samsung products that support BD Wise through an HDMI cable to the product.
  - The BD Wise function is enabled only when a source device with the BD Wise function is connected.

---

The displayed image may differ depending on the model.
Anynet+ (HDMI-CEC)

Anynet+ is a function that enables you to control all connected Samsung devices that support Anynet+ with your Samsung product remote. The Anynet+ system can be used only with Samsung devices that have the Anynet+ feature. To be sure your Samsung device has this feature, check if there is an Anynet+ logo on it.

- You can only control Anynet+ devices using the product remote control, not the buttons on the product.
- The product remote control may not work under certain conditions. If this occurs, reselect the Anynet+ device.
- Anynet+ works when the AV device supporting Anynet+ is in the standby or on status.
- While in PIP mode, Anynet+ functions only when an AV device is connected as the primary display. It does not work if the AV device is connected as a secondary display.
- Anynet+ supports up to 12 AV devices in total. Note that you can connect up to 3 devices of the same type.

Anynet+ Menu

The Anynet+ menu changes depending on the type and status of the Anynet+ devices connected to the product.

- Press the TOOLS button to display the Anynet+ menu and select a menu you want.

### Anynet+ Menu Description

<table>
<thead>
<tr>
<th>Anynet+ Menu</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>View TV</td>
<td>Changes Anynet+ mode to TV mode.</td>
</tr>
<tr>
<td>Select Device</td>
<td>Shows the Anynet+ device list.</td>
</tr>
<tr>
<td>(device_name) MENU</td>
<td>Shows the menu of the connected device menus. E.g. if a DVD player is connected, the disc menu of the DVD player will appear.</td>
</tr>
<tr>
<td>(device_name) Tools</td>
<td>Shows the tools menu of the connected device. E.g. if a DVD player is connected, the tools menu of the DVD player will appear. Depending on the device, this menu may not be available.</td>
</tr>
<tr>
<td>(device_name) Title Menu</td>
<td>Shows the title menu of the disc in the connected device. E.g. If a DVD player is connected, the title menu of the movie in the DVD player will appear. Depending on the device, this menu may not be available.</td>
</tr>
</tbody>
</table>
Auto Turn Off

Setting an Anynet+ Device to turn Off automatically when the product is turned off.

- No / Yes

- If Auto Turn Off is set to Yes, running external devices will turn off at the same time as the product powers off.

- May not be enabled depending on the device.

Device search

Switching between Anynet+ Devices

1. Press the TOOLS button, select Anynet+ (HDMI-CEC), and then press 

2. Select Select Device, and then press the 

If you cannot find a device you want, select Refresh to refresh the list.

3. Select a device, and then press the 

- The Select Device menu appears only when you set Anynet+ (HDMI-CEC) to On in the System menu.

- Switching to the selected device may take up to 2 minutes. You cannot cancel the switching operation while switching is in progress.

- If you have selected an Anynet+ device by pressing the SOURCE button and then selecting its input source, you cannot use the Anynet+ function.

- Make sure to switch to an Anynet+ device by using the Select Device
## Troubleshooting for Anynet+

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anynet+ does not work.</td>
<td>• Check if the device is an Anynet+ device. The Anynet+ system supports Anynet+ devices only.</td>
</tr>
<tr>
<td></td>
<td>• Check if the Anynet+ device power cord is properly connected.</td>
</tr>
<tr>
<td></td>
<td>• Check the Anynet+ device's Video/Audio/HDMI cable connections.</td>
</tr>
<tr>
<td></td>
<td>• Check whether Anynet+ (HDMI-CEC) is set to <strong>On</strong> in the <strong>System</strong> menu.</td>
</tr>
<tr>
<td></td>
<td>• Check whether the remote control is Anynet+ compatible.</td>
</tr>
<tr>
<td></td>
<td>• Anynet+ doesn't work in certain situations. (initial setup)</td>
</tr>
<tr>
<td></td>
<td>• If you have removed and then reconnected the HDMI cable, please make sure to search devices again or turn your product off and on again.</td>
</tr>
<tr>
<td></td>
<td>• Check if the Anynet+ function of the Anynet device is set on.</td>
</tr>
<tr>
<td>I want to start Anynet+.</td>
<td>• Check if the Anynet+ device is properly connected to the product and check if the Anynet+ (HDMI-CEC) is set to <strong>On</strong> in the <strong>System</strong> menu.</td>
</tr>
<tr>
<td></td>
<td>• Press the <strong>TOOLS</strong> button to display the <strong>Anynet+</strong> menu and select a menu you want.</td>
</tr>
<tr>
<td>I want to exit Anynet+.</td>
<td>• Select <strong>View TV</strong> in the <strong>Anynet+</strong> menu.</td>
</tr>
<tr>
<td></td>
<td>• Press the <strong>SOURCE</strong> button on the product remote control and select a non- Anynet+ device.</td>
</tr>
<tr>
<td>The message &quot;Disconnecting Anynet+ device ...&quot; appears on the screen.</td>
<td>• You cannot use the remote control when you are configuring Anynet+ or switching to a view mode.</td>
</tr>
<tr>
<td></td>
<td>• Use the remote control after the product has completed Anynet+ configuration or has finished switching to Anynet+.</td>
</tr>
<tr>
<td>The Anynet+ device does not play.</td>
<td>• You cannot use the play function when initial setup is in progress.</td>
</tr>
<tr>
<td><strong>Problem</strong></td>
<td><strong>Possible Solution</strong></td>
</tr>
<tr>
<td>-------------</td>
<td>-----------------------</td>
</tr>
</tbody>
</table>
| The connected device is not displayed. | • Check whether or not the device supports Anynet+ functions.  
• Check whether or not the HDMI cable is properly connected.  
• Check whether **Anynet+ (HDMI-CEC)** is set to **On** in the **System** menu.  
• Search Anynet+ devices again.  
• Anynet+ requires an HDMI connection. Make sure the device is connected to your product with an HDMI cable.  
• Some HDMI cables may not support Anynet+ functions.  
• If the connection is terminated because there has been a power failure or the HDMI cable has been disconnected, please repeat the device scan. |
HDMI Hot Plug
This feature is used to activate the time delay to turn on a DVI/HDMI source device.
- Off / On

DivX® Video On Demand
Shows the registration code authorized for the product.
If you connect to the DivX® web site and register using that code, you can download the VOD registration file.
For more information about DivX® VOD, visit “http://vod.divx.com”.

Game Mode
When connecting to a game console such as PlayStation™ or Xbox™, you can enjoy a more realistic gaming experience by selecting game mode.
- Off / On
  - Precautions and limitations for Game Mode
    - To disconnect the game console and connect another external device, set Game Mode to Off in the setup menu.
  - Game Mode is not available when the input source is set to TV

The displayed image may differ depending on the model.
Reset System

This option returns the current settings under system to the default factory settings.

MENU → System → Reset System → ENTER

- The displayed image may differ depending on the model.
Chapter 11
Support

Software Update

MENU → Support → Software Update → ENTER

The Software Update menu lets you upgrade your product software to the latest version.

Be careful not to turn off the power until the upgrade is complete. The product will turn off and on automatically after completing the software upgrade.

