- Please choose your favorite page from the content.
  If you want to close the operation manual, press the
  ☰ (HOME) button.
  Also, if you want to return to the previously displayed page,
  press the ← (Back) button.
1. Get started
   1-1. Introduction - TV
   1-3. Introduction - Remote Control Unit
   1-5. Introduction of Android TV™ - Entertainment Hub
   1-7. Introduction of Android TV - What Android TV can do
   1-8. Initial setup
   1-9. Software Updates via Over-The-Air (OTA)
   1-10. Updating the TV's Software

2. TV and Channel settings
   2-1. Channel settings-How to launch EPG

3. Connection/External Devices
   3-1. Network and Internet
   3-3. Chromecast built-in compatible devices
   3-3. Audio Devices
   3-4. Bluetooth setup
   3-5. USB

4. Smart Apps
   4-1. The Google Assistant
   4-1. Google Play Store
   4-1. Google Account setting
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5. Picture settings
   5-1. Picture Mode (Changing Pic. Quality)
   5-1. Configuring Picture settings
   5-2. Configure advanced Picture settings
   5-2. HDR related settings
   5-3. Unique Picture setting from SHARP
   5-4. Input settings

6. Sound settings
   6-1. Audio Mode
   6-1. Configuring Sound settings
   6-2. Configure advanced Sound settings
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7. Other
   7-1. Sleep Timer
   7-1. Picture off
   7-1. Switch off timer
   7-1. No Signal Off
   7-1. Screen saver
   7-1. Storage
   7-1. Accessibility
   7-1. Reset

8. Appendix
   8-1. Troubleshooting
   8-2. Troubleshooting - Error Message
   8-3. Trademarks
   8-4. Specifications
   8-5. Dimensional Drawings
Precautions For Daily Use

Maintenance of the cabinet
- When cleaning the cabinet, use a soft cloth (made of cotton, floss, etc.) to clean gently.
- Do not use a dry or damp rag mixed with chemicals, as this could cause the ingredients of the cabinet body to deteriorate or crack.
- Be careful not to use an abrasive cloth for cleaning or clean with excessive force, as this could scratch the surface of the cabinet.
- If the cabinet is greatly soiled, clean with a soft cloth (made of cotton, floss, etc.) soaked with a small amount of diluted neutral detergent and wrung out, and then clean with a soft dry cloth.
- Solvents such as benzene or thinner could cause the cabinet to deteriorate, or make its coating come off. Therefore do not use such solvents to clean the cabinet.
- Because plasticizer is included in the plastics, deterioration or the coating peeling off could occur when the cabinet comes into contact with some substances. Therefore keep it away from volatile substances such as insecticide. In addition, do not let it come into contact with objects made of rubber, resin, etc. for a long time.

Maintenance of the LCD panel
- Before cleaning the LCD panel, be sure to turn off the TV set and unplug the power cord from the outlet.
- When cleaning the LCD panel, use a dry and soft cloth (made of cotton, floss, etc.) to clean the surface of the LCD panel gently. For protecting the LCD panel, do not clean with a dirty cloth, detergent, or a dry or damp rag mixed with chemicals, as this could cause peeling of the panel surface.
- Be careful not to clean with an abrasive cloth or with excessive force, as this could cause the panel surface to be scratched.
- If the LCD panel is greatly soiled, clean it gently with a soft cloth (made of cotton, floss, etc.) soaked with a small amount of water (Do not clean with excessive force, so as to avoid the scratch of the panel surface).
- If dust sticks on the surface of the LCD panel, clean the panel with a commercially available cleaning brush (anti-static brush).

Important safety precautions

Caring for the cabinet
- Use a soft cloth (cotton, flannel, etc.) and gently wipe the surface of the cabinet.
- Using a chemical cloth (wet/dry sheet type cloth, etc.) may deform the components of the main unit cabinet or cause cracking.
- Wiping with a hard cloth or using strong force may scratch the surface of the cabinet.
- If the cabinet is very dirty, wipe with a soft cloth (cotton, flannel, etc.) soaked in neutral detergent diluted with water and thoroughly wrung out, and then wipe with a soft dry cloth.
- The cabinet is primarily made of plastic. Avoid using benzene, thinner, and other solvents, as these may deform the cabinet and cause the paint to peel off.
- Do not apply insecticides or other volatile liquids.
- Also, do not allow the cabinet to remain in contact with rubber or vinyl products for a long period of time. Plasticizers inside the plastic may cause the cabinet to deform and cause the paint to peel off.

Caring for the front panel
- Turn off the main power and unplug the AC cord from the wall outlet before handling.
- Gently wipe the surface of the front panel with a soft cloth (cotton, flannel, etc.).
- To protect the front panel, do not use a dirty cloth, liquid cleaners, or a chemical cloth (wet/dry sheet type cloth, etc.). This may damage the surface of the front panel.
- Wiping with a hard cloth or using strong force may scratch the surface of the front panel.
- Use a soft damp cloth to gently wipe the front panel when it is really dirty (It may scratch the surface of the front panel when wiped strongly).
- If the front panel is dusty, use an anti-static brush, which is commercially available, to clean it.
- Water and moisture — Do not use the product near water, such as bathtub, washbasin, kitchen sink, laundry tub, swimming pool and in a wet basement.
• Do not place vases or any other water-filled containers on this product. The water may spill onto the product causing fire or electric shock.

• Stand — Do not place the product on an unstable cart, stand, tripod or table. Doing so can cause the product to fall, resulting in serious personal injuries as well as damage to the product. Use only a cart, stand, tripod, bracket or table recommended by the manufacturer or sold with the product. When mounting the product on a wall, be sure to follow the manufacturer’s instructions. Use only the mounting hardware recommended by the manufacturer.

• Ventilation — The vents and other openings in the cabinet are designed for ventilation. Do not cover or block these vents and openings since insufficient ventilation can cause overheating and/or shorten the life of the product. Do not place the product on a bed, sofa, rug or other similar surface, since they can block ventilation openings. This product is not designed for built-in installation; do not place the product in an enclosed place such as a bookcase or rack, unless proper ventilation is provided or the manufacturer’s instructions are followed.

• In case the product is dropped and the cabinet is damaged, be sure to turn off the power of the product, and unplug the power cord. If you continue to use the product, it may cause fire or electric shock. Contact your dealer.

• Do not open the rear cover of the cabinet to reconstruct the circuits. There exists high voltage within the cabinet and it may cause electric shock and injury. If maintenance is required, contact your dealer.

• The LCD panel used in this product is made of glass. Therefore, it can break when the product is struck forcefully or with a sharp object. If the LCD panel is broken, be careful not to be injured by broken glass.

• Heat sources — Keep the product away from heat sources such as radiators, heaters, stoves and other heat-generating products (including amplifiers).

• To prevent fire, never place any type of candle or naked flames on the top or near the TV set.

• To prevent fire or shock hazard, do not place the AC power cord under the TV set or other heavy items.

• Do not place heavy objects on this product or stand on it. Doing so could cause injury if the product overturns. Take special care near children and pets.

