

# TOSHIBA

Leading Innovation >>>

## Integrated High Definition LED TV/DVD Combination User's Guide:

24V4210U  
24V4260U

If you need assistance:

Toshiba's Support Web site [support.toshiba.com](http://support.toshiba.com)

Call Toshiba Customer Support Center:

Within the United States at (800) 631-3811

Outside the United States at (949) 583-3050

For more information, see "Troubleshooting" on page 147 in this guide.

### Owner's Record

The model number and serial number are on the back and side of your TV.

Record these numbers in the spaces below. Refer to these numbers whenever you communicate with your Toshiba dealer about this LED TV/DVD combination.

Model number: \_\_\_\_\_

Serial number: \_\_\_\_\_

Note: To display a High Definition picture, the TV must be receiving a High Definition signal (such as an over-the-air High Definition TV broadcast, a High Definition digital cable program, or a High Definition digital satellite program). For details, contact your TV antenna installer, cable provider, or

GMA300010013  
4/12

## Digital CC settings

You can customize the closed caption display characteristics by changing the background color, opacity, text size, type, edge, and color.

- 
- NOTE**
- ❖ These settings are available for digital channels only.
  - ❖ You cannot set Caption Text and Background as the same color.
- 

To customize closed captions:

- 1 Press the **MENU** button to open the **Preferences** menu.
- 2 Highlight **Digital CC Settings**, and then press the **OK** button.
- 3 Press the (▲/▼ arrow) buttons to highlight the characteristic you wish to change, and then press the (◀/▶ arrow) buttons to select the format for that characteristic.
- 4 To save the new settings, highlight **Done**, and then press the **OK** button.
- 5 To revert to the factory defaults, highlight **Reset**, and then press the **OK** button.

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<i>Mode:</i>	<i>Description</i>
Caption size	Auto, Small, Standard, Large
Caption text type	Auto, Default, Mono (with Serif), Prop. (with Serif), Mono (without Serif), Prop. (without Serif), Casual, Cursive, Small Capitals
Caption text edge	Auto, None, Raised, Depressed, Uniform, Left Drop Shadow, Right Drop shadow
Caption text color	Auto, Black, White, Red, Green, Blue, Yellow, Magenta, Cyan
Text foreground opacity	Auto, Transparent, Translucent, Flashing, Solid
Background color	Auto, Black, White, Red, Green, Blue, Yellow, Magenta, Cyan
Text background opacity	Auto, Transparent, Translucent, Flashing, Solid
Caption text edge color	Auto, Black, White, Red, Green, Blue, Yellow, Magenta, Cyan

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## CC Selector

You can use the CC Selector to temporarily override the default analog caption mode (set in Base CC Mode) for a particular channel. However, once you change to another channel, the closed

caption setting will automatically change back to the current Base CC Mode setting.

You can also use the CC Selector to select digital closed caption services, if available. When such services are not available, the CC Selector presents a default list of services. If the selected service is not available, the next best service will be used.

To select closed captions:

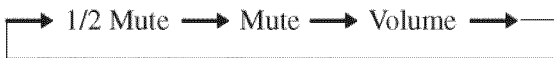
- 1 Press the **MENU** button to open the **Preferences** menu.
- 2 Highlight **CC Selector**, and then press the **OK** button.
- 3 Press the (▲/▼ arrow) buttons to select the Closed Caption, and then press the (◀/▶ arrow) buttons to select the desired service.
- 4 To save the new settings, highlight **Done**, and then press the **OK** button.
- 5 Press the **EXIT** button.

**NOTE** You can also press the **SUBTITLE** button to open CC Selector and follow the instructions.

## Adjusting the audio

### Muting the sound

Press the **MUTE** button to partially reduce (1/2 Mute) or turn off (Mute) the sound. Each time you press the **MUTE** button, the mute mode changes in the following order: 1/2 Mute, Mute, Volume, 1/2 Mute, etc.



*(Sample Image) Levels of mute*

If closed caption mode is set to **Off** when selecting **MUTE** mode, the closed caption feature becomes active if the TV program is closed captioned. To mute the audio without activating the closed captioning, press the **VOL (-)** button to set the volume to 0.

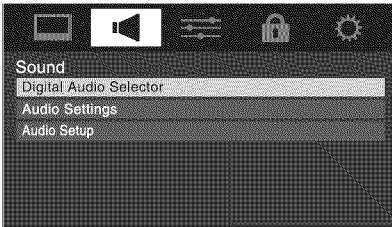
For more information, see “Using closed captions” on page 78.

**NOTE** If you modify items in the **SOUND** menu while Mute is active, Mute is cancelled.

## Using the digital audio selector

You can use the Digital Audio Selector to conveniently switch between audio tracks on a digital channel (for those channels that have multiple audio tracks). This temporarily overrides the audio track chosen by the language option under Audio Setup, see “Selecting stereo/SAP broadcasts” on page 82.

- 1 Press the **MENU** button to open the **Sound** menu.
- 2 Highlight **Digital Audio Selector**, and then press the **OK** button.



*(Sample Image) Digital Audio Selector screen*

- 3 Press the (◀/▶ arrow) buttons to select the desired service.
- 4 Press the **EXIT** button.

## Selecting stereo/SAP broadcasts

The multi-channel TV sound (MTS) feature allows you to output high-fidelity stereo sound. MTS also can transmit a second audio program (SAP) containing a second language, music or other audio information (when provided by individual stations).

When the TV receives a stereo or SAP broadcast, the stereo mark or word “SAP” appears when the **DISPLAY** button is pressed. The MTS feature is only available for analog signals on the ANT/CABLE input.

To listen in stereo sound:

- 1 Press the **MENU** button to open the **Sound** menu.
- 2 Highlight **Audio Setup**, and then press the **OK** button.
- 3 In the **MTS** field, select **Stereo**.
- 4 To save the new settings, highlight **Done**, and then press the **OK** button.
- 5 To reset the settings to the factory defaults, highlight **Reset**, and then press the **OK** button.

- 
- NOTE**
- ❖ You can typically leave the TV in Stereo mode because it outputs the type of sound being broadcast (stereo or monaural).
  - ❖ If the sound is noisy, select Mono to reduce the noise.
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To listen to an alternate language on an ATSC digital station (if available), highlight the **Language** field in step 3 above, and then press the (◀/▶ arrow) buttons to select the language you prefer.

To listen to a second audio program on an analog station, if available, select **SAP** in step 3 above.

- 1 Press the **MENU** button. Select **Settings, SOUND, MTS**.
  - 2 Press the (◀/▶ arrow) buttons to select **SAP**. Press the **EXIT** button.
- 

- NOTE**
- ❖ A second audio program (SAP) can be heard only on those TV stations that offer it. For example, a station might broadcast another language as a second audio program. If you have SAP on, you will see the current program on the screen but hear the other language instead of the program's normal audio.
  - ❖ If you have SAP on and the station you are watching is not broadcasting a second audio program, the station's normal audio will be output. However, occasionally there is no sound at all in SAP mode. If this happens, set the MTS feature to Stereo mode.
- 

## Using the MTS button

If you press the **AUDIO** button when an analog channel is tuned, the Analog Audio bar appears and displays Stereo, SAP, Mono as the options.

If you press the **AUDIO** button when a digital channel is tuned, the Digital Audio bar will appear and offer different audio choices for the digital channel.

If you press the **AUDIO** button when an external input is selected, no Audio bar appears.

## Adjusting the audio quality

You can adjust the audio quality by adjusting the bass, treble and balance.

To adjust the audio quality:

- 1 Press the **MENU** button to open the **Sound** menu.
- 2 Highlight **Audio Setup**, and then press the **OK** button.
- 3 Press the (▲/▼ arrow) buttons to highlight the item you wish to adjust (Bass, Treble, or Balance).
- 4 Press the (◀/▶ arrow) buttons to adjust the level.
  - ❖ ◀ makes the bass or treble weaker or increases the balance in the left channel (depending on the item selected).
  - ❖ ▶ makes the bass or treble stronger or increases the balance in the right channel (depending on the item selected).
- 5 To save the new settings, highlight **Done**, and then press the **OK** button.
- 6 To reset the settings to the factory defaults, highlight **Reset**, and then press the **OK** button.

## **Audyssey Premium Television™**

These televisions use a suite of technologies for better sound including:

- ❖ Audyssey EQ® - provides clear, accurate and natural sound right out of the box. This technology ensures you enjoy your audio experience as much as your video.
- ❖ Audyssey ABX™- technology uses sophisticated driver analysis and low frequency monitoring to extend the range and bass of small speakers. This enables the system to produce lower frequencies than otherwise would be possible.
- ❖ Audyssey® Dynamic Volume- automatically adjusts volume to provide a consistent sound level between television programs, commercials, and between the loud and soft passages of movies.

## **Audyssey ABX™**

Audyssey ABX™ technology uses sophisticated driver analysis and low frequency monitoring to extend the range and bass of small speakers.

To turn on Audyssey ABX™:

- 1 Press the **MENU** button and open the **Sound** menu.
- 2 Highlight **Audio Settings**, and then press the **OK** button.

- 3 Press the (▲/▼ arrow) buttons to highlight the **Audyssey ABX™** field.
- 4 Press the (◀/▶ arrow) buttons to select **On**.

### Using Audyssey Dynamic Volume®

This feature provides a consistent sound volume between television programs, commercials, and between the loud and soft passages of movies.

- 1 Press the **MENU** button. Select Settings, SOUND, Audyssey Premium Television, Dynamic Volume.
- 2 Press the (◀/▶ arrow) buttons to select **ON** or **Off**.

- 
- NOTE**
- ❖ If Dynamic Range Control is set to On, this feature is automatically set to Off.
  - ❖ This feature does not affect the audio signal output from the DIGITAL AUDIO OUT terminal.
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### Selecting the optical audio output format

You can select the optical audio output format when you connect a Dolby® Digital decoder or other digital audio systems to the TV's Digital Audio Out terminal.

To select the optical audio output format:

- 1 Press the **MENU** button to open the **Sound** menu.
- 2 Highlight **Audio Setup**, and then press the **OK** button.
- 3 In the **Digital Output Format** field, select either **Dolby Digital** or **PCM**, depending on your device.
- 4 To save the new settings, highlight **Done**, and then press the **OK** button.
- 5 To reset the settings to the factory defaults, highlight **Reset**, and then press the **OK** button.

### Using the Dolby® Digital Dynamic Range Control feature

You can further compress Dolby® Digital dynamic range, allowing you to switch from digital to analog broadcasts at the same dynamic range.

To use the Dolby® Digital Dynamic Range Control:

- 1 Press the **MENU** button to open the **Sound** menu.

- 2 Highlight **Audio Setup**, and then press the **OK** button.
- 3 In the **Dolby® Digital Dynamic Range Control** field, select either **Compressed**. When **Standard** is selected, the audio outputs with minimal compression.
- 4 To save the new settings, highlight **Done**, and then press the **OK** button.
- 5 To reset the settings to the factory defaults, highlight **Reset**, and then press the **OK** button.

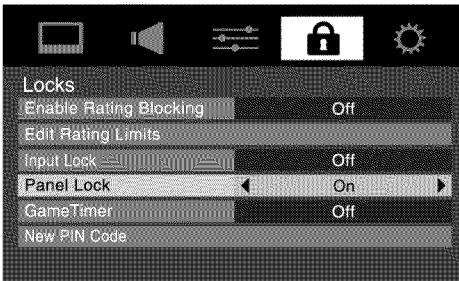
- NOTE**
- ❖ This feature is available when tuned to a digital RF channel with the Dolby® Digital signal.
  - ❖ The Dolby® Digital Dynamic Range Control will function in relation to Digital Output Format (PCM mode).

## Using the Locks menu

The Locks menu includes the Enable Rating Blocking, Edit Rating Limits, Input Lock, Panel Lock, GameTimer and New PIN Code features. You can use these features after entering the correct PIN code.

### Entering the PIN code

- 1 Press the **MENU** button to open the **Locks** menu.

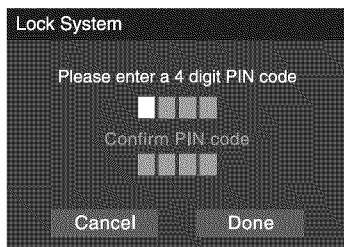


*(Sample Image) Lock menu screen (for USA region)*



- 2 Press the (▼ arrow) button to display the PIN code entry screen.

The Lock System screen appears if a PIN code has not been stored.



(Sample Image) Lock menu - store PIN screen

- 3 Press the Channel Number buttons to enter a new four-digit code, enter the code a second time to confirm, and then press the **OK** button.

The Locks/Active screen appears if the PIN code is already stored.

- 4 Use the Number buttons to enter your four-digit code, and then press the **OK** button.

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**NOTE** If the wrong PIN code is entered, the message "Incorrect PIN code, please try again!" appears.

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- 5 Highlight **Retry**, and then press the **OK** button.
- 6 Enter the code again, and then press the **OK** button.

When the correct PIN code is entered, the Locks menu opens.

## Forgotten PIN code

While the PIN code entering screen is displayed, press the **INFO** button four times within five seconds. The PIN code will be cleared and you can enter a new PIN code.

## Changing your PIN code

- 1 Press the **MENU** button to open the **Locks** menu.
- 2 Press the (▼ arrow) button to display the PIN code entering screen.
- 3 Enter your four-digit PIN code, and then press the **OK** button.

- 4 Press the (▼ arrow) button to highlight **New PIN Code**, and then press the **OK** button.
- 5 Press the Number buttons to enter a new four-digit code. Reenter the PIN code to confirm it.
- 6 Press the **OK** button.  
The new PIN code is now active.