When you upgrade software, all video and audio settings you have made will return to their default settings. We advise you to write down your settings so that you can easily reset them after the upgrade.

Update now

Update the software to the latest version.

Auto Update

This feature automatically updates the product when not in use.

- Off / On

Use Mode

MENU → Support → Use Mode → ENTER

Select the appropriate mode according to where the product is used.

If you choose Demo Mode, the demo content will be played automatically and the picture settings will be reset in 5 minutes after change.

- Normal Use / Demo Mode
Contact Samsung

MENU → Support → Contact Samsung → ENTER

View this information when your product does not work properly or when you want to upgrade the software.
You can find information regarding our call centers and how to download products and software.
Contact Samsung and find the product Model Code and Software Version.
Go to Home

Accessible using the HOME button on the remote control.

MENU → Support → Go to Home → ENTER

Go to Home to play a variety of content from a memory device or a connected network.

Player

Search or play channels or content saved on devices.

Clone Product

Export settings on the product to an external storage device. You can also import settings from an external storage device. This option is useful when assigning the same settings to several products.

ID Settings

Assign an ID to a set.

Connectivity

Configure Network Settings and Wi-Fi Direct.

- The displayed image may differ depending on the model.
- Refer to the "Home feature" chapter for details on sub-menu items.
Network Status
Check the current network and Internet connection.

Picture Mode
Select a picture mode (Picture Mode) suitable for the environment where the product will be used.

On/Off Timer
You must set the clock before you can use On/Off Timer.
Set On Timer so that your product turns on automatically at a time and on a day of your choosing.
The power is turned on with the specified volume or input source.

Ticker
Input text while a video or image is displayed and display the text on the screen.

More settings
The picture settings menu appears.
Reset All

This option returns all the current settings for a display to the default factory settings.

MENU -> Support -> Reset All -> ENTER

The displayed image may differ depending on the model.
Chapter 12
Playing photos, videos and music (Media Play)

Enjoy videos, photos, music files saved on a USB Mass Storage Class (MSC) device.

Play photos, videos or music saved on a storage device.
Play a variety of content using the following methods.

• Using a USB device: Play media content such as videos, photos and music from a USB device.
• Connecting a storage device: Play media content saved on a storage device such as a smartphone, camera, PC or cloud service.

Read the following before using media play with a USB device

Caution

• Before connecting a USB device to the product, back up files to ensure your data is not damaged or lost. Samsung Electronics is not liable for any damage or loss of data.
• Do not remove a USB device while it is loading.
• If a USB device is connected using a USB extension cable, the USB device may not be recognized or files saved on the device may not be able to be read.
• If the product does not recognize a connected USB device, the files on the USB device may be corrupted or may not be able to be played. If this occurs, connect the USB device to the PC to format the device, then make sure the device is connected properly.
• USB HDD greater than 2TB is not supported.
Compatible devices with media play

- Some USB digital cameras, smartphones and audio devices may not be compatible with the product.
- Media play is only compatible with USB MSC devices.
- MSC device refers to a Mass Storage Class Bulk-Only Transport device. Examples of MSC devices include Thumb drives, Flash card readers and USB HDDs. (USB hubs are not supported.) These MSC devices must be connected directly to a USB port on the product.
- If more than one Picture Transfer Protocol (PTP) device is connected, only one will work at a time.
- If multiple MSC devices are connected, some devices may not be recognized. USB devices that require high power (higher than 500mA or 5V) may not be supported.
- If an overheating warning message appears when a USB device is connected or used, the USB device may not be recognized or function properly.
- The screensaver activates if the product is left idle for a period of time specified in Auto Protection Time.
- Power-saving mode on some external hard disk drives may automatically deactivate after connecting to the product.

File system and formats

- Media play may not function properly with unlicensed multimedia files.
- Media Transfer Protocol (MTP) is not supported.
- Supported file systems include FAT16, FAT32 and NTFS (read only).
- Media play supports the sequential JPEG format.
  It does not support the progressive JPEG format.
- Images with a higher resolution take longer to be displayed on the screen.
- The maximum JPEG resolution supported is 15360x8640 pixels.
- If a file is incompatible or corrupted, a message Not Supported File Format appears.
- When sorting files in folder view mode, a maximum of 1000 files can be displayed in each folder.
- If a USB device contains 8000 files and folders or more, some files and folders may not open.
- DRM MP3 files downloaded from websites that charge a fee cannot be played.

Digital Rights Management (DRM) refers to a system for protecting the copyrights of data circulated via the Internet or other digital media by enabling secure distribution and/or disabling illegal distribution of the data.
Using a USB device

Connecting a USB device

1. Turn on your product.

2. Connect a USB device containing photo, music and/or movie files to the USB port on the back or side panel of the product.

3. The Player page automatically appears as soon as a USB device connects to the product.

   - If only one USB device is connected, files saved on the USB device are displayed automatically.
   - To view content saved on a USB device, connect the USB device to a USB port on the product.

Removing a USB device

Removing a USB device from Source

1. Press SOURCE on the remote control. Alternatively, go to Source using the OSD menu.

   SOURCE → Source

2. Select USB from Source, and then press the TOOLS button on the remote control. The Options menu is displayed.

3. Select Remove USB and wait until the USB device is disconnected. The USB device is disconnected.
Playing media content from a PC/mobile device

**Approving a PC/mobile device connection**

Play photos, videos or music saved on a PC or mobile device.

To play media content from a PC or mobile device on the product, the connection with the PC or mobile device must be approved.

- The media playback feature is available on any devices that support DLNA DMC. The DLNA DMC feature allows you to search media content and control content playback from a product after connecting a PC or mobile device to the product.

1. Press **SOURCE** on the remote control. Alternatively, go to **Source** using the OSD menu.

   **SOURCE** → **Source**

2. Select **Network** from **Source**. The **Network Device** menu appears.

3. Select **Options** from the screen, and then select **Multimedia Device Settings**. A list of devices connected to the product will appear.

4. Select a device and approve the device connection. Playback is only available on devices that are permitted to connect.

   - Sending a media content playback request from a PC or mobile device displays a prompt asking if connection with the product is permitted. Conveniently connect the devices using the prompt.

   - For details on how to configure a network, refer to the section **Network Settings**.

   - Ensure the product and PC are connected to the same network subnet. All IP addresses are made up of four parts separated by dots. (E.g. IP address 111.222.333.444) The product should have the same IP address as the PC, except for the fourth part of the address, if they are connected to the same subnet. (E.g. 111.222.333.*)
When connected to a home network (DLNA)

Play content saved on a device connected to a home network.

- Playing media content using a non-Samsung DLNA server may result in a compatibility issue.
- Playback of some media content shared with a PC or mobile device may not be possible depending on the content encoding type or the content file format. Some functions may not be available.
- Media content may not play properly if there is network congestion. If this is the case, use a USB device.

1. Press **SOURCE** on the remote control. Alternatively, go to **Source** using the OSD menu.

2. Select **Network** from **Source**. The **Network Device** menu appears.

3. Select a device connected via the home network (DLNA). A list of files and folders shared with the selected device will appear.

4. Select media content to play from the list. Play the selected media content.

Features provided in the media content list page

**SOURCE** → **Source** → **USB**

The media content list page on a storage device provides the following features.