• Unplug the power cord before you move the TV set. If not unplugged beforehand, the power cord may become damaged and cause electric shock.

The LCD panel is a very high technology product with 8,294,400 pixels, giving you fine picture details. Due to the very large number of pixels, occasionally a few non-active pixels may appear on the screen as a fixed point of blue, green, red or yellow. This is within product specifications and does not constitute a fault.

**Precautions when transporting the TV**
- When transporting the TV, never carry it by holding or otherwise putting pressure onto the display. Be sure to always carry the TV by two or more people holding it with two hands — one hand on each side of the TV.

**NOTE**
- The above are pictures for reference only; the actual item might be different.
TV (Continue)

4T-C60BK2U/4T-C70BK2U series

(Front)
Remote control sensor/POWER indicator

(Rear)
KEYPAD

<table>
<thead>
<tr>
<th>Key Buttons</th>
<th>Functions Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>POWER</td>
<td>POWER button</td>
</tr>
<tr>
<td>VOL +/-</td>
<td>Volume Up/Down button</td>
</tr>
<tr>
<td>CH &lt;/&gt;</td>
<td>Channel Up/Down button</td>
</tr>
<tr>
<td>ENTER</td>
<td>Enter button</td>
</tr>
<tr>
<td>INPUT</td>
<td>Input Source button</td>
</tr>
</tbody>
</table>

- The illustrations and on-screen displays in this operation manual are for explanation purposes and may vary slightly from the actual operations.
- The drawings used throughout this manual are based on the 4T-C60BK2U model.
(Rear)
4T-C60BK2U/4T-C70BK2U series

USB 2 terminal
USB 1 terminal
AV IN terminals
HDMI IN 4 terminal

*1 Use HDMI IN 1 to connect ARC-compatible equipment.
*2 Usually do not connect anything to this terminal as it reserved only for service personnel.
Remote Control Unit

1. **POWER**: Switch the TV power on or enter standby.
2. **0-9**: Set the channel.
3. **AUDIO**: Select the sound multiplex mode and audio description.
4. **External equipment operational buttons**: Operate the external equipment.
5. **GUIDE**
   - DTV: Display the program information.
6. **YouTube™**: Display the YouTube screen.
7. **NETFLIX**: Display the NETFLIX screen.
   - If you press the NETFLIX button when the TV is turned off, the TV turns on and the NETFLIX screen is displayed.
8. **Back**: Return to the previous screen.
9. **+/\, <, >, ENTER**: Select a desired item on the screen.
10. **INPUT**: Select an input source.
11. **VOL+/−**: Set the volume.
12. **Mute**: Mute the sound.
    - Mute can be cancelled by pressing VOL +/- or mute.
13. **Red, Green, Yellow, Blue**: The colored buttons are correspondingly used to select the colored items on the screen.
Remote Control Unit (Continue)

14 Buttons for useful operations
INFO
Select the teletext mode.
CC
Switch subtitle languages on/off.
15 • DOT: Select a digital sub-channel.
16 TOOLS: Display the Tools screen.
17 🎤 (The Google Assistant): Launch the Google Assistant. Speak the word that you want to search for into the "••• (Microphone)" at the top of the remote control. When you are using the "••• (Microphone)“, do not cover this part with your hand.
18 🏡 (HOME): Display the HOME screen.
19 CH ∧ / ∨: Select the channel.

- The Google Assistant is not available in certain languages and countries. Availability of services varies by country and language.
Introduction of Android TV

Entertainment Hub

Connect to (HOME) for apps, games, movies and more.

Example

① Start a Search.
② Among the applications installed on the TV, the icons for the favorite applications are shown inside here. (Favorite applications can be added / deleted / changes its order by users.)
③ Click to jump to Apps screen where all the installed applications are listed.
④ The contents of the programs that user is watching or watched are displayed here.
⑤ Notification: Display the notifications.
⑥ Inputs: Icon to select an input source.
⑦ Network Settings: The network connection status is displayed.
⑧ Settings: Various settings can be configured here.
© Channels searched by install applications are displayed here. Channels on the display can be arranged in any order by users.
© Add or delete HOME screen channel.
What Android TV can do

Google Play Store
Google Play Store is Google's official store and portal for Android™ apps, games and other content for your Android-powered phone, tablet or Android TV device. (See page 4-1.)

Netflix
A video streaming service to watch internet contents. The available services vary depending on your country and region. You can launch this service by selecting this App in the HOME menu.
Auto installation

When the TV is powered on for the first time after purchase, the initial auto installation wizard appears. Follow the menus and make the necessary settings one after another.

Confirm the following before turning on the power

- Is the antenna cable connected?
- Is the AC cord plugged in?

1 Press POWER key on the TV.
   - The initial auto installation wizard appears.

2 Setting the OSD language.
   Press \( \land / \lor \) to select the desired language, and then press ENTER.

3 Press \( \land / \lor \) to select your Wi-Fi network.
   - If select "Skip", the screen will jump to step 6.

4 Press "Sign In" to Google account setting.
   - If select "Skip", the screen will jump to step 6.

5 Press \( \land / \lor \) to sign in Google account.
   - If select "Use your phone or computer", you can set up Google account from your phone or computer.
   - If select "Use your remote", you can set up by remote and on-screen keypad.

6 Press \( \land / \lor \) to view Google Terms of Service and Google Privacy Policy.

7 Press "Yes" or "No" to allow Google use your device location.

8 Press "Yes" or "No" to set permission for Google to use your TV diagnosis and usage data.
   - The description of Android TV screen will appear, and then press ENTER.

9 Press \( \land / \lor \) to install desired applications.
   - This screen will not appear if Wi-Fi network is not connected.

10 Setting the country.
   Press \( \land / \lor \) to select your country or area, and then press ENTER.

11 Press \( \land / \lor \) to select your tuner mode and then press ENTER.

12 Press \( \land / \lor \) to start Channel Scan.

13 Press \( \land / \lor \) to view Sharp Terms of Use and Sharp Privacy Policy.

14 Press \( \land / \lor \) to select speed of Text to speech and then press ENTER.

15 Press \( \land / \lor \) to select your time zone and then press ENTER.

16 Select TV mode.
   Press \( \land / \lor \) to select where you will use this TV, and then press ENTER.

Home:

- "Home" mode is optimized for efficient energy usage for home use.
- If you plan to use this TV at home, please select "Yes".

Retail:

- "Retail" mode is optimized for store demo with fixed settings.
- "Retail" mode is for store demo only and setting are not saved. Please select "Yes" to proceed.

NOTE

- Retail: A demonstration image will be displayed after initial auto installation is completed. If you have chosen "Retail" by mistake, go to "(HOME)" > "Settings" > "Device Preferences" > "Retail mode" > "Off".

17 Press "Start" or "Skip" to RC Setting.

- Internet connection enables you to use voice search by microphone key on the RC.

18 The description of Netflix screen will appear.
   - Press "Next" to finish Netflix setup procedure.
   - Press "Setup Network" if Wi-Fi network is not connected.

