PICTURE CONTROL

DEMO MODE

Displays a slide show to explain the various feature of this TV.

OPTION	⟨⟩ Move ⊙ Enter
Menu Language	: English
Audio Language	: English
Caption	: Off
Set ID	: 1
Demo Mode	**: Off** ◉
Data Broadcasting	

➡

OPTION	⟨⟩ Move ⊙ Enter
Menu Language	: English
Audio Language	: English
Caption	: Off
Set ID	: 1
Demo Mode	: Off	Off
Data Broadcasting		On ◉

1 MENU — Select **OPTION**.
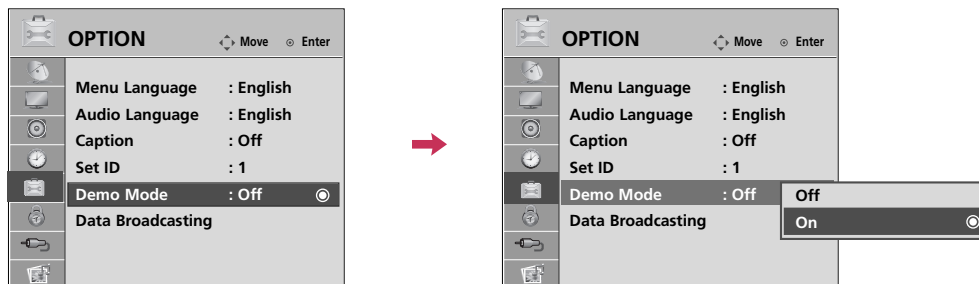
2 ENTER — Select **Demo Mode**.

3 ENTER — Select **On** to show the various feature of the TV.

4 MENU — Return to TV viewing.
After a while, **Demo Mode** starts.
If you want to stop the demo, press any button (Except VOL +, - and MUTE button).

SOUND & LANGUAGE CONTROL

AUTO VOLUME LEVELER (AUTO VOLUME)

Auto Volume makes sure that the volume level remains consistent whether you are watching a commercial or a regular TV program.

Because each broadcasting station has its own signal conditions, volume adjustment may be needed every time the channel is changed. This feature allows users to enjoy stable volume levels by making automatic adjustments for each program.

AUDIO	Move ⊙ Enter
Auto Volume	**: Off** ◉
Clear Voice II	**: On**
	• Level 3
Balance	0 L‖‖‖‖‖‖‖‖‖R
Sound Mode	: Standard
	• SRS TruSurround XT: Off
	• Treble 50
	• Bass 50

→

AUDIO	Move ⊙ Enter
Auto Volume	**: On** Off
Clear Voice II	**: On** On ◉
	• Level 3
Balance	0 L‖‖‖‖‖‖‖‖‖R
Sound Mode	: Standard
	• SRS TruSurround XT: Off
	• Treble 50
	• Bass 50
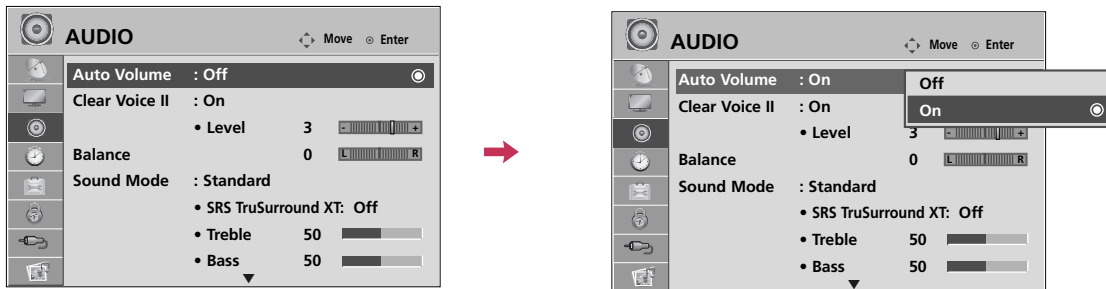
1 MENU Select **AUDIO**.

2 ENTER Select **Auto Volume**.

3 ENTER Select **On** or **Off**.

4 RETURN Return to the previous menu.

MENU Return to TV viewing.

PRESET SOUND SETTINGS (SOUND MODE)

Sound Mode lets you enjoy the best sound without any special adjustment as the TV sets the appropriate sound options based on the program content.
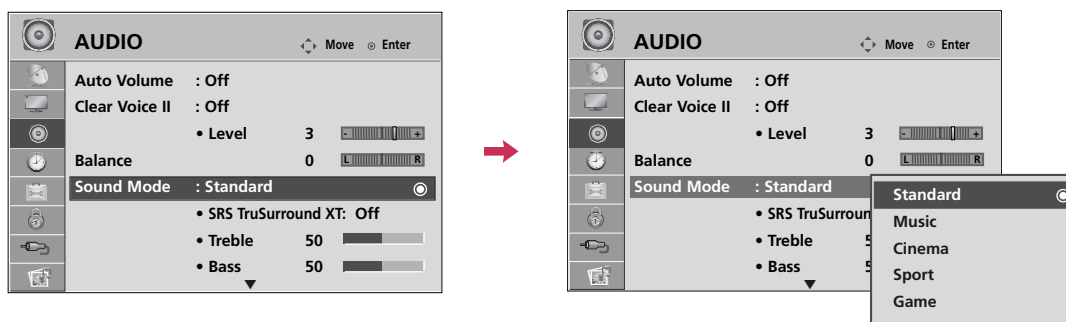
AUDIO	◇ Move ⊙ Enter
Auto Volume	: Off
Clear Voice II	: Off
• Level	3
Balance	0
Sound Mode	: Standard
• SRS TruSurround XT:	Off
• Treble	50
• Bass	50

➡

AUDIO	◇ Move ⊙ Enter
Auto Volume	: Off
Clear Voice II	: Off
• Level	3
Balance	0
Sound Mode	: Standard
• SRS TruSurroun	Standard ◎
• Treble	Music
• Bass	Cinema
	Sport
	Game

1 MENU / Select **AUDIO**.

2 ENTER / Select **Sound Mode**.

3 ENTER / Select **Standard**, **Music**, **Cinema**, **Sport**, or **Game**.

4 RETURN / Return to the previous menu.

MENU / Return to TV viewing.

- **Standard**, **Music**, **Cinema**, **Sport**, and **Game** are preset for optimum sound quality at the factory.
- **Standard**: Offers standard-quality sound.
- **Music**: Optimizes sound for listening to music.
- **Cinema**: Optimizes sound for watching movies.
- **Sport**: Optimizes sound for watching sports events.
- **Game**: Optimizes sound for playing games.

SOUND SETTING ADJUSTMENT - USER MODE

Adjust the sound to suit your taste and room situations.
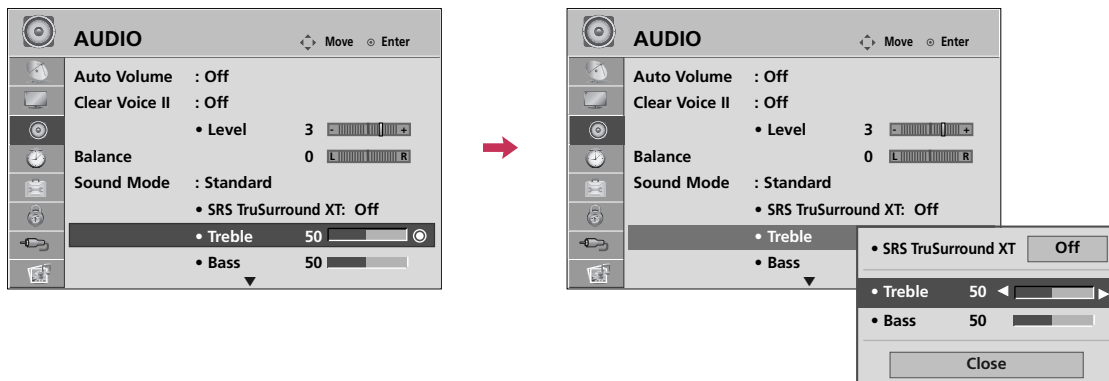
| | 1 | MENU | Select **AUDIO**. |

| 2 | ENTER | Select **Sound Mode**. |

| 3 | ENTER | Select **Standard**, **Music**, **Cinema**, **Sport**, or **Game**. |

| 4 | ENTER | Select **Treble** or **Bass**. |

| 5 | ENTER | Make appropriate adjustments. |

| 6 | RETURN | Return to the previous menu. |

| MENU | Return to TV viewing. |

SRS TRUSURROUND XT / INFINITE SOUND

Takes advantage of any multi-channel format without needing to add extra speakers or equipment. Dialog clarity, bass enrichment, and the addition of stereo audio enhancement produces an immersive sound experience from standard stereo material.

32/37/42LG710H

AUDIO		Move ⊙ Enter
Auto Volume	: Off	
Clear Voice II	: Off	
	• Level	3
Balance		0
Sound Mode	: Standard	
	• SRS TruSurround XT:	Off
	• Treble	50
	• Bass	50

➡

AUDIO		Move ⊙ Enter
Auto Volume	: Off	
Clear Voice II	: Off	
	• Level	3
Balance		0
Sound Mode	: Standard	
	• SRS TruSurrou	
	• Treble	
	• Bass	

• SRS TruSurround XT	Off
• Treble	50
• Bass	50
Close	
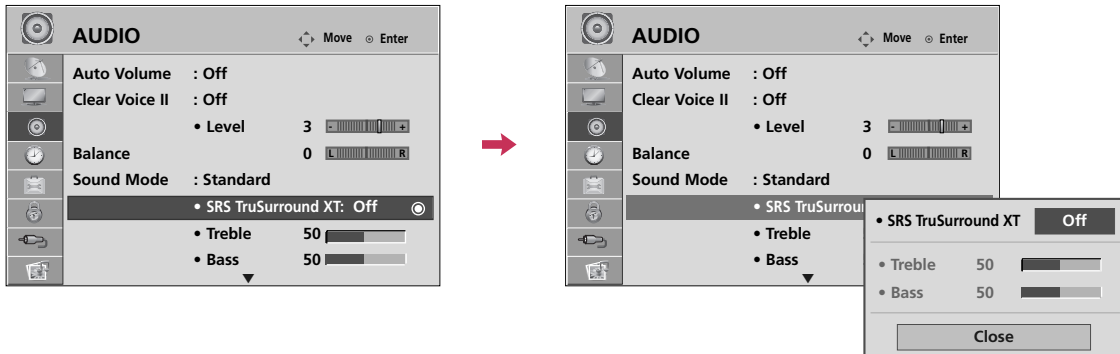
32/37/42/47/55LD650H, 32/37/42LD655H, 37LD660H

AUDIO		Move ⊙ Enter
Auto Volume	: Off	
Clear Voice II	: Off	
	• Level	3
Balance		0
Sound Mode	: Standard	
	• Infinite Sound:	Off
	• Treble	50
	• Bass	50

➡

AUDIO		Move ⊙ Enter
Auto Volume	: Off	
Clear Voice II	: Off	
	• Level	3
Balance		0
Sound Mode	: Standard	
	• Infinite Sound	
	• Treble	
	• Bass	

• Infinite Sound	Off
• Treble	50
• Bass	50
Close	
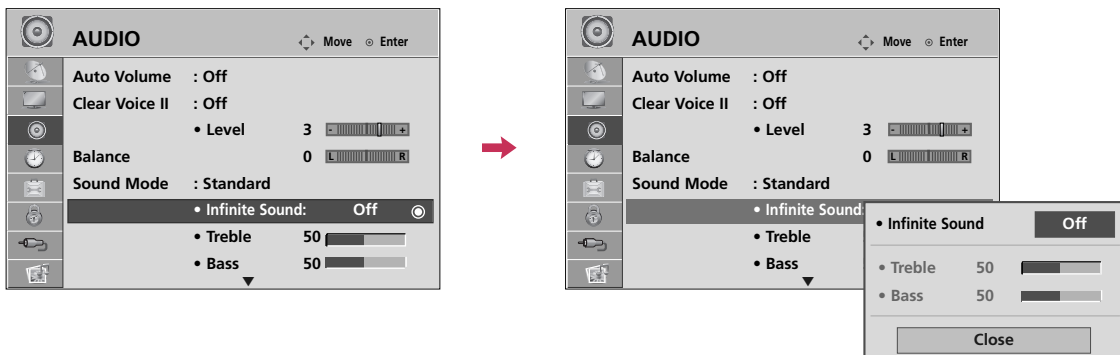
1 MENU — Select **AUDIO**.

2 ENTER — Select **SRS TruSurround XT** or **Infinite Sound**.

3 ENTER — Select **On** or **Off**.

4 RETURN — Return to the previous menu.

MENU — Return to TV viewing.

■ If sound quality or volume is not at the level you want, it is recommended to use a separate home theater system or amp to cope with different user environments.

■ If you select "**Clear Voice II-On**", **SRS TruSurround XT** feature will not work.

■ **SRS TruSurround XT**: TruSurround XT is a patented SRS technology that solves the problem of playing 5.1 multichannel content over two speakers.

■ **Infinite Sound**: Infinite Sound is a patented LG proprietary sound processing technology that strives immersive 5.1 surround sound with just two front speakers. (For 32/37/42/47/55LD650H, 32/37/42LD655H)

CLEAR VOICE II

By differentiating the human sound range from others, it improves the sound quality of voices.

	AUDIO	◇ Move ⊙ Enter
	Auto Volume	: Off
	Clear Voice II	**: On** ⊙
	• Level	3 – ▥▥▥▥▯▥▥▥ +
	Balance	0 L ▥▥▥▥▮▥▥▥ R
	Sound Mode	: Standard
	• SRS TruSurround XT: Off
	• Treble	50 ▮▮▮▮▯
	• Bass	50 ▮▮▮▮▯
	▼	

➡

	AUDIO	◇ Move ⊙ Enter
	Auto Volume	: Off
	Clear Voice II	**: On**	Off
	• Level	3	**On** ⊙
	Balance	0 L ▥▥▥▥▮▥▥▥ R
	Sound Mode	: Standard
	• SRS TruSurround XT: Off
	• Treble	50 ▮▮▮▮▯
	• Bass	50 ▮▮▮▮▯
	▼	
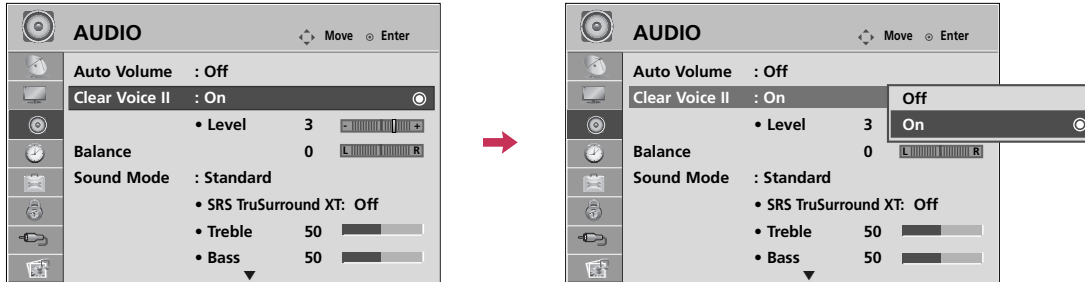
1 MENU ⌃⌄‹› Select **AUDIO**.

2 ENTER ⊙ ⌃⌄ Select **Clear Voice II**.

3 ENTER ⊙ ⌃⌄ Select **On** or **Off**.

Adjustment for Clear Voice II Level With selecting **On**

4 ENTER ⊙ ⌃⌄ Select **Level**.

5 ENTER ⊙ ‹ › Make appropriate adjustments.
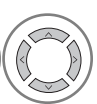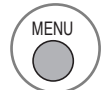
6 RETURN ⟲ Return to the previous menu.

MENU Return to TV viewing.

BALANCE

Adjust the left/right sound of speaker to suit your taste and room situations.

	AUDIO	↺ Move ⊙ Enter
	Auto Volume	: Off
	Clear Voice II	: Off
		• Level	3	- ▓▓▓▓▓▓▓▓ +
	Balance	**0**	**L ▓▓▓▓▓▓▓▓ R** ⊙
	Sound Mode	: Standard
		• SRS TruSurround XT: Off
		• Treble	50
		• Bass	50
		▼

➡

	AUDIO	↺ Move ⊙ Enter
	Auto Volume	: Off
	Clear Voice II	: Off
		• Level	3	- ▓▓▓▓▓▓▓▓ +
	Balance	**0**
	Sound Mode	: Standard
		• SRS TruSurround
		• Treble	50
		• Bass	50
		▼

Balance   0   ◀ L ▓▓▓▓▓▓▓▓ R ▶

Close

1 MENU Select **AUDIO**.

2 ENTER Select **Balance**.

3 ENTER Make appropriate adjustments.

4 RETURN Return to the previous menu.

MENU Return to TV viewing.

TV SPEAKERS ON/OFF SETUP

If you wish to use an external Hi-Fi system or a SRS System, turn off the TV's internal speakers.

In **AV**, **Component**, **RGB** and **HDMI** with HDMI to DVI cable, the TV speaker can be operational even when there is no video signal.

Turn the TV speakers off if using external audio equipment.
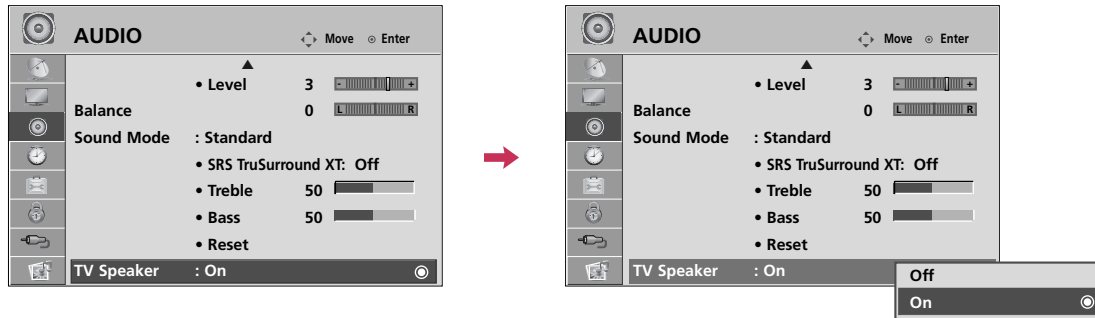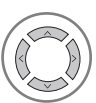
AUDIO		⟵⟶ Move ⊙ Enter
• Level	3	- ‖‖‖‖‖‖‖ +
Balance	0	L ‖‖‖‖‖‖‖ R
Sound Mode	: Standard	
• SRS TruSurround XT: Off		
• Treble	50	
• Bass	50	
• Reset		
TV Speaker	: On	◎

→

AUDIO		⟵⟶ Move ⊙ Enter
• Level	3	- ‖‖‖‖‖‖‖ +
Balance	0	L ‖‖‖‖‖‖‖ R
Sound Mode	: Standard	
• SRS TruSurround XT: Off		
• Treble	50	
• Bass	50	
• Reset		
TV Speaker	: On	Off
		On ◎

1 MENU

Select **AUDIO**.

2 ENTER

Select **TV Speaker**.

3 ENTER

Select **On** or **Off**.

4 RETURN

Return to the previous menu.

MENU

Return to TV viewing.

AUDIO RESET

Settings of the selected Sound Mode return to the default factory settings.

AUDIO	◇ Move ⊙ Enter
▲	
• Level	3
Balance	0
Sound Mode	: Standard
• SRS TruSurround XT: Off	
• Treble	50
• Bass	50
• Reset	◉
▼	

➡

AUDIO	◇ Move ⊙ Enter
▲	
• Level	3
Balance	0
Sound Mode	: Standard
• SRS TruSurround XT: Off	
ⓘ Resetting audio configuration...	
• Reset	◉

1 MENU Select **AUDIO**.

2 ENTER Select **Reset**.
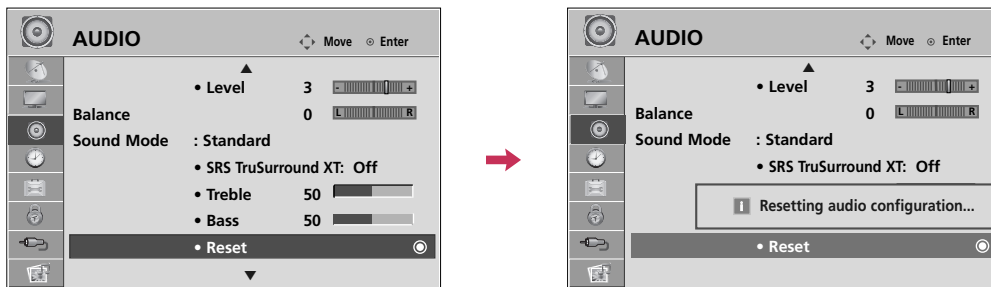
3 ENTER Initialize the adjusted value.

4 MENU Return to TV viewing.

STEREO/SAP BROADCAST SETUP

**For Analog only: This TV can receive MTS stereo programs and any SAP (Secondary Audio Program) that accompanies the stereo program if the station transmits an additional sound signal. Mono sound is automatically used if the broadcast is only in Mono.
If other languages are available on the digital signal,select them with the SAP button.**

MONO	STEREO	SAP

1

SAP
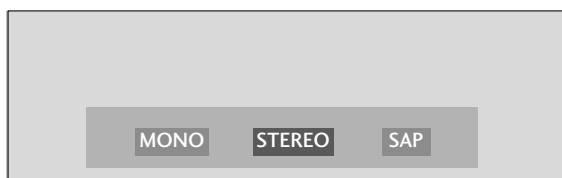
Each time you press the **SAP** button,
Mono, **Stereo**, or **SAP** appear in turn.

2

RETURN

Return to TV viewing.

AUDIO LANGUAGE

Other languages may be available if a digital signal is provided by the broadcasting station.
This feature operates only in DTV mode.