- **Sort by**
  - Rearrange the media content list under the selected file format in a desired view mode.
  - This menu item is not available if **Filter** is set to **All**.

- **Filter**
  - Among **Photos**, **Videos** and **Music** content saved on a storage device, view content files under a desired file format only.

- **Options**
  - This menu item is not available if **Filter** is set to **All**.
## Menu items in the media content list page

<table>
<thead>
<tr>
<th>Option Name</th>
<th>Operations</th>
<th>Photos</th>
<th>Videos</th>
<th>Music</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Slide Show</strong></td>
<td>Start a slideshow.</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>— This menu item is not available if <strong>Sort by</strong> is set to <strong>Folder</strong>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Encoding</strong></td>
<td>Select an encoding language if the title of media content appears corrupted.</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Rename Playlist</strong></td>
<td>Rename a playlist.</td>
<td></td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td><strong>Delete Playlist</strong></td>
<td>Delete a playlist.</td>
<td></td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td><strong>Add to Playlist</strong></td>
<td>Add files to a playlist or create a new playlist.</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td><strong>Play Selected</strong></td>
<td>Select and play desired content from the media content list.</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td><strong>Send</strong></td>
<td>Send media content to another storage device. This is similar to the &quot;copy&quot; feature on PCs.</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td><strong>Index</strong></td>
<td>Select an index to conveniently locate media content if a storage device contains a lot of media content.</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td></td>
<td>— Provided indices include dates and alphanumeric characters.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>— This menu item is not available if <strong>Sort by</strong> is set to <strong>Folder</strong>.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Available buttons and features during photo playback

Pressing the E or TOOLS button displays the following buttons. The RETURN button makes the buttons disappear.

- **Pause / Play**
  Start or stop a slideshow. Using a slideshow, it is possible to play all photos in a folder.

- **Previous / Next**
  View the previous or next photo.

- **Settings**

<table>
<thead>
<tr>
<th>Option Name</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slideshow Settings</td>
<td>Speed: Change the slideshow speed. Effects: Apply transition effects between photos.</td>
</tr>
<tr>
<td>Rotate</td>
<td>Rotate photos.</td>
</tr>
<tr>
<td>Zoom</td>
<td>Zoom in on photos up to 4x.</td>
</tr>
<tr>
<td>Picture Mode</td>
<td>Change the Picture Mode.</td>
</tr>
<tr>
<td>Background Music</td>
<td>Play background music while viewing photos. Make sure a music file is saved on the same device. The mini player is displayed while background music (Background Music) is playing. Using the mini player, pause the music currently playing or change to another music.</td>
</tr>
<tr>
<td>Sound Mode</td>
<td>Change the Sound Mode. This menu item is only available when background music (Background Music) is playing.</td>
</tr>
<tr>
<td>Select Speakers</td>
<td>Select a speaker that will output the background music (Background Music). This menu item is only available when background music (Background Music) is playing.</td>
</tr>
<tr>
<td>Send</td>
<td>Send open photos to another storage device. This is similar to the &quot;copy&quot; feature on PCs.</td>
</tr>
<tr>
<td>Information</td>
<td>View information about a file.</td>
</tr>
</tbody>
</table>
Available buttons and features during video playback

Pressing the E or TOOLS button displays the following buttons. The RETURN button makes the buttons disappear.

- **Pause / Play**
  Pause or play a video.
  The following features are available in pause mode. Note that sound cannot be heard in pause mode.

- **Rewind / Fast Forward**
  Rewind or fast forward a video. Speed up playback up to 3x, if required. To change the playback speed to the original speed, select "∂".

- **Previous / Next**
  To play the previous video, select "◁" twice. Selecting "◆" once will play the current video from the beginning.
  To play the next video, select "▷".

- **Settings**

<table>
<thead>
<tr>
<th>Option Name</th>
<th>Operations</th>
</tr>
</thead>
</table>
| Select Scene | Thumbnails: Select a scene and play the video from the scene. 
Thumbnails is not available if 1) the thumbnail of the video is not extracted yet, 2) the video contains audio only or 3) the video play time is shorter than 60 seconds. |
| Chapter Titles | Select and play another video in the same folder. |
| Time Bar | You can use the "◁" and "▷" buttons to scan through the file in 10-second intervals or enter a specific time value to jump to that point in the video. |
| Subtitle | Language / Sync / Reset Sync / Size / Encoding |
| | If the subtitle is displayed incorrectly, change Encoding options. |
| Repeat | Configure Repeat. |
| | Off |
| | Repeat One: Play the current video repeatedly. |
| | Repeat All: Play all videos in a folder repeatedly. |
| Rotate | Rotate an image. |
| Picture Size | Change the screen size (Picture Size). Supported screen sizes vary depending on the image. |
| Picture Mode | Change the Picture Mode. |
| Sound Mode | Change the Sound Mode. |
| Select Speakers | Select a speaker that will output sound from the product. |
| Audio Language | Play a video using a desired language. This feature only activates when a streaming file that supports multiple audio formats is playing. |
| Information | View information about a file. |
Available buttons and features during music playback

- **Pause / Play**
  Pause or play music.

- **Rewind / Fast Forward**
  Rewind or fast forward music. Speed up playback up to 3x, if required. To play the previous music file, select twice.

- **Previous / Next**
  To play the previous music file, select twice. Selecting once will play the current music from the beginning.
  To play the next music file, select .

- **Repeat**
  Configure Repeat mode. Repeat One plays the current music file repeatedly. Repeat All plays all files in a folder repeatedly.

- **Shuffle**
  Enable or disable shuffle playback mode.

- **Select Speakers**
  Select a speaker that will output sound from the product.

- **Sound Mode**
  Change the Sound Mode.

- **Settings**
Supported Subtitle and Media play file formats

Subtitle

External
• MPEG-4 timed text (.ttxt)
• SAMI (.smi)
• SubRip (.srt)
• SubViewer (sub)
• Micro DVD (.sub or .txt)
• SubStation Alpha (.ssa)
• Advanced SubStation Alpha (.ass)
• Powerdivx (.psb)

Internal
• Xsub
  Container: AVI
• SubStation Alpha
  Container: MKV
• Advanced SubStation Alpha
  Container: MKV
• SubRip
  Container: MKV
• MPEG-4 timed text
  Container: MP4

Supported image resolutions

<table>
<thead>
<tr>
<th>File Extension</th>
<th>Type</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>*.jpg, *.jpeg</td>
<td>JPEG</td>
<td>15360 x 8640</td>
</tr>
<tr>
<td>*.png</td>
<td>PNG</td>
<td>1920 x 1080</td>
</tr>
<tr>
<td>*.bmp</td>
<td>BMP</td>
<td>1920 x 1080</td>
</tr>
<tr>
<td>*.mpo</td>
<td>MPO</td>
<td>15360 x 8640</td>
</tr>
</tbody>
</table>
## Supported music file formats

<table>
<thead>
<tr>
<th>File Extension</th>
<th>Type</th>
<th>Codec</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>*.mp3</td>
<td>MPEG</td>
<td>MPEG1 Audio Layer 3</td>
<td></td>
</tr>
<tr>
<td>*.m4a, *.mpa, *.aac, *.3ga</td>
<td>MPEG4</td>
<td>AAC</td>
<td></td>
</tr>
<tr>
<td>*.flac</td>
<td>FLAC</td>
<td>FLAC</td>
<td>The Seek (jump) function is not supported. Supports up to 2 channel</td>
</tr>
</tbody>
</table>

## Supported Video Formats

- Video content will not play, or not play correctly, if there is an error in the content or the container.
- Sound or video may not work if the contents have a standard bitrate/frame rate above the compatible Frame/sec listed in the table above.
- If the Index Table is in error, the Seek (Jump) function is not supported.
- You may experience file stuttering while playing a video through a network connection.
- The menu may take longer to appear if the video’s bit rate exceeds 10Mbps.
- Some USB/digital camera devices may not be compatible with the player.