19 Press "Off" or "On" to Chromecast setting.

20 Initial setup has finished.
Software Updates via Over-The-Air (OTA)

To search for new software updates

Refer to "(HOME)" > "Settings" > "Device Preferences" > "About" > "System update".

NOTE

- Make sure your TV is connected to the internet when performing software updates via OTA.
- After finished downloading, please allow some time to apply the installed updates.
- During installation, please do not perform any operations, including power off or unplug your TV.
- Software updates performance is depending on internet connection.
- For allowing software updates notification, select On under "Latest software notification". (Default Setting is On)
- To disable software updates notification, please select Off.
**Software License**
Refer to "(HOME) > "Settings" > "Channel" > "Open Source Licenses".
You can read the software licenses in the on-screen display menu.

**Software composition**
The software included in this product is comprised of various software components whose individual copyrights are held by SHARP or by third parties.

**Version**
Refer to "(HOME) > "Settings" > "Channel" > "Version".
You can check the current version of the software on the screen.
Channel settings-How to launch EPG

**EPG**

What is an EPG?
An "EPG (Electronic Program Guide)" is a program schedule, which is displayed on the TV screen. The EPG is broadcasted together with DTV. The TV screen shows the EPG when the viewer presses **GUIDE** on the remote control, provided that the TV is receiving the digital broadcasting signal. The EPG enables you to search for a program, do timer view the program schedule in detail.

**Basic Operation**

Display the EPG screen
1. Press **GUIDE**.
2. Press ▲ / ▼ to select different program time information.
3. Press ◄ / ► to change the day selection.

Close the EPG screen
Press **GUIDE** again or ◄ (Back) to exit.

Parental Control

Change PIN
You can set and change the Password by using 0-9.

**NOTE:**
- Factory reset password is 1234.
### Network and Internet

**Connecting to the Internet**
To configure the network settings in order to enjoy streaming content and internet applications. These settings can be configured from " (HOME)" > "Settings" > "Network & Internet".

**NOTE**
- When an Internet connection is made, LAN and wireless connection cannot be used at the same time. Use only one of the connection types.

### Using LAN

Using a LAN cable (commercially available) to connect the LAN terminal on the TV to your broadband router (commercially available).

**Wol (wake on LAN)**
Enable the TV to be started by a signal over a LAN.

**NOTE**
- Standby power consumption will be increase when Wol is turned ON.

### Using Wi-Fi

This TV is equipped with a wireless LAN function.
For a wireless LAN connection, you must use wireless setup to connect the access point and TV.

**Wow (wake on wireless network)**
Enable the TV to be started by a signal over a Wi-Fi.

**NOTE**
- Standby power consumption will be increase when Wow is turned ON.
NOTE

- This TV has a built-in wireless LAN function. Using a separate wireless USB LAN adapter may result in radio communications that do not comply with regulations on radio communications. Therefore, do not use a separate wireless LAN adapter.
- A wireless LAN connection and performance cannot be guaranteed for all residential environments. In the following cases, the wireless LAN signal may be poor or drop, or the connection speed may become slower.
  - When placed near objects that obstruct the signal
  - When used with other wireless devices that emit the same frequency
  - When used in the vicinity of microwave ovens and other devices that emit a magnetic field, electrostatic charge, or electromagnetic interference
- When there is significant interference in the 2.4-GHz frequency (such as from other wireless LAN devices, Bluetooth® devices, 2.4-GHz cordless telephones, and microwave ovens), it is recommended that you use a wireless LAN router/access point that supports IEEE802.11ac (5 GHz) and set the access point to transmit at 5 GHz. For setup details, see the operation manual of your access point.
- Operations cannot be guaranteed when used with access points that do not have Wi-Fi® certification.
- A wireless LAN router/access point is required to connect the TV to the Internet using a wireless LAN. See the operation manual of your access point for setup.
- If your access point is set to a stealth mode (that prevents detection by other devices), you may not be able to establish a connection. In this case, disable the stealth mode on the access point.
- A stable connection speed is required to play back streaming content. Use LAN connection if the wireless LAN speed is unstable.
- Before transferring to a third party or disposal, be sure to initialize the wireless LAN settings.
- Please follow the legislation in your country when using the wireless LAN outdoors.
- If you have failed to connect to the Internet in the above operation, then an error message will appear. In this case, press (HOME) to exit from the connected TV feature to make changes to the network settings.
- If you still cannot connect to the Internet, please consult your Internet service provider or telephone company.
- You cannot configure the settings from "(HOME)" > "Settings" > "Network & Internet" while using an application. If you must configure your "Network" settings, press the (HOME) key to exit the function.
**Chromecast built-in compatible devices**

When you connect a device such as a Chromecast built-in compatible smartphone or tablet to this TV, you can enjoy video and audio from the device on the TV’s large screen and speakers.

1. Configure the settings from "[HOME]" > "Settings" > "Device Preferences" > "Chromecast built-in".

2. Enable the Chromecast built-in function on the Chromecast built-in compatible device and connect to the TV.

   (The TV screen changes according to the behavior of the device)

**NOTE**

- When the TV is turned off or the connection is ended on the device, you must connect the device again.
- For details about the operation of the Chromecast built-in compatible device, check the manual for that device.

**Audio Devices**

**HDMI Input**

**Speaker select ARC**

Refer to "[HOME]" > "Settings" > "Device Preferences" > "Sound" > "Speaker select ARC".

You can select to listen to the TV sound only from the LINK-compatible audio system.

- Internal Speakers
- External Devices

**Consumer Electronic Control (CEC)**

Refer to "[HOME]" > "Settings" > "Device Preferences" > "Inputs" > "Consumer Electronic Control (CEC)".

Change the label for an input terminal, and switch between HDMI CEC Control Settings.

**Digital Audio Output**

Refer to "[HOME]" > "Settings" > "Device Preferences" > "Sound" > "Digital Audio Output".

This function allows you to select the digital audio signal type.

- Auto
- Bypass
- PCM
- Dolby Digital Plus
- Dolby Digital
Connection/External Devices

Bluetooth setup
This feature enable a TV to connect with other Bluetooth devices via Bluetooth connection.

NOTE
- When you use the Bluetooth device with your TV for the first time, you must make pairing between the device and the TV. Once the pairing is correctly carried out, the Bluetooth device will be registered on the TV.
- Connectivity and reception range may depend on condition, environment, and distance of Bluetooth devices.
- Sound quality and compatibility are depend on Bluetooth devices.
- The Bluetooth format only supports HID, A2DP and AVRCP.

Bluetooth devices
You can add, delete or select Bluetooth devices. If you connect a tablet or smartphone to the TV by Bluetooth, you can listen its sound through the TV.

Connection/Selection Procedure
1 Turn the Bluetooth device on and put it in pairing mode.
   To put your Bluetooth device in pairing mode, refer to the operation manual of the device.

2 Refer to "{HOME}" > "Settings" > "Remote & Accessories" > "Add device" to put the TV in pairing mode.
   A list of available Bluetooth device will be displayed.