OPTION	◇ Move ⊙ Enter
Menu Language	: English
Audio Language	: English ◉
Caption	: Off
Set ID	: 1
Demo Mode	: Off
Data Broadcasting	

➡

OPTION	◇ Move ⊙ Enter
Menu Language	: English
Audio Language	: Eng **English** ◉
Caption	: Off **Spanish**
Set ID	: 1 **French**
Demo Mode	: Off
Data Broadcasting	
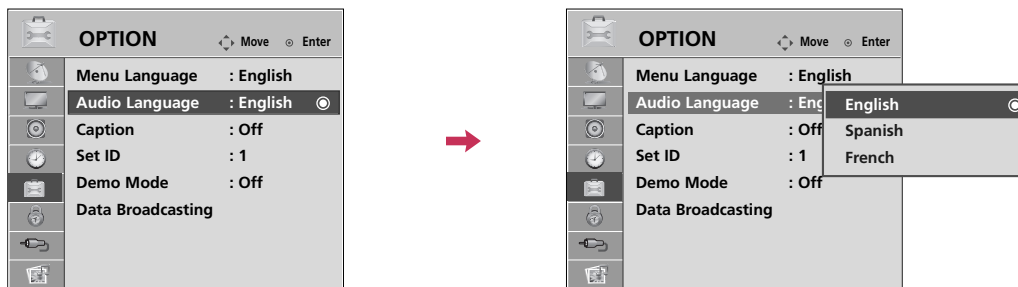
1 MENU   Select **OPTION**.

2 ENTER   Select **Audio Language**.

3 ENTER   Select your desired language.

4 RETURN   Return to the previous menu.

MENU   Return to TV viewing.

ON-SCREEN MENUS LANGUAGE SELECTION

The menus can be shown on the screen in the selected language.

	OPTION	◁▷ Move ◉ Enter
	Menu Language	**: English ◉**
	Audio Language	: English
	Caption	: Off
	Set ID	: 1
	Demo Mode	: Off
	Data Broadcasting	

➡

	OPTION	◁▷ Move ◉ Enter	
	Menu Language	: En	
	Audio Language	: En	**English ◉**
	Caption	: O	Español
	Set ID	: 1	Français
	Demo Mode	: O	한국어
	Data Broadcasting		
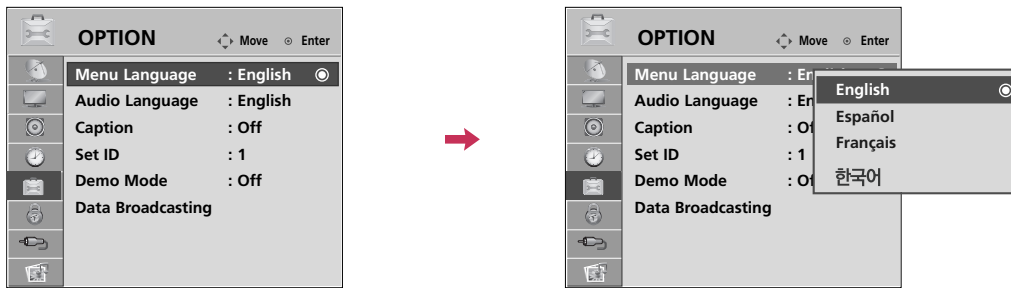
1 MENU   Select **OPTION**.

2 ENTER   Select **Menu Language**.

3 ENTER   Select your desired language.
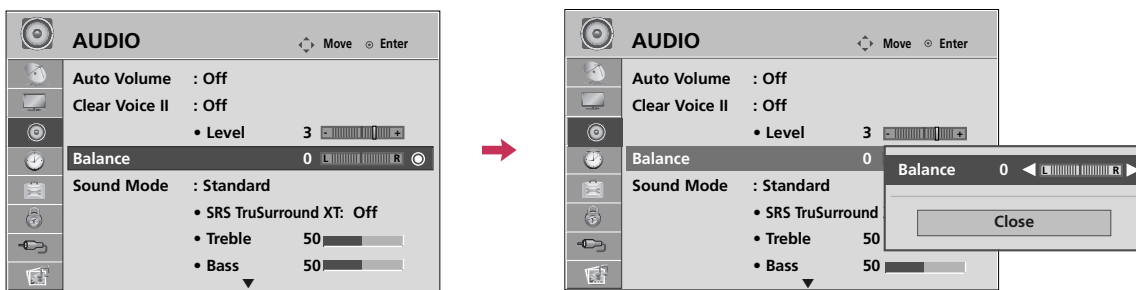From this point on, the on-screen menus will be shown in the selected language.

4 RETURN   Return to the previous menu.

MENU   Return to TV viewing.

CAPTION MODE

Analog Broadcasting System Captions

Captions are provided to help the hearing impaired watch TV. Select a caption mode for displaying captioning information if provided on a program. Analog caption displays information at any position on the screen and is usually the program's dialog. Caption/Text, if provided by the broadcaster, would be available for both digital and analog channels on the Antenna/Cable. This TV is programmed to memorize the caption/text mode which was last set when you turned the power off. This function is only available when **Caption** Mode is set **On**.

OPTION	◁ Move ⊙ Enter
Menu Language	: English
Audio Language	: English
Caption	: Off ⊙
Set ID	: 1
Demo Mode	: Off
Data Broadcasting	

OPTION	◁ Move ⊙ Enter
Menu Language	: English
Audio Language	: English
Caption	: CC1
Set ID	: 1
Demo Mode	: Off
Data Broadcasting	

◄ On ►
Mode   CC1
Digital Option
Close

MENU ⃝	Select **OPTION**.
2 ENTER ⊙	Select **Caption**.
3 ENTER ⊙	Select **On**.
4	Select **CC1-4** or **Text1-4**.
5 RETURN	Return to the previous menu.
MENU	Return to TV viewing.

■ When selecting **Off**, Sub-menus for Analog, DTV, and Digital Option become disabled.

■ **CAPTION**

The term for the words that scroll across the bottom of the TV screen; usually the audio portion of the program provided for the hearing impaired.

■ **TEXT**

The term for the words that appear in a large black frame and almost cover the entire screen; usually messages provided by the broadcaster.

Digital Broadcasting System Captions

Choose the language you want the DTV/CADTV Captions to appear in.
Other Languages can be chosen for digital sources only if they are included on the program.
This function in only available when **Caption** Mode is set **On.**

	OPTION	⟨·⟩ Move ⊙ Enter
	Menu Language	: English
	Audio Language	: English
	Caption	: Off ◉
	Set ID	: 1
	Demo Mode	: Off
	Data Broadcasting	

➡

	OPTION	⟨·⟩ Move ⊙ Enter
	Menu Language	: English
	Audio Language	: English
	Caption	: CC1
	Set ID	: 1
	Demo Mode	: Off
	Data Broadcasting	

◄ **On** ►
Mode | CC1
Digital Option
Close

1 MENU — Select **OPTION**.

2 ENTER — Select **Caption**.

3 ENTER — Select **On**.

4 — Select **CC1-4**, **Text1-4**, or **Service1 - 6**.

5 RETURN — Return to the previous menu.

MENU — Return to TV viewing.

SOUND &LANGUAGE CONTROL

Caption Option

Customize the DTV captions that appear on your screen.
This function in only available when Caption Mode is set On.

OPTION	◇ Move ⊙ Enter
Menu Language	: English
Audio Language	: English
Caption	**: Off** ◎
Set ID	: 1
Demo Mode	: Off
Data Broadcasting	

OPTION	◇ Move ⊙ Enter
Menu Language	: English
Audio Language	: English
Caption	
Set ID	
Demo Mode	
Data Broadcasti	

	On
Mode	CC1
	Digital Option
	Close

◀ Custom ▶	
Size	A Standard
Font	Font 1
Text Color	☐ White
Text Opacity	Solid
Bg Color	■ Black
Bg Opacity	Solid
Edge Type	None
Edge Color	■ Black
	Close

1 MENU Select **OPTION**.

2 ENTER Select **Caption**.

3 ENTER Select **On**.

4 Select **Digital Option**.

5 ENTER Select **Custom**.

6 Customize the **Size**, **Font**, etc., to your preference. A preview icon is provided at the bottom of the screen, use it to see the caption language.

7 RETURN Return to the previous menu.

MENU Return to TV viewing.

- **Size**: Set the word size.
- **Font**: Select a typeface for the text.
- **Text Color**: Choose a color for the text.
- **Text Opacity**: Specify the opacity for the text color.
- **Bg (Background) Color**: Select a background color.
- **Bg (Background) Opacity**: Select the opacity for the background color.
- **Edge Type**: Select an edge type.
- **Edge Color**: Select a color for the edges.

SOUND & LANGUAGE CONTROL

TIME SETTING

CLOCK SETTING

Auto Clock Setup

The time is set automatically from a digital channel signal.
The digital channel signal includes information for the current time provided by the broadcasting station.
Set the clock manually if the current time is set incorrectly by the auto clock function.

	TIME	◇ Move ⊙ Enter
	Clock	◉
	Off Time	: Off
	On Time	: Off
	Sleep Timer	: Off
	Auto Off	: On

➡

	TIME	◇ Move ⊙ Enter
	Clock	
	Off Time	
	On Time	
	Sleep Timer	
	Auto Off	

◄ **Auto** ►

Month	02
Date	21
Year	2009
Hour	10 AM
Minute	10
Time Zone	Eastern
Daylight Saving	Auto

Close

1 MENU — Select **TIME**.

2 ENTER — Select **Clock**.
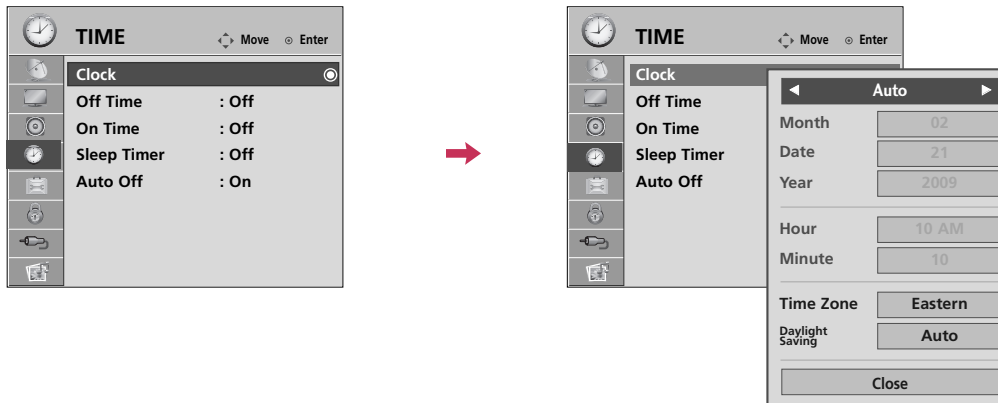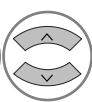
3 ENTER — Select **Auto**.

4 Select your viewing area time zone.
- U.S.A: **Eastern**, **Central**, **Mountain**, **Pacific**, **Alaska**, or **Hawaii**.
- Canada: **Eastern**, **Central**, **Mountain**, **Pacific**, **New F.land**, or **Atlantic**.

5 Select **Auto**, **Off**, or **On** (depending on whether or not your viewing area observes Daylight Saving time).

6 RETURN — Return to the previous menu.

MENU — Return to TV viewing.

Manual Clock Setup

If the current time setting is wrong, reset the clock manually.

	TIME	⟨⟩ Move ⊙ Enter
	Clock	◉
	Off Time	: Off
	On Time	: Off
	Sleep Timer	: Off
	Auto Off	: On

➡

	TIME	⟨⟩ Move ⊙ Enter
	Clock	
	Off Time	: Off
	On Time	: Off
	Sleep Timer	: Off
	Auto Off	: On

◀ Manual ▶	
Month	02
Date	21
Year	2009
Hour	10 AM
Minute	10
Time Zone	Eastern
Daylight Saving	Auto
Close	

1 MENU — Select **TIME**.

2 ENTER — Select **Clock**.
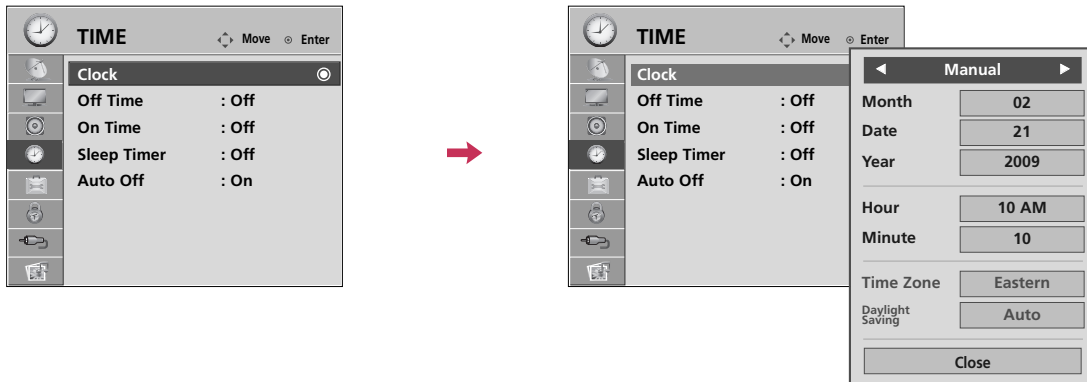
3 ENTER — Select **Manual**.

4 Select the Year, Month, Date, Hour, or Minutes option.

5 Set the Year, Month, Date, Hour, or Minutes option.

6 RETURN — Return to the previous menu.

MENU — Return to TV viewing.

AUTO ON/OFF TIME SETTING

This function operates only if the current time has been set.
The **Off Time** function overrides the **On Time** function if they are both set to the same time.
The TV must be in standby mode for the **On Time** to work.

TIME	◇ Move ⊙ Enter
Clock	
Off Time	: Off
On Time	: Off ◎
Sleep Timer	: Off
Auto Off	: On

➡

TIME	◇ Move ⊙ Enter
Clock	
Off Time	: Off
On Time	: 6:30 AM
Sleep Timer	: Off
Auto Off	: On

Ⓛ Feb. 21, 2009 10:10 AM

Repeat	◄ Once ►
Hour	6 AM
Minute	30

Close
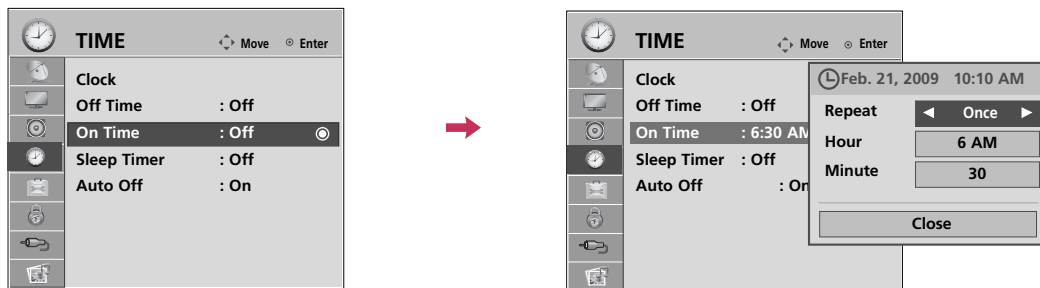
1 MENU Select **TIME**.

2 ENTER Select **Off Time** or **On Time**.

3 ENTER Select **Repeat**.

4 Select **Off**, **Once**, **Daily**, **Mon.~Fri.**,
Mon.~Sat., **Sat.~ Sun.**, or **Sun.**.

5 Select and set **Hour** or **Minute**.

6 RETURN Return to the previous menu.

MENU Return to TV viewing.

SLEEP TIMER SETTING

The Sleep Timer turns the TV off at the preset time.
Note that this setting is cleared when the TV is turned off.

TIME	◇ Move ◉ Enter
Clock	
Off Time	: Off
On Time	: Off
Sleep Timer	: Off ◉
Auto Off	: On

➡

TIME	◇ Move ◉ Enter	
Clock		Off ◉
Off Time	: Off	10 min.
On Time	: Off	20 min.
Sleep Timer	: Off	30 min.
Auto Off	: On	60 min.
		90 min.
		120 min.
		180 min.
		240 min.
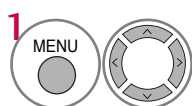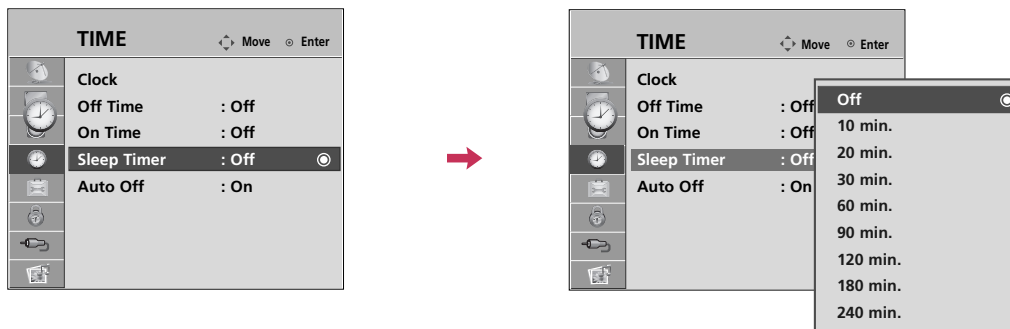
1 MENU — Select **TIME**.
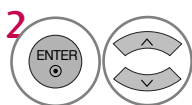
2 ENTER — Select **Sleep Timer**.

3 ENTER — Make appropriate adjustments.
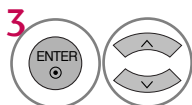
4 RETURN — Return to the previous menu.
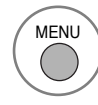
MENU — Return to TV viewing.

■ To cancel the **Sleep Timer**, select **Off**.
■ Press the **SLEEP** button repeatedly to select the number of minutes.

AUTO SHUT-OFF SETTING

If set to on and there is no input signal, the TV turns off automatically after 15 minutes.
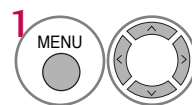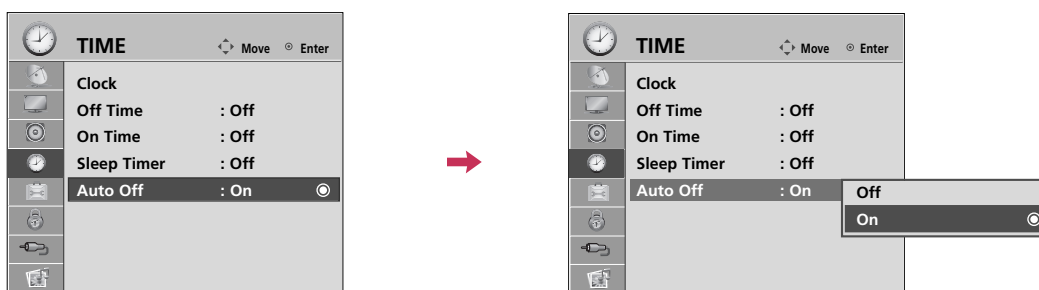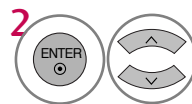
TIME	◇ Move ◉ Enter
Clock	
Off Time	: Off
On Time	: Off
Sleep Timer	: Off
Auto Off	: On ◉

➡

TIME	◇ Move ◉ Enter	
Clock		
Off Time	: Off	
On Time	: Off	
Sleep Timer	: Off	
Auto Off	: On	Off
		On ◉

1 MENU — Select **TIME**.

2 ENTER — Select **Auto Off**.

3 ENTER — Select **On** or **Off**.

4 RETURN — Return to the previous menu.

MENU — Return to TV viewing.

TIME SETTING
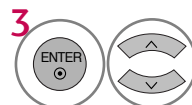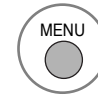
PARENTAL CONTROL / RATINGS

Parental Control can be used to block specific channels, ratings and other viewing sources.

The Parental Control Function (V-Chip) is used to block program viewing based on the ratings sent by the broadcasting station. The default setting is to allow all programs to be viewed. Viewing can be blocked by choosing the type of the program and the categories. It is also possible to block all program viewing for a time period. To use this function, the following must be done :

1. Set ratings and categories to be blocked.
2. Specify a password
3. Enable the lock

V-Chip rating and categories

Rating guidelines are provided by broadcasting stations. Most television programs and television movies can be blocked by TV Rating and/or Individual Categories. Movies that have been shown at the theaters or direct-to-video movies use the Movie Rating System (MPAA) only.

Ratings for Television programs including made-for-TV movies :

- TV-G   (General audience)
- TV-PG (Parental guidance suggested)
- TV-14 (Parents strongly cautioned)
- TV-MA (Mature audience only)
- TV-Y   (All children)
- TV-Y7 (Children 7 years older)

SET PASSWORD & LOCK SYSTEM

Setting up Your Password

Set up blocking schemes to block specific channels, ratings, and external viewing sources.
A password is required to gain access to this menu.

LOCK	⬚ Move ⊙ Enter
Lock System	: On
Set Password	
Block Channel	
Movie Rating	
TV Rating-Children	
TV Rating-General	
Downloadable Rating	
Input Block	

Enter Password

| * | * | * | * |

Close

1 MENU ⬚ ENTER Select **LOCK**.

2 Input the password.

- When you select **On**, the Lock System is enable.
- The TV is set up with the initial password "0-0-0-0".

PARENTAL CONTROL /RATINGS

Lock System

Enables or disables the blocking scheme you set up previously.

	LOCK	◁◇▷ Move ◉ Enter
🔒	**LOCK**	◁◇▷ Move ◉ Enter
	Lock System : Off	◉
	Set Password	
	Block Channel	
	Movie Rating	
	TV Rating-Children	
	TV Rating-General	
	Downloadable Rating	
	Input Block	

➡

	LOCK	◁◇▷ Move ◉ Enter
🔒	**LOCK**	
	Lock System : On	**Off**
	Set Password	**On** ◉
	Block Channel	
	Movie Rating	
	TV Rating-Children	
	TV Rating-General	
	Downloadable Rating	
	Input Block	

1 MENU · ENTER   Select **LOCK**.

2   Select **Lock System**.

3 ENTER   Select **On** or **Off**.

4 RETURN   Return to the previous menu.

MENU   Return to TV viewing.

■ When you select **On**, the Lock System is enable.

Set Password

Set up blocking schemes to block specific channels, ratings, and external viewing sources.
A password is required to gain access to this menu.