### Video Decoder
- Supports up to H.264, Level 4.1
- H.264 FMO / ASO / RS, VC1 SP / MP / AP L4 and AVCHD are not supported.
- For all Video codecs except MVC, VP8, VP6:
  - Below 1280 x 720: 60 frame max
  - Above 1280 x 720: 30 frame max
- GMC 2 over is not supported.
- Supports only BD MVC Spec.

### Audio Decoder
- Supports up to WMA 10 Pro 5.1 channel.
- WMA lossless audio is not supported.
- QCELP, AMR NB/WB are not supported.
- If Vorbis is only in Webm container, supports up to 2 channel.
<table>
<thead>
<tr>
<th>File Extension</th>
<th>Container</th>
<th>Video Codec</th>
<th>Resolution</th>
<th>Frame rate (fps)</th>
<th>Bit rate (Mbps)</th>
<th>Audio Codec</th>
</tr>
</thead>
<tbody>
<tr>
<td>*.mkv</td>
<td>MKV</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>LPCM</td>
</tr>
<tr>
<td>*.asf</td>
<td>ASF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ADMPCM</td>
</tr>
<tr>
<td>*.wmv</td>
<td>MP4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(IMA, MS)</td>
</tr>
<tr>
<td>*.mp4</td>
<td>3GP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>AAC</td>
</tr>
<tr>
<td>*.mov</td>
<td>VRO</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>HE-AAC</td>
</tr>
<tr>
<td>*.3gp</td>
<td>VOB</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>WMA</td>
</tr>
<tr>
<td>*.vro</td>
<td>PS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DD+</td>
</tr>
<tr>
<td>*.mpg</td>
<td>TS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MPEG(MP3)</td>
</tr>
<tr>
<td>*.mpeg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DTS Core</td>
</tr>
<tr>
<td>*.ts</td>
<td>Window Media Video v9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>G.711(ALaw,μ-Law)</td>
</tr>
<tr>
<td>*.tp</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*.trp</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*.mov</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*.flv</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*.vob</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*.svi</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*.m2ts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*.mts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*.divx</td>
<td>MVC</td>
<td>1920 x 1080</td>
<td>24 / 25 / 30</td>
<td>40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*.webm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*.webm</td>
<td>WebM</td>
<td>VP8</td>
<td></td>
<td>6 ~ 30</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>
Requirements Before Contacting Samsung Customer Service Center

Testing the Product
Check if your product is operating normally by using the product test function.
If the screen remains blank while the power LED blinks even when the product is correctly connected to a PC, perform product testing.

1. Power off both the PC and product.
2. Disconnect all the cables from the product.
3. Power on the product.
4. If **No Signal** is displayed, the product is operating normally.

Checking the Resolution and Frequency
*Not Optimum Mode* will briefly be displayed if a mode that exceeds a supported resolution is selected (refer to Supported Resolutions).
### Check the followings.

#### Installation issue (PC mode)

<table>
<thead>
<tr>
<th>Issue</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>The screen keeps switching on and off.</td>
<td>Check the cable connection between the product and PC, and ensure the connection is secure.</td>
</tr>
<tr>
<td>Blank spaces are found on all four sides of the screen when an HDMI or HDMI-DVI cable is connected to the product and PC.</td>
<td>The blank spaces found on the screen have nothing to do with the product.</td>
</tr>
<tr>
<td></td>
<td>Blank spaces on the screen are caused by the PC or graphics card. To resolve the problem, adjust the screen size in the HDMI or DVI settings for the graphics card.</td>
</tr>
<tr>
<td></td>
<td>If the graphics card settings menu does not have an option to adjust the screen size, update the graphics card driver to the latest version.</td>
</tr>
<tr>
<td></td>
<td>(Please contact the graphics card or computer manufacturer for further details about how to adjust the screen settings.)</td>
</tr>
<tr>
<td>PC is shown in <strong>Source</strong> when a PC is not connected.</td>
<td><strong>PC</strong> is always shown in <strong>Source</strong> irrespective of whether or not a PC is connected.</td>
</tr>
</tbody>
</table>

#### Screen issue

<table>
<thead>
<tr>
<th>Issue</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>The power LED is off. The screen will not switch on.</td>
<td>Make sure that the power cord is connected.</td>
</tr>
<tr>
<td><strong>No Signal</strong> is displayed on the screen.</td>
<td>Check that the product is connected correctly with a cable.</td>
</tr>
<tr>
<td></td>
<td>Check that the device connected to the product is powered on.</td>
</tr>
<tr>
<td><strong>Not Optimum Mode</strong> is displayed.</td>
<td>This message is displayed when a signal from the graphics card exceeds the product's maximum resolution and frequency.</td>
</tr>
<tr>
<td></td>
<td>Refer to the Standard Signal Mode Table and set the maximum resolution and frequency according to the product specifications.</td>
</tr>
<tr>
<td>The images on the screen look distorted.</td>
<td>Check the cable connection to the product.</td>
</tr>
</tbody>
</table>
### Screen issue

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>The screen is not clear. The screen is blurry.</td>
<td>Adjust <strong>Coarse</strong> and <strong>Fine</strong>.</td>
</tr>
<tr>
<td></td>
<td>Remove any accessories (video extension cable, etc) and try again.</td>
</tr>
<tr>
<td></td>
<td>Set the resolution and frequency to the recommended level.</td>
</tr>
<tr>
<td>The screen appears unstable and shaky.</td>
<td>Check that the resolution and frequency of the PC and graphics card are set within a range compatible with the product. Then, change the screen settings if required by referring to the Additional Information on the product menu and the Standard Signal Mode Table.</td>
</tr>
<tr>
<td>There are shadows or ghost images left on the screen.</td>
<td></td>
</tr>
<tr>
<td>The screen is too bright. The screen is too dark.</td>
<td>Adjust <strong>Brightness</strong> and <strong>Contrast</strong>.</td>
</tr>
<tr>
<td>Screen color is inconsistent.</td>
<td>Go to <strong>Picture</strong> and adjust the <strong>Color Space</strong> settings.</td>
</tr>
<tr>
<td>White does not really look white.</td>
<td>Go to <strong>Picture</strong> and adjust the <strong>White Balance</strong> settings.</td>
</tr>
<tr>
<td>There is no image on the screen and the power LED blinks every 0.5 to 1 second.</td>
<td>The product is in power-saving mode.</td>
</tr>
<tr>
<td></td>
<td>Press any key on the keyboard or move the mouse to return to the previous screen.</td>
</tr>
<tr>
<td>The product will turn off automatically.</td>
<td>Go to <strong>System</strong> and make sure <strong>Sleep Timer</strong> is set to <strong>Off</strong>.</td>
</tr>
<tr>
<td></td>
<td>If a PC is connected to the product, check the power status of the PC.</td>
</tr>
<tr>
<td></td>
<td>Make sure the power cable is connected properly to the product and power outlet.</td>
</tr>
<tr>
<td></td>
<td>If the signal from a connected device is not detected, the product automatically turns off after 10 to 15 minutes.</td>
</tr>
<tr>
<td>Picture quality of the product is different from the dealer shop where it was purchased.</td>
<td>Use an HDMI cable to obtain high-definition (HD) picture quality.</td>
</tr>
</tbody>
</table>
## Screen issue