3 Select the desired device from the list, then follow the on screen display instruction.
   If you are prompted to enter a password, refer to the operation manual of the device.
   After pairing is completed, the device connects to the TV.
USB

Preparation
You can connect the TV to a USB memory device and USB hard drive to enjoy viewing pictures, listening to music, and watching videos.

NOTE
- Depending on the USB memory device/USB hard drive, the TV may not be able to recognize the recorded data.
- It may take time to read the recorded data if the USB memory device/USB hard drive contains many files or folders.
- Use only alphanumeric characters for naming files.
- File names (may vary depending on character set) may not be displayed.

Connecting a USB Memory Device/USB Hard Drive
Insert the USB memory device with recorded photos, music or videos into the USB 1 or USB 2 terminal on the TV.
- When connecting a USB hard drive, be sure to use a hard drive with an AC adapter.
- Do not remove a USB memory device from the TV while transferring files, using the slide show function, or switching screens, or before you exit "MultiMediaPlayer".
- Do not insert and remove a USB memory device/USB hard drive to and from the TV repeatedly.
- When using a card reader, be sure to insert a USB memory device first.

CAUTION
- Do not use a USB extension cable when connecting a USB memory device to the USB terminal on the TV.
- Using a USB extension cable with the USB memory device may prevent the TV from performing correctly.
Connection/External Devices

USB (Continue)

Selecting the Folders to Play Back

- To play back data on a USB memory device insert the USB memory device on the TV.
- Press "HOME" > "Settings" > "Apps" > "MultiMediaPlayer" to open the Playback screen.
- Press < / > to select "Video", "Photo", "Audio" or "Text", and then press ENTER.
- Press ▲ / ▼ (or < / >) to select the drive/server where you want to find your file, and then press ENTER.
- Press < / > to select the desired folder, and then press ENTER.

NOTE

- USB only support device up to DC5V 1.5A.

USB Device Compatibility

<table>
<thead>
<tr>
<th>USB device</th>
<th>USB Memory, USB card reader (Mass Storage class), USB hard drive</th>
</tr>
</thead>
<tbody>
<tr>
<td>File system</td>
<td>FAT/FAT32/NTFS (read only)</td>
</tr>
</tbody>
</table>

Photo file format

| Format | JPEG, PNG, BMP |

Audio file format

<table>
<thead>
<tr>
<th>Format</th>
<th>Sampling rate [KHz]</th>
<th>Bitrate [Kbps]</th>
</tr>
</thead>
<tbody>
<tr>
<td>MP3</td>
<td>8/11.025/12/16/22.050/24/32/44.1/48</td>
<td>8~320</td>
</tr>
<tr>
<td>AAC</td>
<td>32/44.1/48</td>
<td>8~320</td>
</tr>
<tr>
<td>WMA</td>
<td>8/11.025/16/22.05/32/44.1/48/64/88.2/96</td>
<td>8~384</td>
</tr>
<tr>
<td>WAV</td>
<td>8/11.025/12/16/22.050/24/32/44.1/48</td>
<td>8~1024</td>
</tr>
</tbody>
</table>

NOTE

- If the TV is turned off and then on again, the number assigned to the USB may change.
### Video file format

<table>
<thead>
<tr>
<th>Container</th>
<th>Video</th>
<th>Audio</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVI</td>
<td>MPEG-1, MPEG-2, MPEG-4, H.264</td>
<td>PCM, MP2: MPEG-1 Layer2, MP3: MPEG-1 Layer3, AAC, AC3, WMA</td>
</tr>
<tr>
<td>MKV</td>
<td>MPEG-1, MPEG-2, MPEG-4, H.264, VP8, H.265(HEVC)</td>
<td>PCM, MP2: MPEG-1 Layer2, MP3: MPEG-1 Layer3, AAC, AC3, WMA, VORBIS</td>
</tr>
<tr>
<td>ASF</td>
<td>MPEG-4, VC1(WMV3)</td>
<td>PCM, MP3: MPEG-1 Layer3, WMA</td>
</tr>
<tr>
<td>PS</td>
<td>MPEG-1, MPEG-2</td>
<td>PCM, MP2: MPEG-1 Layer2, MP3: MPEG-1 Layer3, AC3</td>
</tr>
<tr>
<td>TS</td>
<td>MPEG-2, VC1(WMV3), H.264, H.265(HEVC)</td>
<td>PCM, MP2: MPEG-1 Layer2, AAC, AC3</td>
</tr>
<tr>
<td>MP4</td>
<td>MPEG-4, H.264, H.265(HEVC), VP8, VC1(WMV3)</td>
<td>PCM, MP2: MPEG-1 Layer2, MP3: MPEG-1 Layer3, AAC</td>
</tr>
</tbody>
</table>

### NOTE
- Progressive format jpeg files are not supported.
- USB 1.1 devices may not be played properly.
- Operation using USB hubs is not guaranteed.
- Some video file formats may not be played depending on the file.
- Some images may not be displayed in the appropriate aspect ratio depending on the file format.
- File extensions are not used to determine the file format.
Menu for thumbnail operations
Press ▲ / ▼ to select an item and make settings to your preferences.

Example
- Sort
- Media Type
- Thumbnail Size
- Recursive Parser

Sort
- You can change the way in which files are ordered.
- Press ▲ / ▼ to select "Type", "Date" or "Name" (Photo and Video format) and then press ENTER.
- Press ▲ / ▼ to select "Date", "Genre", "Artist" or "Album" (Audio format) and then press ENTER.

Media Type
- Switch the media type when the Recursive Parser display is displayed.

Thumbnail Size
- Change the thumbnail size.
  - Small/Medium/Large

Recursive Parser
- Display all files according to the Media Type settings.

NOTE
- When you are viewing the MultiMediaPlayer app in Audio Mode, you cannot configure Picture/Audio settings.

NOTE
- You can see the file name, file size and pixel size of the selected photo in the upper-left corner of the screen.
Slide Show
The photos displayed on the thumbnail selection screen are displayed as a slide show.

Buttons for slide show operation

<table>
<thead>
<tr>
<th>Buttons</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>▶</td>
<td>Play the Slide Show.</td>
</tr>
<tr>
<td>II</td>
<td>Pause the Slide Show.</td>
</tr>
<tr>
<td>∧, ∨, &lt;, &gt;</td>
<td>Select the desired item.</td>
</tr>
<tr>
<td>ENTER</td>
<td>Return to the thumbnail selection screen.</td>
</tr>
<tr>
<td>← (Back)</td>
<td>Display the USB Menu screen.</td>
</tr>
</tbody>
</table>

Menu for slide show

Example

Repeat
Shuffle
Duration
Effect

Repeat
Set whether to show the slide show repeatedly.
None/Repeat One/Repeat All

Shuffle
Shuffle the image files within the folder and display as a slide show.

Duration
Specify the length of time before the next image appears.
Press ∧ / ∨ to select the desired length of the time, and then press ENTER.
Short/Medium/Long

Effect
Specify the effect for transitioning to the next image.
None/Dissolve/Wipe right/Wipe left/Wipe up/Wipe down/Box in/Box out/Random

Rotate*
Rotate the photo by 90 degrees to the right.
* Only displayed when playback is paused.