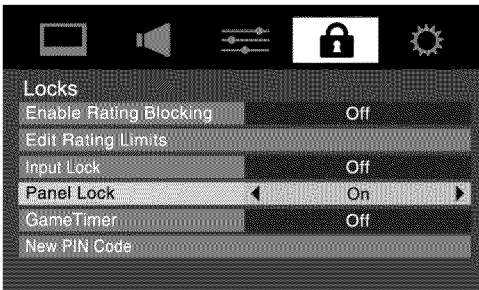
**NOTE** The PIN code cannot be set to "0000."

## Using parental controls (for USA region)

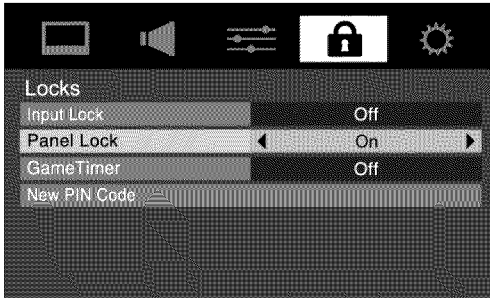
### Blocking TV programs and movies by rating (V-Chip)

Some TV programs and movies include signals that classify the content of the program (as unsuitable for younger viewers). The V-Chip feature in this TV detects the signals and blocks the programs according to the ratings you select.

- 1 Press the **MENU** button to open the **Locks** menu.
- 2 Press the (▼ arrow) button to display the PIN code entering screen.
- 3 Enter your four-digit PIN code, and then press the **OK** button.
- 4 Press the (▼ arrow) button to highlight **Enable Rating Blocking**, and then press the **OK** button.
- 5 Press the (▶ arrow) button to select **On**.



(Sample Image) Locks menu - Enable Rating Blocking selection (for USA region)



(Sample Image) Locks menu screen for other regions

- 6 Press the (▼ arrow) button to highlight **Edit Rating Limits**, and then press the **OK** button.
- 7 Press the (▲/▼/◀/▶ arrow) buttons, and then press the **OK** button.

A box with an “X” is a rating that will be blocked. As you highlight a rating, a definition for the rating appears at the bottom of the screen.

- 8 To save the new settings, highlight **Done**, and then press the **OK** button.

#### NOTE

Above selection of blocking level is for U.S V-Chip system. For Canada rating, you can highlight “Canada RS,” and then press the OK button. Another “Canadian Rating Menu” screen appears.

## Downloading an additional rating system

In the future, an additional rating system may become available for use in selectively blocking TV programs and movies.

#### NOTE

The currently tuned station must be receiving a digital signal before an additional rating system can be downloaded.

To download the additional rating system, if available:

- 1 Press the **MENU** button to open the **Locks** menu.
- 2 Press the (▼ arrow) button to display the PIN code entering screen.
- 3 Enter your four-digit PIN code, and then press the **OK** button.
- 4 Press the (▼ arrow) button to highlight **Enable Rating Blocking**, and then press the **OK** button.

**Using the TV's features***Using parental controls (for USA region)*

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- 5 Press the (▶ arrow) button to select **On**.
- 6 Press the (▼ arrow) button to highlight **Edit Rating Limits**, and then press the **OK** button.

The Edit Rating Limits screen appears.

- 7 Highlight **Alt RS**, and then press the **OK** button.

The Edit Alternate Ratings screen appears.

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- NOTE**
- ❖ The Alt RS button will only be available if an additional rating system is currently available.
  - ❖ It may take several minutes for the TV to download the additional rating system.
  - ❖ The information displayed in the Alternate Ratings screen will depend on the configuration of the additional rating system available at the time of download.
- 

- 8 Press the (▲/▼/◀/▶ arrow) buttons, and then press the **OK** button.

A box with an “X” is a rating that will be blocked.

- 9 To save the new settings, highlight **Done**, and then press the **OK** button.

- 10 In the Edit Rating Limits screen, highlight **Done**, and then press the **OK** button.
- 

- NOTE**
- ❖ The additional rating system can only be downloaded one time. You will not be able to download any updates to the rating system should such updates become available.
  - ❖ The additional rating system is not designed, transmitted or controlled by the TV or Toshiba, nor is the availability of an additional rating system determined or controlled by Toshiba. Similarly, the rating of programs in an additional rating system is not determined, transmitted or controlled by the TV or Toshiba.
  - ❖ The additional rating system is an evolving technology; therefore, availability, content and format may vary.
-

**Rating system**

Independent rating system for broadcasters:

<i>Ratings:</i>	<i>Description and Content themes:</i>
TV-MA	Mature Audience Only (This program is specifically designed to be viewed by adults and therefore may be unsuitable for children under 17. L) Crude or indecent language S) Explicit sexual activity V) Graphic violence
TV-14	Parents Strongly Cautioned (This program contains some material that many parents would find unsuitable for children under 14 years of age.) D) Intensely suggestive dialogue L) Strong, coarse language S) Intense sexual situations V) Intense violence
TV-PG	Parental Guidance Suggested (This program contains material parents may find unsuitable for younger children.) D) Some suggestive dialogue L) Infrequent coarse language S) Some sexual situations V) Moderate violence
TV-G	General Audience (Most parents would find this program suitable for all ages)
TV-Y7, TV-Y7FV	Directed to Older Children (This program is designed for children age 7 and above.  NOTE: Programs in which fantasy violence may be more intense or more combative than other programs in this category are designated TV-Y7FV.)
TV-Y	All Children (This program is designed to be appropriate for all children)

Independent rating system for movies:

<i>Ratings:</i>	<i>Description and Content themes:</i>
X	X-rated (For adults only)
NC-17	Not intended for anyone 17 and under
R	Restricted (Under 17 requires accompanying parent or adult)
PG-13	Parents Strongly Cautioned (Some material may be inappropriate for children under 13)
PG	Parents Strongly Cautioned (Some material may be inappropriate for children under 13)
G	General Audience (Appropriate for all ages)

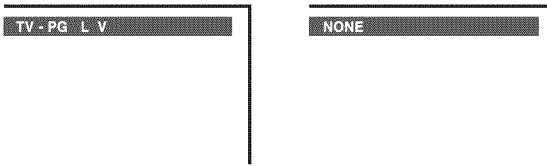
Indication other than rating system:

<i>Display:</i>	<i>Description:</i>
NONE	The program is rated None.
(No rating appears)	No rating information is provided.

**NOTE** If you place an "X" in the box next to "None" Rated, programs rated "None" or "Not Rated" will be blocked; Programs that do not provide any rating information will not be blocked.

## Displaying ratings

To display the rating of the program you are watching, press the **INFO** button on the remote control. If it is rated "None" the word "NONE" appears in the INFO screen. If rating information is not provided, no rating will appear in the INFO screen.



(Sample Image) Enable Rating Blocking screen

## Blocking TV programs by Canada rating

- 1 Press the **MENU** button to open the **Locks** menu.
- 2 Press the (▼ arrow) button to display the PIN code entering screen.
- 3 Enter your four-digit PIN code, and then press the **OK** button.
- 4 Press the (▼ arrow) button to highlight **Enable Rating Blocking**.
- 5 Press the (▶ arrow) button to select **On**.
- 6 Press the (▼ arrow) button to highlight **Edit Rating Limits**, and then press the **OK** button.

The Edit Rating Limits screen appears.

- 7 Highlight **Canada RS**, and then press the **OK** button.

The Canadian Rating Menu screen appears.

*Using parental controls (for USA region)*

- 8 Press the (▲/▼/◀/▶ arrow) buttons, and then press the **OK** button to select the level of blocking you prefer.  
A box with an “X” is a rating that will be blocked.
- 9 To save the new settings, highlight **Done**, and then press the **OK** button.
- 10 In the Edit Rating Limits screen, highlight **Done**, and then press the **OK** button.

Rating system for programs in English:

<i>Ratings:</i>	<i>Description and Content themes:</i>
E	Exempt shows
C	Children ages of 2 to 7 years
CS+	Children ages of 8 years and older
G	General programming
PG	Parental Guidance
14+	Viewers 14 and older
18+	Adult programming

Rating system for programs in French:

<i>Ratings:</i>	<i>Description and Content themes:</i>
E	Exempt shows
G	General programming
8 ans+	Not recommended for ages under 8
13 ans+	Not recommended for ages under 13
16 ans+	Not recommended for ages under 16
18 ans+	Programming restricted to adults

## Unlocking programs temporarily

If you try to tune to a program that exceeds the rating limits you have set, the TV will enter program lock mode and a warning message appears on the screen. Follow the instructions to temporarily unlock the program.

This program exceeds the rating limit you set.  
Push 'MUTE' to enter PIN.

*(Sample Illustration) Warning - exceeded rating limit*

You can either temporarily unlock the program or select an unlocked program to watch.

To temporarily unlock the program:

- 1 Press the **MUTE** button.
- 2 Enter your four-digit PIN code, and then press the **OK** button.

If the correct code is entered, the program lock mode is released and the normal picture appears. All locking will be enabled again when you change the channel.

## Using the input lock feature

You can use the Input Lock feature to lock the video inputs (Video, ColorStream® HD, HDMI 1, HDMI 2, and PC) and channels 3 and 4. You will not be able to view the input sources or channels until you unlock the inputs.

To lock/unlock the video inputs:

- 1 From the Locks menu, press the (▼ arrow) button to display the PIN code entering screen.
- 2 Enter your four-digit PIN code, and then press the **OK** button.
- 3 Press the (▼ arrow) button to highlight Input Lock, and then press the (▶ arrow) button to select the level of video input locking you prefer.

<i>Mode:</i>	<i>Description:</i>
Video	Locks Video, ColorStream® HD, HDMI 1, HDMI 2 and PC.
Video+	Locks Video, ColorStream® HD, HDMI 1, HDMI 2, PC and channels 3 and 4. Select Video+ if you play video tapes via an ANT/CABLE input.
Off	Unlocks all video inputs and channels 3 and 4.

- 4 Press the **EXIT** button.

## Locking channels

With the Lock feature, you can lock specific channels. Locked channels can only be accessed by entering the PIN code, see “Entering the PIN code” on page 86.

To lock channels:

- 1 From the Setup menu, highlight **Installation**, and then press the **OK** button.
- 2 Press the **OK** button to select **Terrestrial**.



- 3 Press the (▲/▼ arrow) buttons to select **Channel Options**, and then press the **OK** button.

The list of channels appear.



Channel Options			
Ch.	Type		
1	Digital	<input type="checkbox"/>	<input type="checkbox"/>
2	Analog	<input type="checkbox"/>	<input type="checkbox"/>
3	Digital	<input type="checkbox"/>	<input type="checkbox"/>
4	Analog	<input type="checkbox"/>	<input type="checkbox"/>
5	Analog	<input type="checkbox"/>	<input type="checkbox"/>
6	Analog	<input type="checkbox"/>	<input type="checkbox"/>
7	Analog	<input type="checkbox"/>	<input type="checkbox"/>
8	Analog	<input type="checkbox"/>	<input type="checkbox"/>

(Sample Illustration) Channel options

- 4 Press the (▶ arrow) button, and then press the (▲/▼ arrow) buttons to select a channel in the lock column.
- 5 Press the **OK** button.  
PIN code entry will be required to set a locked channel.

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**NOTE** If the PIN code has not yet been set, a warning message appears.

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- 6 A check appears in the box.
- 7 To remove the check, press the **OK** button.
- 8 Press the **EXIT** button.

## Using the GameTimer®

You can use the GameTimer® to set a time limit for playing a video game (30–120 minutes). When the GameTimer® expires, the TV enters Input Lock mode and locks out the input source for the video game device.

To set the GameTimer®:

- 1 From the Locks menu, press the (▼ arrow) button to display the PIN code entering screen.
- 2 Enter your Four-digit PIN code, and then press the **OK** button.
- 3 Press the (▼ arrow) button to highlight **GameTimer**, and press the (▶ arrow) button to select the length of time until the Input Lock is activated (30, 60, 90 or 120 minutes).
- 4 Press the (◀/▶ arrow) buttons to select **30**, **60**, **90**, or **120** minutes.

To cancel the GameTimer®, select **Off** in step 3 above.

To deactivate the Input Lock once the GameTimer® has activated it:

- ❖ Set the Input Lock to **Off**, see “Using the GameTimer®” on page 95.

- NOTE**
- ❖ A message appears when 10 minutes, 3 minutes, and 1 minute are remaining.
  - ❖ If the TV loses power with time remaining, the TV will enter Input Lock mode when power is restored (as if the GameTimer had been activated). You must deactivate the Input Lock, see “Using the GameTimer®” on page 95.

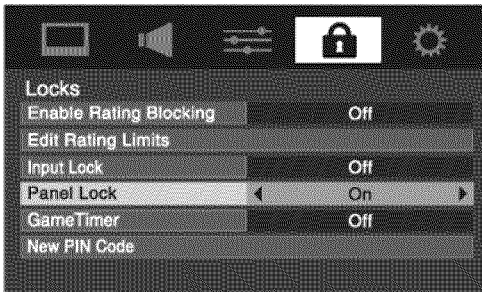
## Using the panel lock feature

You can lock the control panel to prevent your settings from being changed accidentally (by children, for example). When Panel Lock is set to **On**, none of the controls on the control panel operate except **POWER**.

To lock the control panel:

- 1 Press the **MENU** button to highlight the **Locks** menu.
- 2 Press the (▼ arrow) button to display the
- 3 Enter your four-digit PIN code, and then press the **OK** button.
- 4 Press the (▼ arrow) button to highlight **Panel Lock**.
- 5 Press the (▶ arrow) button to select **On**.

When the control panel is locked and any button on the control panel (except **POWER**) is pressed, the message “NOT AVAILABLE” appears.