### The screen display does not look normal.
Encoded video content may cause the display to appear corrupted in scenes featuring fast moving objects such as in a sports event or action video.

Low signal level or low picture quality may cause the display to appear corrupted. This does not mean the product is defective.

A cell phone within a distance of one-meter radius may cause static on analog and digital products.

### The brightness and color do not look normal.
Go to Picture and adjust the screen settings such as Picture Mode, Color, Brightness and Sharpness.

Go to System and adjust the Energy Saving settings.

Reset the screen settings to the default settings.

### Broken lines are displayed on the edges of the screen.
If Picture Size is set to Screen Fit, change the setting to 16:9.

### Lines (red, green or blue) are displayed on the screen.
These lines are displayed when there is a defect in DATA SOURCE DRIVER IC on the SMART Signage TV. Contact a Samsung Service Center to resolve the issue.

### The display looks unstable and then freezes.
The screen may freeze when a resolution other than the recommended resolution is used or if the signal is not stable. To resolve the issue, change the PC resolution to the recommended resolution.

### The screen cannot be displayed in full screen.
A scaled SD (4:3) content file can cause black bars on both sides of an HD channel screen.

A video with an aspect ratio different from the product can cause black bars at the top and bottom of the screen.

Change the screen size setting to full screen on the product or source device.

## Sound issue

### There is no sound.
Check the connection of the audio cable or adjust the volume.

Check the volume.
# Sound issue

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution</th>
</tr>
</thead>
</table>
| The volume is too low. | Adjust the volume.  
If the volume is still low after turning it up to the maximum level, adjust the volume on your PC sound card or software program. |
| Video is available but there is no sound. | If an HDMI cable is connected, check the audio output settings on the PC.  
Go to **Sound** and change **Speaker Settings** to **Internal**.  
If a source device is used  
• Make sure the audio cable is properly connected to the audio input port on the product.  
• Check the audio output settings for the source device.  
(For example, if an HDMI cable is connected to the SMART Signage TV, the audio setting for the cable box may need to be changed to HDMI.)  
If the product has a headphone port, make sure nothing is connected to it.  
Reconnect the power cable to the device and then reboot the device. |
| There is static coming from the speakers. | Check the cable connection. Make sure a video cable is not connected to an audio input port.  
Check the signal strength after connecting a cable.  
Low signal level can cause corrupted sound. |
| There is audible sound when the volume is muted. | When **Speaker Settings** is set to **External**, the volume button and mute function are disabled.  
Adjust the volume for the external speakers.  
Audio settings for main speakers are separate from the internal speakers on the product.  
Changing or muting the volume on the product does not affect an external amplifier(decoder). |
| Sound from the monitor does not change after **Sound Mode** is changed. | Audio settings for main speakers are separate from the internal speakers on the product.  
Audio settings on a source device do not affect the internal speaker settings on the product. |
### Sound issue

*There is an echo sound coming from the speakers.*  
Different decoding speeds between the product speakers and external speakers can cause an echo.  
In this case, set **Speaker Settings** to **External**.

### Remote control issue

*The remote control does not work.*  
Make sure that the batteries are correctly in place (+/-).  
- Check if the batteries are flat.  
- Check for power failure.  
- Make sure that the power cord is connected.  
- Check for any special lighting or neon signs switched on in the vicinity.

### Source device issue

*A beeping sound is heard when my PC is booting.*  
If a beeping sound is heard when your PC is booting, have your PC serviced.
### Other issue

<table>
<thead>
<tr>
<th>Issue</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Caption is grayed out and not selectable.</strong></td>
<td>If the selected input source is not TV, Caption cannot be selected from the System menu. Caption can be enabled from a source device.</td>
</tr>
<tr>
<td><strong>The product smells like plastic.</strong></td>
<td>The plastic smell is normal and disappears over time.</td>
</tr>
<tr>
<td><strong>The monitor appears tilted.</strong></td>
<td>Remove and then attach the stand again to the product.</td>
</tr>
<tr>
<td><strong>Audio or video cuts out intermittently.</strong></td>
<td>Check the cable connection and connect it again if required.</td>
</tr>
<tr>
<td></td>
<td>Using a very hard or thick cable may corrupt audio and video files. Make sure cables are flexible enough to ensure durability. When mounting the product onto a wall, it is recommended to use right-angle cables.</td>
</tr>
<tr>
<td><strong>Small particles are found on the edges of the product.</strong></td>
<td>The particles are part of the product design. The product is not defective.</td>
</tr>
<tr>
<td><strong>The PIP menu is not available.</strong></td>
<td>The menu is enabled or disabled depending on the Source mode.</td>
</tr>
<tr>
<td><strong>When I try to change the PC resolution, a message “The defined resolution is not currently supported.” appears.</strong></td>
<td>The message “The defined resolution is not currently supported.” appears if the input source resolution exceeds the maximum resolution of the display. To resolve the issue, change the PC resolution to a resolution supported on the display.</td>
</tr>
<tr>
<td><strong>HDMI Black Level is not functioning properly on an HDMI device with YCbCr output.</strong></td>
<td>This function is available only when a source device, such as a DVD player and STB, is connected to the product via an HDMI (RGB signal) cable.</td>
</tr>
</tbody>
</table>
Other issue

There is no sound in HDMI mode.

Displayed picture colors may not look normal. Video or sound may not be available. This can occur if a source device that only supports an older version of the HDMI standard is connected to the product. If these issues occur, connect an audio cable along with the HDMI cable.

Some PC graphics cards may not automatically recognize HDMI signals that do not include sound. In this case, manually select a sound input.

<table>
<thead>
<tr>
<th>Sound input</th>
<th>Screen mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC</td>
<td>Auto</td>
</tr>
<tr>
<td>DVI PC</td>
<td>Audio In(Stereo ports)</td>
</tr>
</tbody>
</table>

Other issue

The IR sensor is not functioning.

Make sure the sensor light turns on when a button is pressed on the remote control.

- If the sensor light does not turn on, turn the power switch off and then on again on the back of the product. (The power LED lights up red when the screen is switched off)
  If the sensor light still does not turn on after the power switch is turned off and then on again, an internal jack may be disconnected. Contact your nearest service center to have the product serviced.