	LOCK	◇ Move ⊙ Enter
	Lock System	: Off
	Set Password	◉
	Block Channel	
	Movie Rating	
	TV Rating-Children	
	TV Rating-General	
	Downloadable Rating	
	Input Block	

➡

	LOCK	◇ Move ⊙ Enter
	Lock System	: Off
	Set Password	◉
	Block Channel	
	Movie Rating	
	TV Rating-Children	
	TV Rating-General	
	Downloadable Rating	
	Input Block	

New   * * * *
Confirm   * * * *
Close

1 MENU ENTER   Select **LOCK**.
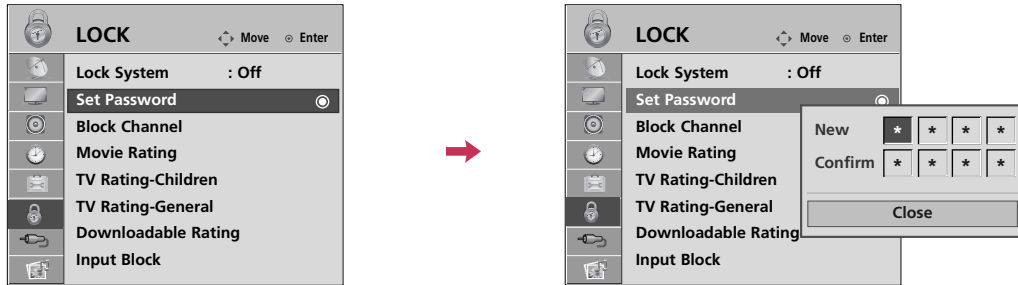
2   Input the password.

3   Select **Set Password**.

4 ENTER   Choose any 4 digits for your new password.
As soon as the 4 digits are entered, re-enter the same 4 digits on the **Confirm**.

5 RETURN   Return to the previous menu.

MENU   Return to TV viewing.

CHANNEL BLOCKING

Blocks any channels that you do not want to watch or that you do not want your children to watch.

LOCK	◈ Move ⊙ Enter
Lock System	: Off
Set Password	
Block Channel	◉
Movie Rating	
TV Rating-Children	
TV Rating-General	
Downloadable Rating	
Input Block	

7-1

DIGITAL   ANALOG

7-1	9-1
11-1	13-1
13-5	15-1

◉ Ch. Change   ◈ Navigation   CH ◇ Page Change   Previous
                          Block/Unblock

1 MENU ENTER   Select **LOCK**.
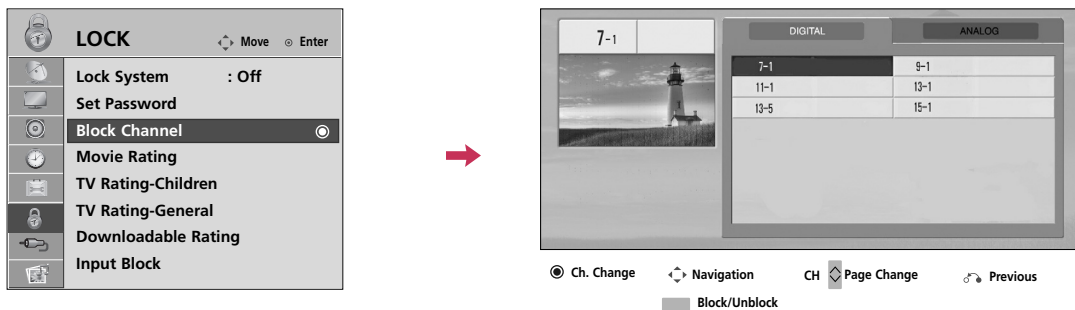
2   Input the password.

3   Select **Block Channel**.

4 ENTER   Select a channel to block or unblock.

5 ▶   Block or unblock a channel.

6 RETURN   Return to the previous menu.

MENU   Return to TV viewing.

PARENTAL CONTROL / RATING

MOVIE & TV RATING

Movie Rating (MPAA) *- For USA*

Blocks movies according to the movie ratings limits specified, so children cannot view certain movies. You can set the ratings limit by blocking out all the movies with the ratings above a specified level. Keep in mind that the movie ratings limit only applies to movies shown on TV, not TV programs, such as soap operas.

LOCK	◇ Move ◉ Enter
Lock System	: Off
Set Password	
Block Channel	
Movie Rating	◉
TV Rating-Children	
TV Rating-General	
Downloadable Rating	
Input Block	

LOCK	◇ Move ◉ Enter
Lock System	: Off
Set Password	
Block Channel	
Movie Rating	◉
TV Rating-Children	
TV Rating-General	
Downloadable Rating	
Input Block	

Blocking off : Permits all programs
- G
- PG
- PG-13
- R
- NC-17
- X
- **Blocking Off**

1 MENU / ENTER Select **LOCK**.
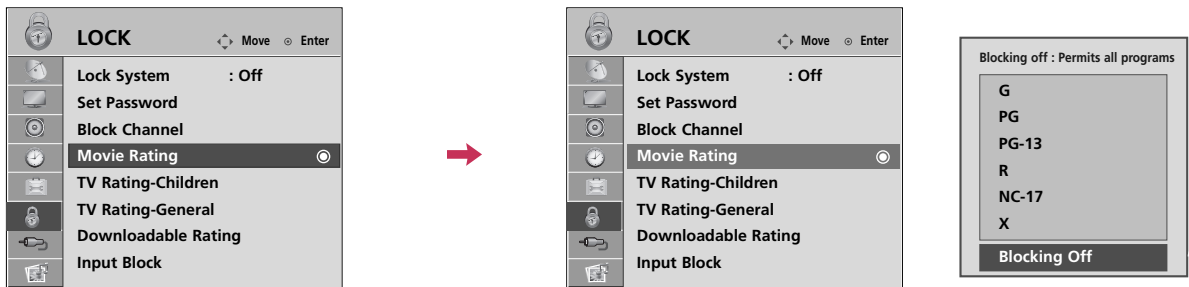
2 Input the password.

3 Select **Movie Rating**.

4 ENTER Select **G**, **PG**, **PG-13**, **R**, **NC-17**, **X**, or **Blocking Off**.

5 RETURN Return to the previous menu.

MENU Return to TV viewing.
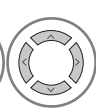
- ■ G (General audience)
- ■ PG (Parental guidance suggested)
- ■ PG-13 (Parents strongly cautioned)
- ■ R (Restricted)
- ■ NC-17 (No one 17 and under admitted)
- ■ X (Adult only)
- ■ Blocking Off (Permits all programs)
- ► If you set PG-13: G and PG movies will be available, PG-13, R, NC-17 and X will be blocked.

PARENTAL CONTROL /RATINGS

TV Rating Children - *For USA*

Prevents children from watching certain children's TV programs, according to the ratings limit set. The children rating does not apply to other TV programs. Unless you block certain TV programs intended for mature audiences in the TV Rating - sub menu, your children can view those programs.

LOCK	‹›Move ⊙Enter
Lock System	: Off
Set Password	
Block Channel	
Movie Rating	
TV Rating-Children	◎
TV Rating-General	
Downloadable Rating	
Input Block	

➡

LOCK	‹›Move ⊙Enter
Lock System	: Off
Set Password	
Block Channel	
Movie Rating	
TV Rating-Children	**Age** ◎
TV Rating-General	**Fantasy Violence**
Downloadable Rating	
Input Block	**Close**

1 MENU ⊙ ENTER   Select **LOCK**.
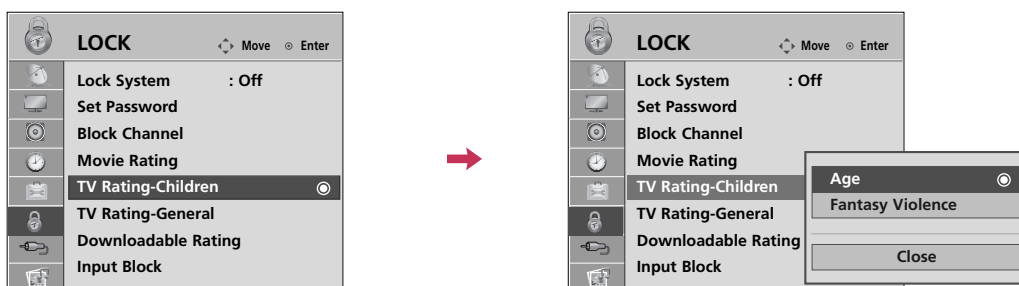
2 Input the password.

3 Select **TV Rating-Children**.

4 ENTER   Select **Age** or **Fantasy Violence**.

- Age (applies to TV-Y, TV-Y7)
- Fantasy Violence (applies to TV-Y7)

5 ENTER   Select block options.

6 RETURN   Return to the previous menu.

MENU   Return to TV viewing.

PARENTAL CONTROL / RATING

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TV Rating General *- For USA*

Based on the ratings, blocks certain TV programs that you and your family do not want to view.

🔒	**LOCK**	⟐ Move ⊙ Enter	
	Lock System : Off		
	Set Password		
	Block Channel		
	Movie Rating		
	TV Rating-Children		
	TV Rating-General ◎		
	Downloadable Rating		
	Input Block		

➡

🔒	**LOCK**	⟐ Move ⊙ Enter
	Lock System : Off	
	Set Password	
	Block Channel	**Age** ◉
	Movie Rating	**Dialogue**
	TV Rating-Children	**Language**
	TV Rating-General	**Sex**
	Downloadable Rating	**Violence**
	Input Block	**Close**

1 MENU ⌄ ^ ENTER   Select **LOCK**.
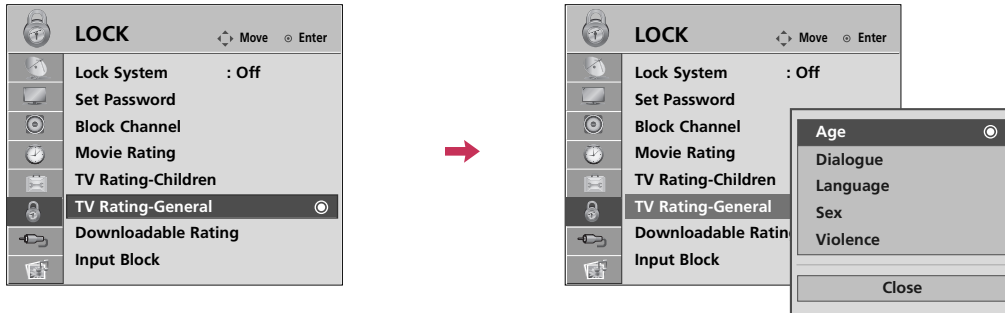
2 (keypad)   Input the password.

3 ⌄^   Select **TV Rating-General**.

4 ENTER ⌄^   Select **Age**, **Dialogue**, **Language**, **Sex** or **Violence**.

5 ＞ ⌄^   Select block options.

6 RETURN   Return to the previous menu.

MENU   Return to TV viewing.

- ■ Age (applies to TV-G,TV-PG,TV-14,TV-MA).
- ■ Dialogue-sexual dialogue (applies to TV-PG,TV-14).
- ■ Language-adult language (applies to TV-PG, TV-14, TV-MA).
- ■ Sex-sexual situations (applies to TV-PG, TV-14, TV-MA).
- ■ Violence (applies to TV-PG, TV-14, TV-MA).

PARENTAL CONTROL / RATING

PARENTAL CONTROL /RATINGS

TV Rating English *- For CANADA*

Selecting Canadian English rating system.

	LOCK	◇ Move ⊙ Enter
	Lock System	: Off
	Set Password	
	Block Channel	
	TV Rating-English	◉
	TV Rating-French	
	Downloadable Rating	
	Input Block	

	LOCK	◇ Move ⊙ Enter
	Lock System	: Off
	Set Password	
	Block Channel	
	TV Rating-English	◉
	TV Rating-French	
	Downloadable Rating	
	Input Block	

Blocking off : Permits all programs
E
C
C8+
G
PG
14+
18+
Blocking Off
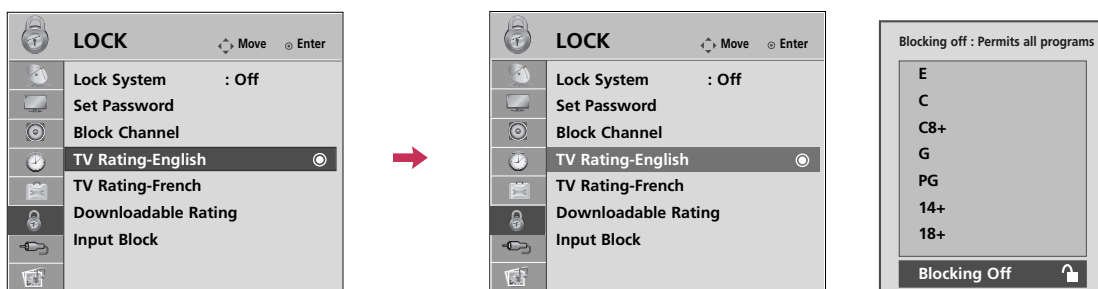
1 MENU   ENTER   Select **LOCK**.

2 Input the password.

3 Select **TV Rating-English**.

4 ENTER   Select **E**, **C**, **C8+**, **G**, **PG**, **14+**, **18+**, or **Blocking Off**.

5 RETURN   Return to the previous menu.

MENU   Return to TV viewing.

- If **TV Rating-English** or **TV Rating-French** is locked, enter the password to unlocked it temporarily.
- E (Exempt)
- C (Children)
- C8+ (Children eight years and older)
- G (General programming, suitable for all audiences)
- PG (Parental Guidance)
- 14+ (Viewers 14 years and older)
- 18+ (Adult programming)
- Blocking Off (Permits all programs)

TV Rating French - *For CANADA*

Selecting Canadian French rating system.

LOCK	◇ Move ⊙ Enter		
Lock System	: Off		
Set Password			
Block Channel			
TV Rating-English			
TV Rating-French	◉		
Downloadable Rating			
Input Block			

➡

LOCK	◇ Move ⊙ Enter
Lock System	: Off
Set Password	
Block Channel	
TV Rating-English	
TV Rating-French	◉
Downloadable Rating	
Input Block	

Blocking off : Permits all programs

- E
- G
- 8ans+
- 13ans+
- 16ans+
- 18ans+

Blocking Off 🔓

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1 MENU · ENTER — Select **LOCK**.
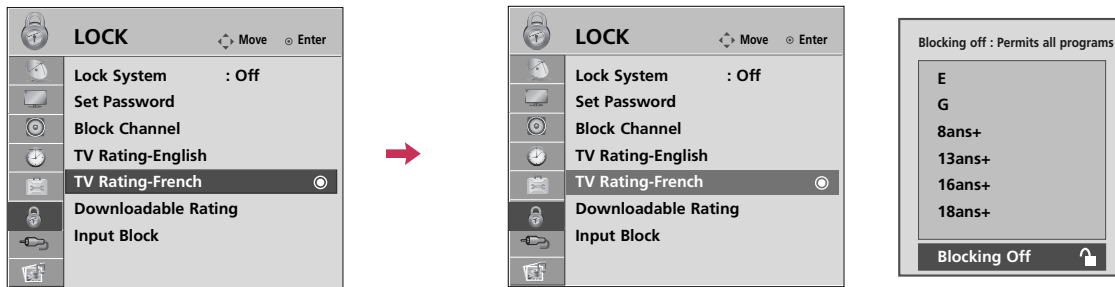
2 Input the password.

3 Select **TV Rating-French**.

4 ENTER — Select **E**, **G**, **8ans+**, **13ans+**, **16ans+**, **18ans+**, or **Blocking off**.

5 RETURN — Return to the previous menu.

MENU — Return to TV viewing.

- ■ E (Exempt)
- ■ G (General)
- ■ 8ans+ (General-Not convenient for little children)
- ■ 13ans+ (Not convenient for children of 13 years and younger)
- ■ 16ans+ (Not convenient for children of 16 years and younger)
- ■ 18ans+ (This programs is only for adults)
- ■ Blocking off (Permits all programs)

DOWNLOADABLE RATING

This function is available only for digital channels.
This function operates only when TV has received Region5 Rating data.

LOCK	◇ Move ◉ Enter
🔒	
⏰	Lock System : Off
💻	Set Password
◎	Block Channel
🕐	Movie Rating
📺	TV Rating-Children
🔓	TV Rating-General
⊐	**Downloadable Rating** ◉
📷	Input Block

➡

LOCK	◇ Move ◉ Enter
🔒	
⏰	Lock System : Off
💻	Set Password
◎	Block Channel
🕐	Movie Rating
📺	TV Rating-Children
🔓	TV Rating-General
⊐	**Downloadable Rating**
📷	Input Block

▲
Humor ◉
Sport
Cruelty
Language
Sadness
Genre
Age
▼
Close
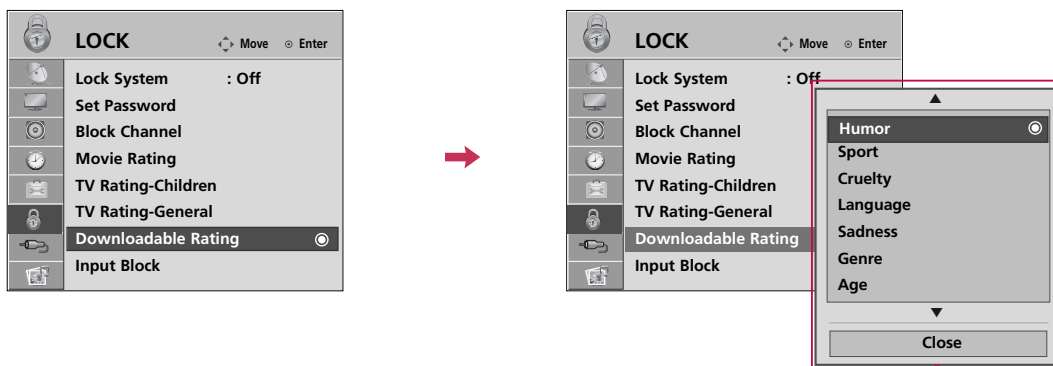
■ Based on rating table, your TV's OSD (On Screen Display) may differ slightly from what is shown in this manual.

1 MENU | ∧∨‹› | ENTER   Select **LOCK**.

2 [number pad]   Input the password.

3 [up/down]   Select **Downloadable Rating**.

4 ENTER | [up/down]   Select desired **Downloadable Rating** option.

5 ENTER | [up/down]   Select desired option and block it.

6 RETURN   Return to the previous menu.

MENU   Return to TV viewing.

EXTERNAL INPUT BLOCKING

Enables you to block an input.

LOCK	◇ Move ⊙ Enter
Lock System	: Off
Set Password	
Block Channel	
Movie Rating	
TV Rating-Children	
TV Rating-General	
Downloadable Rating	
Input Block	◉

➡

LOCK	◇ Move ⊙ Enter
Lock System	: O...
Set Password	
Block Channel	
Movie Rating	
TV Rating-Children	
TV Rating-General	
Downloadable Rating	
Input Block	

AV1	◄ Off ►
AV2	Off
Component	Off
RGB-PC	Off
HDMI1	Off
HDMI2	Off
Close	

1 MENU / ENTER Select **LOCK**.
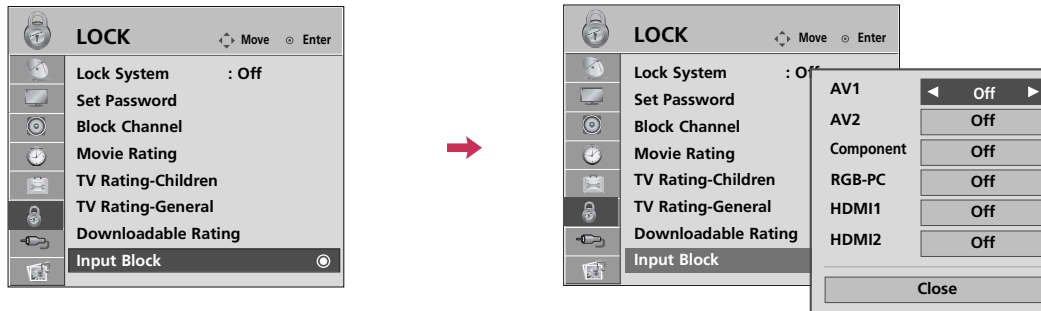
2 Input the password.

3 Select **Input Block**.

4 ENTER Select input source.

5 Select **On** or **Off**.

6 RETURN Return to the previous menu.

MENU Return to TV viewing.

PARENTAL CONTROL / RATING

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APPENDIX

TROUBLESHOOTING

Abnormal Operation

The remote control doesn't work	■ Check to see if there is any object between the product and the remote control causing obstruction. Ensure you are pointing the remote control directly at the TV. ■ Ensure that the batteries are installed with correct polarity (+ to +, - to -). ■ Ensure that the correct remote operating mode is set: TV, VCR etc. ■ Install new batteries.
Power is suddenly turned off	■ Is the sleep timer set? ■ Check the power control settings. Power interrupted.

Video Problems

No picture &No sound	■ Check whether the product is turned on. ■ Try another channel. The problem may be with the broadcast. ■ Is the power cord inserted into wall power outlet? ■ Check your antenna direction and/or location. ■ Test the wall power outlet, plug another product's power cord into the outlet where the product's power cord was plugged in.
Picture appears slowly after switching on	■ This is normal, the image is muted during the product startup process. Please contact your service center, if the picture has not appeared after five minutes.
No or poor color or poor picture	■ Adjust Color in menu option. ■ Try unplugging any others electronics that are near by to see if interference is causing the problem. ■ Try another channel. The problem may be with the broadcast. ■ Are the video cables installed properly? ■ Activate any function to restore the brightness of the picture.
Horizontal/vertical bars or picture shaking	■ Check for local interference such as an electrical appliance or power tool.
Poor reception on some channels	■ Station or cable product experiencing problems, tune to another station. ■ Station signal is weak, reorient antenna. ■ Check for sources of possible interference.
Lines or streaks in pictures	■ Check antenna (Change the direction of the antenna).
No picture when connecting HDMI	■ If the HDMI cables don't support High Speed HDMI, it can cause flickers or no screen display. In this case use the latest cables that support High Speed HDMI.

Audio Problems

Picture OK but No sound	■ Press the VOL or VOLUME button. ■ Sound muted? Press the MUTE button. ■ Try another channel. The problem may be with the broadcast. ■ Are the audio cables installed properly?
No output from one of the speakers	■ Adjust Balance in menu option.
Unusual sound from inside the product	■ A change in ambient humidity or temperature may result in an unusual noise when the product is turned on or off and does not indicate a fault with the product.
No sound when connecting HDMI or USB	■ Check High Speed HDMI cable. ■ Check USB cable over version 2.0. ■ Use normal MP3 file. *This feature is not available for all models.