*(Sample Illustration) Panel Lock screen*

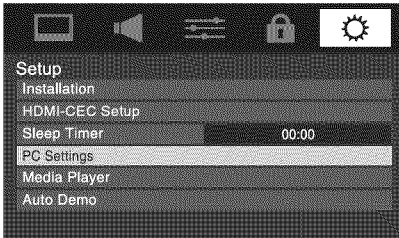
To unlock the control panel, select **Off** in Step 5 above or press and hold the **VOLUME (-)** button on the TV control panel for a few seconds until the volume icon appears.

## Using the PC settings feature

You can view an image from a PC on the TV screen. When a PC is connected to the TV's PC IN terminal, you can use the PC Settings feature to make adjustments to the image. If the edges of the picture are cut off, readjust the Horizontal Position and Vertical Position. If the picture is affected by interference, readjust the Clock Phase and Sampling Clock.

To adjust the PC settings:

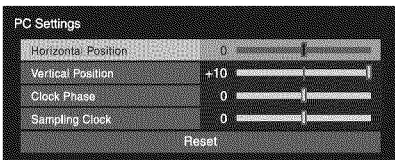
- 1 Repeatedly press the **INPUT** button to select **PC Input** mode, see "Adjusting the picture" on page 76.
- 2 Press the **MENU** button to open the **Setup** menu.
- 3 Press the (**▲/▼** arrow) buttons to select **PC Settings**, and then press the **OK** button.



(Sample Image) PC Settings screen

**NOTE** If a computer is not connected or there is no PC input signal, this feature will be grayed out in the Setup menu.

- 4 Press the (**▲/▼** arrow) buttons to select an item.
- 5 Press the (**◀/▶** arrow) buttons to make the appropriate adjustments.



(Sample Image) PC Settings - adjustments screen

---

**NOTE** The screen is disrupted momentarily while adjusting the PC settings. This is not a sign of malfunction.

---

<i>Mode:</i>	<i>Description:</i>
Horizontal Position	Moves the picture left/right. The adjustment range is within $\pm 10$ from center.*
Vertical Position	Moves the picture up/down. The adjustment range is within $\pm 10$ from center.*
Clock Phase	Helps to reduce noise and sharpen the picture. The adjustment range is within $\pm 16$ from center.*
Sampling Clocks	Helps to reduce noise and minimize periodic vertical stripes on the screen. The adjustment range is within $\pm 10$ from center.*
Reset	Highlight this item, and then press the OK button to get an optimum adjustment automatically.

\* The default settings and/or adjustment ranges may vary depending on the input signal format.

## Setting the PC Audio

You can output or mute sound from your computer when connecting it to your TV, using the AUDIO IN terminal and PC audio cable.

To set the PC Audio:

- 1 Press the **MENU** button to open the **Sound** menu.
- 2 Highlight **Audio Setup**, and then press the **OK** button.
- 3 Press the (**▲/▼** arrow) buttons to select **PC Audio**, and then press the (**◀/▶** arrow) buttons to select **No** or **Yes**.
  - ❖ **Yes:** When viewing the PC input, the audio from the PC Audio input can be heard.
  - ❖ **No:** When viewing the PC input, there will be no audio.

---

**NOTE** Because the PC and HDMI 1 inputs share the same set of analog audio inputs, the PC Audio menu setting influences the HDMI 1 Audio menu setting. If PC Audio is set to "No" the HDMI 1 Audio setting changes to "Auto" If PC Audio is set to "Yes" the HDMI 1 Audio setting is set to "Digital" and is grayed out in the menu.

---

---

## Using the Media Player

### Using Media Player with a USB device

You can enjoy photos or music contents stored on a USB storage device.

Photo Viewer specifications:

- ❖ Data type: JPEG EXIF ver 2.1
- ❖ File format: JPEG
- ❖ Maximum photo size: 6 MB
- ❖ Maximum number of files: 500/folder
- ❖ Maximum photo resolution: 4096 x 4096 pixels
- ❖ Best photo resolution:  
1920 x 1080 pixels

Music Player specifications:

- ❖ File format: MP3
- ❖ Sampling frequency: 16 kHz, 22.05 kHz, 24 kHz,  
32 kHz, 44.1 kHz, 48 kHz
- ❖ Bit rate: from 8 to 320 kbps
- ❖ Maximum number of files: 500/folder

Supported file system: FAT16 and FAT32

- 
- NOTE**
- ❖ Gently insert the USB device into the port and do not remove while viewing Media Player.
  - ❖ USB device: USB Mass Storage Class device (MSC)
  - ❖ Connectivity is not guaranteed for all devices.
  - ❖ Connect the USB device to the TV directly.
  - ❖ Do not use a USB Hub.
  - ❖ You must obtain any required permission from copyright owners to use copyright content. Toshiba cannot and does not grant such permission.
  - ❖ Depending on the file size and amount in your USB storage device, it may take some time for loading to view. A message will display on-screen when loading files from the USB storage device.
  - ❖ Only limited types of U3 USB device are supported. Therefore, it is suggested not to use U3 USB for playing Media Player.
  - ❖ Non-supported characters will be replaced with a square.
- 

## Auto Start function

When Auto Start is enabled, you will be asked if you want to start the Media Player when a USB device is inserted. If Auto Start is disabled, you must manually start the Media Player from the menu.

To change the Auto Start setting:

- 1 Press the **MENU** button to open the **Setup** menu.
- 2 Press the (▼ arrow) button, and then press the **OK** button.
- 3 Press the (▲/▼ arrow) buttons to highlight **Auto Start**.
- 4 Press the (◀/▶ arrow) buttons to select **On/Off**.

## To open the Media Player

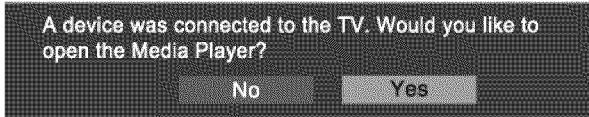
Auto Start:

- 1 Gently insert a supported USB storage device to the USB port on the rear side of the TV. A prompt will appear.

- 
- NOTE** If you repeatedly insert and remove the USB connector, the prompt may not appear.
-

- 2 Press the (◀/▶ arrow) buttons to select **Yes**, and then press the **OK** button.

The Media Player menu will appear. When you select No, nothing happens.



(Sample Image) Media Player - open screen

- NOTE**
- ❖ The prompt will disappear after about 10 sec.
  - ❖ If Auto Start is set to off, you can start the Media Player manually.

Manual Start:

- 1 Press the **MENU** button to open the **Setup** menu.
- 2 Press the (▼ arrow) button to select **Media Player**, and then press the **OK** button.
- 3 Press the (▲/▼ arrow) buttons to highlight **Photo** or **Music**, and then press the **OK** button.



(Sample Image) Media Play screen

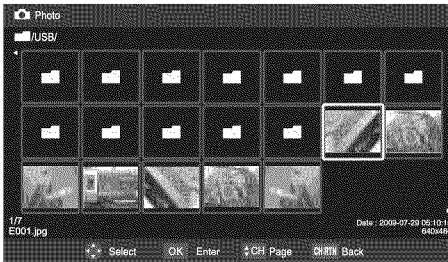
- NOTE**
- ❖ The viewer will also open even if there are no photo or music files.
  - ❖ While the Media Player is active, the main menus cannot be displayed.

## Viewing photo files

There are three types of view modes.

Multi View:

This view allows you to search for photos in a grid format. These pictures are displayed using thumbnail data in each image file.



*(Sample Image) Media Player - photos screen*

- 1 Press the (**▲/▼/◀/▶** arrow) buttons to move the highlight in one window. If all of the photos will not fit in one screen, when pressing the (**◀** arrow) button at the top left thumbnail, the screen will move to the previous page. Conversely, when pressing the (**▶** arrow) button at the bottom right thumbnail, the screen will move to the next page. **CH Up/Ch down** buttons can be used to page up/down the photo list when there are more photos than will fit onto one screen.
- 2 When you select a folder, press the **OK** button to move to the next layer, or press the **RETURN** button to return to the previous layer.
- 3 Press the **OK** button to view the selected photo in Single View mode.

## Single view

In this view mode, only files located in the selected directory shall be displayed. This view allows you to change the photo content manually. When moving from Multi View to the Single View, the currently selected photo shall be displayed.

- 1 Press the (**▶** arrow) button to view the next photo. Press the (**◀** arrow) button to view the previous photo.
- 2 Press the (**▲** arrow) button to rotate the image 90° counterclockwise. Press the (**▼** arrow) button to rotate the image 90° clockwise.



---

## Slide show

This view allows you to watch a slide show of the photos. In this mode, only files located in the selected directory will be played.

- 1 To start slide show, press the **OK** button to select **Single View** mode.
- 2 Press the (◀/▶ arrow) buttons to view the previous or next photo.

To set Interval Time and Repeat settings:

- 1 Press the **MENU** button to open the **Quick Menu**.
- 2 Press the (▲/▼ arrow) buttons to select either **Interval Time** or **Repeat**.
- 3 Press the (◀/▶ arrow) buttons to adjust the setting, and then press the **RETURN** button.

---

**NOTE** Zoom and Picture size functions are disable.

---

To close the Photo Viewer, press the **EXIT** button. The television will return to the last viewed channel or external input.

## Playing music files

You can listen to music from a list of available files.

- 1 Press the **MENU** button to open the **Setup** menu.
- 2 Highlight **Media Player**, and then press the **OK** button.
- 3 Press the (▼ arrow) button to select **Music**.
- 4 Press the (▲/▼ arrow) buttons to select a file or folder. The **CH Up/CH Down** buttons can be used to page up/down the music list when there are more files than will fit onto one screen.
- 5 When you select a folder, press the **OK** button to move to the next layer. Press the **RETURN** button to move back to the previous layer.
- 6 With the desired file selected, press the **OK** or **PLAY** button to begin playback.
- 7 Press the **STOP** button to stop playback

- 
- NOTE**
- ❖ If playback finishes before the **STOP** button is pressed, the next file automatically starts to play from the beginning.
  - ❖ Depending on the file size, it may take some time for playback to begin.
- 

To pause playback:

- ❖ Press the **PAUSE** button to pause playback.
  - ❖ To resume normal playback, press the **PLAY** or **PAUSE** button.
  - ❖ To locate a specific file, press the **SKIP Reverse** or **SKIP Forward** button repeatedly.
  - ❖ To adjust volume, press **VOLUME (+ -)** buttons.
- 

- NOTE** During playback, you can adjust the **SOUND** menu functions from the **Quick Menu**.
- 

To set the repeat mode:

- 1 Press the **MENU** button to open the **Quick Menu**.
- 2 Highlight **Repeat**, and press the (**▲/▼** arrow) buttons to select **Off**, **All** or **1**.
- 3 Press the **CH RTN** button to close the Music Player, and then press the **EXIT** button.

## **Viewing photo files and playing music files at the same time**

While viewing photo files, this allows you to listen to music from a list of available files.

- 1 While viewing photos in **Single View** or **Slide Show** mode, press the **MENU** button to open the **Quick Menu**.
- 2 Highlight **Background Music**, and then press the **OK** button.  
The music list appears.
- 3 Select a music file and press the **OK** button to start playback.
- 4 Press the **RETURN** button twice to return to photo view mode.  
The music is now playing in the background.

---

<i>Contents</i>	<i>Description</i>	<i>Description</i>
Photo	Photo list (Multi View)	See page 137
	Sorting	
	To sort the folders and files:	
	1 Press the <b>MENU</b> button to open the <b>Quick Menu</b> from Multi View mode.	
	2 Press the (▲/▼ arrow) buttons to select <b>Sort</b> .	
	3 Press the (◀/▶ arrow) buttons to select <b>Title</b> , <b>New</b> , or <b>Old</b> to set the sorting rule.	
	<b>Title</b> -File sorting rules:	
	1 Unicode priority	
	2 (0, 1-9), capital alphabet (A, B-Z), small alphabet (a, b-z), Chinese	
	3 Increasing order	
	<b>New</b> -From new to old (according to the date and time the picture was taken).	
	<b>Old</b> -From old to new (according to the date and time the picture was taken).	
	Single View mode	
	Slide Show mode	
	Skip to previous/next photo	
	Slide Show Repeat play	
	Slide Show Interval Time selection	

---

<i>Contents</i>	<i>Description</i>	<i>Description</i>
Music	Music list (Multi View)	See page 136
	Sorting	
	To sort the folders and files:	
	1 Press the <b>MENU</b> button to open the <b>Quick Menu</b> .	
	2 Press the (▲/▼ arrow) buttons to select <b>Sort</b> .	
	3 Press the (◀/▶ arrow) buttons to select <b>Title</b> , <b>New</b> , or <b>Old</b> to set the sorting rule.	
	Playback	
	Pause	
	Stop	
	Skip	
	Repeat play	
	Sound Settings (Adjusting the audio quality)	

**NOTE** During playback, you can adjust the SOUND menu functions from the Quick Menu.

## Setting the sleep timer

You can set the sleep timer to turn off the TV after a set length of time (maximum of 12 hours).

To set the sleep timer using the remote control:

- 1 Press the **SLEEP** button on the remote control to set the length of time until the TV turns off.
- 2 Repeatedly press the **SLEEP** button to increase the time in 10-minute increments, or press the (▲/▼ arrow) buttons to increase or decrease the time in 10-minute increments, (maximum of 12 hours).

To set the sleep timer using the on-screen menus:

- 1 Press the **MENU** button to open the **Setup** menu.
- 2 Highlight **Sleep Timer**.

- 
- 3 Press the Number buttons to enter the length of time (maximum of 12 hours) and then press the **OK** button. Or press the (◀/▶ arrow) buttons to increase or decrease in 10-minute increments, (maximum of 12 hours).
- 

**NOTE** If a power failure occurs, the sleep timer setting may be cleared.

---

To display the time remaining until the TV turns off, press the **SLEEP** button.