- If the sensor light that is on does not flash red when a button is pressed on the remote control, the IR sensor may be defective. Contact your nearest service center to have the product serviced.

- This function is available only when a source device, such as a DVD player and STB, is connected to the product via an HDMI (RGB signal) cable.
# Q & A

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
</table>
| How can I change the frequency? | Set the frequency on your graphics card.  
  • Windows XP: Go to **Control Panel → Appearance and Themes → Display → Settings → Advanced → Monitor** and adjust the frequency in **Monitor Settings**.  
  • Windows ME/2000: Go to **Control Panel → Display → Settings → Advanced → Monitor** and adjust the frequency in **Monitor Settings**.  
  • Windows Vista: Go to **Control Panel → Appearance and Personalization → Personalize → Display Settings → Advanced Settings → Monitor** and adjust the frequency in **Monitor Settings**.  
  • Windows 7: Go to **Control Panel → Appearance and Personalization → Display → Adjust resolution → Advanced Settings → Monitor** and adjust the frequency in **Monitor Settings**.  
  • Windows 8: Go to **Settings → Control Panel → Appearance and Personalization → Display → Adjust resolution → Advanced Settings → Monitor** and adjust the frequency in **Monitor Settings**. |
| How can I change the resolution? |  
  • Windows XP: Go to **Control Panel → Appearance and Themes → Display → Settings** and adjust the resolution.  
  • Windows ME/2000: Go to **Control Panel → Display → Settings** and adjust the resolution.  
  • Windows Vista: Go to **Control Panel → Appearance and Personalization → Personalize → Display Settings** and adjust the resolution.  
  • Windows 7: Go to **Control Panel → Appearance and Personalization → Display → Adjust Resolution** and adjust the resolution.  
  • Windows 8: Go to **Settings → Control Panel → Appearance and Personalization → Display → Adjust Resolution** and adjust the resolution. |
<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>How do I set powersaving mode?</td>
<td>• Windows XP: Set power-saving mode in <strong>Control Panel → Appearance and Themes → Display → Screen Saver Settings</strong> or BIOS SETUP on the PC.</td>
</tr>
<tr>
<td></td>
<td>• Windows ME/2000: Set power-saving mode in <strong>Control Panel → Display → Screen Saver Settings</strong> or BIOS SETUP on the PC.</td>
</tr>
<tr>
<td></td>
<td>• Windows Vista: Set power-saving mode in <strong>Control Panel → Appearance and Personalization → Personalize → Screen Saver Settings</strong> or BIOS SETUP on the PC.</td>
</tr>
<tr>
<td></td>
<td>• Windows 7: Set power-saving mode in <strong>Control Panel → Appearance and Personalization → Personalize → Screen Saver Settings</strong> or BIOS SETUP on the PC.</td>
</tr>
<tr>
<td></td>
<td>• Windows 8: Set power-saving mode in <strong>Settings → Control Panel → Appearance and Personalization → Personalize → Screen Saver Settings</strong> or BIOS SETUP on the PC.</td>
</tr>
</tbody>
</table>
### General

<table>
<thead>
<tr>
<th>Model Name</th>
<th>RH48E</th>
<th>RH55E</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Panel</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>48 CLASS (47.6 inches / 120.9 cm)</td>
<td>55 CLASS (54.6 inches / 138.7 cm)</td>
</tr>
<tr>
<td>Display area</td>
<td>1054.08 mm (H) x 592.92 mm (V)</td>
<td>1209.6 mm (H) x 680.4 mm (V)</td>
</tr>
<tr>
<td></td>
<td>41.5 inches (H) x 23.3 inches (V)</td>
<td>47.6 inches (H) x 26.8 inches (V)</td>
</tr>
<tr>
<td><strong>Dimensions (W x H x D) / Weight</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Without Stand</td>
<td>1076.1 x 624.4 x 67.1 mm / 11.3 kg</td>
<td>1231.6 x 711.9 x 67.8 mm / 13.6 Kg</td>
</tr>
<tr>
<td></td>
<td>42.4 x 24.6 x 2.6 inches / 24.9 lbs</td>
<td>48.5 x 28.0 x 2.7 inches / 30.0 lbs</td>
</tr>
<tr>
<td>With Stand</td>
<td>1076.1 x 681.3 x 310.5 mm / 12.3 kg</td>
<td>1231.6 x 770.6 x 310.5 mm / 14.6 Kg</td>
</tr>
<tr>
<td></td>
<td>42.4 x 26.8 x 12.2 inches / 27.1 lbs</td>
<td>48.5 x 30.3 x 12.2 inches / 32.2 lbs</td>
</tr>
<tr>
<td><strong>Audio Output</strong></td>
<td>10 W + 10 W</td>
<td>10 W + 10 W</td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>AC 100 to 240 VAC (+/- 10%), 60 / 50 Hz ± 3 Hz</td>
<td>AC 100 to 240 VAC (+/- 10%), 60 / 50 Hz ± 3 Hz</td>
</tr>
<tr>
<td></td>
<td>Refer to the label at the back of the product as the standard voltage can vary in different countries.</td>
<td></td>
</tr>
<tr>
<td><strong>Environmental considerations</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating</td>
<td>Temperature: 32 °F – 104 °F (0 °C – 40 °C)</td>
<td>Temperature: 32 °F – 104 °F (0 °C – 40 °C)</td>
</tr>
<tr>
<td></td>
<td>Humidity: 10 % – 80 %, non-condensing</td>
<td>Humidity: 10 % – 80 %, non-condensing</td>
</tr>
<tr>
<td>Storage</td>
<td>Temperature: -4 °F – 113 °F (-20 °C – 45 °C)</td>
<td>Temperature: -4 °F – 113 °F (-20 °C – 45 °C)</td>
</tr>
<tr>
<td></td>
<td>Humidity: 5 % – 95 %, non-condensing</td>
<td>Humidity: 5 % – 95 %, non-condensing</td>
</tr>
</tbody>
</table>
Plug-and-Play

This monitor can be installed and used with any Plug-and-Play compatible systems. Two-way data exchange between the monitor and PC system optimizes the monitor settings.

Monitor installation takes place automatically. However, you can customize the installation settings if desired. Due to the nature of the manufacturing of this product, approximately 1 pixel per million (1ppm) may appear brighter or darker on the panel. This does not affect product performance.

This device is a Class A digital apparatus.

(USA only)
Dispose unwanted electronics through an approved recycler.
To find the nearest recycling location, go to our website:
www.samsung.com/recyclingdirect or call, (877) 278 - 0799
## Power Consumption

<table>
<thead>
<tr>
<th>Power Indicator</th>
<th>Normal Operation</th>
<th>Stand-by</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rating</td>
<td>Typical</td>
</tr>
<tr>
<td>Power Indicator</td>
<td>Off</td>
<td>On</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>RH48E 135 W</td>
<td>45 W</td>
</tr>
<tr>
<td></td>
<td>RH55E 160 W</td>
<td>56 W</td>
</tr>
</tbody>
</table>

---

The displayed power consumption level can vary in different operating conditions or when settings are changed.

SOG (Sync On Green) is not supported.