Zoom*
Zoom in on the image.
Normal/Zoom1/Zoom2
* Only displayed when playback is paused.

Sort
You can change the way in which files are ordered.
Press ∧ / ∨ to select "Type", "Date" or "Name", and then press ENTER.

NOTE
- The slide show continues until you press ← (Back).
- For setting the slide show speed, select "Duration" on the Menu screen.
### Menu for playing mode

<table>
<thead>
<tr>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repeat</td>
</tr>
<tr>
<td>Shuffle On</td>
</tr>
<tr>
<td>Hide Spectrum</td>
</tr>
<tr>
<td>Lyric</td>
</tr>
</tbody>
</table>

#### Repeat
Configure the repeat playback settings.
- None/Repeat One/Repeat All

#### Shuffle
Shuffle the music within the folder.

#### Hide Spectrum/Show Spectrum
Show or hide the spectrum.

#### Lyric
You can change the lyric display type.
This is only available when a lyrics file (".lrc") is present.
Only UTF-8 character code lyric files (without BOM) are supported.

---

### Buttons for playing mode

<table>
<thead>
<tr>
<th>Buttons</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>‹‹</td>
<td>The fast reverse speed changes every time you press ‹‹.</td>
</tr>
<tr>
<td>‹‹</td>
<td>The fast forward speed changes every time you press ››.</td>
</tr>
<tr>
<td>‼️</td>
<td>Pause the music.</td>
</tr>
<tr>
<td>‹‹</td>
<td>Go to the previous file.</td>
</tr>
<tr>
<td>››</td>
<td>Go to the next file.</td>
</tr>
<tr>
<td>‼️</td>
<td>Select a desired item.</td>
</tr>
<tr>
<td>ENTER</td>
<td>Return to the previous process.</td>
</tr>
<tr>
<td>TOOLS</td>
<td>Display the Menu screen.</td>
</tr>
</tbody>
</table>

---

### NOTE
- The displayed play time may differ slightly from the actual play time depending on the files.
## Video Mode

### Playing Mode

#### Buttons for playing mode

<table>
<thead>
<tr>
<th>Buttons</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>⏪</td>
<td>The fast reverse speed changes every time you press ⏪.</td>
</tr>
<tr>
<td>▶</td>
<td>Play the video.</td>
</tr>
<tr>
<td>▶▶</td>
<td>The fast forward speed changes every time you press ▶▶.</td>
</tr>
<tr>
<td>⏸</td>
<td>Pause the video.</td>
</tr>
<tr>
<td>⏴</td>
<td>Go to the previous file.</td>
</tr>
<tr>
<td>■</td>
<td>Stop the video.</td>
</tr>
<tr>
<td>▶▶</td>
<td>Go to the next file.</td>
</tr>
<tr>
<td>∧/∨/&lt;&gt;/ENTER</td>
<td>Select a desired item.</td>
</tr>
<tr>
<td>← (Back)</td>
<td>Return to the previous process.</td>
</tr>
<tr>
<td>TOOLS</td>
<td>Display the Menu screen.</td>
</tr>
</tbody>
</table>

### Menu for playing mode

- **Example**
  - Repeat

#### Repeat

Configure the repeat playback settings.

- None/Repeat One/Repeat All
### Video Mode

#### Playing Mode

<table>
<thead>
<tr>
<th>Buttons</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>❌</td>
<td>The fast reverse speed changes every time you press ❌.</td>
</tr>
<tr>
<td>▶️</td>
<td>Play the video.</td>
</tr>
<tr>
<td>❯❯</td>
<td>The fast forward speed changes every time you press ❯❯.</td>
</tr>
<tr>
<td>■</td>
<td>Pause the video.</td>
</tr>
<tr>
<td>◀◀</td>
<td>Go to the previous file.</td>
</tr>
<tr>
<td>◗</td>
<td>Stop the video.</td>
</tr>
<tr>
<td>◐</td>
<td>Go to the next file.</td>
</tr>
<tr>
<td>⌚️</td>
<td>Select a desired item.</td>
</tr>
<tr>
<td>ENTER</td>
<td>Select a desired item.</td>
</tr>
<tr>
<td>◅ ◄ ◆</td>
<td>Return to the previous process.</td>
</tr>
<tr>
<td>TOOLS</td>
<td>Display the Menu screen.</td>
</tr>
</tbody>
</table>

#### Menu for playing mode

**Example**

- Repeat

**Repeat**

Configure the repeat playback settings.
- None
- Repeat One
- Repeat All
### Smart Apps

#### The Google Assistant
You may ask questions and complete tasks on your TV.
- Press 🛡️ *(The Google Assistant)* button on the remote control.
- Request an action or ask a question.

**NOTE**
- The Google Assistant is not available in certain languages and countries. Availability of services varies by country and language.

#### Google Play Store
You may download apps from the Google Play Store on the TV, just like you do with smartphones and tablets.

**To install app**
- Refer to "🏠 (HOME)" > "Google Play Store" app and select an app that you want to download and then the app will start downloading.
- After downloading, the app is automatically installed and added. The icon will appear in the HOME screen, allowing you to launch it.

**To uninstall app**
Refer to "🏠 (HOME)" > "Google Play Store" app and select an app to be deleted and then uninstall the app.

**NOTE**
- We recommend that you create a Google Account on a computer or mobile device.
- You can only download apps that are compatible with the TVs. It may differ from apps for smartphones or tablets.
- An internet connection and Google Account are required to download apps from the Google Play Store.

#### Google Account setting

**Account & sign-in**
Refer to "🏠 (HOME)" > "Settings" > "Account & sign-in".
To sign in, enter your email address and password.

**Location**
Refer to "🏠 (HOME)" > "Settings" > "Device Preferences" > "Location".
Configure the location settings.

**Usage & Diagnostics**
Refer to "🏠 (HOME)" > "Settings" > "Device Preferences" > "Usage & Diagnostics".
Help improve your Android TV by automatically sending diagnostic and usage data to Google. This information won’t be used to identify you and helps teams working on things like apps performance and new Google features. Find out more at http://google.com/AndroidUsageHelp.

**Security & restrictions**
Refer to "🏠 (HOME)" > "Settings" > "Apps" > "Security & restrictions".
- **Unknown sources:**
  Allow installation of apps from sources other than the Play Store.
- **Verify apps:**
  Disallow or warn before installation of apps that may cause harm.
Keyboard
When you are editing an input screen or specifying the Network settings used for accessing the Internet, enter text from the software keyboard.

**NOTE**
- You can enter up to 128 characters for text.
- Some special characters or diacritics may not be available depending on where you enter the text.

The text you enter is displayed as you type it in.
To move the cursor (the current input position), use “←” or “→” on the software keyboard.

While you are entering text, likely input conversion candidates are displayed based on what you typed in.