---

**NOTE** A message displays on-screen when one minute is remaining on the sleep timer.

---

To cancel the sleep timer, Repeatedly press the **SLEEP** button until it is set to 0 minutes.

## Automatic Power Down

The TV can be configured to automatically turn itself off after 4 hours if you do not operate the TV either from the remote control or the TV control panel.

- 1 From the Preferences menu, highlight **Energy Saving Settings**, and then press the **OK** button.
  - 2 Press the (▲/▼ arrow) buttons to select **Automatic Power Down**.
  - 3 Press the (◀/▶ arrow) buttons to select **On/Off**, and then press the **EXIT** button.
- 

**NOTE** When the following features are set, the feature that is set for the nearest time will function.

- ❖ Automatic Power Down
- ❖ Sleep Timer
- ❖ Wallpaper/Auto Power Off
- ❖ Auto shutdown after 1 hour of inactivity (after powering on by On Timer)
- ❖ No signal auto power off (after 14 minutes of no signal)

---

## No Signal Power Down

The TV will automatically turn itself off after 15 minutes when no signal is detected.

- ❖ You can change the setting to Off for the following functions:
  - ❖ Low signal strength of an analog channel (no signal detection)
  - ❖ Only Audio L/R is connected to external input to listen to music through the TV speakers.
- 1 From the Preferences menu, highlight **Energy Saving Settings**, and then press the **OK** button.
  - 2 Press the (▲/▼ arrow) buttons to select **No Signal Power Down**, and then press the **OK** button.
  - 3 Press the (▲/▼ arrow) buttons to highlight the item you wish to change, and then press the (◀/▶ arrow) buttons to select **On/Off**.

### NOTE

- ❖ Default setting for each input is On.
- ❖ A warning message appears approximately 1 minute before the TV turns Off.

## Using HDMI® CEC

This is a new feature that uses CEC technology and allows you to control Toshiba HDMI® CEC compatible devices from the TV remote control via an HDMI® connection.

When the Enable HDMI® CEC in the HDMI® CEC Setup menu is set to On, the following HDMI® CEC functions are enabled.

### HDMI® CEC playback device (DVD player, etc.) control

With your TV's remote control, or using the HDMI® CEC Player Control menu, you can control the connected HDMI® CEC playback device you are watching.

Available remote control key functions:

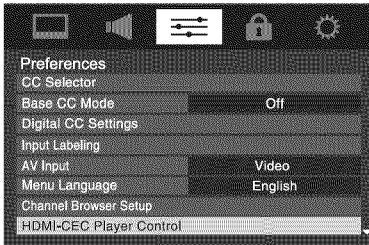
<i>Button:</i>	<i>Description:</i>
PLAY	Begin playback
STOP	Stop playback
PAUSE	Pause the picture during play or record mode
SKIP Forward	Skip Forward

<i>Button:</i>	<i>Description:</i>
SKIP Reverse	Skip backward
FF	Fast forward
REV	Rewind/reverse
▲/▼/◀/▶	Navigates menu options
OK	Enters menu options
CANCEL	Return to the previous menu

**NOTE** These functions depend on the devices connected.

HDMI® CEC Player Control menu functions:

- 1 Press the **MENU** button, and then open the **Preferences** menu.
- 2 Highlight **HDMI® CEC Player Control**, and then press the **OK** button.



(Sample Image) HDMI® CEC Player Control screen

- 3 Press the (▲/▼ arrow) buttons to select the item you wish to control, and then press the **OK** button.

<i>Item:</i>	<i>Description:</i>
Power	Turns the selected device On/Off
Root Menu	Accesses the top menu of the selected device
Contents Menu	Accesses the contents list when you press the OK button. At this time, the HDMI® CEC Player Control menu disappears.
Setup Menu	Accesses the Setup menu of a DVD player
Top Menu	Accesses the top menu of a DVD
Menu	Accesses the menu of a DVD

- 
- NOTE** These functions depend on the devices that are connected. The HDMI® CEC Player Control item will be grayed out in the following conditions:
- ❖ A non-HDMI® input is currently selected.
  - ❖ The Enable HDMI® CEC item is set to Off.
  - ❖ The connected CEC device is not a playback or recording device.
- 

### HDMI® CEC input source selection

If a HDMI® CEC device with HDMI® switching capability (e.g. Audio Receiver) is connected to the HDMI® input, you can select another HDMI® CEC device that is connected to the master HDMI® device using the TV's INPUT button, see "Selecting the video input source" on page 59.

### VOLUME and MUTE controls of Audio Receiver

With your TV's remote control, you can adjust or mute the sound volume of the Audio Receiver.

- ❖ **VOL (+ -)** buttons adjust the volume level.
- ❖ **MUTE** button turns off the sound.

To use this function:

- ❖ Set **Speaker Preference** to **Audio Receiver** in the **HDMI® CEC Setup** menu.
- ❖ Confirm that a connected HDMI® CEC device (such as DVD player, etc.) is selected for the Audio Receiver input source.

- 
- NOTE** These functions depend on the device connected.
-



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## Other HDMI® CEC functions

When the **Enable HDMI® CEC** and each item in the **HDMI® CEC Setup** menu are set to **On**, the following functions will be enabled.

---

<i>Item:</i>	<i>Description:</i>
TV Auto Input Switch	If a connected HDMI® device starts playing video or audio, the TV will automatically switch to the appropriate HDMI® input.
TV Auto Power	If a HDMI® CEC device is turned on, the TV turns on automatically.
Device Auto Standby	If the TV is turned off the TV will send a message to turn off all of the HDMI® CEC devices connected to the TV.
Speaker Preference	From this item, you can set your audio output preference to the TV speakers or the audio receiver speakers. When this item is set to Audio Receiver, the TV remote can be used to adjust or mute the volume of the audio. This item will be grayed out unless a HDMI® CEC compatible audio receiver is connected.

---

**NOTE** When you turn on the Audio Receiver, change its input source or adjust the sound volume, the sound will be output from the audio receiver's speakers even if TV Speakers has been selected. Turn the TV off and on again to output the sound from the TV speakers.

---

To set the HDMI® CEC Setup:

- 1 From the Setup menu, highlight **HDMI® CEC Setup** and press the **OK** button.
  - 2 Press the (▲/▼ arrow) buttons to highlight **Enable HDMI® CEC**.
  - 3 Press the (◀/▶ arrow) buttons to select **On**.
- 

**NOTE** If you select Enable HDMI® CEC Off, the other items will be grayed out.

---

- 4 Press the (▲/▼ arrow) buttons to highlight the **HDMI® CEC Setup** item you wish to use, and press then press the (◀/▶ arrow) buttons to select **On** or the desired mode.
  - ❖ **TV Auto Input Switch:** On/Off
  - ❖ **TV Auto Power:** On/Off
  - ❖ **Device Auto Standby:** On/Off
  - ❖ **Speaker Preference:** TV Speakers/Audio Receiver

- 5 To save the new settings, highlight **Done** and press the **OK** button. To revert to the factory defaults, highlight **Reset** and press the **OK** button.

## Displaying TV status information

To display TV status information:

- ❖ Press the **INFO** button on the remote control.

The following information will be displayed (if applicable):

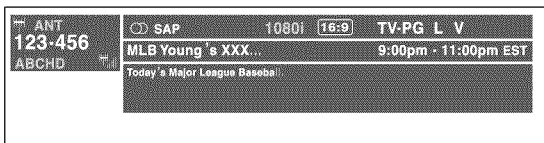
- ❖ Current input (**ANT/CABLE**, **Video**, etc.)
- ❖ If ANT/CABLE is the current input, either “CABLE” (for cable TV) or “ANT” (for over-the-air broadcasts).
- ❖ Channel number (if in **ANT/CABLE** mode)
- ❖ Channel label, if applicable
- ❖ Digital signal strength indicator (bar graph in lower right corner of box; for ATSC signals only)
- ❖ Stereo, Mono, or SAP audio status (when in HDMI<sup>®</sup> input mode, PCM)
- ❖ Video resolution
- ❖ Aspect ratio of incoming video signal (4:3 or 16:9)
- ❖ V-Chip rating status
- ❖ GameTimer (if set)

To close the screen (except ANT/CABLE input), press the **INFO** button again.

The following additional information will display for ANT/CABLE input, if applicable:

- ❖ Title
- ❖ Duration
- ❖ Detailed description

To display the next program's information for digital channels, press the **INFO** button again. Pressing the **INFO** button a third time will remove the entire banner.



(Sample Illustration) Banner

**NOTE** The location of the banner can be moved to the top or bottom of the screen by pressing ▲ or ▼ while the INFO display is on-screen.

---

---

## Understanding the auto power off feature

The TV will automatically turn itself off after approximately 15 minutes if it is tuned to a vacant channel or a station that completes its broadcast for the day.

---

---

- NOTE**
- ❖ If you want to set this feature to Off, see “No Signal Power Down” on page 108.
  - ❖ If it is possible that you will be away from the TV for an extended period of time, you should unplug the power cord.
- 
- 

## Understanding the last mode memory feature

If the power is cut off while you are viewing the TV, the Last Mode Memory feature automatically turns on the TV when the power is resupplied.

---

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**NOTE** If it's possible, and you will be away from the TV for an extended period of time you should unplug the power cord.

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# Chapter 7

## Using the TV's Advanced Features

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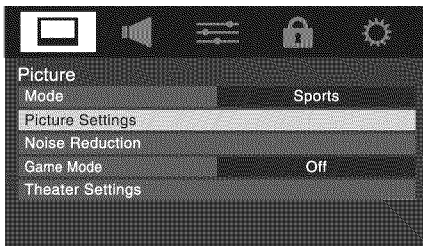
### Using the advanced picture settings

#### Dynamic Contrast

Dynamic Contrast detects changes in picture quality that affect the appearance of your contrast settings and then automatically adjusts the video.

To select Dynamic Contrast preference:

- 1 From the Picture menu, highlight **Picture Settings** and press the **OK** button.



*(Sample Image) Dynamic Contrast screen*

- 2 Highlight **Advanced Picture Settings**, and then press the **OK** button.
- 3 Press the (**▲/▼** arrow) buttons to select **Dynamic Contrast**.

- 4 Press the (◀/▶ arrow) buttons to select **High, Middle, Low** or **Off**.

## Static Gamma

The static gamma feature lets you adjust the levels of black in the picture.

To adjust the static gamma settings:

- 1 Press the **MENU** button to open the **Picture** menu.
- 2 Highlight **Picture Settings**, and then press the **OK** button.
- 3 Highlight **Advanced Picture Settings**, and then press the **OK** button.
  - ❖ In the **Static Gamma** field, press the (◀/▶ arrow) buttons to adjust the Static Gamma. (The adjustment range is within  $\pm 5$  from center).
  - ❖ If the setting is decreased, the detail of black colors is decreased.
  - ❖ If the setting is increased, the detail of black colors is increased.
- 4 To save the new settings, highlight **Done**, and then press the **OK** button.
- 5 To revert the factory defaults, highlight **Reset**, and then press the **OK** button.

### NOTE

Note: If you select one of the factory-set picture modes (Dynamic, Standard, Movie or PC) and then change the Static Gamma setting, the picture mode automatically changes to Preference.

## Color temperature

You can change the quality of the picture by selecting from three preset Color Temperatures (**Cool, Medium, and Warm**), as described below.

<i>Mode:</i>	<i>Picture Quality:</i>
Cool	blueish
Medium	neutral
Warm	reddish

- 1 Press the **MENU** button to open the **Picture** menu.

- 2 Highlight **Picture Settings**, and then press the **OK** button.
  - 3 Highlight **Advanced Picture Settings**, and then press the **OK** button.
  - 4 Highlight **Color Temperature**, and then press the **OK** button.
  - 5 In the **Color Temperature** field, press the (◀/▶ arrow) buttons to select the mode you prefer (**Cool**, **Medium**, or **Warm**).
  - 6 Press the (▲/▼ arrow) buttons to select either **B Drive** or **G Drive**, and then press the (◀/▶ arrow) buttons to adjust the settings:
    - ❖ **B Drive**: press the (▶ arrow) button to make the picture blueish.
    - ❖ **G Drive**: press the (▶ arrow) button to make the picture greenish.
- 

**NOTE** The B Drive and G Drive settings are connected to the Color Temperature settings and will change based on which setting is selected in step 5 above.

---

- 7 To save your new settings, highlight **Done**, and then press the **OK** button.
  - 8 To revert to your original settings, highlight **Reset**, and then press the **OK** button.
- 

**NOTE** If you select one of the factory set picture modes (Dynamic, Standard, Movie, or PC) and then change the Color Temperature mode, the picture mode automatically changes to Preference.

---

## CableClear® digital Noise Reduction

The CableClear® digital Noise Reduction feature allows you to reduce visible interference in your TV picture. This may be useful when receiving a broadcast with a weak signal (especially a Cable channel) or playing a noisy video cassette or disc.

To change the CableClear settings:

- 1 Press the **MENU** button to open the **Picture** menu.
- 2 Highlight **Noise Reduction**, and then press the **OK** button.
- 3 In the **CableClear** field, select your desired setting.

- 
- NOTE**
- ❖ If the current input is ANT/CABLE or VIDEO, the menu will display the text "CableClear". The available selections are Off, Low, Middle, and High.
  - ❖ If the current input is ColorStream® HD, HDMI 1 or HDMI 2, the menu will display the text "DNR". The available selections are Off, Low, Middle, and High. Low, Middle, and High will reduce the noise in varying degrees, from lowest to highest, respectively.
- 

- 4 To save your new settings, highlight **Done**, and then press the **OK** button.
- 5 To revert to your original settings, highlight **Reset**, and then press the **OK** button.