To reduce the power consumption to 0, disconnect the power cord. Disconnect the power cable if you will not be using the product for an extended period of time (during vacation, etc.).
Preset Timing Modes

This product can be set to only one resolution for each screen size to obtain the optimum picture quality due to the nature of the panel. Using a resolution other than the specified resolution may degrade the picture quality. To avoid this, it is recommended that you select the optimum resolution specified for your product.

Check the frequency when you exchange a CDT product (connected to a PC) for an LCD product. If the LCD product does not support 85 Hz, change the vertical frequency to 60 Hz using the CDT product before you exchange it with the LCD product.

Model Name

<table>
<thead>
<tr>
<th>Synchronization</th>
<th>Horizontal Frequency</th>
<th>Vertical Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>30 - 81 kHz</td>
<td>48 - 75 Hz</td>
</tr>
</tbody>
</table>

Resolution

<table>
<thead>
<tr>
<th>Optimum resolution</th>
<th>1920 x 1080 @ 60 Hz</th>
</tr>
</thead>
</table>

| Maximum resolution | 1920 x 1080 @ 60 Hz |

The screen will automatically be adjusted if a signal that belongs to the following standard signal modes is transmitted from your PC. If the signal transmitted from the PC does not belong to the standard signal modes, the screen may be blank with the power LED on. In such a case, change the settings according to the following table by referring to the graphics card user manual.

<table>
<thead>
<tr>
<th>Resolution</th>
<th>Horizontal Frequency</th>
<th>Vertical Frequency</th>
<th>Pixel Clock</th>
<th>Sync Polarity (H/V)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM, 720 x 400</td>
<td>31.469</td>
<td>70.087</td>
<td>28.322</td>
<td>-/+</td>
</tr>
<tr>
<td>MAC, 640 x 480</td>
<td>35.000</td>
<td>66.667</td>
<td>30.240</td>
<td>-/-</td>
</tr>
<tr>
<td>MAC, 832 x 624</td>
<td>49.726</td>
<td>74.551</td>
<td>57.284</td>
<td>-/-</td>
</tr>
<tr>
<td>MAC, 1152 x 870</td>
<td>68.681</td>
<td>75.062</td>
<td>100.000</td>
<td>-/-</td>
</tr>
<tr>
<td>VESA, 640 x 480</td>
<td>31.469</td>
<td>59.940</td>
<td>25.175</td>
<td>-/-</td>
</tr>
<tr>
<td>VESA, 640 x 480</td>
<td>37.861</td>
<td>72.809</td>
<td>31.500</td>
<td>-/-</td>
</tr>
</tbody>
</table>
### Resolution

<table>
<thead>
<tr>
<th>Resolution</th>
<th>Horizontal Frequency (kHz)</th>
<th>Vertical Frequency (Hz)</th>
<th>Pixel Clock (MHz)</th>
<th>Sync Polarity (H/V)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VESA, 640 x 480</td>
<td>37.500</td>
<td>75.000</td>
<td>31.500</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 800 x 600</td>
<td>35.156</td>
<td>56.250</td>
<td>36.000</td>
<td>++/+</td>
</tr>
<tr>
<td>VESA, 800 x 600</td>
<td>37.879</td>
<td>60.317</td>
<td>40.000</td>
<td>++/+</td>
</tr>
<tr>
<td>VESA, 800 x 600</td>
<td>48.077</td>
<td>72.188</td>
<td>50.000</td>
<td>++/+</td>
</tr>
<tr>
<td>VESA, 800 x 600</td>
<td>46.875</td>
<td>75.000</td>
<td>49.500</td>
<td>++/+</td>
</tr>
<tr>
<td>VESA, 1024 x 768</td>
<td>48.363</td>
<td>60.004</td>
<td>65.000</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 1024 x 768</td>
<td>56.476</td>
<td>70.069</td>
<td>75.000</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 1024 x 768</td>
<td>60.023</td>
<td>75.029</td>
<td>78.750</td>
<td>++/+</td>
</tr>
<tr>
<td>VESA, 1152 x 864</td>
<td>67.500</td>
<td>75.000</td>
<td>108.000</td>
<td>++/+</td>
</tr>
<tr>
<td>VESA, 1280 x 720</td>
<td>45.000</td>
<td>60.000</td>
<td>74.250</td>
<td>++/+</td>
</tr>
<tr>
<td>VESA, 1280 x 800</td>
<td>49.702</td>
<td>59.810</td>
<td>83.500</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 1280 x 1024</td>
<td>63.981</td>
<td>60.020</td>
<td>108.000</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 1280 x 1024</td>
<td>79.976</td>
<td>75.025</td>
<td>135.000</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 1366 x 768</td>
<td>47.712</td>
<td>59.790</td>
<td>85.500</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 1440 x 900</td>
<td>55.935</td>
<td>59.887</td>
<td>106.500</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 1600 x 900 RB</td>
<td>60.000</td>
<td>60.000</td>
<td>108.000</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 1680 x 1050</td>
<td>65.290</td>
<td>59.954</td>
<td>146.250</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 1920 x 1080</td>
<td>67.500</td>
<td>60.000</td>
<td>148.500</td>
<td>+/-</td>
</tr>
</tbody>
</table>

- **Horizontal Frequency**
  The time required to scan a single line from the left to the right side of the screen is called a horizontal cycle. The reciprocal number of a horizontal cycle is called horizontal frequency. Horizontal frequency is measured in kHz.

- **Vertical Frequency**
  The product displays a single image multiple times per second (like a fluorescent light) to display what the viewer sees. The rate of a single image being displayed repeatedly per second is called vertical frequency or refresh rate. Vertical frequency is measured in Hz.
Responsibility for the Pay Service (Cost to Customers)

When the service is requested, in spite of in warranty, we may charge you for a visit from a service technician in the following cases.

Not a product defect

Cleaning of the product, Adjustment, Explanation, Re-installation and etc.
- If a service technician gives instructions on how to use product or simply adjusts options without disassembling product.
- If a defect is caused by external environmental factors (Internet, Antenna, Wired Signal, etc.)
- If a product is reinstalled or devices are connected additionally after installing the purchased product for the first time.
- If a product is reinstalled to move to a different spot or to move to a different house.
- If customer requests instructions on how to use because of another company’s product.
- If customer requests instructions on how to use the network or another company’s program.
- If customer requests software installation and setup for the product.
- If a service technician removes/cleans dusts or foreign materials inside of the product.
- If customer requests an installation additionally after purchasing a product through home-shopping or online.

A Product damage caused by customer’s fault

Product damage caused by customer’s mishandling or wrong repair

If a product damage is caused by;
- External impact or drop.
- Use of supplies or separately sold product unspecified by Samsung.
- Repair from a person besides an engineer of outsourcing service company or partner of Samsung Electronics Co., Ltd.
- Remodeling or repairing the product by customer.
- Using it with incorrect voltage or non-authorised electrical connections.
- Not following the "cautions" in User Manual.

Others

- If product fails by natural disaster. (lightning, fire, earthquake, flood damage, etc)
- If consumable components are all used up. (Battery, Toner, Fluorescent lights, Head, Vibrator, Lamp, Filter, Ribbon, etc.)