PC Mode Problems

The signal is out of range	■ Adjust resolution, horizontal frequency, or vertical frequency. ■ Check the input source.
Vertical bar or stripe on background & Horizontal Noise & Incorrect position	■ Work the Auto configure or adjust clock, phase, or H/V position. (Option)
Screen color is unstable or single color	■ Check the signal cable. ■ Update video card drivers.

MAINTENANCE

Early malfunctions can be prevented. Careful and regular cleaning can extend the amount of time you can enjoy your new TV.
Caution: Be sure to turn the power off and unplug the power cord before you begin any cleaning.

Cleaning the Screen

1 Here's a great way to keep the dust off your screen for a while. Wet a soft cloth in a mixture of lukewarm water and a little fabric softener or dish washing detergent. Wring the cloth until it's almost dry, and then use it to wipe the screen.

2 Make sure the excess water is off the screen, and then let it air-dry before you turn on your TV.

❗ WARNING

▶ Do not use window/glass cleaner or anything with ammonia to clean the screen.

Cleaning the Cabinet

■ To remove dirt or dust, wipe the cabinet with a soft, dry, lint-free cloth.
■ Please be sure not to use a wet cloth.

Extended Absence

⚠ CAUTION

▶ If you expect to leave your TV dormant for a long time (such as a vacation), it's a good idea to unplug the power cord to protect against possible damage from lightning or power surges.

PRODUCT SPECIFICATIONS

MODELS		32LG710H (32LG710H-UA)	37LG710H (37LG710H-UA)	42LG710H (42LG710H-UA)
Dimensions (Width x Height x Depth)	With stand	797 x 597 x 232.5 mm 31.3 x 23.5 x 9.15 inch	918.6 x 684.8 x 293.4 mm 36.1 x 26.9 x 11.5 inch	1026.2 x 734.1 x 293.4 mm 40.4 x 28.9 x 11.5 inch
	Without stand	797 x 558.7 x 109.3 mm 31.3 x 21.9 x 4.3 inch	918.6 x 635.8 x 111.7 mm 36.1 x 25.0 x 4.39 inch	1026.2 x 687.9 x 111.8 mm 40.4 x 27.0 x 4.4 inch
Weight	With stand Without stand	12.89 kg / 28.41 lbs 11.41 kg / 25.15 lbs	17.97 kg / 39.61 lbs 15.41 kg / 33.97 lbs	21.10 kg / 46.51 lbs 18.48 kg / 40.74 lbs
Cable Card	MPI card (Width x Height x Depth)	3.1 x 0.9 x 6.3 inch 80.0(+0.6/-0.2) x less than 23.0(including pcb thickness) x less than 162.0(excluding cover thickness) mm		
	Card Bracket Cover (Width x Height)	3.7 x 1.1 inch 94.7(±0.5) x 28.3(±0.5) mm		
Power requirement Television System Program Coverage External Antenna Impedance		AC100-240V ~ 50/60Hz NTSC-M, ATSC, 64 & 256 QAM VHF 2-13, UHF 14-69, CATV 1-135, DTV 2-69, CADTV 1-135 75 ohm		
Environment condition	Operating Temperature Operating Humidity	32 ~ 104˚F (0 ~ 40˚C) Less than 80%		
	Storage Temperature Storage Humidity	-4 ~ 140˚F (-20 ~ 60˚C) Less than 85%		

■ The specifications shown above may be changed without prior notice for quality improvement.

APPENDIX

MODELS		32LD650H (32LD650H-UA) 32LD655H (32LD655H-UA)	37LD650H (37LD650H-UA) 37LD655H (37LD655H-UA) 37LD660H (37LD660H-UA)
Dimensions (Width x Height x Depth)	With stand	797.0 mm x 557.7 mm x 207.0 mm (31.3 inch x 21.9 inch x 8.1 inch)	916.0 mm x 626.0 mm x 261.0 mm (36.0 inch x 24.6 inch x 10.2 inch)
	Without stand	797.0 x 495.0 x 97.1 mm (31.3 inch x 19.4 inch x 3.8 inch)	916.0 mm x 560.0 mm x 88.9 mm (36.0 inch x 22.0 inch x 3.5 inch)
Weight	With stand Without stand	11.1 kg (24.4 lbs) 9.4 kg (20.7 lbs)	14.6 kg (32.1 lbs) 12.0 kg (26.4 lbs)

MODELS		42LD650H (42LD650H-UA) 42LD655H (42LD655H-UA)	47LD650H (47LD650H-UA)
Dimensions (Width x Height x Depth)	With stand	1024.0 mm x 686.6 mm x 261.0 mm (40.3 inch x 27.0 inch x 10.2 inch)	1137.0 mm x 758.0 mm x 270.0 mm (44.7 inch x 29.8 inch x 10.6 inch)
	Without stand	1024.0 mm x 621.0 mm x 87.1 mm (40.3 inch x 24.4 inch x 3.4 inch)	1137.0 mm x 685.0 mm x 76.8 mm (44.7 inch x 26.9 inch x 3.0 inch)
Weight	With stand Without stand	17.7 kg (39.0 lbs) 15.1 kg (33.2 lbs)	20.3 kg (44.7 lbs) 18.3 kg (40.3 lbs)

MODELS		55LD650H (55LD650H-UA)
Dimensions (Width x Height x Depth)	With stand	1329.0 mm x 872.0 mm x 330.0 mm (52.3 inch x 34.3inch x 12.9 inch)
	Without stand	1329.0 mm x 796.0 mm x 96.5 mm (52.3 inch x 31.3 inch x 3.7 inch)
Weight	With stand Without stand	33.0 kg (72.7lbs) 29.8 kg (65.6 lbs)

Power requirement Television System Program Coverage External Antenna Impedance		AC100-240V ~ 50/60Hz NTSC-M, ATSC, 64 & 256 QAM VHF 2-13, UHF 14-69, CATV 1-135, DTV 2-69, CADTV 1-135 75 ohm
Environment condition	Operating Temperature Operating Humidity	32 ~ 104˚F (0 ~ 40˚C) Less than 80%
	Storage Temperature Storage Humidity	-4 ~ 140˚F (-20 ~ 60˚C) Less than 85%

■ The specifications shown above may be changed without prior notice for quality improvement.

PROGRAMMING THE REMOTE CONTROL

The provided universal remote control can be programmed to operate most remote-controllable devices.
Note that the remote may not control all models of other brands.

Programming a code into a remote mode

1 Testing your remote control.
To find out whether your remote control can operate other components without programming, turn on a component such as a STB(Set-Top Box) and press the corresponding mode button (such as a **STB**) on the remote control, while pointing at the component. Test the **POWER** and **CH** ∧ ∨ buttons to see if the component responds correctly. If the component does not operate correctly, the remote control requires programming to operate the device.

2 Turn on the component to be programmed, then press the corresponding mode button (such as **STB**) on the remote control. The remote control button of the desired device is illuminated.

3 Press the **MENU** and **MUTE** buttons simultaneously, and the remote control is ready to be programmed with the code.

4 Enter a code number using the number buttons on the remote control. Programming code numbers for the corresponding component can be found on the following pages. If the code is correct, the device will turn off.

5 Press the **MENU** button to store the code.

6 Test the remote control functions to see if the component responds correctly. If not, repeat from step 2.

APPENDIX

Remote Control Code

VCR

Brand	Codes				Brand	Codes				Brand	Codes			
AIWA	034				MAGNAVOX	031	033	034	041	SAMSUNG	032	040	102	104
AKAI	016	043	046	124		067	068				105	107	109	112
	125	146			MARANTZ	012	031	033	067		113	115	120	122
AMPRO	072					069					125			
ANAM	031	033	103		MARTA	101				SANSUI	022	043	048	135
AUDIO DYNAMICS	012	023	039	043	MATSUI	027	030			SANYO	003	007	010	014
BROKSONIC	035	037	129		MEI	031	033				102	134		
CANON	028	031	033		MEMOREX	003	010	014	031	SCOTT	017	037	112	129
CAPEHART	108					033	034	053	072		131			
CRAIG	003	040	135			101	102	134	139	SEARS	003	008	009	010
CURTIS MATHES	031	033	041		MGA	045	046	059			013	014	017	020
DAEWOO	005	007	010	064	MINOLTA	013	020				031	042	073	081
	065	108	110	111	MITSUBISHI	013	020	045	046		101			
	112	116	117	119		049	051	059	061	SHARP	031	054	149	
DAYTRON	108					151				SHINTOM	024			
DBX	012	023	039	043	MTC	034	040			SONY	003	009	031	052
DYNATECH	034	053			MULTITECH	024	034				056	057	058	076
ELECTROHOME	059				NEC	012	023	039	043		077	078	149	
EMERSON	006	017	025	027		048				SOUNDESIGN	034			
	029	031	034	035	NORDMENDE	043				STS	013			
	036	037	046	101	OPTONICA	053	054			SYLVANIA	031	033	034	059
	129	131	138	153	PANASONIC	066	070	074	083		067			
FISHER	003	008	009	010		133	140	145		SYMPHONIC	034			
FUNAI	034									TANDY	010	034		
GE	031	033	063	072	PENTAX	013	020	031	033	TATUNG	039	043		
	107	109	144	147		063				TEAC	034	039	043	
GO VIDEO	132	136			PHILCO	031	034	067		TECHNICS	031	033	070	
HARMAN KARDON		012	045		PHILIPS	031	033	034	054	TEKNIKA	019	031	033	034
HITACHI	004	018	026	034		067	071	101			101			
	043	063	137	150	PILOT	101				THOMAS	034			
INSTANTREPLAY	031	033			PIONEER	013	021	048		TMK	006			
JCL	031	033			PORTLAND	108				TOSHIBA	008	013	042	047
JCPENNY	012	013	015	033	PULSAR	072					059	082	112	131
	040	066	101		QUARTZ	011	014			TOTEVISION	040	101		
JENSEN	043				QUASAR	033	066	075	145	UNITECH	040			
JVC	012	031	033	043	RCA	013	020	033	034	VECTOR RESEARCH	012			
	048	050	055	060		040	041	062	063	VICTOR	048			
	130	150	152			107	109	140	144	VIDEO CONCEPTS	012	034	046	
KENWOOD	014	034	039	043		145	147			VIDEOSONIC	040			
	047	048			REALISTIC	003	008	010	014	WARDS	003	013	017	024
LG (GOLDSTAR)	001	012	013	020		031	033	034	040		031	033	034	040
	101	106	114	123		053	054	101			053	054	131	
LLOYD	034				RICO	058				YAMAHA	012	034	039	043
LXI	003	009	013	014	RUNCO	148				ZENITH	034	048	056	
	017	034	101	106	SALORA	014					058	072	080	101
MAGIN	040													

HDSTB

Brand	Codes				Brand	Codes			Brand	Codes			
ALPHASTAR DSR	123				HUGHES	068			SATELLITE SERVICE CO	028	035	047	057
AMPLICA	050				HUMAX(SL)	158				085			
ASTRO PHILIPS(ML)	159				JANIEL	060	147		SCIENTIFIC ATLANTA	032	138		
ASTRO THOMPSON(ML)	160				JERROLD	061			SKY LIFE	150			
ASTRO NOKIA(ML)	161				KATHREIN	108			SONY	103			
BIRDVIEW	051	126	129		LEGEND	057			STARCAST	041			
CHANNEL MASTER	013	014	015	018	LG	001			SUPER GUIDE	020	124	125	
	036	055			LUTRON	132			SAMART(TH)	156			
CHAPARRAL	008	009	012	077	LUXOR	062	144		TEECOM	023	026	075	087
CITOH	054				MACOM	010	059	063 064		088	090	107	130
CURTIS MATHES	050	145				065				137			
DRAKE	005	006	007	010	MEMOREX	057			TOSHIBA	002	127		
	011	052	112	116	NEXTWAVE	028	124	125	TRUE VISION(TH)	155			
	141				NORSAT	069	070		UNIDEN	016	025	042	043
DX ANTENNA	024	046	056	076	PACE SKY SATELLITE	143				044	045	048	049
ECHOSTAR	038	040	057	058	PANASONIC	060	142			078	079	080	086
	093	094	095	096	PANSAT	121				101	135	136	
	097	098	099	100	PERSONAL CABLE	117			UBC(TH)	153			
	122				PHILIPS	071			UBC/SAMART(TH)	154			
ELECTRO HOME	089				PICO	105			VIEWSTAR	115			
EUROPLUS	114				PRESIDENT	019	102		VTC(VN)	162			
FUJITSU	017	021	022	027	PRIMESTAR	030	110	111	WINEGARD	128	146		
	133	134			PROSAT	072			ZENITH	081	082	083	084
GENERAL INSTRUMENT	003	004	016	029	PSI(TH)	157				091	120		
	031	059	101		RCA	066	106						
HITACHI	139	140			REALISTIC	043	074						
HOUSTON TRACKER	033	037	039	051	SAMSUNG	123							
	057	104											

DVD

Brand	Codes				Brand	Codes		Brand	Codes		
APEX DIGITAL	022				MITSUBISHI	002		RCA	005	006	
DENON	020	014			NAD	023		SAMSUNG	011	015	
GE	005	006			ONKYO	008	017	SONY	007		
HARMAN KARDON	027				PANASONIC	003	009	THOMPSON	005	006	
JVC	012				PHILIPS	013		TOSHIBA	019	008	
LG	001	010	016	025	PIONEER	004	026	YAMAHA	009	018	
MAGNAVOX	013				PROCEED	021		ZENITH	010	016	025
MARANTZ	024				PROSCAN	005	006				

IR CODES

1. How to Connect

■ Connect your wired remote control to the Remote Control port on the TV.

2. Remote Control IR Codes

■ **Output waveform**

Single pulse, modulated with 37.917KHz signal at 455KHz
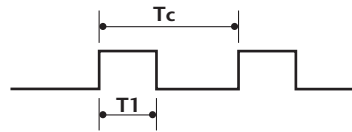
Carrier frequency

$FCAR = 1/TC = fOSC/12$

Duty ratio = $T1/TC = 1/3$

■ **Configuration of frame**

1st frame

Lead code	Low custom code								High custom code								Data code								Data code							
	C0	C1	C2	C3	C4	C5	C6	C7	C0	C1	C2	C3	C4	C5	C6	C7	D0	D1	D2	D3	D4	D5	D6	D7	D0	D1	D2	D3	D4	D5	D6	D7

Repeat frame

Repeat code

Tf

■ **Lead code**

9 ms

4.5 ms

■ **Repeat code**

0.55 ms

9 ms

2.25 ms
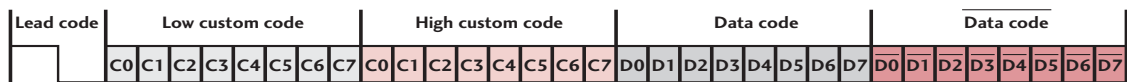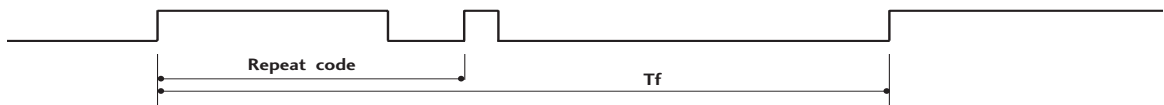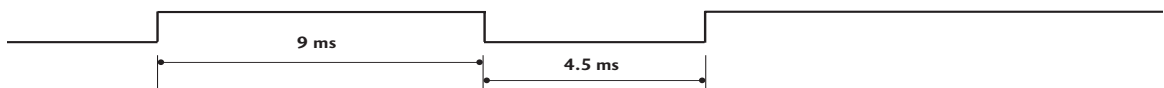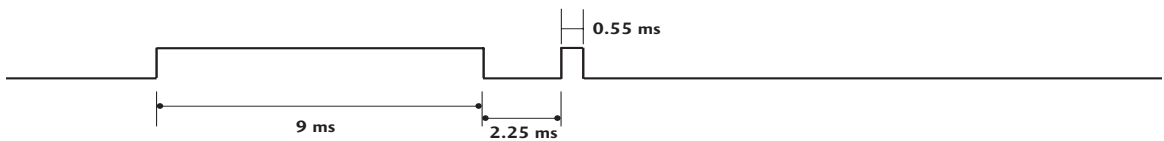
■ **Bit description**

Bit "0"

0.56 ms

1.12 ms

Bit "1"

0.56 ms

2.24 ms
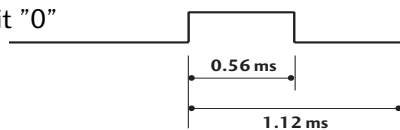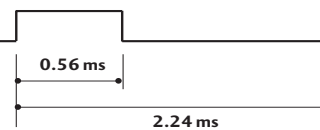
■ **Frame interval: Tf**

The waveform is transmitted as long as a key is depressed.

Tf

Tf

Tf=108ms @455KHz
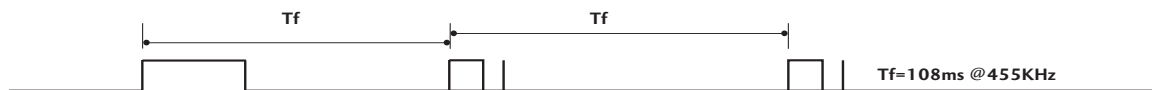
Code (Hexa)	Function	Note	Code (Hexa)	Function	Note
08	POWER	Remote control Button (Power On/Off)	D6	TV	Discrete IR Code (TV Input Selection)
0F	TV	Remote control Button	5A	AV1	Discrete IR Code (AV1 Input Selection)
0B	INPUT	Remote control Button	D0	AV2	Discrete IR Code (AV2 Input Selection)
0A	SAP	Remote control Button			
79	◄◄ RATIO	Remote control Button	BF	COMPONENT	Discrete IR Code (COMPONENT Input Selection)
AB	GUIDE	Remote control Button			
OC	PORTAL	Remote control Button	D5	RGB-PC	Discrete IR Code (RGB Input Selection)
AA	INFO	Remote control Button			
10-19	Number Key 0-9	Remote control Button	CE	HDMI1	Discrete IR Code (HDMI1 Input Selection)
4C	- (Dash)	Remote control Button			
1A	FLASHBK	Remote control Button	CC	HDMI2	Discrete IR Code (HDMI2 Input Selection)
02	VOL +	Remote control Button			
03	VOL -	Remote control Button	76	Ratio 4:3	Discrete IR Code (Only 4:3 Mode)
00	CH ∧	Remote control Button			
01	CH ∨	Remote control Button	77	Ratio 16:9	Discrete IR Code (Only 16:9 Mode)
0E	►► TIMER	Remote control Button			
39	CC	Remote control Button	AF	Ratio Zoom	Discrete IR Code (Only Zoom Mode)
09	MUTE	Remote control Button			
43	MENU	Remote control Button	C4	POWER ON	Discrete IR Code (Only Power On)
5B	RETURN	Remote control Button			
40	∧	Remote control Button	C5	POWER OFF	Discrete IR Code (Only Power Off)
41	∨	Remote control Button			
07	<	Remote control Button			
06	>	Remote control Button			
44	ENTER	Remote control Button			
60	PIP	Remote control Button			
71	PIP CH +	Remote control Button			
72	PIP CH-	Remote control Button			
63	PIP SWAP	Remote control Button			
61	PIP INPUT	Remote control Button			
C1	■ Stop	Remote control Button			
C0	► Play	Remote control Button			
C2	‖Pause	Remote control Button			
C3	● (Record)	Remote control Button			

APPENDIX

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Version 2, June 1991

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This license, the Lesser General Public License, applies to some specially designated software packages - typically libraries - of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

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0. This license agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this license"). Each license is addressed as "you".

    A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

    The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

    "Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

    Activities other than copying, distribution and modification are not covered by this license; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the library does and what the program that uses the library does.

1. You may copy and distribute verbatim copies of the library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this license and to the absence of any warranty; and distribute a copy of this license along with the Library.

    You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of section 1 above, provided that you also meet all of these conditions:
    a) The modified work must itself be a software library.
    b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.
    c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this license.
    d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

    (For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

    These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the library, and can be reasonably considered independent and separate works in themselves, then this license, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the library, the distribution of the whole must be on the terms of this license, whose permissions for other licenses extend to the entire whole, and thus to each and every part regardless of who wrote it.
    Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the library.

    In addition, mere aggregation of another work not based on the library with the library (or with a work based on the library) on a volume of a storage or distribution medium does not bring the other work under the scope of this license.

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3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.
Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.
This option is useful when you wish to copy part of the code of the library into a program that is not a library.

4. You may copy and distribute the library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of sections 1 and 2 above on a medium customarily used for software interchange.
If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this license.

However, linking a "work that uses the library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the library), rather than a "work that uses the library". The executable is therefore covered by this license. Section 6 states terms for distribution of such executable.

When a "work that uses the library" uses material from a header file that is part of the library, the object code for the work may be a derivative work of the library even though the source code is not.
Whether this is true is especially significant if the work can be linked without the library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessories, and small macros and small inline functions (ten lines or less in length), then the use of

the object file is unrestricted, regardless of whether it is legally a derivative work. (Executable containing this object code plus portions of the library will still fall under Section 6.)

Otherwise, if the work is a derivative of the library, you may distribute the object code for the work under the terms of Section 6. Any executable containing that work also fall under Section 6, whether or not they are linked directly with the library itself.

6. As an exception to the sections above, you may also combine or link a "work that uses the library" with the library to produce a work containing portions of the library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the library is used in it and that the Library and its use are covered by this license. You must supply a copy of this license. If the work during execution displays copyright notices, you must include the copyright notice for the library among them, as well as a reference directing the user to the copy of this license. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the library and then relink to produce a modified executable containing the modified library. (It is understood that the user who changes the contents of definitions files in the library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the library together in an executable that you distribute.

7. You may place library facilities that are a work based on the library side-by-side in a single library together with other library facilities not covered by this license, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the sections above.
b) Give prominent notice with the combined library of the fact that part of it is a work based on the library, and explaining where to find the accompanying uncombined form of the same work.

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To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

one line to give the library's name and a brief idea of what it does. Copyright (C) <year> <name of author>

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signature of Ty Coon, 1 April 1990
Ty Coon, President of Vice

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Version 1.1

1.Definitions.

1.0.1. "Commercial use" means distribution or otherwise making the covered code available to a third party.

1.1.   "Contributor" means each entity that creates or contributes to the creation of modifications.