## MPEG Noise Reduction

The MPEG Noise Reduction feature allows you to reduce visible interference caused by MPEG compression. Choices for MPEG Noise Reduction are Off, Low, Middle, and High. Off is automatically selected when this feature is disabled ("grayed out").

To select the MPEG Noise Reduction level:

- 1 Press the **MENU** button to open the **Picture** menu.
- 2 Highlight **Noise Reduction**, and then press the **OK** button.
- 3 Press the (▲/▼ arrow) buttons to highlight the **MPEG Noise Reduction** field **G Drive**, and then press the (◀/▶ arrow) buttons to select either **Off**, **Low**, **Middle**, or **High**.
- 4 To save your new settings, highlight **Done**, and then press the **OK** button.
- 5 To revert to your original settings, highlight **Reset**, and then press the **OK** button.

## Using the Game Mode feature

You can use the Game Mode feature for shorter frame delays when playing a video game requiring split-second timing between the on-screen display and input from the controller (such as music creation and high-action games).

This feature is more effective for 480i and 1080i input signals.

**NOTE** To use the Game Mode feature, the current video input must be Video, ColorStream® HD, HDMI 1 or HDMI 2. The Game Mode cannot be turned on when any other video input, other than the above mentioned is selected.

---

To turn on Game Mode:

- 1 Press the **MENU** button to open the **Picture** menu.
- 2 Press the (▲/▼ arrow) buttons to select **Game Mode**.
- 3 Press the **OK** button to toggle Game Mode **On/Off**.

To turn off Game Mode, toggle to **Off** in step 3 above, change the video input, or turn the TV off and then on again.

---

**NOTE** You can change the video input by pressing INPUT on the remote control.

---



# Chapter 8

## Basic Disc Playback

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### Disc playback

This section shows you the basics on how to play a disc.

#### Basic playback (DVD/VCD/CD)

- 1 Press the **POWER** button on the TV control panel or on the remote control.

The Power LED on the front of the LED TV/DVD combination changes to green. It may take approximately 10 seconds for a picture to appear on-screen. When using an amplifier, switch on the amplifier.

- 2 Press the **TV/DVD** button on the remote control to switch to DVD mode.

The DVD start-up screen appears.



*(Sample Image) DVD start-up screen*

- 3 Hold the disc by its edges and load it in the disc slot with the label side facing forward. The prompt “Close” changes to “Loading” and then playback begins.

---

**NOTE** DO NOT touch the surface of the disc. This may leave a smudge that can cause playback errors.

---

If the disc has its own menu, it will be displayed on-screen. Press the (**▲/▼/◀/▶** arrow) buttons on the remote control to navigate the disc menu, then press the **OK** button to implement the selected menu option.

To adjust playback volume, press the **VOL (+ -)** buttons.

To temporarily suspend disc playback (still mode), press the **PAUSE** button.

To continue playback from still mode, press the **PLAY** button.

To stop playback, press the **STOP** button.

Playback resume function:

Your LED TV/DVD combination supports playback resume function.

If you stopped the disc playback before it is completed, the LED TV/DVD combination records the stop point.

Press the **PLAY** button to resume playback on the stop point. If you press the **STOP** button twice in quick succession or unload the disc, the LED TV/DVD combination will clear the stop point.

---

Higher quality picture:

High resolution pictures on some discs may occasionally cause noise on the picture display. If this is the case, reduce the **Sharpness** setting under the Picture Settings menu.

---

- NOTE**
- ❖ Keep your fingers well clear of the disc slot when a disc is loading or unloading. Failure to do so may cause serious personal injury.
  - ❖ Do not move the TV during playback. Doing so may damage the disc.
  - ❖ When a disc is inserted when the TV is not in DVD mode, the TV will automatically switch to DVD mode.
- 

This indicates the kind of disc that can employ the function described under that heading.

- ❖ **DVD:** You can use this function with DVDs.
- ❖ **VCD:** You can use this function with Video CDs.
- ❖ **CD:** You can use this function with Audio CDs and CD-R/RW discs.

## Removing a disc

- 1 Press the **EJECT** button on the TV control panel or on the remote control.
- 2 Wait for the disc to be ejected and then remove the disc from the slot.

## Disc playback reminders

- ❖ If the LED TV/DVD combination does not operate properly, static electricity build-up may be the cause. Turn off the LED TV/DVD combination, then disconnect the power cord from the AC outlet. Reconnect the power cord, then press the **POWER** button to turn on the LED TV/DVD combination again.
- ❖ If an incompatible disc is loaded, one of the following error messages appears on-screen: “Incorrect Disc,” “Wrong Region,” or “Please Enter Pws.” If this is the case, check your disc again.
- ❖ In some instances the LED TV/DVD combination may take a few minutes to start disc playback.

- ❖ When you load a disc with the playback side facing backward, the message, “Loading” appears on the screen. It will be replaced by the message, “Incorrect Disc.” Eject the disc and load it again making sure the playback side is now facing forward.
- ❖ The playback resume function may not work on some discs.
- ❖ Some DVDs may have fixed playback operations designed by the DVD manufacturer. Your LED TV/DVD combination follows this fixed playback design. In such cases, some playback features may not be available. You may refer to the instructions accompanying the DVD.
- ❖ Do not put any objects other than compatible discs in the disc slot. Doing so may cause damage to the LED TV/DVD combination.
- ❖ There may be a few seconds between the action of pressing a button and the function it activates.
- ❖ Do not use 8cm DVD or CD Discs. These formats are not supported.

## Playback navigation

### Playing in fast reverse or fast forward direction (DVD/VCD/CD)

Press the **REV** button or the **FF** button during playback.

- ❖ **REV**: Fast reverse playback
- ❖ **FF**: Fast forward playback

Each time you press the **REV** button or the **FF** button, the playback speed changes.

To resume normal playback, press the **PLAY** button.

---

#### **NOTE**

- ❖ The sound is muted during reverse and forward scan.
  - ❖ The playback speed may differ depending on the disc.
  - ❖ You can use fast reverse/fast forward playback for MP3 and WMA discs.
-

---

## Playing frame by frame (DVD/VCD)

Press the **PAUSE** button during playback. Each time you press the **PAUSE** button, the picture advances one frame.

To resume normal playback, press the **PLAY** button.

---

**NOTE** The sound is muted during frame by frame playback.

---

## Playing in slow motion (DVD/VCD)

Press the **SLOW** button during playback. Each time you press the **SLOW** button, the slow motion speed changes.

To resume normal playback, press the **PLAY** button.

---

**NOTE** The sound is muted during slow motion playback.

---

## Locating a chapter or track (DVD/VCD/CD)

Press the **SKIP Forward** button or the **SKIP Reverse** button repeatedly to locate the next or previous chapter or track you want to play.

- ❖ **SKIP Forward:** To locate succeeding chapters or tracks. Playback starts from the beginning of the selected chapter or track.
- ❖ **SKIP Reverse:** Playback starts from the beginning of the current chapter or track.

When you press the **SKIP Reverse** button twice in quick succession, or one time within 3 seconds from the beginning of the current chapter or track, playback starts from the beginning of the preceding chapter or track.

# Chapter 9

## Advanced Disc Playback

---

### Zoom function/Scene navigation

You can change the viewing scale of a picture by using the Zoom function. Once the image has been rescaled, use the (▲/▼/◀/▶ arrow) buttons to pan the image.

Scene navigation options differ depending on the kind of disc. DVDs use the title, chapter or record time to locate the start point for playback. Audio CDs and Video CDs use the record time or track number.

### Using Zoom (DVD/VCD)

- 1 Press the **ZOOM** button during playback. The view will zoom into the center of the image. Each time you press the **ZOOM** button, the scale increases by the following values: x2, x3, x4.



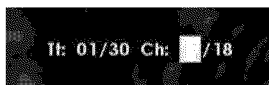
*(Sample Image) Disc zoom*

- 2 Press the (▲/▼/◀/▶ arrow) buttons to pan the scene and view different sections of the picture.
- 3 To return to normal view, in Zoom mode, press the **ZOOM** button repeatedly until picture size returns to normal viewing.

- NOTE**
- ❖ You can use the Pause, Slow and Search playback functions in Zoom mode.
  - ❖ Zoom function may not apply to some discs.

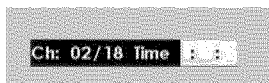
## Locating a specific scene

- 1 Press the **JUMP** button during playback, still or stop mode.



*(Sample Image) Disc Jump - Title*

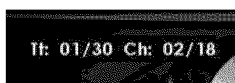
- 2 Press the (◀/▶ arrow) buttons to select a navigation option.



*(Sample Image) Disc Jump - Chapter*

- 3 Use the Channel Number buttons (0-9) to enter a value for the chapter number of the DVD option you selected.

Number entries must be entered in a two digit format, such as 08 or 09 instead of 8 or 9, while using this feature.



*(Sample Image) Disc Jump - Chapter 12*

If you input a wrong number, wait approximately 8 seconds for the screen to disappear and then press the **JUMP** button again. Refer to the disc package to check the correct number.

- 4 The DVD will change to the selected chapter after the chapter numbers are entered. For VCD, you must press the **PLAY** button or the **OK** button to start playback.

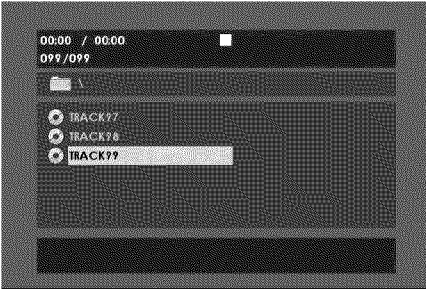
For Audio CDs and Video CDs, you can locate a scene by track number or record time.

VCD mode:



*(Sample Image) Disc Jump - VCD mode*

CD mode:



*(Sample Image) Disc Jump - CD mode*

- 
- NOTE**
- ❖ When you use title navigation, playback starts from the first chapter of the selected title.
  - ❖ For PBC-enabled VCDs, turn off the PBC function first before using the Jump function.
  - ❖ Scene navigation may not apply to some discs.
- 

## Scene bookmark

Scene bookmarks refer to specific points in the playback range that have been marked for later access. You can create up to twelve markers per disc.

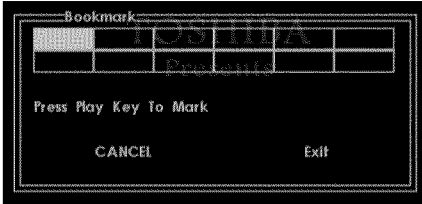
- 
- NOTE**
- The saved scene bookmarks are only accessible during the current session. Once you eject the disc or turn off the LED TV/DVD combination, all bookmarks will be cleared.
-



---

## Bookmarking a scene (DVD/VCD)

- 1 During playback, press the **MARKER** button at the scene you would like to place the bookmark.



*(Sample Image) Disc scene bookmarking*

- 2 Press the (◀/▶ arrow) buttons to select a blank marker, and then press the **PLAY** button. Repeat these steps to save twelve more bookmarks.



*(Sample Image) Disc scene bookmarking*

- 3 Press the **MARKER** button to exit and close the bookmark window. Select **Cancel** to cancel the bookmark and exit the screen.

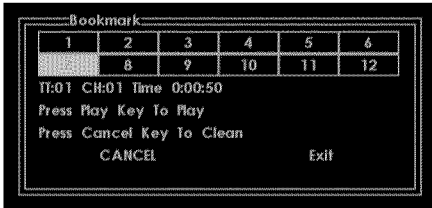
---

### NOTE

- ❖ In some cases, subtitles for the marked scene may not display.
  - ❖ Bookmarking a scene may not apply to some discs.
-

## Viewing a scene bookmark (DVD/VCD)

- 1 Press the **MARKER** button to open the bookmark window.
- 2 Press the (◀/▶ arrow) buttons to select the saved marker.



(Sample Image) Disc scene bookmarking

- 3 Press the **PLAY** button to start playback on the scene saved in the selected bookmark.

To delete a scene bookmark, perform steps 1 and 2 above, and then press the **EXIT** button.

## Repeat playback/A-B repeat

You can choose to repeat DVD playback by title or chapter. For Audio CDs and Video CDs, you can repeat a single track or the entire disc.

The A-B repeat function lets you repeat a specific section between two set points. This section will be played repeatedly until you turn off the A-B repeat mode.

The repeat playback mode is not applicable to PBC-enabled Video CDs.

## Enabling repeat playback (DVD/VCD)

- ❖ DVD:
  - ❖ Press the **PLAY MODE** button repeatedly to select a repeat mode. It can either be by **Chapter**, **Title**, or **All**.

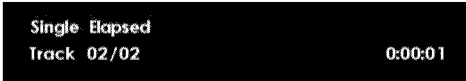
The LED TV/DVD combination automatically starts repeat playback after finishing the current title or chapter.



(Sample Image) Disc enabling repeat playback

VCD:

- ❖ Press the **PLAY MODE** button repeatedly to select a repeat mode. The modes are listed by **Track**, **All**, or **Off**.



(Sample Image) Disc enabling repeat playback

**NOTE** If you set the repeat mode during stop mode, press the **PLAY** button to start Repeat playback.

To resume normal playback, select **Off** in the step above.

**NOTE** The Repeat playback function may not apply to some discs.

## Enabling A-B repeat mode (DVD/VCD/CD)

- 1 During playback, press the **REPEAT A-B** button at the point where you would like the playback loop to begin. This sets your “A” point.



(Sample Image) Disc A-B repeat mode

- 2 When the playback reaches the point where you would like the playback loop to stop, press the **REPEAT A-B** button again. This sets your “B” point.



