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Thank you for choosing the EC2108E IP Set Top Box (hereinafter referred to as the EC2108E STB), which will bring you a brand-new entertainment experience.

The EC2108E STB is a digital information electronic device provided for household subscribers. It is a terminal that provides streaming services through a TV set on a VDSL or FTTH connection. The EC2108E STB provides a new solution for operators to launch fee-based IPTV services on a broadband network.

The EC2108E STB is a cost-effective product. It provides a variety of external interfaces, and can decode high-definition (HD) and standard-definition (SD) MPEG-2 and H.264 content. It runs on an embedded real-time operating system and provides the functions of remote configuration, remote monitoring, and remote upgrade.
2 Product Features

The EC2108E STB has the following features:

- High reliability and stability
- Support for three access modes: PPPoE, DHCP, and static IP address
- Easy-to-use remote control
- Simple menus, which facilitate operations
- Support for HD decoding
- Compliance with MPEG standards
- High compatibility
- Powerful network management capabilities implemented through the embedded real-time operating system
- Multiple control modes: terminal control and remote control
- Modular design, which facilitates upgrade
- Support for online upgrade
- Support for HTML, JavaScript, and Cookies
- Multiple audio and video output ports
- OSD flicker prevention
- Quick startup
- Cost-effectiveness
3 Appearance

3.1 Front Panel

Figure 3-1 shows the front panel of the EC2108E STB.

**Figure 3-1** Front panel of the EC2108E STB

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Power indicator</td>
<td>• When the EC2108E STB is working, the indicator is green.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• When the EC2108E STB is standby, the indicator is red.</td>
</tr>
<tr>
<td>2</td>
<td>Link indicator</td>
<td>• When the EC2108E STB is properly connected to a network cable, the indicator is on.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• When the EC2108E STB is disconnected from a network cable, the indicator is off.</td>
</tr>
<tr>
<td>3</td>
<td>IR indicator</td>
<td>When the EC2108E STB is receiving signals from the remote control, the indicator blinks.</td>
</tr>
<tr>
<td>4</td>
<td>LED Monitor</td>
<td>The working status of the EC2108E STB is displayed on the LED monitor.</td>
</tr>
</tbody>
</table>

Figure 3-2 shows the uncovered front panel of the EC2108E STB.
Figure 3-2 Uncovered front panel of the EC2108E STB

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>MENU</td>
<td>You can press the key to access the main menu.</td>
</tr>
<tr>
<td>6</td>
<td>LEFT/RIGHT</td>
<td>You can press the keys to adjust volume, or move the cursor leftward or rightward on the EPG.</td>
</tr>
<tr>
<td></td>
<td>UP/DOWN</td>
<td>You can press the keys to switch between channels, or move the cursor upward or downward on the EPG.</td>
</tr>
<tr>
<td>7</td>
<td>OK</td>
<td>You can press the key to confirm an operation.</td>
</tr>
</tbody>
</table>

3.2 Rear Panel

Figure 3-3 shows the rear panel of the EC2108E STB. Figure 3-4 shows the right-side panel of the EC2108E STB.
**No.** | **Name** | **Description** |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>RJ45</td>
<td>It is the 10/100 Mbit/s Base-T Ethernet port. It is connected to RG.</td>
</tr>
<tr>
<td>2</td>
<td>Y, Pb, and Pr</td>
<td>They are connected to the Y, Pb, and Pr input ports of a TV set.</td>
</tr>
<tr>
<td>3</td>
<td>CVBS</td>
<td>It is connected to the composite video input port of a TV set. Cable type is RCA. (USED IF NO HDMI CABLE PROVIDED).</td>
</tr>
<tr>
<td></td>
<td>Audio (R)</td>
<td>It is the port for the output of the right-channel analog audio. Cable type is RCA. (USED IF NO HDMI CABLE PROVIDED).</td>
</tr>
<tr>
<td></td>
<td>Audio (L)</td>
<td>It is the port for the output of the left-channel analog audio. Cable type is RCA. (USED IF NO HDMI CABLE PROVIDED).</td>
</tr>
<tr>
<td>4</td>
<td>S-VIDEO</td>
<td>It is connected to the S-Video input port of a TV set. (IF USED, FOR AUDIO USE Audio (R) and Audio (L))</td>
</tr>
<tr>
<td>5</td>
<td>S/PDIF</td>
<td>It is an optical S/PDIF output port. Use for high quality audio equipment such as amplifier or speaker</td>
</tr>
<tr>
<td>6</td>
<td>HDMI</td>
<td>It is an HDMI output port.</td>
</tr>
<tr>
<td>7</td>
<td>USB</td>
<td>It is a USB2.0 port. Special functions can be added through the USB 2.0 port to meet operation requirements.</td>
</tr>
<tr>
<td>8</td>
<td>12V==2A</td>
<td>It is the power input port (12 V and 2 A DC).</td>
</tr>
<tr>
<td>9</td>
<td>ON/OFF</td>
<td>It is the power switch. It is used to turn on or turn off the power.</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>It is a USB 2.0 host port.</td>
</tr>
</tbody>
</table>
4 Working States of the EC2108E STB

The EC2108E STB has the following working states:

- **Off**
  There is no power supply and the EC2108E STB does not work.