1.2.   "Contributor version" means the combination of the original code, prior modifications used by a contributor, and the modifications made by that particular contributor.

1.3.   "Covered code" means the original code or modifications or the combination of the original code and modifications, in each case including portions thereof.

1.4.   "Electronic distribution mechanism" means a mechanism generally accepted in the software development community for the electronic transfer of data.

1.5.   "Executable" means covered code in any form other than source code.

1.6.   "Initial developer" means the individual or entity identified as the initial Developer in the Source Code notice required by exhibit A.

1.7.   "Larger work" means a work which combines covered code or portions thereof with code not governed by the terms of this License.

1.8.   "License" means this document.

1.8.1. "Licensable" means having the right to grant, to the maximum extent possible, whether at the time of the initial grant or subsequently acquired, any and all of the rights conveyed herein.

1.9.   "Modifications" means any addition to or deletion from the substance or structure of either the original code or any previous modifications. When covered code is released as a series of files, a modification is:

A. Any addition to or deletion from the contents of a file containing original code or previous modifications.

B. Any new file that contains any part of the original code or previous modifications.

1.10. "Original code" means source code of computer software

code which is described in the source code notice required by exhibit as original code, and which, at the time of its release under this license is not already covered code governed by this license.

1.10.1."Patent claims" means any patent claim(s), now owned or hereafter acquired, including without limitation, method, process, and apparatus claims, in any patent licensable by grantor.

1.11. "Source code" means the preferred form of the covered code for making modifications to it, including all modules it contains, plus any associated interface definition files, scripts used to control compilation and installation of an executable, or source code differential comparisons against either the original code or another well known, available covered code of the contributor's choice. The source code can be in a compressed or archival form, provided the appropriate decompression or de-archiving software is widely available for no charge.

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You may not offer or impose any terms on any source code version that alters or restricts the applicable version of this license or the recipients' rights hereunder. However, you may include an additional document offering the additional rights described in section 3.5.

3.2. Availability of source code.

Any modification which you create or to which you contribute must be made available in source code form under the terms of this license either on the same media as an executable version or via an accepted electronic distribution mechanism to anyone to whom you made an executable version available; and if made available via electronic distribution mechanism, must remain available for at least twelve (12) months after the date it initially became available, or at least six (6) months after a subsequent version of that particular modification has been made available to such recipients. You are responsible for ensuring that the source code version remains available even if the electronic distribution mechanism is maintained by a third party.

3.3. Description of modifications.

You must cause all covered code to which you contribute to contain a file documenting the changes You made to create that covered code and the date of any change. You must include a prominent statement that the modification is derived, directly or indirectly, from original code provided by the initial developer and including the name of the initial developer in (a) the source code, and (b) in any notice in an executable version or related documentation in which you describe the origin or ownership of the covered code.

3.4. Intellectual property matters

(a) Third party claims.

If contributor has knowledge that a license under a third party's intellectual property rights is required to exercise the rights granted by such contributor under sections 2.1 or 2.2, contributor must include a text file with the source code distribution titled "LEGAL" which describes the claim and the party making the claim in sufficient detail that a recipient will know whom to contact. If contributor obtains such knowledge after the modification is made available as described in section 3.2, contributor shall promptly modify the LEGAL file in all copies contributor makes available thereafter and shall take other steps (such as notifying appropriate mailing lists or newsgroups) reasonably calculated to inform those who received the covered code that new knowledge has been obtained.

(b) Contributor APIs.

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(c) Representations.
contributor represents that, except as disclosed pursuant to section 3.4(a) above, contributor believes that contributor's modifications are contributor's original creation(s) and/or contributor has sufficient rights to grant the rights conveyed by this license.

3.5.   Required notices.
You must duplicate the notice in exhibit A in each file of the source code. If it is not possible to put such notice in a particular source code file due to its structure, then You must include such notice in a location (such as a relevant directory) where a user would be likely to look for such a notice. If You created one or more modification(s), you may add your name as a contributor to the notice described in exhibit A. you must also duplicate this license in any documentation for the source code where You describe recipients' rights or ownership rights relating to covered code. You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations to one or more recipients of covered code. However, you may do so only on your own behalf, and not on behalf of the Initial developer or any contributor. You must make it absolutely clear than any such warranty, support, indemnity or liability obligation is offered by you alone, and You hereby agree to indemnify the Initial developer and every contributor for any liability incurred by the Initial developer or such contributor as a result of warranty, support, indemnity or liability terms you offer.

3.6.   Distribution of executable versions.
You may distribute covered code in executable form only if the requirements of section 3.1-3.5 have been met for that covered code, and if you include a notice stating that the source code version of the covered code is available under the terms of this license, including a description of how and where you have fulfilled the obligations of section 3.2. The notice must be conspicuously included in any notice in an executable version, related documentation or collateral in which you describe recipients' rights relating to the covered code. You may distribute the executable version of covered code or ownership rights under a license of your choice, which may contain terms different from this license, provided that you are in compliance with the terms of this license and that the license for the executable version does not attempt to limit or alter the recipient's rights in the source code version from the rights set forth in this license. If you distribute the executable version under a different license you must make it absolutely clear that any terms which differ from this license are offered by you alone, not by the Initial developer or any contributor. You hereby agree to indemnify the initial developer and every contributor for any liability incurred by the initial developer or such contributor as a result of any such terms You offer.

3.7.   Larger works.
You may create a larger work by combining covered code with other code not governed by the terms of this license and distribute the larger work as a single product. In such a case, you must make sure the requirements of this license are fulfilled for the covered code.

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NOTE: The text of this exhibit A may differ slightly from the text of the notices in the source code files of the original code. You should use the text of this exhibit A rather than the text found in the original code/source code for Your modifications.

COMMERCIAL MODE SETUP GUIDE

Note: All features shown within this guide may not be available on all models.

For Customer Support/Service, please call:

1-888-865-3026

The latest product information and documentation is available online at:

www.LGsolutions.com/products

MODEL and SERIAL NUMBER
The model and serial numbers of this TV are located on the back of the cabinet. For future reference, LG suggests that you record those numbers here:

Model No._____Serial No. _____

⚡ | **WARNING**
RISK OF ELECTRIC SHOCK
DO NOT OPEN | ⚠

WARNING:

TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER TO QUALIFIED SERVICE PERSONNEL.

⚡ The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

⚠ The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING:
TO PREVENT FIRE OR SHOCK HAZARDS, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

Power Cord Polarization:
This product is equipped with a 3-wire grounding-type alternating current power plug. This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the 3-wire grounding-type plug.

NOTE TO CABLE/TV INSTALLER:
This reminder is provided to call the cable TV system installer's attention to Article 820-40 of the National Electric Code (U.S.A.). The code provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of the cable entry as practical.

REGULATORY INFORMATION:
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

• Reorient or relocate the receiving antenna.
• Increase the separation between the equipment and receiver.
• Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
• Consult the dealer or an experienced radio/TV technician for help.

CAUTION:
Do not attempt to modify this product in any way without written authorization from LG Electronics U.S.A., Inc. Unauthorized modification could void the user's authority to operate this product.

COMPLIANCE:
The responsible party for this product's compliance is: LG Electronics U.S.A., Inc.
1000 Sylvan Avenue, Englewood Cliffs, NJ 07632, USA • Phone: 1-201-816-2000

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IMPORTANT SAFETY INSTRUCTIONS

1. **Read these instructions.**

2. **Keep these instructions.**

3. **Heed all warnings.**

4. **Follow all instructions.**

5. **Do not use this apparatus near water.**

6. **Clean only with dry cloth.**

7. **Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.**

8. **Do not install near any heat sources, such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.**

9. **Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.**

10. **Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where it exits from the apparatus.**

11. **Only use attachments/accessories specified by the manufacturer.**

12. **Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination in order to avoid injury from tip-over.**

PORTABLE CART WARNING

13. **Unplug this apparatus during lighting storms or when unused for long periods of time.**

14. **Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.**

15. Never touch this apparatus or antenna during a thunder or lighting storm.

16. When mounting a TV on the wall, make sure not to install the TV by the hanging power and signal cables on the back of the TV.

17. Do not allow an impact shock or any objects to fall into the product, and do not drop objects onto the screen.

18. **Power Cord**
    Caution: It is recommended that appliances be placed upon a dedicated circuit; that is, a single outlet circuit which powers only that appliance and has no additional outlets or branch circuits. Check the specification page of the Owner's Manual to be certain.

    Periodically examine the cord of your appliance, and if its appearance indicates damage or deterioration, unplug it, discontinue use of the appliance, and have the cord replaced with an exact replacement part by an authorized servicer. Protect the power cord from physical or mechanical abuse, such as twisting, kinking, or pinching or being closed in a door or walked upon. Pay particular attention to plugs, wall outlets, and the point where the cord exits the appliance.

    Do not use a damaged or loose power cord. Be sure to grasp the plug when unplugging the power cord. Do not pull on the power cord to unplug the TV.

19. **Overloading**
    Do not connect too many appliances to the same AC power outlet as this could result in fire or electric shock. Do not overload wall outlets. Overloaded wall outlets, loose or damaged wall outlets, extension cords, frayed power cords, or damaged or cracked wire insulation are dangerous. Any of these conditions could result in fire or electric shock.

20. **Outdoor Use/Wet Location**
     Warning: To reduce the risk of fire or electrical shock, do not expose this product to rain, moisture or other liquids.

    Do not touch the TV with wet hands. Do not install this product near flammable objects such as gasoline or candles or expose the TV to direct air conditioning.

    Do not expose to dripping or splashing and do not place objects filled with liquids, such as vases, cups, etc., on or over the apparatus (e.g., on shelves above the unit).

IMPORTANT SAFETY INSTRUCTIONS

(Continued from previous page)

21. Grounding

Ensure that you connect the earth ground wire to prevent possible electric shock (i.e., a TV with a three-prong grounded AC plug must be connected to a three-prong grounded AC outlet). If grounding methods are not possible, have a qualified electrician install a separate circuit breaker. Do not try to ground the unit by connecting it to telephone wires, lightening rods, or gas pipes.

22. Disconnect Device

The mains plug is the disconnecting device. The plug must remain readily operable.

As long as this unit is connected to the AC wall outlet, it is not disconnected from the AC power source even if you turn off this unit by SWITCH.

23. Outdoor Antenna Grounding

If an outside antenna or cable system is connected to the product, follow the precautions below.

An outdoor antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits or where it can come into contact with such power lines or circuits as death or serious injury can occur.

Be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges.

Article 810 of the National Electrical Code (NEC) in the U.S.A. provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna-discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

Antenna Grounding According to NEC, ANSI/NFPA 70

Ground Clamp
Antenna Lead in Wire
Antenna Discharge Unit (NEC Section 810-20)
Grounding Conductor (NEC Section 810-21)
Electric Service Equipment
Ground Clamps
Power Service Grounding Electrode System (NEC Art 250, Part H)
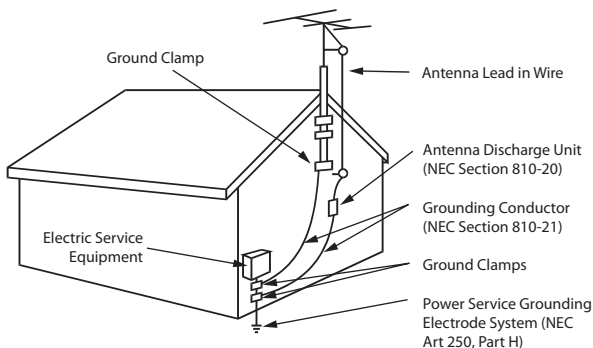
24. Cleaning

When cleaning, unplug the power cord and rub gently with a soft cloth to prevent scratching. Do not spray water or other liquids directly on the TV as electric shock may occur. Do not clean with chemicals such as alcohol, thinners or benzene.

25. Transporting Product

Make sure the product is turned Off and unplugged and that all cables have been removed. It may take two or more people to carry larger TVs. Do not press against or put stress on the front panel of the TV.

26. Ventilation

Install the TV where there is proper ventilation. Do not install in a confined space such as a bookcase. Do not cover the product with cloth or other materials (e.g., plastic) while it is plugged in. Do not install in excessively dusty places.

27. Do not touch the ventilation openings, as they may become hot while the TV is operating.

28. If you smell smoke or other odors coming from the TV or hear strange sounds, unplug the power cord, and contact an authorized service center.

29. Do not press strongly on the panel with a hand or sharp object (e.g., a nail, pencil, or pen) or make a scratch on it.

30. Keep the product away from direct sunlight.

Table of Contents

For Customer Support/Service, please call:

1-888-865-3026

www.LGsolutions.com

Note: Design and specifications subject to change without prior notice.

Setup Checklist / Overview

Setup Checklist

Installation and Setup Checklist
__ Unpack TV and all accessories.
__ Install batteries in remote control.
__ Install TV on VESA mount or stand.
  Note: It may be advisable to make all cable connections before installing on VESA mount or stand, as appropriate.

Hardware Connections
__ Install any additional hardware as appropriate to your institution, LAN, etc.

Cable Connections
__ Make all connections to rear jack panel and RF antenna on MPI/PPV card.
__ Make all connections to signal, interactive resources, and Aux sources, as appropriate.

Commercial Mode Setup
__ Complete Commercial Mode Setup (configure all relevant Installer Menu items as required of your institution and configure display features for the end user).

Software Installation
__ Install or configure any software, as applicable, for example, PPV, etc.

Commercial Mode Setup Overview

This document describes how to set up LD650H/LD655H/LG710H Pro:Centric™ TVs for Commercial Mode either while in the Embedded *b*-LAN™ (EBL) module's Pass-through Mode or its Free-To-Guest (FTG) Mode.

Note: The *b*-LAN module is internal to the TV and allows the hotel/institution head end equipment to communicate with the TV for configuration and control. See Reference section, "*b*-LAN Setup & Overview," for further information. The *b*-LAN module also comprises the data tuner required for Pro:Centric operation (see next page).

Pass-through Mode

This mode allows you to configure a Master TV Setup for cloning purposes as well as external VOD/PPV control. Use the Installer Remote to configure Installer Menu items as required for TV operation and set up TV features (Channel, Picture, Audio, etc.). See pages 13 to 14 for detailed information.

FTG Mode

This mode enables Pro:Idiom® decryption and also allows logical channel mapping of physical channels to remove the need for dash tuning. FTG Configuration Application software is used to configure and/or edit Channel Map and Installer Menu settings. See pages 24 to 27 for further information on FTG Mode and local configuration using a PC with the FTG Configuration Application. Since these TV models are equipped with the EBL Module, they can also be broadcast configured in FTG Mode by a Free-To-Guest Management Appliance (FMA) head end device. Refer to the ***Free-To-Guest (FTG) Configuration Application*** manual and/or the Installation & Setup manual for the FMA device.

Pro:Centric TV Interactive Menu Features

▲

```
┌─────────────────────────┐
│  Channel Guide          │
│     Information          │
│    Remote Help          │
│      Watch TV           │
└─────────────────────────┘
```

▼
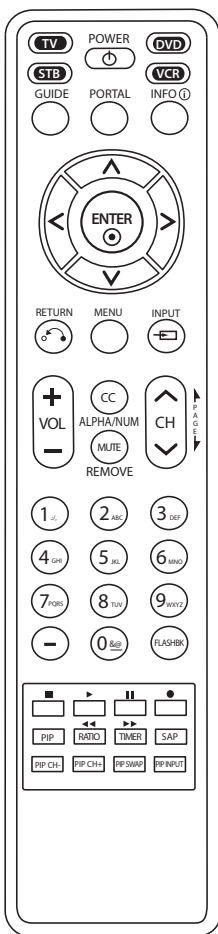
Important: Pro:Centric operation requires that Installer Menu item 119 DATA CHANNEL be set appropriately and that the TV be in PPV or FTG Mode.

The interactive Pro:Centric TV enables guests—from the comfort of their hotel rooms—to view and select from a complete listing of hotel services and amenities. The Pro:Centric TV is connected to the hotel's billing computer, and service/amenities charges are billed at the time of order.

Interactive amenities may include:

• Hotel information, news, and events

• Directory services (tourist attractions, restaurants, etc.)

• Reservation services (business meetings, fitness, spa, etc.)

• Weather and traffic information

• Shopping services (delivery to guest room)

• Room service (menu ordering, memo service, morning wake up call, laundry, etc.)

• Ticketing services

• Check-out service (in the guest room)

• Gaming services

• E-mail resources/account access

Use the Installer Remote to operate both interactive menus and regular TV features. Press **PORTAL** on the Installer Remote to access the interactive menus.

Channel Guide

Shows available TV programs. Indicates the channel and the program start and finish times and also identifies the TV network.

Information

Typically displays hotel information, for example, photos of guest rooms, dining rooms, business centers, fitness and pool facilities, etc. Information may also include resources, such as local school programs, run in cooperation with the hotel.

Remote Help

Provides help for navigating the interactive menus.

Watch TV

Removes the interactive menu from the screen and returns to the previously tuned TV channel.

LD650H/LD655H Rear Jack Panel

32/37/42LD650H/LD655H

UPDATE
Restricted to software updates.

OPTICAL DIGITAL AUDIO OUT
Use for amps and home theater systems. Note: In standby mode, this port is not enabled.

RESET
Press RESET to re-initialize the TV.

AUDIO/VIDEO IN 1
Connection for composite audio/video output from external device.

TV-LINK CFG
Use for local FTG configuration.

GAME CONTROL/MPI
Input port for third party game Controllers.

LAN
Restricted to service use only.

RESET UPDATE

GAME CONTROL

LAN

HDMI/DVI IN

TV-LINK CFG

OPTICAL DIGITAL AUDIO OUT

VIDEO L/MONO-AUDIO-R

AV IN 1

2

1

SPEAKER OUT 8Ω

COMPONENT IN

Y P_B P_R L R

RJP INTERFACE

RGB IN (PC)

AUDIO IN (RGB/DVI)

RS-232C IN (SERVICE ONLY)

REMOTE CONTROL OUT

SPEAKER OUT (8Ω)
Connect to 8 ohm external speaker input.

REMOTE CONTROL OUT
IR output for controlling an auxiliary device.

HDMI/DVI IN
Connection for HDMI/DVI output from external device.

RJP INTERFACE
Connection for Remote Jack Pack (RJP) Control cable.

RGB IN (PC)
Connection for RGB output from PC.

COMPONENT IN
Connection for component output from external device.

RS-232C IN
Use for downloading software updates, etc.

AUDIO IN (RGB/DVI)
Audio connection for RGB or DVI device.

47/55LD650H

UPDATE
Restricted to software updates.

OPTICAL DIGITAL AUDIO OUT
Use for amps and home theater systems. Note: In standby mode, this port is not enabled.

RESET
Press RESET to re-initialize the TV.

AUDIO/VIDEO IN 1
Connection for composite audio/video output from external device.

TV-LINK CFG
Use for local FTG configuration.

LAN
Restricted to service use only.

RESET UPDATE

ANTENNA IN

LAN

HDMI/DVI IN

GAME CONTROL /MPI

TV-LINK CFG

OPTICAL DIGITAL AUDIO OUT

VIDEO L/MONO-AUDIO-R

AV IN 1

GAME CONTROL/MPI
(Game Control—LodgeNet PPV Mode only) MPI functionality enables VOD/PPV devices or STBs to control the TV when the EBL is in Pass-through Mode.

2

1

SPEAKER OUT 8Ω

COMPONENT IN

Y P_B P_R L R

RJP INTERFACE

RGB IN (PC)

AUDIO IN (RGB/DVI)

RS-232C IN (SERVICE ONLY)

REMOTE CONTROL OUT

ANTENNA IN
Connect an antenna to receive over-the-air signals.

SPEAKER OUT (8Ω)
Connect to 8 ohm external speaker input.

REMOTE CONTROL OUT
IR output for controlling an auxiliary device.

HDMI/DVI IN
Connection for HDMI/DVI output from external device.

RJP INTERFACE
Connection for Remote Jack Pack (RJP) Control cable.

RGB IN (PC)
Connection for RGB output from PC.

COMPONENT IN
Connection for component output from external device.

RS-232C IN
Use for downloading software updates, etc.

AUDIO IN (RGB/DVI)
Audio connection for RGB or DVI device.

TV-LINK CFG
Use for local FTG configuration.

RESET
Press RESET to re-initialize the TV.

UPDATE
Restricted to software updates.

LAN
Restricted to service use only.

GAME CONTROL
(LodgeNet PPV Mode only)

OPTICAL DIGITAL AUDIO OUT
Use for amps and home theater systems. Note: In standby mode, this port is not enabled.

RGB IN (PC)
Connection for RGB output from PC.

HDMI/DVI IN			LAN (SERVICE ONLY)	TV-LINK CFG	GAME CONTROL	OPTICAL DIGITAL AUDIO OUT	SPEAKER OUT 8Ω

HDMI/DVI IN
2
1(DVI)

RGB IN
RGB(PC)
AUDIO (RGB/DVI)

RESET   UPDATE

RS-232C IN (SERVICE ONLY)

REMOTE CONTROL OUT

RJP INTERFACE

Y   P_B   P_R   L   R
VIDEO   AUDIO
COMPONENT IN

AV IN 1
R-AUDIO-L/MONO   VIDEO

SPEAKER OUT (8Ω)
Connect to 8 ohm external speaker input.

REMOTE CONTROL OUT
IR output for controlling an auxiliary device.

RS-232C IN
Use for downloading software updates, etc.

HDMI/DVI IN
Connection for HDMI/DVI output from external device.

COMPONENT IN
Connection for component output from external device.

AUDIO/VIDEO IN 1
Connection for composite audio/video output from external device.

RJP INTERFACE
Connection for Remote Jack Pack (RJP) Control cable.

AUDIO IN (RGB/DVI)
Audio connection for RGB or DVI device.

Side Connections Panel / RF Antenna Connection

Side Connections Panel
(All LD650H/LD655H/LG710H TVs)

USB IN
Insert USB device for software updates or for picture/music entertainment, as applicable.

A/V 2 Input

L/MONO-AUDIO-R IN
Connect to audio output jacks on external device. For only mono audio output, connect to Left audio input.

VIDEO IN
Connect to video output port on external device.

USB IN

L/MONO -AUDIO- R

VIDEO

AV IN 2

RF Antenna Connection
(32/37/42LD650H/LD655H/LG710H TVs)

Note: 47/55LD650H Antenna and MPI connections are on the rear jack panel (see page 8).