- If "alphabet" is selected, this switches characters between uppercase and lowercase. Each time you press ENTER, the character type switches.
- Enters a space.
- Applies the entered information and closes the software keyboard.
- Erases text one character at a time.
1 Press TOOLS to display the TOOLS screen.
2 Press <./> to select the desired menu.
   - Channels - Program Guide
   - TV options - Picture Mode, Wide Mode, Speakers, Power, Manual OAD, Advanced Options, Settings
3 Press TOOLS to exit.
Picture settings

Picture Mode (Changing Pic. Quality)

Refer to "(HOME)" > "Settings" > "Device Preferences" > "Picture" > "Picture Mode".

Picture Mode gives you several viewing options to choose from to best match the surrounding environment of the TV, which can vary due to factors like room brightness, type of program watched or the type of device connected. These settings will be automatically saved on each input for convenience.

- **User:** Customize the picture setting.
- **Standard:** Default picture settings for common users.
- **Dynamic:** For a clear-cut image emphasizing high contrast, useful for sports viewing.
- **Sports:** Reduce the blue light of the TV.
- **Movie:** Dim down the color for long hour viewing.
- **Game:** Lower latency for fast gaming illustration.
- **Energy saving:** Reduce the backlight brightness to save power consumption.

Configuring Picture settings

Refer to "(HOME)" > "Settings" > "Device Preferences" > "Picture".

Adjusts the picture to your preference with the following picture settings.

<table>
<thead>
<tr>
<th>Selected item</th>
<th>&lt; button</th>
<th>&gt; button</th>
</tr>
</thead>
<tbody>
<tr>
<td>Backlight</td>
<td>The screen dims</td>
<td>The screen brightens</td>
</tr>
<tr>
<td>Brightness</td>
<td>For less brightness</td>
<td>For more brightness</td>
</tr>
<tr>
<td>Contrast</td>
<td>For less contrast</td>
<td>For more contrast</td>
</tr>
<tr>
<td>Saturation</td>
<td>For less color intensity</td>
<td>For more color intensity</td>
</tr>
<tr>
<td>Tint</td>
<td>Skin tones become reddish</td>
<td>Skin tones become greenish</td>
</tr>
<tr>
<td>Sharpness</td>
<td>For less sharpness</td>
<td>For more sharpness</td>
</tr>
</tbody>
</table>
Picture settings

Configure advanced Picture settings
Refer to "(HOME)" > "Settings" > "Device Preferences" > "Picture".

Gamma
Adjusts the differences of picture tones between bright parts and dark parts.
- Dark
- Middle
- Bright

Color Temp
For a better white balance, use color temperature correction.
- User: White with bluish tone
- Cool: White with reddish tone
- Standard: White with bluish tone
- Warm: White with reddish tone
- Red/Green/Blue Gain: Adjusts the white balance by changing the value of each item.

CMS (Color Management System)
Color tone is managed using the six-color adjustment setting.
- Tint:
  This is a standard to adjust the color either more reddish or more bluish in tone.
- Saturation:
  Increases or decreases the saturation of a selected color.
- Brightness:
  A higher value makes the image brighter.
  A lower value makes the image darker.

HDR related settings
Refer to "(HOME)" > "Settings" > "Device Preferences" > "Picture".

HDR (High Dynamic Range)
The HDR (High Dynamic Range) technology implements video image that is very similar to the image shown through human eyes by finely adjusting the contrast of the source.
- On:
  Enable HDR effect for HDR source.
- Off:
  Disable HDR effect for HDR source.
Unique Picture setting from SHARP

Refer to "🏠 (HOME)" > "Settings" > "Device Preferences" > "Picture" > "Advanced Video".

Digital Noise Reduction
Reduces noise on screen and produces a clearer video image.
- Off
- Low
- Medium
- Strong
- Auto

MPEG NR
This feature improves the quality of pictures by reducing the block noise and mosquito noise without compromising the picture resolution.
- Off
- Low
- Medium
- Strong

Active contrast
Automatically adjusts the image contrast according to the scene.
- Off
- Low
- Medium
- Strong

Film Mode
This function provides high-quality playback of images originally encoded at 24 frames/second, such as films.
- Off
- Auto
### Input settings

#### Wide Mode

Refer to "(HOME)" > "Settings" > "Device Preferences" > "Picture" > "Wide Mode".

This function changes the screen size. The Wide mode menu varies depending on the input source.

#### For 4:3 programs

- **Automatic:** Keeps the original aspect ratio based on source information and enlarge the picture as much as possible.
- **Super zoom:** Removes the black bars on the side of 4:3 broadcasts. There is minimal distortion.
- **4:3:** Keeps the original aspect ratio in a full screen display.
- **Movie expand 14:9:** For 14:9 letterbox pictures. Bars may appear on the top and bottom with some programs.
- **Movie expand 16:9:** For 16:9 letterbox pictures. Bars may appear on the top and bottom with some programs.
- **Wide screen:** For viewing widescreen programs. The top and bottom of the image is cropped.
- **Full:** For 16:9 squeeze pictures.
- **Unscaled:** Detects the resolution of the signal and displays an image with the same number of pixels on the screen.

### PC Mode

Refer to "(HOME)" > "Settings" > "Device Preferences" > "Picture" > "Advanced Video" > "PC Mode".

Adjusts the picture when a PC is connected to the TV via HDMI.

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

### HDMI Type Selection

Refer to "(HOME)" > "Settings" > "Device Preferences" > "Picture" > "Advanced Video" > "HDMI Type Selection".

Sets the HDMI type for HDMI IN 1 and 2 terminals.

- **Full:** When an HDMI 4K60P 4:4:4 device is connected.
- **Limited:** When an HDMI 4:2:0 device is connected.

### NOTE

- Some items do not appear depending on the type of received signal.
Audio Mode

Refer to "(HOME)" > "Settings" > "Device Preferences" > "Sound" > "Audio Mode".

This function allows you to convert the audio quality. Select from the following available settings.

- **User:**
  Customize the sound setting.

- **Standard:**
  Optimize sound quality for general content.

- **Vivid:**
  Enhances the treble and bass for a clearer sound.

- **Sports:**
  Simulates the larger space of a stadium or other venue.

- **Movie:**
  Optimize surround sound suitable for movie.

- **Music:**
  Optimize sound for listening to music.

- **News:**
  Makes voice clearer by lowering background sound.

Configuring Sound settings

Refer to "(HOME)" > "Settings" > "Device Preferences" > "Sound".

You can adjust the sound quality to your preference with the followings settings.

<table>
<thead>
<tr>
<th>Selected item</th>
<th>&lt; button</th>
<th>&gt; button</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance</td>
<td>Decrease audio from the right speaker</td>
<td>Decrease audio from the left speaker</td>
</tr>
<tr>
<td>Bass</td>
<td>For weaker bass</td>
<td>For stronger bass</td>
</tr>
<tr>
<td>Treble</td>
<td>For weaker treble</td>
<td>For stronger treble</td>
</tr>
</tbody>
</table>
Sound settings

Configure advanced Sound settings

Refer to "HOME" > "Settings" > "Device Preferences" > "Sound".

Equalizer Detail
This function allows you to change the sound quality.