- **Booting**
  The EC2108E STB is starting after being powered on.

- **Standby**
  When the EC2108E STB is working, press the Power button (blue button) on the remote control to change the status of the EC2108E STB to standby. The video output of the EC2108E STB is disabled.

- **Working**
  The working state is divided into video playing state and EPG browsing state. The video playing state is further divided into the VOD and live TV states.

- **Upgrade**
  The EC2108E STB is upgrading its software. Do not power off the EC2108E STB when it is in this state.

Figure 4-1 shows the switching between the states.
Figure 5-1 shows the remote control of the EC2108E STB.
Figure 5-1 Remote control of the EC2108E STB
### Table 5-1 Functions of the buttons on the remote control of the EC2108E STB

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Power (Blue button)</td>
<td>Shifts a TV set between the working state and the standby state.</td>
</tr>
<tr>
<td>2</td>
<td>Scan</td>
<td>Studies the functions of the remote control of a TV set.</td>
</tr>
<tr>
<td>3</td>
<td>TV/AV</td>
<td>Shifts the video output of a TV set.</td>
</tr>
<tr>
<td>4</td>
<td>VOL-/VOL+</td>
<td>Adjusts the volume of a TV set.</td>
</tr>
<tr>
<td>5</td>
<td>Power (Red button)</td>
<td>Shifts the EC2108E STB between the working state and the standby state.</td>
</tr>
<tr>
<td>6</td>
<td>Live TV</td>
<td>Shortcut to the live TV function.</td>
</tr>
<tr>
<td>7</td>
<td>I-mode</td>
<td>Shortcut to the interactive function.</td>
</tr>
<tr>
<td>8</td>
<td>VOD</td>
<td>Displays the EPG page of VOD programs.</td>
</tr>
<tr>
<td>9</td>
<td>Menu</td>
<td>Shortcut to the menu homepage.</td>
</tr>
<tr>
<td>10</td>
<td>Info</td>
<td>Displays the information about the current program.</td>
</tr>
<tr>
<td>11</td>
<td>Exit</td>
<td>Exits the current page.</td>
</tr>
<tr>
<td>12</td>
<td>Guide</td>
<td>Shortcut to EPG.</td>
</tr>
<tr>
<td>13</td>
<td>I-II (Audio)</td>
<td>Switches between audio channels or audio tracks.</td>
</tr>
<tr>
<td>14</td>
<td>(Sub)</td>
<td>Provides subtitles for programs.</td>
</tr>
<tr>
<td>15/16</td>
<td>CH+/CH-</td>
<td>Switches between channels.</td>
</tr>
<tr>
<td></td>
<td>▲▼</td>
<td>Moves the cursor upward or downward on the EPG.</td>
</tr>
<tr>
<td>17/18</td>
<td>VOL-/VOL+</td>
<td>Adjusts the volume.</td>
</tr>
<tr>
<td></td>
<td>◀▶</td>
<td>Moves the cursor leftward or rightward on the EPG.</td>
</tr>
<tr>
<td>19</td>
<td>OK</td>
<td>Confirms an operation.</td>
</tr>
<tr>
<td>20</td>
<td></td>
<td>Mutes or resumes the audio.</td>
</tr>
<tr>
<td>21</td>
<td>BACK</td>
<td>Returns to the previous-level menu on the EPG.</td>
</tr>
<tr>
<td></td>
<td>■</td>
<td>Quits the playback of a VOD program.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Quits the playback of a live TV program.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Returns to the live TV state when a subscriber is watching a TSTV program.</td>
</tr>
<tr>
<td>22</td>
<td>PgUp/PgDn</td>
<td>Goes to the previous or next page.</td>
</tr>
<tr>
<td>23</td>
<td>REW</td>
<td>Fast rewinds a VOD program.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fast rewinds a TVOD or TSTV program.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Switches a live TV program to the time-shift mode.</td>
</tr>
<tr>
<td>24</td>
<td></td>
<td>Fast forwards a VOD program.</td>
</tr>
<tr>
<td>No.</td>
<td>Name</td>
<td>Function</td>
</tr>
<tr>
<td>-----</td>
<td>---------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| 25  | Play/Pause    | • In VOD mode: Press this button once to pause a playing VOD program. Press this button again to resume the program.  
     |               | • In IPTV mode: Press this button once to switch a playing live TV program to the time-shift mode. Press this button again to play the time-shift program. Refer to the messages displayed on the TV screen. |
| 26  | Red           | Starts or stops PIP.                                                     |
|     | Green         | Switches between PIP channels.                                           |
|     | Yellow        | Switches to the next PIP channel.                                        |
|     | Blue          | Switches to the previous PIP channel.                                    |
| 27  | Numeric buttons | Selects channels or enters digits and characters.                           |
| 28  | */HELP        | Shortcut to Help.                                                         |
| 29  | #TEXT         | Switches between character input methods.                                |