Antenna or CATV

RF ANTENNA
Connect to Antenna/Cable input on MPI card.

ANTENNA IN

MPI

MPI PORT
Connect external MPI control devices (i.e., clone programmer, PPV provider, etc.).

This is the Commercial Mode Setup Guide only.

Installer Menu / Commercial Mode Setup

To set up a Master TV, you will need to know how to enter the TV Installer Menu and make changes to the default values as required. Similarly, to configure a single TV's Installer Menu settings in FTG Mode, you will need to know how to access and use the FTG Configuration Application utilities. If necessary, familiarize yourself with the Installer Menu and how to make and save changes. Refer to page 15 for information on accessing the Installer Menu in Pass-through Mode. Refer to page 24 for information on accessing the FTG Installer Menu Configuration Utility in the FTG Configuration Application. Pages 16 to 20 describe Installer Menu items in detail.
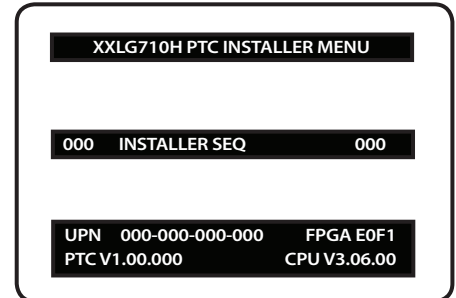
Installer Remote

The LG Installer Remote is supplied with and dedicated to operate the TV. See next page for typical key functions in TV operating mode. Some DVD and VCR controls may be available for selected LG DVD/VCR products.

Cloning

Cloning refers to the process of capturing a Master TV Setup and transferring it to a Target TV. The Master TV's clonable features need to be configured as part of the Commercial Mode Setup. This is a critical step. If the Master TV's clonable features—channel icons or labels, digital font options, etc.—are not set up correctly, the cloned TVs will all have problems. Pages 28 to 33 provide detailed information on cloning requirements and procedures.

XXLG710H PTC INSTALLER MENU
000   INSTALLER SEQ   000
UPN   000-000-000-000   FPGA E0F1
PTC V1.00.000   CPU V3.06.00

Typical Installer Menu

Installing Batteries in Installer Remote

- Open the battery compartment cover on the back side of the remote.
- Install two high-quality alkaline 1.5V AAA batteries. Never mix old or used batteries with new ones. Install batteries matching correct polarity as shown (+ with + and - with -).
- Replace the battery compartment cover.

Installer Remote Control Typical Key Functions

The LG Installer Remote illustrated below and throughout this document shows typical remote control functions and is provided for reference only. This Installer Remote may vary from the Installer Remote supplied with the TV.

GUIDE
Use to view program information.
Press INFO for additional information.

PORTAL
Displays and removes an interactive menu.

INFO
Use to view current program information, including program start and end times and, if available, the program rating.

VOLUME UP/DOWN
Increases/decreases sound level.

CC
Press to activate English subtitles.

MUTE
Switches sound ON or OFF.

CHANNEL UP/DOWN
Selects available channels found with Auto Tuning. Moves to next available page in electronic program guide.

VCR/DVD BUTTONS
Controls some video cassette recorders or DVD players. (RECORD button not functional in DVD mode.) Set up for VCR recording: Once, Regularly, Weekly, Off. (RECORD button only.)

PIP
Toggles through PIP options.

PIP CH +/-
Changes the PIP channel.

PIP SWAP
Exchange the main/sub images.

PIP INPUT
Select the connected input source for the sub-picture.

TV/STB/DVD/VCR
Select the remote's operating mode: TV, STB, DVD, or VCR.

POWER
Turns TV or any other programmed equipment On or Off, depending on mode.

THUMBSTICK
Up/Down/Left/Right/ENTER
Use to navigate on-screen menus and adjust TV settings to your requirements.

RETURN
Returns one level to the previous menu/display.

MENU
Provides access to the TV setup menus on the screen. Also, enters or exits the on-screen menu system.

INPUT
Selects RGB, HDMI/DVI1, HDMI2, Component Input, AV1, and AV2 sources.

NUMBER Buttons (0 - 9) DASH
Use to enter a program number or channel. Dash is used for sub-channel numbers such as 2-1, 2-2, 9-1, 9-2, 100-3, 100-4, etc.

FLASHBK (FLASHBACK)
Returns to the previously tuned channel.

RATIO
Adjusts the picture aspect ratio.

TIMER
Sets the amount of time before the TV automatically turns itself OFF.

SAP
Selects MTS sound: Mono, Stereo, and SAP in analog mode. Changes the audio language in DTV mode, if additional languages are available.

SAP Notes:
• If SAP is selected and no SAP is provided, sound may not be heard on channel.
• Each analog channel may have its own SAP setting.
• Digital channels will reset to default audio language with a power off/on.

This section describes how to set up a Master TV when the EBL is in Pass-through Mode.

Note: Disconnect all Aux inputs. Under certain conditions, Auto Tuning (Channel Search) is disabled if there is an Aux input active.

Note: Refer to "FTG Mode of Operation" on pages 24 to 27 for information on configuring/editing Channel Map and Installer Menu settings for an individual TV in FTG Mode.

1. **Set Installer Menu items.**

   a) Use the Installer Remote to enter the TV Installer Menu: Press **MENU** repeatedly until the on-screen menu locks up, and then press **9**-**8**-**7**-**6** + **ENTER**. Refer to pages 15 to 20 for detailed information on Installer Menu items.

   b) Set Installer Menu item **117 FACT DEFAULT** to **001** and press **ENTER** on the Installer Remote.

   This clears all Installer Menu custom settings, channel labels/icons, etc. and reloads the factory default settings. The value will change back to 0 after the internal TV controller (Protocol Translator Card [PTC]) has been restored to factory default condition. This step ensures that the TV Channel Memory will be the active Channel List.

   c) Set Installer Menu item **003 BAND/AFC**, as appropriate.

   • Broadcast: Set to 000.
   • CATV: Set to 001 (default).
   • HRC: Set to 002.
   • IRC: Set to 003.

   d) Set any other Installer Menu items that affect your TV programming network to the required configuration. For example, enable/disable Aux sources, set a Start Channel, etc.

   e) After you have adjusted all required Installer Menu item settings, press **ENTER** on the Installer Remote to exit the menu and save your changes.

2. **Set up TV features.**
   On-screen setup menus control the features of the TV (see page 22). Press **MENU** on the Installer Remote to access the setup menus, and then set Channel, Picture, Audio, Lock, Time, etc. options to the desired configurations. See also the Clonable Menu Features list on page 28.

   Note: If desired, you can run Auto Tuning (see step 3) prior to completing this step.

XXLG710H PTC INSTALLER MENU	
000 INSTALLER SEQ	000

UPN 000-000-000-000	FPGA E0F1
PTC V1.00.000	CPU V3.06.00
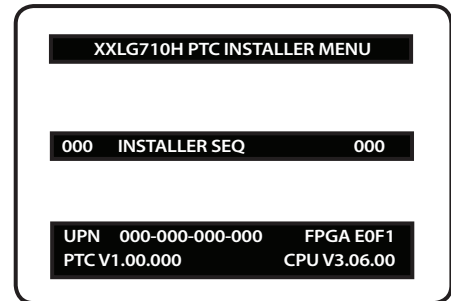
Typical TV Installer Menu

Note: The Installer Menu header will vary depending on the TV you are setting up.

117 FACT DEFAULT	001
003 BAND/AFC	00X
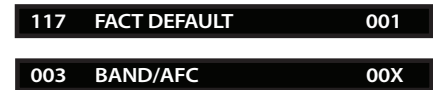
Adjust the settings for these Installer Menu items.
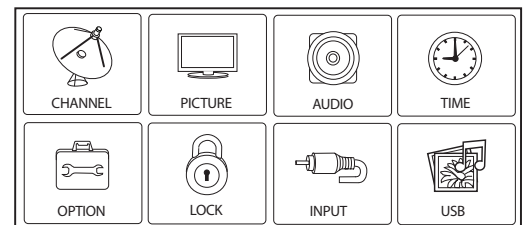
Set the TV features to the desired configuration for the end user.

Commercial Mode Setup for Master TV (Cont.)

(Continued from previous page)

3. **Run Auto Tuning (Channel Search).**

   a) Search for all available analog and digital channels: Go to the Channel Menu, select the **Auto Tuning** option, and follow the on-screen instructions.

   b) Use the **Channel Edit** option in the Channel Menu to edit the channel lineup, as necessary, to include free to guest channels only.

   - Add/delete channels per your system requirements. Note that physical channel numbers are used to identify virtual channels.

   - Use the **Channel Label** option in the Channel Menu to add familiar channel trademarks/logos such as ABC, CBS, NBC, etc. to the Channel-Time on-screen display. Identifiable labels (logos) should enable the end user to readily know what common networks are available. (You can add the channel labels in this step, or you can add channel logos or labels for channels without icons in step 5.)

4. **Transfer the TV Setup to the internal TV Controller (PTC): 2-5-5 + MENU Mode**
   After the TV channel lineup has been edited and channel label icons added, enter the Installer Menu. Once in the Installer Menu, press **2-5-5** + **MENU** on the Installer Remote to initiate the transfer of the Master TV Setup to the PTC. Once the transfer is complete, the TV will exit the Installer Menu.

   Note: The maximum number of active channels that can be transferred is 141. Total channels numbering more than 141 will result in erratic TV operation.

5. **Add Custom Channel and Aux Source Labels for Analog Channels: 2-5-4 + MENU Mode**
   Enter the Installer Menu, and press **2-5-4** + **MENU** on the Installer Remote. Add/edit custom text labels to channel on-screen displays. Note that digital channels often have a broadcaster generated label (see 2-5-4 + MENU procedural information on page 23). When you are finished, press **MENU** to exit 2-5-4 + MENU Mode.

6. **Verify the TV setup.**
   At this point, verify that the channel lineup, channel icons, and custom labels are correct. Make sure the TV features are set per your requirements.

7. **Lock the channel lineup.**
   Enter the Installer Menu, and set item **028 CH. OVERIDE** to **000** to lock the channel lineup and restrict access to the TV setup menus.* Press **ENTER** to exit the Installer Menu and save your changes.

The Master TV Setup is now ready to be copied to a clone programmer (see cloning information in this document).

Run Auto Tuning, edit channels, and select familiar channel trademarks/logos using Channel Menu options.
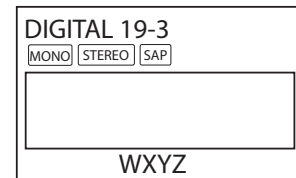
Custom Text Label "WXYZ" created in 2-5-4 + MENU (Add Channel Label) Mode.

After verifying the TV Setup, set Installer Menu item 028 CH. OVERIDE to 000.*

* This step prevents end users from accessing channel settings. In addition, selected picture, audio, and time settings will be inaccessible (i.e., grayed out).

Use the Installer Menu to set up or change operational settings.
Refer to the table starting on the next page for brief descriptions of Installer Menu items. More detailed descriptions follow the table listing.

Accessing the Installer Menu

Make sure the TV is ON. Using an Installer Remote, press **MENU** repeatedly until the on-screen menu locks up, and then press **9-8-7-6** + **ENTER** to access the Installer Menu.

The Installer Menu opens with item 000 INSTALLER SEQ 000. Use the Up/Down arrow keys to sequence through the available menu items, or access an item directly by keying in the line number and then pressing **MENU**. For example, to access the SLEEP TIMER option, which is item 015, press 0-1-5 + MENU. To change a setting, use the Left/Right arrow keys, or enter a value directly.

Using the Installer Menu

Items 000 ~ 119 are immediately accessible only upon entering the Installer Menu. Refer to the table on pages 16 and 17 for an overview of Installer Menu items, including item numbers, functions, ranges, and default values. Installer Menu items not relevant to these TV series are not present on the Installer Menu; therefore, some numbers are missing. For example, item 006 will not appear.

Exiting the Installer Menu and Activating Updates

To exit the Installer Menu, press **ENTER** again. Any changes you make will be stored in non-volatile memory. Turn the TV OFF and then back ON to activate changes.

XXLG710H PTC INSTALLER MENU
000   INSTALLER SEQ   000
UPN   000-000-000-000   FPGA E0F1
PTC V1.00.000   CPU V3.06.00
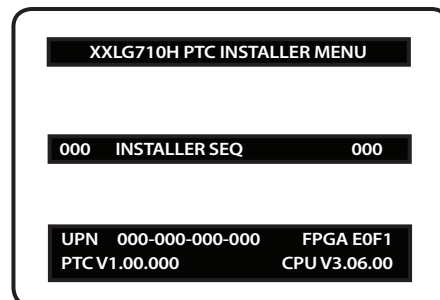
Typical TV Installer Menu

Installer Menu (Cont.)

Installer Menu Items 000 through 071

Menu Item	Function	Value Range	Default Value	Brief Description of Function and Comments
000	INSTALLER SEQ	0 ~ 3	0	Leave default set to 0.
001	POWER MANAGE	0 ~ 7	0	Sets number of hours of no activity before automatic shutoff.
002	AC ON	0 / 1	0	Set to 1 to enable Auto Turn ON when AC power is applied.
003	BAND/AFC	0 ~ 3	1	Selects Tuning Band: 0=Broadcast, 1=CATV, 2=HRC, 3=IRC
004	STRT CHANNEL	0 ~ 127, 255	255	Channel tuned when TV is turned ON. (Set to 255 to tune to channel tuned before TV turned OFF.)
005	CHAN LOCK	0 / 1	0	If set to 1, cannot tune from current channel.
007	STRT VOLUME	0 ~ 63, 255	255	Volume level when TV is turned ON. (Set to 255 to use volume level before TV turned OFF.)
008	MIN VOLUME	0 ~ 63	0	Sets minimum allowable volume setting.
009	MAX VOLUME	0 ~ 63	63	Sets maximum allowable volume setting.
010	MUTE DISABLE	0 / 1	0	Set to 1 to disable Mute Function.
011	KEY DEFEAT	0 / 1	0	Set to 1 to disable menu navigation keys on display panel.
015	SLEEP TIMER	0 / 1	1	Set to 1 to enable Sleep Timer.
016	EN TIMER	0 / 1	0	Set to 1 to enable On/Off Timers.
017	ALARM	0 / 1	1	Set to 1 to enable Alarm.
021	V-CHIP	0 / 1	1	Set to 1 to enable V-Chip (Parental Control) functions.
022	MAX BLK HRS	0 ~ 99	12	Sets number of V-Chip blocking hours.
023	CAPTION LOCK	0 / 1	0	Set to 1 to retain caption setting set before TV turned OFF.
028	CH. OVERIDE	0 / 1	1	If set to 0, limits direct access to favorite channels.
029	OLD OCV	0 / 1	0	Set to 1 to change MPI operation to OCV.
030	ACK MASK	0 / 1	0	If set to 1, changes MPI for some OCV boxes.
031	POLL RATE	20 ~ 169	94	Selects poll rate for MPI.
032	TIMING PULSE	186 ~ 227	207	Sets baud rate for MPI.
034	CAMPORT EN	0 / 1	1	Set to 1 to enable Video 2 input.
035	COMPPORT EN.	0 / 1	1	Set to 0 to disable HDMI 1. Set to 1 enable HDMI 1.
038	YPrPb EN.	0 / 1	1	Set to 1 to enable display panel Component Video 1 input jacks.
039	REAR AUX EN	0 / 1	1	Set to 1 to enable display panel Video 1 input jack.
040	AUTO CAMPORT	0 / 1	1	Set to 1 to automatically switch to Camport. If set to 1, STRT AUX SRCE cannot be set to 2.
046	STRT AUX SRCE	1 ~ 6, 255	6	Sets the starting Aux source (if item 004 STRT CHANNEL is set to 0).
047	AUX STATUS	0 / 1	0	Set to 1 for MPI Aux source to be reported as a channel number instead of Channel 0.
053	DIS. CH-TIME	0 / 1	0	Set to 1 to disable Channel-Time display.
069	EN. CH-T COL.	0 / 1	1	Set to 1 to enable custom color for the Channel-Time display.
070	FOR. CH-TIME	0 ~ 7	2	Chooses custom foreground color for the Channel-Time display.
071	BCK. CH-TIME	0 ~ 7	2	Chooses custom background color for the Channel-Time display.

Installer Menu Items 073 through 119

Menu Item	Function	Value Range	Default Value	Brief Description of Function and Comments
073	CH NOT AVBLE	0 / 1	0	If set to 1 and Channel Override is 0, "NOT AVAILABLE" message is displayed when directly accessing a channel not in the favorite Channel List.
075	REVERT CH	0 / 1	0	If set to 1 and loss of MPI communication occurs, TV tunes to Start Channel.
078	UPN MSB	0 ~ 255	0	User programmable number, most significant byte.
079	UPN MSB-1	0 ~ 255	0	User programmable number, most significant byte - 1.
080	UPN MSB-2	0 ~ 255	0	User programmable number, most significant byte - 2.
081	UPN LSB	0 ~ 255	0	User programmable number, least significant byte.
082	CHKSM ERROR	0 / 1	1	Enforces rigid MPI checksum.
083	HANDSHK TIME	0 ~ 5	5	Relaxes MPI timing to be compatible with PC-based Windows-controlled systems.
084	PERMANENT BLK	0 / 1	0	Removes block hours setting for Parental Control and makes block permanent.
087	REAR RGB EN.	0 / 1 / 17 (LD65xH) 0 / 2 / 18 (LG710H)	1 (LD65xH) 2 (LG710H)	Dependent on item 093 RJP AVAILABLE setting. Set to 0 to disable RGB1. Set to 1 (LD65xH) / 2 (LG710H) to enable for RGB PC. Set to 17 (LD65xH) / 18 (LG710H) for Auto Configure.
088	EN NOISE MUTE	0 / 1	1	If set to 1, audio is muted if no signal is present.
090	KEY LOCK	0 / 1	0	If set to 1, keyboard is locked out, IR is still functional.
091	YPrPb2 EN	0 / 1	1	Set to 1 to enable HDMI 2 input.
093	RJP AVAILABLE	0, 1, 2, 5, 6	0	Set to 0 to disable. Set to 1, 2, 5, or 6 for HDMI or DVI Mode. (See detailed descriptions.)
094	SAP MENU EN	0 / 1	1	Set to 0 to disable feature on Function Menu. Set to 1 to enable feature on Function Menu.
096	DEF. ASP. RATIO	0 ~ 4	2	Sets default aspect ratio at power up. See detailed descriptions and item 106.
099	BACK LIGHTING	1 ~ 100, 101 ~ 200, 201, 202, 255	202	Sets the level of the TV picture back lighting. (See detailed descriptions.)
102	ATSC BAND	0 ~ 4	4	Selects ATSC band.
103	ATSC TUNE MODE	0 / 1	1	Set to 1 (default) for Physical Channel scan. Set to 0 for Virtual Channel scan.
104	START MINOR CH	0 ~ 255	0	Selects Minor Start Channel. Set to 0 for NTSC.
106	ASP RATIO LOCK	0 / 1	0	To retain set aspect ratio on power cycle, set to 1. Set to 0 for default ratio on power cycle.
116	VIDEO MUTE EN	0 / 1	0	Set to 0 for Normal. Set to 1 for Blank.
117	FACT DEFAULT	0 / 1	0	Set to 0 for Normal. Set to 1 to load presets for all Installer Menu settings.
118	POWER SAVINGS	1 / 3 / 7	3	If set to 1, the *b*-LAN module is always powered. If set to 3, the *b*-LAN module is only powered when TV is turned ON. If set to 7, the *b*-LAN module is never powered. For LD65xH TVs: If an MPI card is installed, POWER SAVINGS must be set to 1. (See detailed descriptions.)
119	DATA CHANNEL	0 ~ 135	0	Set to 0 to disable. Set to the RF channel number of the Data Channel for Pro:Centric operation.

Installer Menu (Cont.)

Detailed Descriptions of Installer Menu Items

000 - INSTALLER SEQUENCE
Specifies entry sequence to the Installer Menu.

0 = 9876	1 = 4321
2 = 1478	3 = 3698

001 - POWER MANAGE (Power Management)
Determines hours of no activity before automatic shutoff. The Power Management function is for saving energy. If set to 0, Power Manage is Off. Settings range from 0 ~ 7, with 1 ~ 7 representing the hours that the unit will remain ON, unless there has been activity from either the control panel or remote control.

002 - AC ON (AC Power Switchable)
If set to 1, this allows the TV to turn ON when AC power is applied. Pressing the ON button is not necessary. This is desirable if the TV is plugged into a cable box or a power outlet controlled by a wall switch. Use the Left/Right arrow keys to choose 0 or 1, where 0 is the default (OFF), and 1 is ON.

Note: If set to 1 (ON), the TV does not respond to On/Off commands from either the remote or the display control panel, and the SLEEP TIMER is also nonfunctional.

003 - BAND/AFC (Band/Automatic Frequency Control)
There are four possible settings for this option:

0 = Broadcast	1 = CATV (default)
2 = HRC	3 = IRC

If some channels were not found by Auto Tuning (Channel Search), select the appropriate Band setting here, and add the channels using the Channel Edit option in the Channel Menu.

004 - STRT CHANNEL (Start Channel)
If active, this function allows you to determine the initial channel number when the TV is turned ON. This feature is useful for an in-house information channel, since the TV would always select that channel when it is turned ON. Setting this to 255 causes the last channel viewed when the TV was turned OFF, to be the tuned to channel when the TV is turned ON again.

Note: For a digital Start Channel, always remember to set item 104 to the Minor Start Channel number.

255 = Last channel	1 ~ 125 = Ch X 0 = Aux
126 Map to Channel 3.	127 Map to Channel 4.

005 - CHAN LOCK (Channel Lock)
Channel Lock is ideal if the system must always be on the same channel. Changing channels with the Channel Up/Down or keypad numbers is impossible. Channel Lock is inactive if set to 0 (default).

Generally, this feature is used in connection with STRT CHANNEL (Installer Menu item 004) where the Start Channel may, for example, be set to 3 or 4. If the Start Channel is 3, then the TV will remain locked on channel 3.

NOTE: For items 007, 008, and 009
For legacy reasons, the scale used is 0 – 63. The PTC software will translate this to the 0 – 100 scale used by the TV.