<table>
<thead>
<tr>
<th>Selected item</th>
<th>&lt; button</th>
<th>&gt; button</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equalizer Detail</td>
<td>For weaker sound quality</td>
<td>For stronger sound quality</td>
</tr>
</tbody>
</table>

Sound Surround
The surround function produces Surround effect from the speakers.
- On
- Off

NOTE
- For some discs, setup may be required on your BD/DVD player. In this case, please refer to the operation manual of your BD/DVD player.

SPDIF Delay
If you are hearing an audio delay across all sources or channels and you have a home theater system or other speakers connected to your TV, you can access the SPDIF Delay settings to increase the SPDIF Delay.

<table>
<thead>
<tr>
<th>Selected item</th>
<th>&lt; button</th>
<th>&gt; button</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPDIF Delay</td>
<td>For later delay</td>
<td>For advance delay</td>
</tr>
</tbody>
</table>

Unique Sound setting from SHARP

Refer to "HOME" > "Settings" > "Device Preferences" > "Sound".

Auto Volume
Different sound sources sometimes do not have the same loudness level, such as a program and its commercial breaks. The Auto Volume reduces this problem by equalizing it.
- On
- Off

Downmix Mode
You can select the multi-channel downmix method that is compatible with your stereo system.
- Stereo
- Surround
**Sleep Timer**
Refer to "(HOME)" > "Settings" > "Device Preferences" > "Power Control" > "Sleep Timer".
- Allows you to set a time when the TV automatically switches to standby.
- Set the Sleep Timer.

**Switch Off Timer**
Refer to "(HOME)" > "Settings" > "Device Preferences" > "Power Control" > "Switch off timer".
You can use this function to automatically shut off the TV after pre-configured period of time.

**No signal power off**
Refer to "(HOME)" > "Settings" > "Device Preferences" > "Power Control" > "No Signal Off".
When this function is enabled, the TV automatically shuts down if no signal is received for more than 5 to 60 minutes.

**Screen saver**
Refer to "(HOME)" > "Settings" > "Device Preferences" > "Screen saver".
Set the Screen saver.

**Storage**
Refer to "(HOME)" > "Settings" > "Device Preferences" > "Storage".
View the memory usage status.

**Accessibility**
Refer to "(HOME)" > "Settings" > "Device Preferences" > "Accessibility".
Configure Caption, Talkback, and Switch Access settings. Some of the Caption settings may not be applied.

**Reset**
Refer to "(HOME)" > "Settings" > "Device Preferences" > "Reset".
When you perform a reset, the TV will be returned to the factory preset values, and the Google Accounts will also be removed.

---

**NOTE**
- When it is 5 minutes before the power shuts down, the remaining time will start to keep appearing every minute.
- When a TV program finishes, this function may not operate.

**NOTE**
- Your purchased apps will remain.
### Troubleshooting

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Solution</th>
</tr>
</thead>
</table>
| No power. | *Check if you pressed (POWER) on the remote control unit.*  
|          | *Is the AC cord disconnected?*  
|          | *Has the power been turned on?* |
| Unit cannot be operated. | *External influences such as lightning, static electricity, may cause improper operation. In this case, operate the unit after first turning off the power of the TV or unplugging the AC cord and replugging it in after 1 or 2 minutes.* |
| Remote control unit does not operate. | *Is the equipment to be operated by the remote control unit set correctly?*  
|          | *Press TV to set the remote control unit to the setting for operating the TV.*  
|          | *Are batteries inserted with polarity (+, -) aligned?*  
|          | *Are batteries worn out? (Replace with new batteries.)*  
|          | *Are you using it under strong or fluorescent lighting?*  
|          | *Is a fluorescent light illuminated near the remote control sensor?* |
| Picture is cut off/with sidebar screen. | *Are screen mode adjustments such as picture size made correctly?* [Page 5-4] |
| Strange color, light color, or color misalignment. | *Adjust the picture tone.* [Pages 5-1 to 5-4]  
|          | *Is the room too bright? The picture may look dark in a room that is too bright.* |
| Power is suddenly turned off. | *Is the sleep timer set?* [Page 7-1]  
|          | *Check the power control settings.* [Page 7-1]  
|          | *The unit's internal temperature has increased. Remove any objects blocking vent or clean.* |
| No picture. | *Is connection to other components correct?*  
|          | *In case of HDMI connection, try to change EDID setting manually.*  
|          | - Refer to "(HOME)" > "Settings" > "Device Preferences" > "Inputs" > "HDMI EDID Version"  
|          | - If the PC image is not displayed, check the following:  
|          | - When connecting a laptop PC to the TV, check that display output mode of the PC is set to external monitor.  
|          | - For 4K60P signals applied to an HDMI input, the external device may not be outputting signals correctly. Set "HDMI Type Selection" to "Limited". [Page 5-4] |
| Picture quality of HD programs is poor. | *To enjoy HD images from external equipment, you are required to set up HDMI connection.*  
|          | *If the program content is not of HD quality, HD images cannot be displayed. Check that the program you are viewing provides HD images.*  
|          | *The HD cable/satellite set-top box may need to be configured to output HD images via cable/satellite.*  
|          | *The cable/satellite broadcast may not support a signal resolution of 1080p.* |
| The TV sometimes makes a cracking sound. | *This is not a malfunction. This happens when the cabinet slightly expands and contracts according to change in temperature. This does not affect the TV's performance. Do not open the rear cover of the cabinet to reconstruct the circuits. There exists high voltage within the cabinet and it may cause electric shock and injury. If maintenance is required, contact your dealer.* |

**NOTE**

- If require any assistance with troubleshooting, please contact SHARP Customer Care at 1-800-BE-SHARP / 1-800-237-4277 (USA).
### Troubleshooting (Continue)

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>No sound.</td>
<td>Is connection to other components correct?</td>
</tr>
<tr>
<td></td>
<td>Is the volume too low?</td>
</tr>
<tr>
<td></td>
<td>Have you pressed (Mute) on the remote control unit?</td>
</tr>
<tr>
<td></td>
<td>Check the audio output of the connected external equipment. Is the volume too low or muted?</td>
</tr>
<tr>
<td></td>
<td>When external equipment is connected via an HDMI cable, you may need to configure the audio to be output through the HDMI cable.</td>
</tr>
<tr>
<td></td>
<td>When connecting a PC via an HDMI-certified cable, check the following:</td>
</tr>
<tr>
<td></td>
<td>- Is the audio output of the PC configured correctly? Check the audio output settings and output audio format in Sound Properties on the PC.</td>
</tr>
<tr>
<td></td>
<td>The audio formats compatible with this TV are PCM, Dolby Digital. With other formats, audio cannot be output.</td>
</tr>
<tr>
<td>Chrome cast built-in image/audio cannot be output to the TV.</td>
<td>Check pairing.</td>
</tr>
<tr>
<td>Software updates via Over-The-Air (OTA) is not successful.</td>
<td>Make sure your internet connection is working. If the TV is connected to Internet, but no connection available, please disconnect the internet from your TV and then reconnect again.</td>
</tr>
</tbody>
</table>