**NOTE**

The functions of some buttons depend on the services provided by the carrier. If there is no response when you press a button, contact the service provider for more information.
6 How to Use the EC2108E STB for the First Time

This chapter describes how to connect cables and configure the EC2108E STB when the EC2108E STB is used for the first time.

6.1 Connecting Cables

Connect the cables of the EC2108E STB according to Figure 6-1.

*Figure 6-1 Cable connection of the EC2108E STB*

The procedure for connecting cables is as follows:
Step 1 Connect the audio output ports (the Audio L and Audio R ports) of the EC2108E STB to the corresponding audio input ports of a TV set. If use HDMI cable for video output, this step can be ignored.

Step 2 Use one of the following methods to connect a video cable:

- Use an HDMI cable to connect the HDMI port of the EC2108E STB to the HDMI input port of the TV set. If the TV set can decode the audio from the HDMI, you do not need to connect the audio cable from the STB to the TV set in step 1.
- Use a Y, Pb, and Pr cable to connect the Y, Pb, and Pr ports of the EC2108E STB to the Y, Pb, and Pr input ports of the TV set.
- Use a RCA cable to connect the CVBS port of the EC2108E STB to the CVBS input port of the TV set.
- Use an S-Video cable to connect the S-Video port of the EC2108E STB to the S-Video input port of the TV set.

Step 3 Connect the RJ45 port of the EC2108E STB with CAT5 or CAT 6 UTP cable to the RJ45 port of either these equipments:

- Residential Gateway
- OLT
- VDSL2 Modem
- Layer 3 Switch

Step 4 Insert the power plug of the EC2108E STB into the power socket.

NOTE
HDMI cable increases the quality of video especially HD.

----End

6.2 Starting the EC2108E STB

The procedure for starting the EC2108E STB is as follows:

Step 1 Make sure that the network has been correctly connected and is properly working.

Step 2 Turn on the TV set and change the TV signal input mode to a correct mode such as HDMI, component, AV, or S-Video.

Step 3 Turn on the power switch on the rear panel of the EC2108E STB.

NOTE
The method of selecting the AV mode is different varies according to TV set vendor and model. For details, see the corresponding instructions in the user guide of the TV set.

----End
7 Common Operations

The chapter describes the common operations of the EC2108E STB.

NOTE
All the operations described in this user guide are performed through the remote control of the EC2108E STB, unless otherwise specified.

7.1 Adjusting the Audio Output

7.1.1 Switching Between Audio Channels or Between Audio Tracks

- Press the Audio button to switch between the left audio channel, right audio channel, and stereo.
- Press the Audio button to switch between audio tracks.

7.1.2 Adjusting the Volume

Press the VOL+/- button or the Left/Right Arrow button to adjust the volume. You can also use the remote control of a TV set to adjust the volume.

7.1.3 Muting the Audio

Press the Mute button to mute the audio. Press it again to resume the audio.

7.2 Watching Live TV Programs

When watching live TV programs, you can use the time-shift function to watch the program content that has been played a certain period ago. This function is called Time Shift TV or TSTV.

The method of watching a TSTV program is as follows:

When watching a live TV program, press the button repeatedly. The program will be fast rewound at a speed of 2X, 4X, 8X, 16X, and 32X. At this time, a TSTV icon is displaying at the upper-left corner of the screen. When the program fast rewinds to the point you want, press the button to watch the program from that point. Then, you can press the button to fast forward the program or press the button to return to the
live TV program. At this time, the live TV icon is displayed at the upper-left corner of the screen.

**NOTE**

The time-shift duration is defined by the carrier. Contact your carrier for details.
Currently TM IPTV does not offer Time Shifted TV.

### 7.3 Fast Forwarding or Rewinding VOD Programs

When watching a VOD program, press the ▶ or the ◀ button to fast forward or rewind the program at a speed of 2X, 4X, 8X, 16X, or 32X.

When the program is fast forwarded or rewind to the point you choose, press the ▶ button to play the program.

### 7.4 Switching Between the Standby State and the Working State

The procedure for switching the EC2108E STB between the standby state and the working state is as follows:

**Step 1** When the EC2108E STB is in the working state, press the Power button on the front panel or press the Power (Blue) button on the remote control to switch it to the standby state.