(Sample Image) Disc A-B repeat mode

The section between points A and B will be played repeatedly in a loop until you turn off the Repeat A-B mode.

To resume normal playback, press the **REPEAT A-B** button until "A-B repeat" disappears on the screen.

---

- NOTE**
- ❖ In some cases, subtitles for the repeated scene may not display.
  - ❖ The A-B repeat mode may not apply to some DVD scenes.
  - ❖ The A-B repeat mode is not applicable to interactive DVDs and JPEG CDs.
- 

## Scene angle/Title selection/DVD menu

### Changing the scene angle (DVD)

- 1 Press the **ANGLE** button during playback.
  - 2 Press the **ANGLE** button repeatedly until the preferred scene angle is displayed.
- 

- NOTE** Depending on the DVD, you may not be able to change the scene angle even if multi-angle data are recorded on the disc.
- 

### Selecting a DVD title (DVD)

Some DVDs contain two or more titles. If this is the case, you can select a particular title for playback.

- 1 Press the **TOPMENU** button during playback to display the title menu.
  - 2 Press the (**▲/▼/◀/▶** arrow) buttons to select the preferred title.
  - 3 Press the **PLAY** button or the **OK** button to start playback.
- 

- NOTE**
- ❖ Title selection may not apply to some DVDs.
  - ❖ The title menu may simply be referred to a "menu" or "title" in the instructions supplied with the DVD.
- 

### DVD menu (DVD)

Some DVDs have an encoded menu that allows users to select a specific disc content, enable a particular DVD feature (e.g. subtitle or sound track language), or choose a particular title (for multi-title DVDs).

- 1 Press the **DVD MENU** button during playback.

- 2 Press the (▲/▼/◀/▶ arrow) buttons to select a DVD menu item, and then press the **OK** or **PLAY** button to access it. Use the same buttons to enable an option for the selected item. Repeat this step to configure other menu options.
  - 3 Press the **DVD MENU** button again to resume playback on the scene that was playing when you pressed the **DVD MENU** button.
- 

**NOTE** Depending on the DVD, you may not be able to resume playback from the same scene that was playing when you pressed the DVD MENU button.

---

## Sound track language/Audio channel/Subtitle

### Selecting a sound track language (DVD)

You can select the sound track language when you play a multilingual DVD.

During playback, press the **AUDIO** button repeatedly until the preferred language track is selected.

### Selecting the audio channel (VCD)

During playback, press the **AUDIO** button repeatedly until the preferred audio channel is heard. The available options are **Stereo**, **Left**, **Right**, and **Mix**.

---

- NOTE**
- ❖ If the preferred language option is not heard after selecting it for several times, that language is not recorded on the disc.
  - ❖ The sound track language selected is only applicable for the current session. When you stop playback and try to play the disc again, the default language track will be used.
- 

### Viewing subtitles (DVD)

When playing back a disc recorded with subtitles, you can select the subtitle language or turn the subtitle off.

To view subtitles:

Press the **SUBTITLE** button repeatedly during playback until the preferred language is selected.

The Subtitle prompt disappears after a few seconds.

To disable subtitles:

Press the **SUBTITLE** button until **Off** appears.

- NOTE**
- ❖ Not all DVDs have encoded subtitles.
  - ❖ The subtitle selection may revert to the default language when you stop playback and try to play the DVD again.
  - ❖ In some cases, the selected subtitle may not display immediately.

## Playback information/VCD playback control

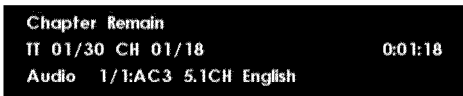
### Viewing the playback info (DVD/VCD)

Press the **DISPLAY** button during playback.

DVD mode:

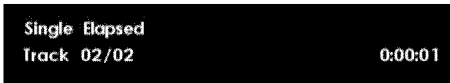


*(Sample Image) Viewing the playback info - DVD mode*



*(Sample Image) Viewing the playback info - DVD mode*

VCD mode:



*(Sample Image) Viewing the playback info - VCD mode*

To close the information display, press the **DISPLAY** button until "Display Off" appears.

- NOTE** Depending on the disc, this operation may not be available.

### Enabling the Playback Control (PBC) function (VCD)

- 1 In the stop mode, press the **DVD MENU** button to select the PBC ON/OFF.



*(Sample Image) Enabling the PBC function*

When enabled, PBC allows interactive Video CD playback using the remote control.

## MP3, WMA, JPEG, and Audio CD operation

This LED TV/DVD combination can play MP3, WMA, and JPEG files recorded on a DVD/CD-R or DVD/CD-RW disc. To create the MP3/WMA/JPEG disc, you need a Windows PC with a DVD/CD-RW drive and file encoding software. You must use a Windows® computer to create the MP3/WMA/JPEG disc.

This LED TV/DVD combination requires discs/recordings that meet certain technical standards in order to achieve optimal playback quality. There are many different types of recordable disc formats (including CD-R discs containing MP3 or WMA files). Not all recordable discs will produce optimal playback quality. The technical criteria set forth in this User's Guide are meant only as a guide. Use of DVD/CD-RW discs for recording MP3 files is not recommended.

You must obtain any required permission from copyright owners to download or use copyrighted content. Toshiba can not and does not grant such permission.

## MP3/WMA/JPEG/Audio CD information

### MP3/WMA/JPEG CD playback reminders

- ❖ Make sure the file name of the MP3, WMA, and JPEG files in the CD includes the 3-character file extension (“mp3”, “wma”, “jpg”) to make it compliant with the ISO 9660 standard.
- ❖ This LED TV/DVD combination can read 2000 files per disc. If a disc has more than 2000 files, it reads the first 2000 files, while the remaining files will be omitted.
- ❖ To play the files in sequence based on the recorded order:
  - ❖ Use an encoding software that records data alphabetically or numerically.
  - ❖ Include a two- or three-digit number prefix on the file name (ex. “01” “02” or “001” “002”).

- ❖ Refrain from making too many sub-folders.
- ❖ It may take more than one minute for this LED TV/DVD combination to read MP3, WMA, and JPEG files depending on the disc structure.
- ❖ Audio files recorded using the Joliet Recording Specification can be played back in this LED TV/DVD combination. The file name is displayed (up to 20 characters). Longer file names will be condensed.
- ❖ Music recorded based on the Joliet Recording Specification can be played back, the file name is displayed (within 20 letters) on the screen. Long file names will be condensed.
- ❖ This LED TV/DVD combination does not support data disc burned using the Apple Mac OS (Hierarchical File System, HFS format).
- ❖ MP3/WMA/JPEG CDs cannot be used for recording purpose.

**File name display reminders**

- ❖ The maximum number of characters for file name display is 20.
- ❖ Only the following characters will be displayed: A through Z (both upper and lower case), 0 through 9, and the underscore symbol (\_).
- ❖ Non-supported characters will be replaced with a hyphen.

**MP3/WMA/JPEG CD limitations**

- ❖ Depending on the recording conditions, some MP3/WMA/JPEG CDs cannot be played back in your LED TV/DVD combination.
- ❖ Only MP3, WMA, and JPEG files recorded in the CD-R/RW disc will be played. Other files will not be read nor displayed.

**MP3/WMA file encoding information**

- ❖ MP3:
  - ❖ File format: MPEG-1 Audio
  - ❖ Sampling frequency: 32 kHz, 44.1 kHz, 48 kHz
  - ❖ Bit rate: 32 to 320 kbps (constant bit rate or variable bit rate)

The recommended recording setting for high-quality sound is 44.1 kHz sampling frequency and 128 kbps constant bit rate.



- ❖ WMA:
  - ❖ File format: WMA version 7 or 8
  - ❖ Sampling frequency: 32 kHz/48 kbps, 44.1 kHz/48 to 92 kbps, 48 kHz/128 to 192 kbps A file recorded in mono (48 kHz/48 kbps) is not supported by this LED TV/DVD combination.

## About the file browser



(Sample Image) File browser (CD)

File icons:



(Sample Image) File browser (CD)

If a CD contains a mixture of MP3, WMA and JPEG files, and the **PLAY** button is pressed without selecting a file, playback automatically begins starting from the first file in the list.

Setting the file type listing:

You can choose the type of files listed in the file browser.

- 1 Press the (▶ arrow) button to highlight to the **Option** panel.
- 2 Press the (▲/▼ arrow) buttons to highlight **Select files**, and then press the **OK** button.
- 3 Press the (▲/▼ arrow) buttons to select a file type from the list **Audio** or **Photo**.
- 4 Press the **OK** button to add or remove the check mark next to each file type. The checked file type is displayed in the file browser.
- 5 Press the (◀ arrow) button twice to move the selection highlight back to the file list.

Viewing image files in thumbnail mode:

You can change the browser's view mode from list mode to thumbnail mode. This is convenient when browsing for JPEG files.

- 1 Press the **DVD MENU** button during JPEG playback.
- 2 Press the (**▲/▼/◀/▶** arrow) buttons to select an image file.
- 3 Press the **OK** button to play the image file.

To return the browser to list mode, press the **STOP** button.

To view the previous or next thumbnail page, press **SKIP REVERSE** or **SKIP BACKWARD**.

## Playing an audio file

- 1 Load an MP3/WMA/Audio CD in the disc slot. The file browser appears on-screen. Press the (**▲/▼** arrow) buttons to select the audio file you wish to play. Press the **PLAY** button or the **OK** button to start playback.



*(Sample Image) Playing an audio file*

- 2 Press the (**▲/▼** arrow) buttons to select another audio file for playback.



*(Sample Image) Playing an audio file*

- 3 Press the **PLAY** button or the **OK** button to start playback.  
To stop playback, press the **STOP** button.

- 
- NOTE**
- ❖ If the current directory has more than eight files, press the (▲/▼ arrow) buttons to scroll the file list.
  - ❖ To see folder contents, select a folder and then press the **OK** button.
  - ❖ To return to the root directory, press the **RETURN** button or select "Go Up" icon and then press the **OK** button.
  - ❖ In thumbnail mode, press the **PIC SIZE** button repeatedly to change the thumbnail size.
  - ❖ The Repeat/Programmed playback modes can be enabled during Audio CD, MP3, or WMA playback.
- 

## Viewing a JPEG file

- 1 Load a disc containing JPEG files in the disc slot. The file browser appears on the screen.
- 2 Press the (▲/▼ arrow) buttons to select an image file to view. A preview of the selected file is displayed in the Preview panel.
- 3 Press the **OK** button or the **PLAY** button.  
The selected image is displayed in full-screen mode. The Slide Show mode is enabled automatically. If you wish stop the Slide Show mode, press the **PAUSE** button.
- 4 Press the **SKIP Reverse** or **SKIP Forward** button to view the previous or next image file in the current directory.

To rotate an image:

Press the **ANGLE** button repeatedly until the preferred angle is obtained. The image angle is adjusted in 90° increments.

The current angle setting is shown on the screen: **90°**, **180°**, **270°** or **No rotation**.

To magnify an image, press the **ZOOM** button repeatedly until the image is displayed in the preferred scale.

The current zoom setting is indicated by the following: 100%, 125%, 150%, 200%, 50%, 75%.

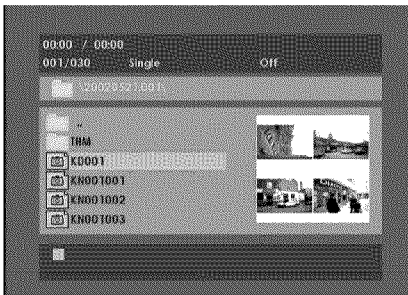
To return to normal view, press the **ZOOM** button repeatedly until **ZOOM** disappears.

## Viewing a slide show

If there are multiple JPEG files in the selected directory, you can view them in a slide show. The instructions on how to enable the slide show feature and set the interval period between pictures are listed below.

- 1 Open the file folder containing the JPEG files you want to include in the slide show.
- 2 Press the ( $\blacktriangle/\blacktriangledown$  arrow) buttons to select the file you want to be the starting image for the slide show.

A preview of the selected file is displayed in the Preview panel.



(Sample Image) Viewing a slide show

- 3 Press the **OK** button or the **PLAY** button.

The selected image is displayed in full-screen mode.

When the slide show is completed, the file browser appears.

To view the previous or next image in the slide show, press the **SKIP Reverse** or **SKIP Forward** button.

To temporarily stop the slide show, press the **SKIP Reverse** or **SKIP Forward** button.

To stop the slide show, press the **STOP** button. The file browser appears.

- NOTE**
- ❖ The Rotate mode is available in regular JPEG viewing and slide show modes.
  - ❖ The A-B repeat mode is not available when viewing JPEG images.
  - ❖ During a slide show, the interval time between images may increase if the file size is too big.
  - ❖ When an image exceeds 5760 x 3840 pixels, the image display can appear cropped. This applies when viewing the image in the Preview panel of the file browser; or when in the thumbnail, full-screen or slide show modes.

## MP3, WMA, JPEG, and Audio CD playback modes

You can choose to repeat CD playback by track or the entire disc.

- NOTE** These playback modes are only applicable during the current session. Once you eject the disc or turn off the LED TV/DVD combination, these modes will be disabled.

### Enabling repeat playback

- 1 During stop mode, press the **PLAY MODE** button repeatedly to select a repeat mode. The modes are **Single**, **Repeat One**, **Repeat Folder**, **Folder**.



*(Sample Image) Enabling repeat playback*

- 2 Press the **PLAY** button.  
The LED TV/DVD combination automatically starts repeat playback from the current track.

To resume normal playback, select **Folder** in step 1 above.

---

## Programming the playback sequence

- 1 In the file browser, press the **MARKER** button to open the file list



(Sample Image) Programming the playback sequence

---

**NOTE** You can not select the same file twice or more. A JPEG file cannot be added to a playlist.

---

- 2 Press the (**▲/▼** arrow) buttons to select a file, and then press the **OK** button to add it for inclusion in the programmed playlist.  
Repeat step 1 to remove any other files you wish to add in the programmed playlist.