### Troubleshooting - Error Message

<table>
<thead>
<tr>
<th>The example of an error message displayed on a screen</th>
<th>Possible Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>No broadcast now.</td>
<td>- Check the antenna cable. Check that the antenna is correctly setup.</td>
</tr>
<tr>
<td></td>
<td>- Check the broadcast time in the program guide.</td>
</tr>
<tr>
<td>An incompatible audio signal has been received. Check the output device settings.</td>
<td>- This message is displayed when an audio format other than PCM, Dolby Digital is input.</td>
</tr>
<tr>
<td></td>
<td>- Set the audio output format of connected external HDMI equipment to PCM, Dolby Digital.</td>
</tr>
<tr>
<td></td>
<td>- Refer to the operation manual of the external equipment for setting details.</td>
</tr>
</tbody>
</table>

**NOTE**

- If require any assistance with troubleshooting, please contact SHARP Customer Care at 1-800-BE-SHARP / 1-800-237-4277 (USA).
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- **THIS PRODUCT IS LICENSED UNDER THE AVC PATENT PORTFOLIO LICENSE FOR THE PERSONAL USE OF A CONSUMER OR OTHER USES IN WHICH IT DOES NOT RECEIVE REMUNERATION TO (i) ENCODE VIDEO IN COMPLIANCE WITH THE AVC STANDARD (“AVC VIDEO”) AND/OR (ii) DECODE AVC VIDEO THAT WAS ENCODED BY A CONSUMER ENGAGED IN A PERSONAL ACTIVITY AND/OR WAS OBTAINED FROM A VIDEO PROVIDER LICENSED TO PROVIDE AVC VIDEO. NO LICENSE IS GRANTED OR SHALL BE IMPLIED FOR ANY OTHER USE. ADDITIONAL INFORMATION MAY BE OBTAINED FROM MPEG LA, L.L.C. SEE HTTP://WWW.MPEGLA.COM**

- **THIS PRODUCT IS LICENSED UNDER THE MPEG-4 VISUAL PATENT PORTFOLIO LICENSE FOR THE PERSONAL AND NON-COMMERCIAL USE OF A CONSUMER FOR (i) ENCODING VIDEO IN COMPLIANCE WITH THE MPEG-4 VISUAL STANDARD (“MPEG-4 VIDEO”) AND/OR (ii) DECODING MPEG-4 VIDEO THAT WAS ENCODED BY A CONSUMER ENGAGED IN A PERSONAL AND NON-COMMERCIAL ACTIVITY AND/OR WAS OBTAINED FROM A VIDEO PROVIDER LICENSED BY MPEG LA TO PROVIDE MPEG-4 VIDEO. NO LICENSE IS GRANTED OR SHALL BE IMPLIED FOR ANY OTHER USE. ADDITIONAL INFORMATION INCLUDING THAT RELATING TO PROMOTIONAL, INTERNAL AND COMMERCIAL USES AND LICENSING MAY BE OBTAINED FROM MPEG LA, L.L.C. SEE HTTP://WWW.MPEGLA.COM**
# Specifications

<table>
<thead>
<tr>
<th>Item</th>
<th>Model : 4T-C60BK2U series</th>
<th>Model : 4T-C70BK2U series</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LCD panel</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resolution</td>
<td>152.7 cm / 60.1 inch</td>
<td>178.5 cm / 69.5 inch</td>
</tr>
<tr>
<td><strong>Video colour system</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TV-standard</td>
<td>Analog NTSC M</td>
<td>Digital NTSC M</td>
</tr>
<tr>
<td>Digital NTSC M</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TV Function</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Receiving Channel</td>
<td>VHF/UHF ch 2-69</td>
<td>CATV ch 2-125</td>
</tr>
<tr>
<td>TV-tuning system</td>
<td>Auto Preset</td>
<td></td>
</tr>
<tr>
<td>STEREO/BILINGUAL</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Audio amplifier</strong></td>
<td>10 W x 2</td>
<td></td>
</tr>
<tr>
<td>ANT (Antenna input)</td>
<td>75 Ω F type</td>
<td></td>
</tr>
<tr>
<td>SERVICE ONLY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INPUT 1 (ARC) HDMI</td>
<td>HDMI (HDMI input), ARC</td>
<td>HDMI (HDMI input)</td>
</tr>
<tr>
<td>INPUT 2 HDMI</td>
<td>HDMI (HDMI input)</td>
<td></td>
</tr>
<tr>
<td>INPUT 3 HDMI</td>
<td>HDMI (HDMI input)</td>
<td></td>
</tr>
<tr>
<td>INPUT 4 HDMI</td>
<td>HDMI (HDMI input)</td>
<td></td>
</tr>
<tr>
<td>AV IN</td>
<td>AUDIO in, VIDEO in</td>
<td></td>
</tr>
<tr>
<td>USB 1</td>
<td>USB (DC5V 1.5A output)</td>
<td></td>
</tr>
<tr>
<td>USB 2</td>
<td>USB (DC5V 1.5A output)</td>
<td></td>
</tr>
<tr>
<td>LAN (10/100 BASE-T)</td>
<td>Network connector</td>
<td></td>
</tr>
<tr>
<td>DIGITAL AUDIO OUTPUT</td>
<td>Optical S/P/DIF digital audio output</td>
<td></td>
</tr>
<tr>
<td>OUTPUT</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>WiFi</strong></td>
<td>802.11 b/g/n/ac</td>
<td></td>
</tr>
<tr>
<td><strong>GSD language</strong></td>
<td>Spanish / English</td>
<td></td>
</tr>
<tr>
<td><strong>Power Requirement</strong></td>
<td>AC 120, 60 Hz</td>
<td></td>
</tr>
<tr>
<td><strong>Power Consumption</strong></td>
<td>180 W (0.5 W Standby)</td>
<td>200 W (0.5 W Standby)</td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>without stand (W x H x D)</td>
<td>1380x768x72 mm / 53.6x31.1x2.9 inch</td>
<td>1588x905x72 mm / 61.8x35.7x2.9 inch</td>
</tr>
<tr>
<td>with stand (W x H x D)</td>
<td>1380x853x267 mm / 53.6x33.6x10.6 inch</td>
<td>1588x977x287 mm / 61.8x38.5x11.3 inch</td>
</tr>
<tr>
<td><strong>Weight without stand</strong></td>
<td>19.8 kg (20.2 kg) / 43.7 lb (44.8 lbs)</td>
<td>25.2 kg (25.7 kg) / 56.8 lbs (56.7 lbs)</td>
</tr>
<tr>
<td><strong>Weight with stand</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Operating temperature</strong></td>
<td>0°C to +40°C / 32°F to 104°F</td>
<td></td>
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</tbody>
</table>

* As a part of policy of continuous improvement, SHARP reserves the right to make design and specification changes for product improvement without prior notice. The performance specification figures indicated are nominal values of production units. There may be some deviations from these values in individual units.
* Specification may differ depending on the selected country.

**CAUTION**

- Installing the Liquid Crystal Television requires special skill that should only be performed by qualified service personnel. Customers should not attempt to do the work themselves. SHARP bears no responsibility for improper mounting or mounting that results in accident or injury.
- Carefully read the instructions that come with the bracket before beginning work.