**Step 2** When the EC2108E STB is in the standby state, press the Power button on the front panel or press the Power (Blue) button on the remote control to switch it to the working state.

---End

### 7.5 Switching Between Character Input Methods

During local STB configuration, you need to enter English characters. At this time, you need to select the input box and press the IME button repeatedly to switch between the following character input methods:

- Numbers
- English letters (lower case)
- English letters (upper case)
- English letters (both lower case and upper case)

**NOTE**

After switching to the required input method, stop pressing the IME button.
The EC2108E STB complies with international safety rules and regulations. Nevertheless, subscribers must be careful when using the EC2108E STB:

- Place the EC2108E STB in a stable place.
- Do not place any heavy object on the EC2108E STB.
- Avoid plugging the HDMI cord and hard disk when power is on.
- Use the EC2108E STB only indoors to prevent fire or electrical shock. Keep the EC2108E STB far away from heat sources.
- Use the accessories specified by the STB vendor.
- Only use the dedicated power adapter. Input power supply must be in range as stated on the label of power adaptor.
- Make sure that all required devices are properly connected to the EC2108E STB. Do not connect to power supply before finishing connecting other devices to the EC2108E STB.
- Do not extend a power cable or make a power cable overloaded, which may result in a fire accident. A worn power adaptor must be replaced with a new one.
- Do not trample on or forcibly pull the power cable. Unplug the power cable if you do not use the EC2108E STB for a long time.
- Do not block exhaust vents. Place the EC2108E STB in a ventilated and dry place instead of a hot, cold, wet, or dusty place.
- Do not use and store the EC2108E STB near anything with strong magnetic field, such as a magnet or electric motor. For example microwave oven. Also do not use and store it near anything with strong radio waves emitting, such as a large antenna.
- Keep the EC2108E STB far away from water sources. Do not place any container that is filled with liquid on the EC2108E STB.
- It is normal that the top cover and rear panel of the EC2108E STB become hot after you use it for a long time.
- Do not disassemble and repair the EC2108E STB yourself.
- Unplug the power cable and network cable of the EC2108E STB during thunder and lightning weather to prevent electrical shock, damage, or fire.
- Use only dry cloth to clean the EC2108E STB. Do not use water or any other liquid to clean it.
9 Troubleshooting

This chapter describes the common problems that may occur during the use of the EC2108E STB and the solutions to the problems.

**Problem 1:** The indicators of the EC2108E STB are off and the EC2108E STB cannot be powered on after you press the **Power** button on the rear panel.

**Possible cause:**
The EC2108E STB is powered off.

**Solution:**
Check whether the power cable is properly connected and the **Power** button on the rear panel is in the ON position.

**Problem 2:** No video is displayed on the TV screen.

**Possible causes:**
- The video cable is not properly connected.
- The EC2108E STB is powered off.
- The TV set is turned off or in the standby state.

**Solutions:**
- Check whether the video cable and network cable are properly connected. For details, see 6.1 Connecting Cables.
- Check whether the EC2108E STB is powered on.
- Check whether the TV set is turned on and switch it to the AV mode.

**Problem 3:** No audio is audible.

**Possible causes:**
- The audio cable is not properly connected.
- The TV set or the EC2108E STB is in mute mode or the volume is very low.

**Solutions:**
- Check whether the audio cable is properly connected. For details, see 6.1 Connecting Cables.
- Switch the TV set and the EC2108E STB to the audible mode and increase the volume.
**Problem 4:** The remote control of the EC2108E STB does not work properly.

**Possible causes:**
- The remote control is far away from the EC2108E STB.
- The batteries of the remote control need to be replaced.

**Solutions:**
- Move the remote control to a workable distance.
- Replace the batteries.

**Problem 5:** The message "The set top box is not in the service area" is displayed on the TV screen.

**Possible cause:**
You are in arrears or the corresponding service expires.

**Solution:**
Contact your carrier.

**Problem 6:** No EPG page is displayed on the TV screen.

**Possible causes:**
- The network connection is incorrect.
- The configuration of the EC2108E STB is incorrect.

**Solutions:**
- Check the network connection. For details, see 6.1 Connecting Cables."
- Contact maintenance personnel to re-configure the EC2108E STB.

**Problem 7:** Black-and-white images are displayed after startup.

**Possible causes:**
- The video cable is in poor quality or is not properly connected.
- The TV standard of the TV set does not match the TV standard set on the EC2108E STB. The default output TV standard of the EC2108E STB is PAL.

**Solutions:**
- Reconnect or replace the video cable.
- Use the remote control of the TV set to change the TV standard of the TV set to AUTO. For details, see the corresponding instructions in the user guide of the TV set.

**NOTE**
If the problem that you encounter persists after you follow the preceding steps or if the problem is not mentioned in this chapter, contact IPTV Operation.