(Sample Image) Programming the playback sequence

- 3 Press the **MARKER** button,  
The programmed files appear in the Playlist.



(Sample Image) Programming the playback sequence

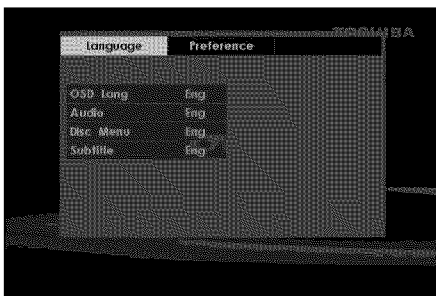
- 4 In the programmed file list, press the ( $\blacktriangle/\blacktriangledown$  arrow) buttons to select a file, and then press the **PLAY** button to start playback.  
To remove a file from the programmed list:
  - 1 In the Playlist, press the ( $\blacktriangle/\blacktriangledown$  arrow) buttons to select the file you wish to remove, and then press the **CANCEL** button.
  - 2 Repeat step 4 to mark any other files you wish to remove from the list.

## Customizing disc playback

You can customize the disc playback settings to suit your preferences.

### Configuring the disc playback settings (DVD/VCD/CD)

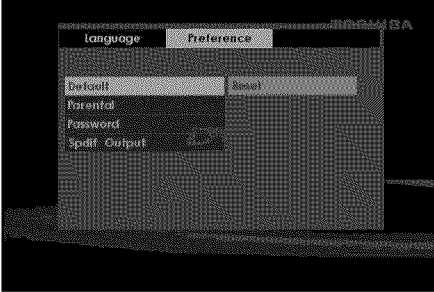
- 1 In DVD mode, press the **SETUP** button during stop mode.



(Sample Image) Configuring disc playback settings

- 2 Press the (◀/▶ arrow) buttons to select a setup tab, and then press the (▼ arrow) button.

The first setup option is highlight.



*(Sample Image) Configuring disc playback settings*

- 3 Press the (▲/▼ arrow) buttons to select the setup option you wish to customize.
- 4 Press the (▶ arrow) or the **OK** button to display a list of available option settings.
- 5 Press the (▲/▼ arrow) buttons to select an option setting, and then press the **OK** button to apply and save the setting.
- 6 To configure another option on the same setup tab, repeat steps 3–5.
- 7 To configure an option on another tab, press the (◀ arrow) button, and then use the (◀/▶ arrow) buttons to select a setup tab.
- 8 Repeat steps 3-5 to configure the preferred option.
- 9 To close the Setup screen, press the **SETUP** button.

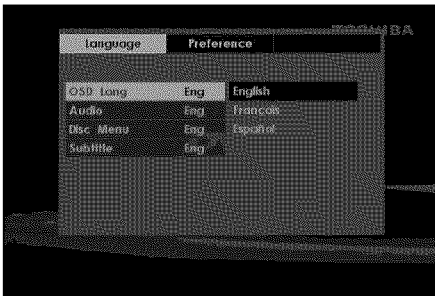


## Disc playback setup

	Option	Description	Page
Language	OSD Language	Selects the language for the setup screen display.	145
	Audio	Selects the audio language for disc playback.	145
	Disc Menu	Selects the language for the DVD menu display.	145
	Subtitle	Selects the subtitle language.	145
Preference	Default	Resets to default.	144
	Downmix	Selects the downmix to options like Stereo.	144
	Parental	Sets the restriction level for allowable disk content.	146
	Password	Changes the access password for the parental control setting.	147
	Spdif Output	Sets the sound format of the digital output.	147

### NOTE

These setup settings are retained in the LED TV/DVD combination's memory. It remains active even if the power is turned off.



(Sample Image) Playback settings

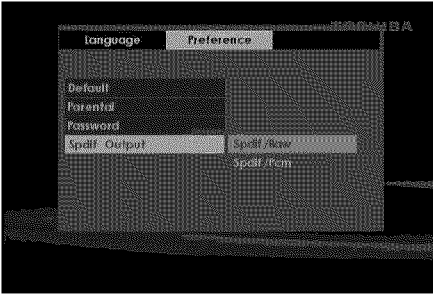
### OSD Language

Select the language for the DVD and Setup menu display. The available options are English, French, or Spanish.

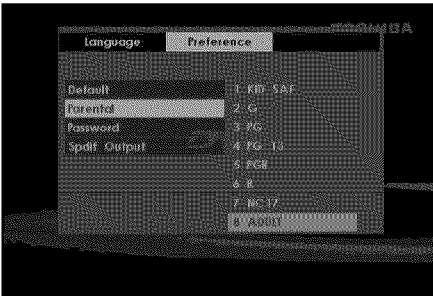
### Subtitle/Audio

Select the language you wish to display the **Audio**, **Disc Menu**, and **Subtitle** settings in during disc playback. The available options are English, French, Spanish, Italian or German.

The selected language will be heard or seen.



(Sample Image) Playback settings



(Sample Image) Playback settings

### Parental

A DVD is usually encoded with a rating level to indicate the recommended audience age. You have the option to select the content rating level allowed for playback in your LED TV/DVD combination.

Press the (▲/▼ arrow) buttons to select the allowable rating level, and then press the **OK** button. You will then need to type in the system password to save the setting.

- ❖ **Level 1–5:** Discs of varied non-adult ratings will be played back. The higher the number, the more severe the content is.
- ❖ **Level 6–8:** Discs of varied adult only ratings can be played back.

**NOTE** ❖ The Parental rating levels correspond to the US movie ratings.

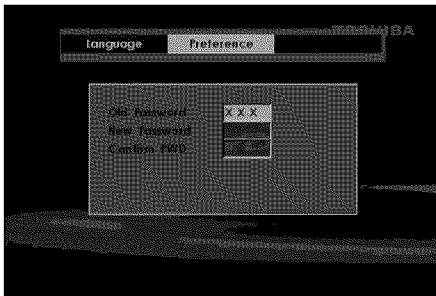
Level 1 – Kids Safe	Level 5 – PG–R
Level 2 – G	Level 6 – R
Level 3 – PG	Level 7 – NC–17
Level 4 – PG–13	Level 8 – Adult

❖ Some discs may not have their rating level encoded on the disc though it's indicated on the disc jacket. Playback restriction will not apply to these discs so make sure to restrict access to it manually.

To temporarily cancel the parental restriction:

- 1 Load the restricted content DVD that you want to play.
- 2 Use the Channel Number buttons (0–9) to input the system password after the “Enter Password” message, and then press the **OK** button.

This suspension of the parental restriction setting applies until the disc is ejected.



(Sample Image) Playback settings

### Password

Select this option to change the access password for the parental control setting.

- 1 Press the (▲/▼ arrow) buttons to select Password, and then press the **OK** button.
- 2 Highlight **Change**, and then press the **OK** button.

- 3 Use the Channel Number buttons (0–9) to input the current password.  
If the password has not been set yet, key in “0000.” This is the factory default password.
- 4 Use the Channel Number buttons (0–9) to input the new password.  
You will be prompted to confirm the new password.
- 5 Use the Channel Number buttons (0–9) to input the new password again.
- 6 Note this new password for future reference.

If you forget the system password:

- 1 Make sure there is no disc in the disc slot.
- 2 Press and hold down the **VOLUME** (–) button on the TV control panel, and then press the number 4 button on the remote control for a few seconds.

The “Initializing” message appears on-screen to indicate that the password has been reset to its default factory setting “0000.” All DVD Setup related settings will also be reset to their default factory values.

### **Spdif Output (Digital Out)**

Select the sound format of the digital output depending on the enabled signal connection.

- ❖ **Spdif/Raw:** Select this option to output the signal in its native format.
- ❖ **Spdif/Pcm:** Changes Dolby® Digital output to PCM. Select this option when using a two-channel digital stereo amplifier.

---

**NOTE**

MPEG audio will always be in PCM format regardless of the Digital Output setting.

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# Chapter 10

## Troubleshooting

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### General troubleshooting

Before calling a service technician, review this chapter or visit the Toshiba technical support Web site at [support.toshiba.com](http://support.toshiba.com) for possible causes/solutions for the problem you are experiencing.

Before you begin to troubleshoot any problem, first unplug the TV from the AC wall outlet, wait approximately one minute, and then plug the TV back into the AC wall outlet. If the problem still exists attempt to troubleshoot the problem.

#### **Black box on-screen.**

The closed caption feature is set to one of the Text modes (T1, T2, T3, or T4). Set the closed caption feature to Off, see “Using closed captions” on page 78.

#### **TV stops responding to controls.**

If the TV stops responding to the buttons on the remote control or TV control panel and you cannot turn off the TV, press and hold the **POWER** button on the TV control panel for several seconds to reset the TV. If the TV does not power off using this method, unplug the TV from the AC wall outlet and plug it back in.

If you cause a static discharge when touching the TV and the TV fails to function, simply unplug the TV from the AC outlet and plug it back in. The TV should return to normal operation.

**Other problems.**

If your TV's problem is not addressed in this Troubleshooting chapter or the recommended solution has not worked, use the Reset Factory Defaults procedure, see "Reset Factory Defaults" on page 58.

**TV will not turn on.**

Ensure the power cord is plugged in properly, and then press the **POWER** button.

Replace the batteries in the remote control, see "Installing batteries" on page 40.

Try the control panel buttons on the TV.

**Picture problems****General picture problems.**

Check the antenna/cable connections, see "Connecting Your TV" on page 24.

Press the **INPUT** button on the remote control or on the TV and select a valid video input source, see "Selecting the video input source" on page 59. If no device is connected to an input on the TV, no picture appears when you select that particular input source. For device connection details, see "Connecting Your TV" on page 24.

Antenna reception may be poor. Use a highly directional outdoor antenna (if applicable).

The station may be having broadcast difficulties. Try another channel.

Adjust the picture quality, see "Using the advanced picture settings" on page 114.

**Cannot view external signals or channel 3 or 4.**

If you cannot view signals from external devices connected to VIDEO, ColorStream® HD1, ColorStream® HD, HDMI 1, HDMI 2, PC, or from channel 3 or 4, ensure that the Input Lock is set to **Off**, see "Using the Locks menu" on page 86.

**Noisy picture.**

If you are watching an analog channel (off-air broadcast or cable TV), you can set the CableClear® feature to reduce visible interference in the TV picture, see "CableClear® digital Noise Reduction" on page 116.

### **Video Input Selection problems.**

If the Input Selection window does not appear when you press INPUT on the remote control or TV, press INPUT a second time. This will cause a change to the next video input source and display the Input Selection window.

### **Poor display color or no color.**

The station may be having broadcast difficulties. Try another channel.

Adjust the Tint and/or Color, see. “Adjusting the picture quality” on page 77

### **Poor composite picture.**

If the TV is connected to an external A/V device (e.g. DVD player, video game system, set-top box, etc.) try using a ColorStream® or HDMI® video connection instead.

### **Picture and sound are out of sync.**

As with all products that contain a digital display, this may occur in rare instances, when viewing certain content (e.g. television broadcasts, video games, DVDs). The cause may include, without limitation, video processing within the TV, video processing in an attached gaming system, and video processing or different compression rates used by broadcasters in their programming.

Try the following:

- ❖ If the TV is connected to an A/V receiver that has a programmable audio delay feature, use this feature to help synchronize the sound to the picture.
- ❖ If the problem occurs only on certain TV channels, inform your local broadcast, cable, or satellite provider.
- ❖ Digital audio settings may not be correct. Check the connections, see “Connecting a digital audio system” on page 35.
- ❖ Turn off and unplug the TV from the AC wall outlet for a few seconds and plug it back in.

## **Sound problems**

Check the antenna/cable connections, see “Connecting a VCR, antenna, or cable TV” on page 27.

The station may be having broadcast difficulties. Try another channel.

The sound may be muted. Press the **VOL (+)** button.

If you hear no sound, try setting the MTS feature to Stereo mode, see “Using the MTS button” on page 83.

If you are not receiving a second audio program from a known SAP source, make sure the MTS feature is set to SAP mode, see “Selecting stereo/SAP broadcasts” on page 82.

If you hear audio that seems incorrect for the program you are watching (such as music or a foreign language), the SAP mode may be on. Set the MTS feature to Stereo mode, see “Selecting stereo/SAP broadcasts” on page 82.

If you connect a computer using either the PC IN terminal or an HDMI® terminal, make sure that the audio setting is properly set, see “Setting the HDMI® audio mode” on page 55

## **Remote control problems**

Remove all obstructions between the remote control and the TV.

Replace the remote control’s batteries, see “Installing batteries” on page 40.

Your TV’s remote control may not operate certain features on your external device. Refer to the User’s Guide for your other device to determine its available features. If your TV remote control does not operate a specific feature on another device, use the remote control that came with the device, see “Learning about the remote control” on page 42.

If the TV still does not act as expected, perform the Reset Factory Defaults procedure, see “Reset Factory Defaults” on page 58.

## **Channel tuning problems**

Ensure that the remote control is set to the correct device mode, see “Learning about the remote control” on page 42.

The Auto Tuning feature may have erased the channel from memory. Add the channel to the channel memory, see “Storing channels in memory (optional)” on page 52.

The Lock feature may have blocked the channel. Unblock the channel, see “Locking channels” on page 94.

If you cannot tune digital channels, check the antenna configuration. If the problem persists, clear all channels from the channel list and reprogram channels into the memory, see “Storing channels in memory (optional)” on page 52. For additional information, see “TV stops responding to controls.” on page 147. If the problem persists, use the Reset Factory Defaults procedure, see “Reset Factory Defaults” on page 58.