To translate a TV volume level to the Installer Menu value, use the following formula:

$$\text{Installer Value} = \frac{\text{TV Value} \times 63}{100}$$

Enter only the whole number (disregard fractions).

---

007 - STRT VOLUME (Start Volume)
This function allows the Installer to determine the initial volume level setting when the TV is turned ON. This feature is useful for an in-house information channel, since the TV would always select that volume level when it is turned ON. The range of values are 0 - 63, 255. If 255 is selected, the current volume level will be retained in memory when the TV is turned OFF; at turn ON, the volume level will be automatically set at the previous or last level.

008 - MIN VOLUME (Minimum Volume)
This function determines the minimum volume level allowable with the Volume (VOL) Up/Down control. In this way, for example, someone cannot set the volume too low to hear. The value range is from 0 to 63. Use the Left/Right arrow keys to change values. The factory default is 0, which provides the full range of volume control, if item 009 MAX VOLUME is also set to 63. It may be best to set the same value on every TV.

Note: The minimum volume level cannot have a value setting higher than the maximum volume level (described below).

009 - MAX VOLUME (Maximum Volume)
This function determines the maximum volume level allowable with the Volume (VOL) Up/Down control. In this way, for example, someone can not set the volume level high enough to disturb others. The value range is 0 to 63, with 63 as the default, which gives the user the full range of volume control, if item 008 MIN VOLUME is also set at 0. Use the Left/Right arrow keys to change values. It may be best to set the same value on every TV.

Note: The maximum volume level cannot have a value setting lower than the minimum volume level (described above).

010 - MUTE DISABLE
Enables or disables sound mute function. If set to 1, sound cannot be muted. If set to 0, sound can be muted.

011 - KEY DEFEAT (Keyboard Defeat)
If set to 1, KEY DEFEAT prevents the end user from accessing the on-screen menus from the display panel—MENU, ENTER, and menu navigation keys do not function. If set to 0, those keys do function.

Note: Users can always access the menus by pressing MENU on the remote.

015 - SLEEP TIMER
If set to 1, the Sleep Timer feature may be used. If set to 0, the Sleep Timer is not available.

016 - EN TIMER (Enable On/Off Timers) *
If set to 1, the Timer function is available to the end user and enabled continuously. Set to 0 to disable On/Off Timers.
Note: Clock must be set in order to use timers.

017 - ALARM *

Gives the installer the option of making the Alarm function available to the end user. If set to 1, the Alarm function is available to the end user. Set to 0 to disable the Alarm function.

Note: Clock must be set before the Alarm function will work.

021 - V-CHIP (Parental Control) *
Set to 1 to activate V-Chip (Parental Control) and have it available to the end user to filter and control or otherwise restrict programming content that can appear. Set to 0 to turn the V-Chip feature Off (not available to user); no programming restrictions can be set.

022 - MAX BLK HRS (Maximum Block Hours) *
Sets hours from 0 to 99 for the maximum V-Chip (Parental Control) block hours. Default setting is for 12 blocking hours.

023 - CAPTION LOCK
If set to 0, captions are OFF when the TV is turned ON. Set to 1 to use the caption setting configured before the TV was turned OFF when the TV is turned ON.

028 - CH. OVERIDE (Channel Override)
If set to 1, the user can select channels with either Channel Up/Down or by direct keypad entry. If set to 0, only those channels that are active in the TV's memory can be selected.

029 - OLD OCV (On Command Video™)
Set to 1 for operation with systems from On Command Corporation.

030 - ACK MASK
MPI Communication Parameter. Leave at default setting unless changed by Pay-Per-View provider. When set to 1, changes MPI for some OCV boxes.

031 - POLL RATE
MPI Communication Parameter. Selects Poll Rate for MPI. Leave at default setting unless changed by Pay-Per-View provider. Step size of 16 ms.

032 - TIMING PULSE
MPI Communication Parameter. Leave at default setting unless changed by Pay-Per-View provider. Sets baud rate. Step size of 4.3 uS.

* Only affects Function Menu if enabled by some PPV providers.

034 - CAMPORT EN. (Camera Port Enable)
Set to 1 to enable Video 2 input on display panel. If set to 0, Video 2 input on display panel is not functional.
Note: S-Video overrides Video.

035 - COMPPORT EN. (Computer Port Enable)
Enable/disable TV display panel HDMI 1 input jack. Set to 0 to disable HDMI1. Set to 1 to enable HDMI1.
Note: This setting is ignored if item 093 RJP AVAILABLE is set to 1.

038 - YPrPb EN. (Rear Component Video Enable)
Set to 1 to enable display panel rear Component Video input jacks. Set to 0 to disable display panel rear Component Video input jacks.

039 - REAR AUX EN. (Rear Aux Enable)
Set to 1 to enable display panel rear Aux (Video 1) input. Set to 0 to disable display panel rear Aux (Video 1) input.
Note: S-Video overrides Video.

040 - AUTO CAMPORT
Set to 1 to automatically switch to Camport when equipment is connected to front Video input. Set to 0 to disable front Video automatic source selection.
Note: If set to 1, item 093 RJP AVAILABLE is automatically set to 0.

046 - STRT AUX SRCE (Start Aux Source)
Sets the starting Aux source. When turned ON, the TV will tune to starting Aux source if item 004 STRT CHANNEL is set to 0.

If item 093 RJP AVAILABLE is set to 0 and item 040 AUTO CAMPORT is set to 0:
1 = Video 1   4 = RGB   255 = Last Aux
2 = Video 2   5 = HDMI 2
3 = HDMI 1   6 = Component

If item 093 RJP AVAILABLE is set to 1:
2 = Video 2   5 = HDMI 2   6 = Component

If item 040 AUTO CAMPORT is set to 1:
1 = Video 1   5 = HDMI 2
3 = HDMI 1   6 = Component
4 = RGB

047 - AUX STATUS
Set to 1 for MPI Aux source to be reported as a channel number instead of channel 0. Set to 0 to disable Aux identification change. Controls MPI status channel response for Aux inputs.

053 - DIS. CH-TIME (Disable Channel-Time)
Set to 1 to disable the Channel-Time display; Channel-Time display will not appear. Set to 0 to enable the Channel-Time display.

069 - EN. CH-T COL. (Enable Channel-Time Custom Color)
Set to 1 to enable custom color for the Channel-Time display. Set to 0 to disable custom color for the Channel-Time display.

070 - FOR. CH-TIME (Channel-Time Display Foreground Color)
Set according to Color Chart:

0 = Black	3 = Cyan	6 = Yellow
1 = Blue	4 = Red	7 = White
2 = Green	5 = Violet	

Note: If foreground color and background color are the same, the menu background will be transparent.

071 - BCK. CH-TIME (Channel-Time Display Background Color)
Set according to Color Chart:

0 = Black	3 = Cyan	6 = Yellow
1 = Blue	4 = Red	7 = White
2 = Green	5 = Violet	

Note: If foreground color and background color are the same, the menu background will be transparent.

073 - CH NOT AVBLE (Channel Not Available)
If set to 1 and item 028 CH. OVERIDE is set to 0, a "NOT AVAIL-ABLE" message is displayed when directly accessing a channel not in the channel scan list available in memory.

075 - REVERT CH (Revert to Start Channel)
If set to 1 and loss of MPI communication occurs, TV automatically tunes to the specified Start Channel.

078 - UPN MSB (UPN Most Significant Byte)
User programmable number, most significant byte readable by MPI command. Not linked to serial number.

079 - UPN MSB-1 (UPN Most Significant Byte-1)
User programmable number, most significant byte-1 readable by MPI command. Not linked to serial number.

080 - UPN MSB-2 (UPN Most Significant Byte-2)
User programmable number, most significant byte-2 readable by MPI command. Note: Not linked to serial number.

081 - UPN LSB (UPN Least Significant Byte)
User programmable number, least significant byte readable by MPI command. Note: Not linked to serial number.

082 - CHKSM ERROR (Checksum Error)
Enforces rigid MPI checksum validation. Set to 1 for validation. Set to 0 to disable (does not check checksum on MPI async port). SPI is always checked.

083 - HANDSHK TIME (Handshake Time)
Adds an additional delay to the handshake time which is 64 msec, thus relaxing MPI timing requirements to be compatible with PC-based Windows controlled systems. Range is 0 - 5.
(Timeout = 25.5MS + [25.5 MS* Handshake time].)

084 - PERMANENT BLK (Permanent Block)
Allows Lock (Parental Control) blocking schemes to be permanent by disabling the blocking hours function. Set to 1 to install Parental Control restrictions permanently. Set to 0 for user-specified hours control of blocking schemes.

087 - REAR RGB EN. (Rear RGB Enable)
Controls access to rear RGB input on TV. Set to 0 to disable RGB input. Set to 1 (LD65xH) / 2 (LG710H) to enable for PC RGB input. Set to 17 (LD65xH) / 18 (LG710H) to initiate a one-time automatic configuration after an AC power cycle; otherwise, automatic adjustment will be performed each time the RGB input is accessed.

088 - EN NOISE MUTE (Enable Noise Mute)
If set to 1, audio mutes if no signal is present.

090 - KEY LOCK
If set to 1, front keyboard buttons Channel, Volume, and Captions are disabled, Power button remains enabled. If set to 0, front keyboard Channel, Volume, Captions and Power buttons are all enabled.

091 - YPrPb2 EN. (HDMI2 Enable)
Set to 0 to disable display panel HDMI2 input. Set to 1 to enable DTV mode. Set to 2 to enable PC mode.

093 - RJP AVAILABLE (Remote Jack Pack Available)

- 0 = Remote jack pack is not available or disabled.

- 1 = Legacy Model RJPs: HDMI Mode
  Enables RJP feature for use with full cable bundle models. In this mode, when an HDMI source is connected to the RJP, both digital video and audio are expected via the HDMI cable. If no digital audio is present, no audio will be heard.

- 2 = Legacy Model RJPs: DVI Mode
  Enables RJP feature for use with full cable bundle models. In this mode, when an HDMI/DVI source is connected to the RJP, only digital video is expected via the HDMI cable. Analog audio is provided via a separate cable, from the source, connected to an RJP AUDIO IN. If no analog audio cable is connected, tuner audio will be heard.

- 5 = Scaler Model RJPs: HDMI Mode
  Enables RJP feature for use with reduced cable bundle models. In this mode, when an HDMI source is connected to the RJP, both digital video and audio are expected via the HDMI cable. If no digital audio is present, no audio will be heard.

- 6 = Scaler Model RJPs: DVI Mode
  Enables RJP feature for use with reduced cable bundle models. In this mode, when an HDMI/DVI source is connected to the RJP, only digital video is expected via the HDMI cable. Analog audio is provided via separate cable, from the source, connected to an RJP AUDIO IN. If no analog audio cable is connected, tuner audio will be heard.

Notes:
See Reference section, "RJP Model List and Input Auto-sensing Hierarchy." If RJP AVAILABLE is set to 1, 2, 5, or 6, item 040 AUTO CAMPORT is automatically set to 0. Settings 1, 2, 5, and 6 allow the lodge staff to customize each TV's RJP setup based on customer requirements.

094 - SAP MENU EN (2nd Audio Program)
Set to 1 to enable SAP feature on Function menu, if Function menu is available. Set to 0 to disable SAP feature on Function menu, if Function Menu is available.

096 - DEF. ASP. RATIO (Default Aspect Ratio)
Selects default aspect ratio at power up.

- Set to 0 for Set By System.
- Set to 1 for 4:3.
- Set to 2 for 16:9 (Factory Default).
- Set to 3 for Just Scan.
- Set to 4 for Zoom.

Note: Only applies if item 106 ASP RATIO LOCK is disabled, set to 0.

099 - BACK LIGHTING
Sets the TV screen brightness at power up. Default setting is 202.

- 1 - 100 Static Back Lighting
  (1 = Dimmest picture, 100 = Brightest picture)
- 101 - 200 Dynamic Back Lighting
  (101 = Dimmest picture, 200 = Brightest picture)
- 201 Automatic Static Back Lighting
- 202 Automatic Dynamic Back Lighting
- If set between 101 and 200, the TV automatically controls back lighting depending upon the picture level of the current program.
- If set to 201, the TV automatically controls back lighting depending upon external spectral sensitivity.
- If set to 202, the TV automatically controls back lighting depending upon external spectral sensitivity and the picture level of the current program.
- If set to 255, back lighting is controlled via the Picture settings in the TV's setup menus.

102 - ATSC BAND
Sets up TV to receive different types of incoming signals: 0=Broadcast, 1=CATV, 2=HRC, 3=IRC, 4=Same as NTSC.

103 - ATSC TUNE MODE
Sets ATSC tuning mode: Default set to 1 for Physical Channel scan. Set to 0 for Virtual Channel scan.

104 - START MINOR CHANNEL
Sets XXX-XXX digital Minor Start Channel at power up. 0=NTSC. If not 0, number selected is the digital Minor Start Channel number.

106 - ASP RATIO LOCK (Aspect Ratio Lock)
Set to 1 to retain previous aspect ratio with power off. Set to 0 to retain default aspect ratio with power off. See item 096 DEF. ASP. RATIO above.

116 - VIDEO MUTE EN (Video Mute Enable)
Set to 0 for Normal. Set to 1 for Blank.

117 - FACT DEFAULT (Factory Default)
Set to 0 for normal. Set to 1 to load presets of all Installer Menu item settings.

⚠️ **Warning: If set to 1, this will reload the factory defaults and clear the Channel List, including any assigned channel icons and custom channel labels.**

118 - POWER SAVINGS
Default is set to 3. When the TV is in Standby mode, the MPI card slot is powered by the Standby power supply and embedded *b*-LAN is not powered. When the TV is in Power On mode, the MPI card slot is powered by the main 12V power supply and embedded *b*-LAN is powered. Note that the TV must be turned ON in order to communicate with the Embedded *b*-LAN module for configuration and control when POWER SAVINGS is set to 3.

Note: MPI cards with *b*-LAN technology—LMT7Z5, LMT7Z7, LMT7Z9—are NOT supported on TVs in which the *b*-LAN module is embedded.

⚠️ **Warning for LD65xH TVs: If an MPI card is installed, POWER SAVINGS must be set to 1. The default setting does not support this feature.**

- 1 = MPI card slot Standby Mode power provided from Standby power supply, and Embedded *b*-LAN is always powered.
- 3 = MPI card slot Standby Mode power provided from Standby power supply, and Embedded *b*-LAN is only powered when the TV is turned ON.
- 7 = MPI card slot Standby Mode power provided from Standby power supply, and Embedded *b*-LAN (including the Pro:Centric data tuner) is never powered.

Note: See Reference section, "*b*-LAN Setup & Overview," for further information.

119 - DATA CHANNEL
Set to 0 (default) to disable. Set to the RF channel number of the Data Channel for Pro:Centric operation. The TV may take several minutes to load EPG data after AC power is initially applied.

TV Setup Menus Overview

On-screen setup menus control the features of the TV. Press **MENU** on the Installer Remote to access the TV setup menus, and set the TV features to the desired configuration for the end user.
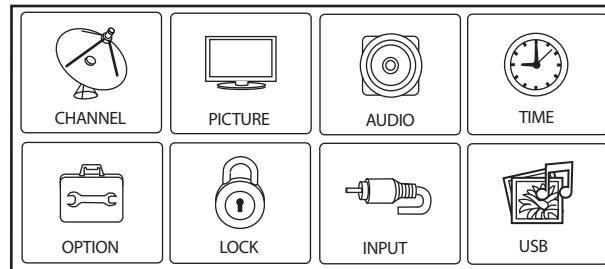
CHANNEL	⬧ Move ⦿ Enter
Auto Tuning	
Manual Tuning	
Channel Edit	
Channel Label	

PICTURE	⬧ Move ⦿ Enter
Aspect Ratio	: 16:9
Picture Mode	: Standard
·Backlight	90
·Contrast	90
·Brightness	50
·Sharpness	50
·Color	50
·Tint	0
▼	

AUDIO	⬧ Move ⦿ Enter
Auto Volume	: On
Clear Voice II	: On
·Level	3
Balance	: 0
Sound Mode	: Standard
·SRS TruSurround XT: Off	
·Treble	50
·Bass	50
▼	

TIME	⬧ Move ⦿ Enter
Clock	: ----,----,--:-- --
Off Time	: Off
On Time	: Off
Sleep Timer	: Off

OPTION	⬧ Move ⦿ Enter
Menu Language	: English
Audio Language	: English
Caption	: Off
Set ID	: 1
Demo Mode	: Off
Data Broadcasting	

LOCK	⬧ Move ⦿ Enter
Lock System	: Off
Set Password	
Block Channel	
Movie Rating	
TV Rating-Children	
TV Rating-General	
Downloadable Rating	
Input Block	

INPUT	⬧ Move ⦿ Enter
TV	
AV1	
AV2	
Component	
RGB-PC	
HDMI1	
HDMI2	

USB	⬧ Move ⦿ Enter
Photo List	
Music List	
Extra Contents	
Eject	

Adding Channel Label Icons / Custom Channel Labels
(2-5-4 + MENU Mode)

Editing/Adding Channel Icons and/or Labels

If there is no pre-assigned icon, you can make a custom channel label of up to seven (7) characters to help identify a channel or network. If desired, channel labels can also be added in addition to a pre-assigned icon. You may also add labels for the Aux input sources to clearly identify the devices that are connected to the Aux inputs.

(Icon)

XYZ

XYZ

NETWORK

1 2 3 4 5 6 7
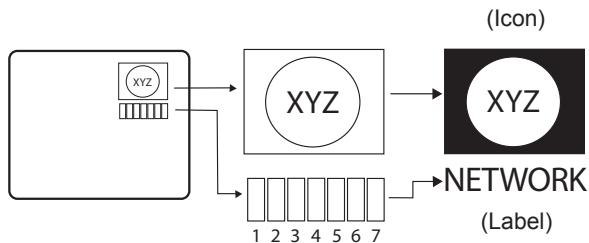
(Label)

Editing and adding the labels can only be done if there are channels entered into the TV's Channel Map either during Commercial Mode Setup (see pages 13 to 14), by cloning, or by using some PPV provider's master remote controls. **Note:** A blank letter space is available between "Z" and "!".

To perform channel editing/labeling:

1. Enter the TV Installer Menu.
2. Press **2-5-4** + **MENU** on the Installer Remote to enter the Channel Label Editing Mode.
3. Add channel icons and channel labels as described in the procedures below. (You can do this more than once.)
4. To exit the menu when you are done, press **MENU**.

Changing a Channel's Icon on the Master TV

1. Use Channel Up/Down to select the channel for which to change the icon.
2. Use the Left/Right arrow keys to select the thin letter "**I**" on the Channel ID display.
3. Use the Up/Down arrow keys to select the icon with which you want to identify the channel. (If you know the icon number, enter the number, and press **ENTER**.)
4. Proceed to change/add channel labels, or go to the next channel.

Changing/Adding Channel Labels on the Master TV

1. Use Channel Up/Down to select the desired channel.
2. Press the Left/Right arrow repeatedly until the numbers 1 to 7 appear on the display. The number shows the position of the character that can be changed. Number 1 is the first character, number 2 the second character, etc.
3. Use the Up/Down arrow keys to select the desired character.
4. Proceed to the next number position, or use Channel Up/Down to go to the next channel.

Changing Source Labels on the Master TV

1. Press **INPUT** to select the desired Aux input source: A/V 1, A/V 2, HDMI Component, RGB, etc.
2. Press the Left/Right arrow repeatedly until the numbers 0 to 9 appear on the display. The number shows the position of the character that can be changed.
3. Use the Up/Down arrow keys to select the desired character.
4. Press **INPUT** for the next Aux source, or proceed to change an icon or change/add labels. Use Channel Up/Down to return to channels.

Installer Remote Control Key Functions for Master TV Channel Editing/Labeling Menu

- **Channel Up/Down**: Tunes in the next channel in scan.
- **Left/Right Arrows**: Select the item to change. If "I" is shown, the icon can be changed. If a number is shown, it indicates the position of the character that can be changed.
- **Up/Down Arrows**: Select the icon or the character to be displayed. Tip: Arrows can be held down for fast scrolling.

- **0 – 9**: Use to enter the index number of the icon, if known.
- **ENTER**: Changes the icon after the number has been entered.
- **INPUT**: Changes the Aux input label.
- **MENU**: Exits the editing process.

FTG Mode of Operation

FTG Configuration Overview

The following steps outline local FTG configuration of individual TVs. Since these models are equipped with the EBL module, they can also be broadcast configured in FTG Mode by a Free-To-Guest Management Appliance (FMA) head end device. Refer to the ***Free-To-Guest (FTG) Configuration Application*** manual and/or the Installation & Setup manual for the FMA device for further information.

Note: FTG Configuration Application software is available online at: www.LGcommercial.com/FTGsoftware.

1. Install (if necessary) and launch the FTG Configuration Application (v5.0.0 or higher) on the PC that will be used to configure the EBL.

2. Build a Channel Map using the FTG Channel Map Editor in the FTG Channel Map Configuration Utility (or, if applicable, open an existing FTG Configuration (.rml) file).

3. If not already done, connect the PC to the TV-LINK CFG jack on the rear connections panel using a USB-to-TTL serial cable (TTL-232R-5V-AJ).

4. "Write" the FTG Channel Map to the EBL (converts EBL from Pass-through Mode to FTG Mode).

5. "Read" the current FTG Installer Menu settings from the EBL using the FTG Installer Menu Configuration Utility. If necessary to make changes to Installer Menu items, "Write" them back to the EBL in FTG Mode.