If customer requests a service in case the product has no defect, service fee may be charged. So please read User Manual first.
Optimum Picture Quality and Afterimage Burn-in Prevention

Optimum Picture Quality

- Due to the nature of the manufacturing of this product, approximately 1 pixel per million (1ppm) may be brighter or darker on the panel. This does not affect product performance.
  - The number of sub-pixels by panel type: 6,220,800
- Run Auto Adjustment to improve the picture quality. If noise is still found even after auto adjustment, adjust Coarse or Fine.
- Leaving the screen fixed on a stationary image for an extended period of time may cause afterimage burn-in or defective pixels.
  - Activate power-saving mode or a dynamic screen saver if you will not be using the product for an extended period of time.

Prevention of Afterimage Burn-in

What is afterimage burn-in?

Afterimage burn-in should not occur when the LCD panel is operating normally. Normal operation refers to a continuously changing video pattern. If the LCD panel displays a fixed pattern for an extended period of time (more than 12 hours), a slight voltage difference may occur between the electrodes in pixels that control the liquid crystals.

Such a voltage difference between electrodes increases with time and makes the liquid crystals thinner. When this occurs, a previous image can remain on the screen when the pattern changes. To prevent this, the accumulated voltage difference should be reduced.

Afterimage burn-in should not occur when an LCD panel is operating in proper conditions.
Preventing afterimage burn-in

The best way to protect the product from afterimage burn-in is switching the power off or setting the PC or system to run a screen saver when not in use. Also, Warranty service may be limited depending on instruction guide.

- **Powering Off, Screen Saver and Power Saving Mode**
  - Power off the product for 2 hours after using it for 12 hours.
  - Go to Display Properties > Power Supply on your PC and set the product to power off as required.
  - Using a screen saver is recommended.
    It is best to use a single-color or moving-image screen saver.

- **Regular color Change**
  - Use 2 colors
    Switch between 2 colors every 30 minutes as shown above.

- **Avoid combinations of a text color and background color of contrasting brightness.**
  (Brightness: refers to the lightness or darkness of a color which varies depending on the amount of light emitted.)
  - Avoid using grey as it may contribute to afterimage burn-in.
  - Avoid using colors of contrasting brightness (black and white; grey).

- **Regular Text color Change**
  - Use bright colors of similar brightness.
    Interval: Change text color and background color every 30 minutes

- **Move and change text every 30 minutes as shown below.**

- **Regularly display a moving image along with a logo.**
  Interval: Display a moving image along with a logo for 60 seconds after using for 4 hours.
License

Manufactured under license from Dolby Laboratories.
Dolby and the double-D symbol are trademarks of Dolby Laboratories.

Manufactured under a license from U.S. Patent No’s: 5,956,674, 5,974,380, 5,978,762, 6,487,535, 6,226,616, 7,212,872, 7,003,467, 7,272,567, 7,668,723, 7,392,195, 7,930,184, 7,333,929 and 7,548,853. DTS, the Symbol, and DTS and the Symbol together are registered trademarks & DTS Premium Sound is a trademark of DTS, Inc. ©2012 DTS, Inc. All Rights Reserved.

Manufactured under a license from U.S. Patent No’s: 6,285,767, 8,027,477, 5,319,713, 5,333,201, 5,638,452, 5,771,295, 5,970,152, 5,912,976, 7,200,236, 7,492,907, 8,050,434, 7,720,240, 7,031,474, 7,907,736 and 7,764,802. DTS, the Symbol, and DTS and the Symbol together are registered trademarks & DTS Studio Sound is a trademark of DTS, Inc. ©2012 DTS, Inc. All Rights Reserved.

The terms HDMI and HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.

This DivX Certified® device has passed rigorous testing to ensure it plays DivX® video.
To play purchased DivX movies, first register your device at vod.divx.com. Find your registration code in the DivX VOD section of your device setup menu.
DivX Certified® to play DivX® video up to HD 1080p, including premium content.
DivX®, DivX Certified® and associated logos are trademarks of DivX, LLC and are used under license.
Covered by one or more of the following U.S. patents: 7,295,673; 7,460,668; 7,515,710; 7,519,274.

Open Source License Notice
In the case of using open source software, Open Source Licenses are available on the product menu. Open Source License Notice is written only English.
For information on the Open Source License Notice, contact the Samsung Customer Center or send email to oss.request@samsung.com.
Terminology

480i / 480p / 720p / 1080i / 1080p. Each of the scanning rates above refers to the number of effective scanning lines that decides the screen resolution. The scanning rate may be indicated in i (interlaced) or p (progressive), depending on the scanning method.

- Scanning
Scanning refers to a process of sending pixels that form an image progressively. A larger number of pixels will deliver a clearer and more vivid picture.

- Progressive
In progressive scan mode, all lines of pixels are scanned one by one (progressively) on the screen.

- Interlaced
In interlaced scan mode, every other line of pixels is scanned from top to bottom first and then the remaining lines of pixels (that were not scanned) are scanned.

Non-interlace Mode and Interface Mode
Non-interlace mode (progressive scan) displays a horizontal line from the top to the bottom of a screen progressively. Interface mode displays the odd number lines first and the even number lines next. Non-interlace mode is mainly used in monitors as it produces screen clarity and interface mode is mainly used in TVs.

Dot Pitch
The screen consists of red, green and blue dots. A shorter distance between the dots produces a higher resolution. Dot pitch refers to the distance between the shortest distance between dots of the same color. Dot pitch is measured in millimeters.

Vertical Frequency
The product displays a single image many times per second (like a fluorescent light that flickers) to display an image for a viewer to see. The rate of a single image being displayed repeatedly per second is called vertical frequency or refresh rate. Vertical frequency is measured in Hz. E.g. 60Hz refers to a single image being displayed 60 times in one second.

Horizontal Frequency
The time required to scan a single line from the left to the right side of the screen is called a horizontal cycle. The reciprocal number of a horizontal cycle is called horizontal frequency. Horizontal frequency is measured in kHz.

Source
Input source refers to a video source device connected to the product such as a camcorder or video or DVD player.

Component ports (green, blue and red)
The component ports, which identify, transmit and receive contrast signals, provide superior picture quality to any other video connection methods.

Plug & Play
Plug & Play is a function that allows the automatic exchange of information between a monitor and PC to produce an optimum display environment. The product uses VESA DDC (international standard) to execute Plug & Play.

Resolution
Resolution is the number of horizontal dots (pixels) and vertical dots (pixels) that form a screen. It represents the level of display detail. A higher resolution enables more data to be displayed on the screen and is useful to perform multiple tasks simultaneously.

E.g. A resolution of 1920 X 1080 consists of 1,920 horizontal pixels (horizontal resolution) and 1,080 vertical pixels (vertical resolution).

DVD (Digital Versatile Disc)
DVD refers to a CD-sized mass storage disk where you can save multimedia (audio, video or game) applications using MPEG-2 video compression technology.

HDMI (High Definition Multimedia Interface)
It is an interface that can be connected to a digital audio source as well as a high-definition video source by using a single cable without compression.

Multiple Display Control (MDC)
MDC (Multiple Display Control) is an application that allows multiple display devices to be controlled simultaneously using a PC. Communication between a PC and monitor takes place using RS232C (serial data transmission) and RJ45 (LAN) cables.