## Closed caption problems

If the program or video you have selected is not closed captioned, no captions appear on the screen.

If text is not available, a black rectangle may appear. If this happens, turn off the closed caption feature, see “Using closed captions” on page 78.

A closed caption signal may not display correctly under the following circumstances:

- ❖ The recording is dubbed
- ❖ The signal reception is weak
- ❖ The signal reception is non-standard

For additional information, see “Using closed captions” on page 78.

## Rating blocking (V-Chip) problems

### Forgotten PIN code.

When the PIN code screen appears, press the **INFO** button 4 times within approximately 5 seconds. The old PIN code is cleared, see “Forgotten PIN code” on page 87.

The V-Chip feature is available for U.S. V-Chip systems only, see “Using parental controls (for USA region)” on page 88.

## No HDMI® CEC operation

The HDMI® CEC feature is available for Toshiba HDMI® CEC compatible devices.

Ensure that HDMI® cables with the (**HDMI**) Logo are used.

When the connected HDMI® CEC device does not work correctly after you have changed device’s settings, turn off your TV and unplug the power cord, then plug it in and turn on again.

If several devices are connected, the HDMI® CEC feature may not operate properly.

Read the instruction manual provided with the connected HDMI® CEC device.

## HDMI® problems

### HDMI® cables.

Ensure that HDMI® cables with the (**HDMI**) Logo are used, see “Connecting an HDMI® or DVI device to the HDMI® input” on page 31.

**Legacy HDMI® sources.**

Some legacy HDMI® sources may not work properly with the latest HDMI® TV products, due to new standard adoption.

**Media Player problems**

Incorrect functionality may occur when using a USB HUB connection.

Photo files that were processed and edited using the computer's application software may not be viewable.

The TV may select one format automatically and play it when contents that support two or more formats are played.

Confirm that the contents of the USB storage device are in formats that are supported by this TV, see "Using the Media Player" on page 99.

**Disc playback problems****Playback does not start.**

No disc is loaded.

The disc may be dirty. Clean the disc.

The disc format is not supported, see "Disc playback" on page 119.

**No picture.**

The TV is not in DVD mode.

**No sound.**

The TV is in the special playback mode, see "Disc playback" on page 119.

If an external speaker is connected, check its volume control.

**Picture distortion during fast reverse/forward playback.**

The picture will be distorted occasionally. This is normal.

**Playback features failure.**

The playback features such as stopping, searching, slow motion play, repeat play or programmed play, etc. are not applicable to all discs.

**Playback does not start when the title is selected.**

The disc may not be compliant with the "Parental" setting, see "Customizing disc playback" on page 141.

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**The audio sound track and/or subtitle language cannot be changed.**

The disc has no multi-language option encoded on it, see “Sound track language/Audio channel/Subtitle” on page 131.

**No subtitle.**

The disc has no subtitle encoded on it.

Subtitles are disabled. Press the **SUB TITLE** button, see “Viewing subtitles (DVD)” on page 131.

**Scene angle cannot be changed.**

The disc has no multi-angle scenes, see “Sound track language/Audio channel/Subtitle” on page 131. An “**X**” appears on the screen.

The function is not applicable to the disc or to the current mode.

**light indicator**

The Power light on the front of the TV indicates the TV’s status, as described below.

**Power indicator**

The Power indicator glows green when the TV power is On.

**If the problem persists after trying the solutions**

Contact Toshiba at:

Toshiba’s Support Web site: [support.toshiba.com](http://support.toshiba.com).

For technical support, call the Toshiba Customer Support Center:

Within the United States, at 800-631-3811

Outside the United States, at 949-583-3050

# Appendix A

## Specifications

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**NOTE**

- ❖ These models comply with the specifications listed below.
  - ❖ Designs and specifications are subject to change without notice.
  - ❖ These models may not be compatible with features and/or specifications that may be added in the future.
- 

### Television system

NTSC standard	
ATSC standard	8VSB
Digital Cable	64 QAM, 256 QAM; in-the-clear, unencrypted

### Channel coverage

VHF	2 through 13
UHF	14 through 69
Cable TV	Mid band (A-8 through A-1, A through I)
	Super band (J through W)
	Hyper band (AA through ZZ, AAA, BBB)
	Ultra band (65 through 94, 100 through 135)

## Power source

120 V AC, 60 Hz

## Power maximum current

24V4210U	0.65 A
24V4260U	0.65 A

## Power consumption

24V4210U	0.65 A (maximum current) 0.2W (Standby mode)
24V4260U	0.65 A (maximum current) 0.2W (Standby mode)

## Audio power

24V4210U	5W + 5W
24V4260U	5W + 5W

## Speaker type

24V4210U	Two 3 5/8 x 1 x 7/8 inches (91 x 25 x 23mm)
24V4260U	Two 3 5/8 x 1 x 7/8 inches (91 x 25 x 23mm)

## Video/audio terminals

### Video/audio input

Video	1 V (p-p), 75 ohm, negative sync.
Audio	200 mV(rms) (-20dBFS, 47K ohm or greater)

**ColorStream® (component video) HD input**

Video	Y: 1V(p-p), 75 ohm, negative sync.
	Y: 1V(p-p), 75 ohm, negative sync.
	PB: 0.7 V(p-p), 75 ohm
	Suggested formats: 1080i, 720p, 480p, 480i
Audio	200 mV(rms) (-20dBFS, 47K ohm or greater)

## HDMI® input

HDMI® compliant	
HDCP compliant	
HDMI® Audio	2-channel Linear-PCM; 32/44.1/48 kHz sampling frequency; 16/ 20/24 bits per sample

## Digital audio output

Optical type

## PC input

15-Pin D-sub Analog RGB

## DVD/CD player

Signal system	NTSC
Supported disc size	12 cm
Pickup mechanism	1-lens, 2-beams

## Dimensions

24V4210U	Width	22.94" (583.1mm)
	Height	16.17" (410.9mm)
	Depth	9.18" (233.2mm)
24V4260U	Width	22.94" (583.1mm)
	Height	16.17" (410.9mm)
	Depth	9.18" (233.2mm)

## Mass (weight)

24V4210U	13.2 lbs (6.0 kg)
24V4260U	13.2 lbs (6.0 kg)

## Operating conditions

Temperature	32 - 95° F (0 - 35° C)
Humidity	20 - 80% (no moisture condensation)

## Supplied accessories

- ❖ Remote control with two size “AAA” batteries
- ❖ Resource Guide
- ❖ Quick Start Guide
- ❖ Pedestal stand
- ❖ Warranty

## Acceptable signal formats for PC IN, HDMI®

### PC IN signal formats

**NOTE** Depending on the connected PC, the following status may occur; incorrect display, false format detection, picture position failure, blur, or judder. But this is not a malfunction of your TV.

<i>Format</i>	<i>Resolution</i>	<i>V. Frequency</i>	<i>H. Frequency</i>	<i>Pixel Clock Frequency</i>
VGA	640 x 480	59.940/60 Hz	31.469 kHz	25.175 MHz
SVGA	800 x 600	60.317 Hz	37.879 kHz	40.000 MHz
XGA	1024 x 768	60.004 Hz	48.363 kHz	65.000 MHz
WXGA	1280 x 768	59.870 Hz	47.776 kHz	79.500 MHz
	1360 x 768	60.015 Hz	47.712 kHz	85.500 MHz
SXGA	1280 x 1024	60.020 Hz	63.981 kHz	108.000 MHz

### HDMI® signal formats

<i>Format</i>	<i>Resolution</i>	<i>V. Frequency</i>	<i>H. Frequency</i>	<i>Pixel Clock Frequency</i>
VGA	640 x 480	59.940 Hz	31.469 kHz	25.175 MHz
SVGA	800 x 600	60.317 Hz	37.879 kHz	40.000 MHz
XGA	1024 x 768	60.004 Hz	48.363 kHz	65.000 MHz
WXGA	1280 x 768	59.870 Hz	47.776 kHz	79.500 MHz
	1360 x 768	60.015 Hz	47.712 kHz	85.500 MHz
SXGA	1280 x 1024	60.020 Hz	63.981 kHz	108.000 MHz



<i>Format</i>	<i>Resolution</i>	<i>V. Frequency</i>	<i>H. Frequency</i>	<i>Pixel Clock Frequency</i>
480i	720 x 480i	59.940 Hz	15.734 kHz	27.000 MHz
480p	720 x 480p	59.940 Hz	31.469 kHz	27.000 MHz
720p	1280 x 720p	60.000 Hz	45.000 kHz	74.250 MHz
1080i	1920 x 1080i	60.000 Hz	33.750 kHz	74.250 MHz
1080p	1920 x 1080p	24.000 Hz	27.000 kHz	74.250 MHz
		60.000 Hz	67.500 kHz	148.500 MHz

**NOTE**

- ❖ Some illustrations in this User's Guide are for explanation purposes and may differ from the actual unit.
- ❖ Designs and specifications are subject to change without notice.
- ❖ These models may not be compatible with features and/or specifications that may be added in the future.

# Appendix B

## License Agreement

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### **License Information on the software used in the TOSHIBA Digital TV**

The software pre-installed in the TOSHIBA Digital Televisions consists of multiple, independent software components. Each software component is copyrighted by TOSHIBA or a third party.

The TOSHIBA Digital Televisions uses software components that are distributed as freeware under a third-party end-user license agreement or copyright notice (hereinafter referred to as a "EULA"). Some EULAs require that the source code of the applicable component be disclosed as the condition for distributing the software component in executable format.

In addition, some of the software components which are used in Toshiba Digital Televisions include the software that are made or developed originally by TOSHIBA. These software and accompanied documents are copyrighted by TOSHIBA, and protected by Copyright Act, an international treaty's articles and other governing laws. The software components which are made or developed originally by TOSHIBA and not subject to EULAs are not a target of source code offering.

The Toshiba warranty provided in respect of the Digital TV is the only warranty provided and no additional warranties are provided in respect of the software components subject to EULAs.

Some of the software components distributed under EULAs are made available for use by the user on the premise that they are not copyrighted or warranted by TOSHIBA or any third party. These software components are licensed to the user free of charge and therefore not covered by any warranty within the scope of the applicable laws. These software components are provided in "as is" condition without any warranty, whether express or implied. "Warranty" here includes, but not limited to, an implied warranty for marketability

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The table below lists the software components pre-installed in the TOSHIBA Digital Televisions, which are subject to EULAs. The user should read the applicable EULAs carefully before using these software components. The EULAs are exhibited in their original text (English) as exactly written by the respective parties other than TOSHIBA.

For at least three (3) years from the date of distribution of this product, Toshiba will give to anyone who contacts Toshiba Consumer Solutions at (800) 631-3811, for a charge of no more than our cost of physically performing source code distribution, a complete machine-readable copy of the complete corresponding GPL and LGPL source code for the version of the GPL and LGPL code that we distributed to you in this product.

## Pre-Installed Software - EULA

jpeglib.h - Exhibit A

FreeType 2.2.0 - Exhibit B

scalfact.c - Exhibit C

### Exhibit A

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- (2) If only executable code is distributed, then the accompanying documentation must state that "this software is based in part on the work of the Independent JPEG Group".

(3) Permission for use of this software is granted only if the user accepts full responsibility for any undesirable consequences; the authors accept NO LIABILITY for damages of any kind.

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The Unix configuration script "configure" was produced with GNU Autoconf. It is copyright by the Free Software Foundation but is freely distributable. The same holds for its supporting scripts (config.guess, config.sub, ltmain.sh). Another support script, install-sh, is copyright by X Consortium but is also freely distributable.

The IJG distribution formerly included code to read and write GIF files. To avoid entanglement with the Unisys LZW patent, GIF reading support has been removed altogether, and the GIF writer has been simplified to produce "uncompressed GIFs." This technique does not use the LZW algorithm; the resulting GIF files are larger than usual, but are readable by all standard GIF decoders.

We are required to state that

"The Graphics Interchange Format(c) is the Copyright property of CompuServe Incorporated. GIF(sm) is a Service Mark property of CompuServe Incorporated."

## **Exhibit B**

The FreeType Project LICENSE

2002-Apr-11

Copyright 1996-2002 by

David Turner, Robert Wilhelm, and Werner Lemberg

## **Introduction**

The FreeType Project is distributed in several archive packages; some of them may contain, in addition to the FreeType font engine, various tools and contributions which rely on, or relate to, the FreeType Project.

This license applies to all files found in such packages, and which do not fall under their own explicit license. The license affects thus the FreeType font engine, the test programs, documentation and makefiles, at the very least.

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This license was inspired by the BSD, Artistic, and IJG (Independent JPEG Group) licenses, which all encourage inclusion and use of free software in commercial and freeware products alike. As a consequence, its main points are that:

- ❖ We don't promise that this software works. However, we will be interested in any kind of bug reports. (‘as is’ distribution)
- ❖ You can use this software for whatever you want, in parts or full form, without having to pay us. (‘royalty-free’ usage)
- ❖ You may not pretend that you wrote this software. If you use it, or only parts of it, in a program, you must acknowledge somewhere in your documentation that you have used the FreeType code. (‘credits’)

We specifically permit and encourage the inclusion of this software, with or without modifications, in commercial products. We disclaim all warranties covering The FreeType Project and assume no liability related to The FreeType Project.

Finally, many people asked us for a preferred form for a credit/disclaimer to use in compliance with this license. We thus encourage you to use the following text:

Portions of this software are copyright © 1996-2002 The FreeType  
Project ([www.freetype.org](http://www.freetype.org)). All rights reserved.

### Exhibit C

scalfact.c Scalefactors for layer I and II This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version. This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details. You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 675 Mass Ave, Cambridge, MA 02139, USA.

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