6. Save the FTG Channel Map and FTG Installer Menu settings to an FTG Configuration (.rml) file for future use.

7. Tune the TV to a Logical Channel in the FTG Channel Map.
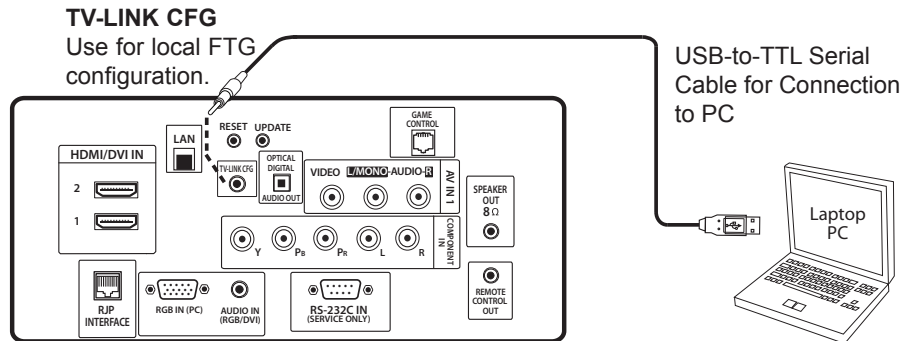
206-4137
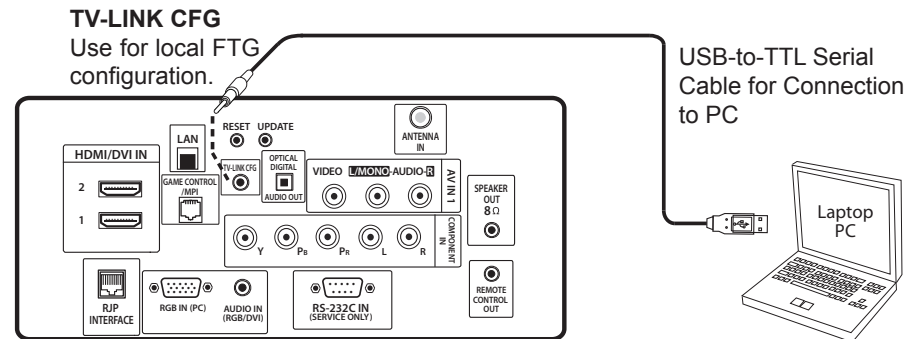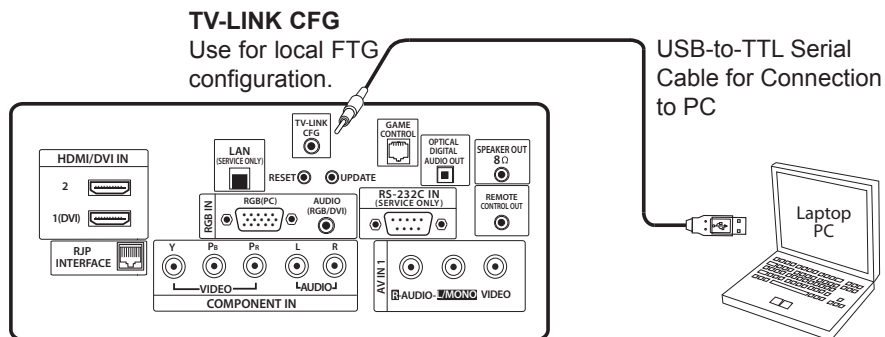
Determining the TV Operating Mode / FTG Channel Map Configuration Utility Overview

To determine the operating mode of the TV, press **MENU** on the Installer Remote. If the end user Function Menu (showing aspect ratio options—see below) appears, the TV/EBL is in FTG Mode. If the TV setup menus appear, the EBL is in Pass-through Mode.

The following pages provide overviews of the FTG Channel Map and FTG Installer Menu Configuration Utilities that comprise the FTG Configuration Application. Refer to the *Free-To-Guest (FTG) Configuration Application* manual for further information.
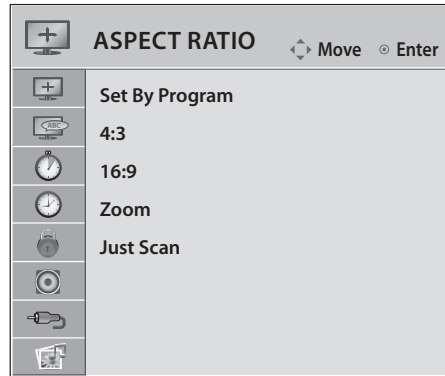
Function Menu
Shows that the EBL is in FTG Mode. While this menu is present on-screen, Installer Menu settings can ONLY be accessed/changed using the FTG Configuration Application.
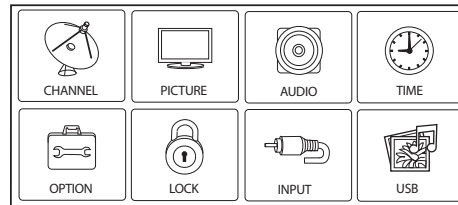
TV Setup Menus
Shows that the EBL is in Pass-through Mode.

Writing an FTG Channel Map into the EBL will switch the EBL from Pass-through Mode to FTG Mode.

FTG CHANNEL MAP CONFIGURATION UTILITY
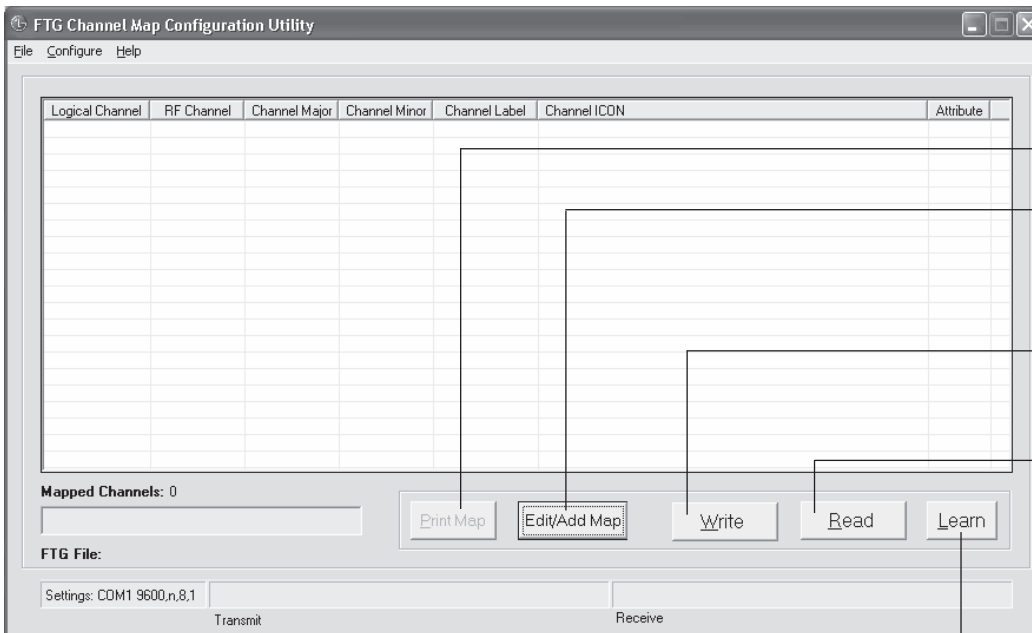
PRINT MAP
Click to display a printable FTG Channel Map Report. The report can also be exported as an HTML or Text file.

EDIT/ADD MAP
Click to open the FTG Channel Map Editor to create or edit an FTG Channel Map (see next page).

WRITE
Click to transfer the FTG Channel Map to the EBL.

READ
Click to transfer the FTG Channel Map from the EBL to the FTG Configuration Application.

LEARN
Click to transfer the TV Channel Map from the PTC to the EBL and the FTG Configuration Application. (Requires that 2-5-5 + MENU was performed to transfer TV Channel Map to PTC.) *

* Logical Channel numbers will automatically be assigned in ascending order, starting with 0 (zero), to the Physical Channels from the TV Channel Map.

FTG Mode of Operation (Cont.)

FTG Channel Map Configuration Utility / FTG Channel Map Editor Overview

The FTG Channel Map Editor shows a single Logical Channel's Data and the FTG Channel Map.

LOGICAL CHANNEL MAPPING
Select a Logical Channel number, then assign it the RF, Major, and Minor channel numbers to complete the mapping.

CUSTOM CHANNEL LABELS/ICONS
Enter custom labels and select icons by name on menu or by number.

SET CHANNEL ATTRIBUTES
Check/select Encrypted, OSD, or Blank Video.

DELETE
Click to remove highlighted channel from FTG Channel Map.

EXIT
Click to exit editor and return to FTG Channel Map Configuration Utility.

ADD
After defining a new Logical Channel, click to add channel to the FTG Channel Map.
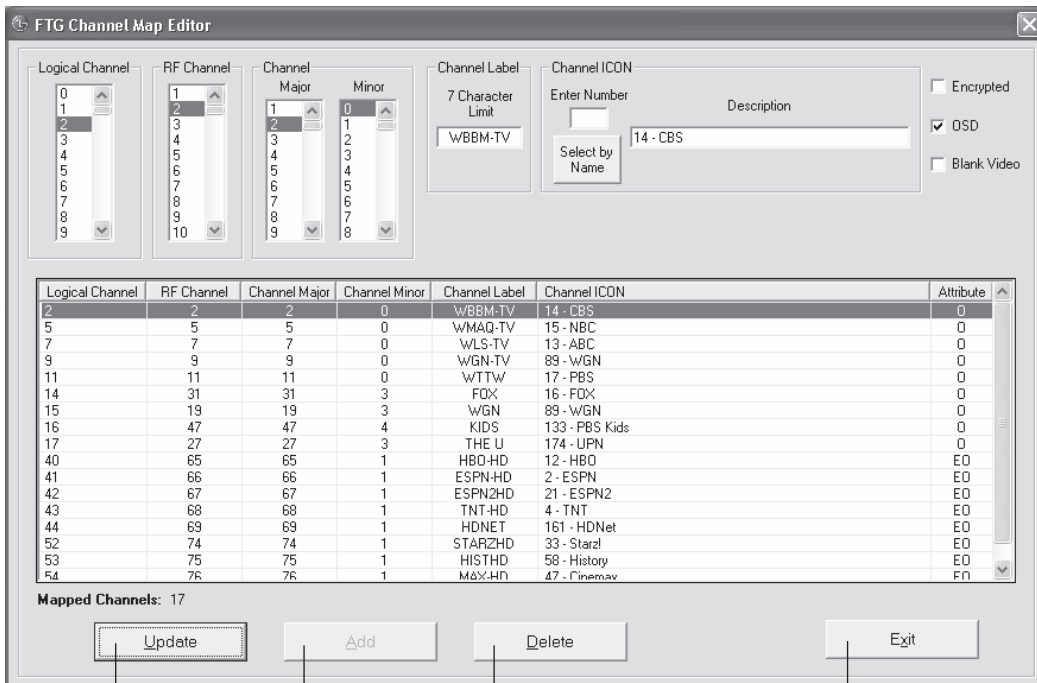
UPDATE
After editing an existing Logical Channel's data, click to commit the changes in the FTG Channel Map.

FTG Installer Menu Configuration Utility Overview

CONFIGURATION SETTINGS
Select tabs for categories of Installer
Menu items to set up TV.

HOSPITAL-GRADE TV ONLY
Set Hospital items on Installer Menu
for hospital-grade TVs.
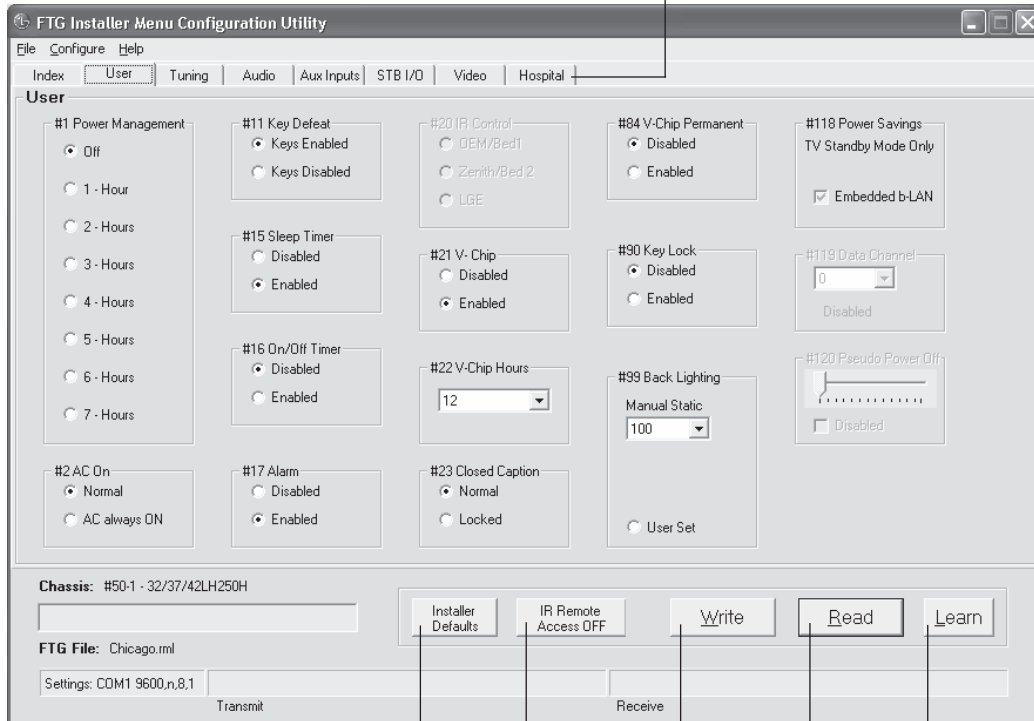
INSTALLER DEFAULTS
Click to reset FTG Installer Menu
items shown in the FTG Configuration
Application to defaults.

LEARN
Click to transfer Installer
Menu settings from the
PTC to the EBL and FTG
Configuration Application. *

IR REMOTE ACCESS
Toggle IR Remote Access to ON to obtain
access to TV setup menus and Installer
Menu.

READ
Click to transfer the Installer Menu
settings in the EBL to the FTG
Configuration Application.

WRITE
Click to transfer the FTG Installer
Menu settings to the EBL.

* Logical Channel numbers will automatically be
assigned in ascending order, starting with 0 (zero), to
the Physical Channels from the TV Channel Map.

Cloning Overview / Clonable Menu Features

IMPORTANT CLONING INFORMATION

There are three options for cloning a Master TV Setup:

- Using a USB memory device
- Using a TLL-1100A clone programmer
- Using a LT2002 clone programmer

Each option is described in further detail on the pages that follow. As you perform cloning procedures, be sure to complete each task as indicated. If a procedure or step is omitted or not performed completely, cloning may not work. At each step, pay attention to ensure the TV screen shows the proper message when cloning. If the message indicated does not appear, there is a problem with that step, and cloning may not be successful.

⚠ **Warning: Copying a blank or incorrect memory into a TV, STB, or other device will cause the TV, STB, or other device to operate erratically or become inoperable.**

⚠ **Warning: Do not connect a clone programmer to any PPV card installed in the Master TV or any MPI port while the TV is in PPV Mode, or the clone programmer and the PPV card will be damaged.**

Before you begin cloning:

- Complete the Commercial Mode Setup procedure on pages 13 to 14.
- The Master TV EBL must be in Pass-through Mode.
- Ensure the Master TV is connected to a good, stable signal source, the TV source selected is Antenna (RF) In, and the signal is from an Aux source or analog (not a digital) channel.
- All equipment should be connected to power and turned ON.
- Learning and Teaching is only possible between identical model TV/STBs.
- Make sure the batteries in the clone programmer, if applicable, are fresh. If batteries are removed, the Clone Clock Time will be lost.
- If using a USB memory device, ensure the memory device has been formatted with FAT format.
- If using a clone programmer, decide if you want to set the time from the clone programmer or copy the time to the clone programmer from a compatible TV which has the clock set to the current time.

Clonable Menu Features

Installer Menu
    Installer Menu item settings

Channel
    Auto Tuning (Channel Lineup)
    Channel Edit
    Channel Label

Picture
    Aspect Ratio
    Picture Mode
    Advanced Control

Audio
    Auto Volume
    Clear Voice
    Sound Mode
    Balance
    TV Speaker

Option
    Menu Language
    Audio Language
    Caption
    Caption Mode
    Digital Caption Options

Lock
    Movie Rating
    TV Rating – Children
    TV Rating – General
    Input Block

Time
    Auto Clock
    Manual Clock
    Off Time
    On Time
    Auto Off (Sleep Timer)

Note: Menu options vary between analog and digital channels and Aux sources.

Learning / Teaching a Master TV Setup using a USB Memory Device

USB Cloning Notes

- Read the IMPORTANT CLONING INFORMATION on page 28 before beginning any cloning procedures.

- Do not remove the TV power cord or the USB memory device while Learning or Teaching, as doing so may harm the USB memory device.

- You may edit a filename as part of the Learning procedure; however, a file with edited contents will not be recognized.

- Since clock data is copied into the USB memory device as numeric data, the time difference between Teaching and Learning is not automatically adjusted. Either set the clock manually, or use the Auto Clock setting in the TV setup menus.

Learn Setup from Master TV

1. Ensure the Master TV is set up completely and the EBL is in Pass-through Mode.

2. Plug the USB memory device into the USB IN port on the Master TV.

3. Press **MENU** to display the TV setup menus.

4. Use the arrow navigation keys to select/highlight the **Option** menu icon; then, press the number "**7**" key a total of seven times to display the USB Download Menu.

5. To gain access to the Learn From TV option in the USB Download Menu, key in the password used to enter the Installer Menu (Example: Press **9**-**8**-**7**-**6**).

6. Use the Up/Down arrow keys to select **Learn From TV** and press **ENTER**.

7. To identify the profile from others, you can use the Up/Down arrow keys to change the last five digits of the filename. Press **ENTER** when you are ready to initiate Learning.

   Learning status will be shown on the progress bar. When the Learning process is complete, the USB Download menu will reappear on screen.

8. Remove the USB memory device.
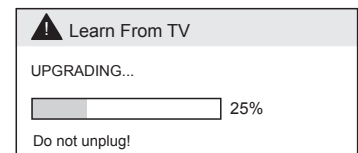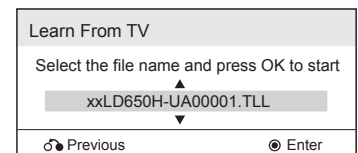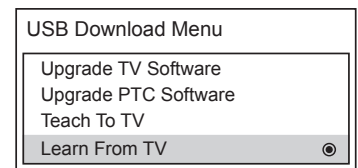
Teach Master TV Setup to Target TV

1. Plug the USB memory device with the Master TV Setup file into the Target TV USB IN port.

2. Press **MENU** to display the TV setup menus.

3. Use the arrow navigation keys to select/highlight the **Option** menu icon; then, press the number "**7**" key a total of seven times to display the USB Download Menu.

4. Use the Up/Down arrow keys to select **Teach To TV** and press **ENTER**.

5. Use the Up/Down arrow keys to select/highlight the Master TV Setup you want to install and press **ENTER**. Note: Filenames identify the TV and the TLL version (see figure at right).

   Teaching status will be shown on the progress bar. When the Teaching process is complete, the USB Download menu will reappear on screen.

6. When Teaching is done, remove the USB memory device, turn OFF the TV, and unplug the TV power cord for 15 seconds.

7. Reconnect the TV power cord, and turn ON the TV. The Master TV Setup should be resident on the Target TV.

USB Download Menu

Upgrade TV Software
Upgrade PTC Software
Teach To TV
Learn From TV   ◎

Learn From TV

Select the file name and press OK to start
▲
xxLD650H-UA00001.TLL
▼

🔁 Previous   ◎ Enter

⚠ Learn From TV

UPGRADING...

[   ] 25%

Do not unplug!

USB Download Menu

Upgrade TV Software
Upgrade PTC Software
Teach To TV   ◎
Learn From TV

Teach To TV

xxLD650H-UA00001.TLL

🔁 Previous   ◎ Enter

⚠ Teach To TV

UPGRADING...

[   ] 50%

Do not unplug!
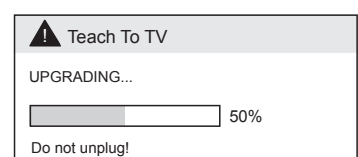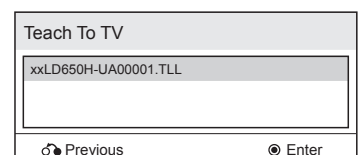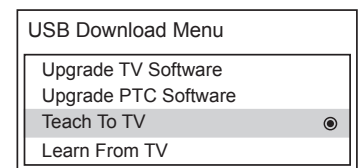
Cloning Procedures (Cont.)

Learning / Teaching a Master TV Setup using a TLL-1100A Clone Programmer

⚠ **Warning: Do not connect a clone programmer to any PPV card installed in the Master TV or any MPI port while the TV is in PPV Mode, or the clone programmer and the PPV card will be damaged.**

Cloning is accomplished using the TV/ clone programmer MPI ports for communication (see figure).

TLL-1100A Cloning Notes

• Read the IMPORTANT CLONING INFORMATION on page 28 before beginning any cloning procedures.

• Ensure the TLL-1100A is either fully charged or connected to AC power.

• Teaching and Learning is only possible between identical model TVs/ STBs; however, the TLL-1100A clone programmer can store up to eight different Master TV Setups.
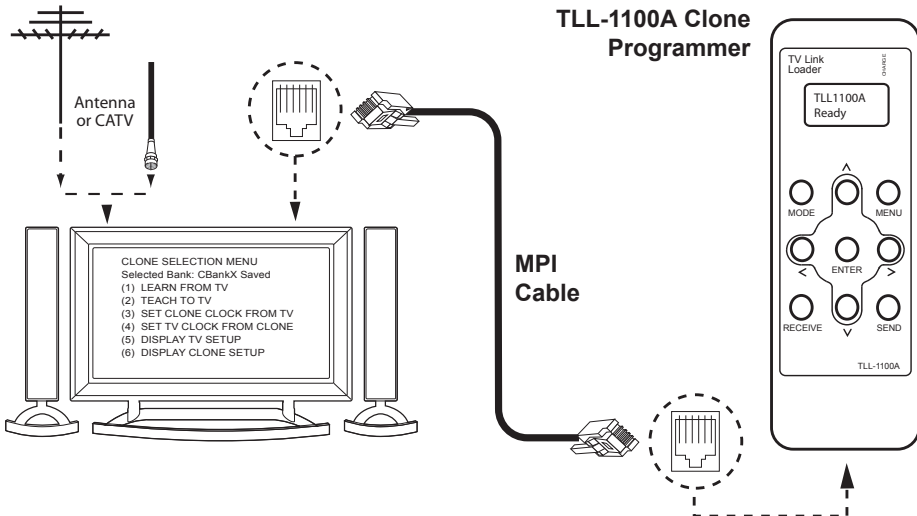
Antenna or CATV

CLONE SELECTION MENU
Selected Bank: CBankX Saved
(1) LEARN FROM TV
(2) TEACH TO TV
(3) SET CLONE CLOCK FROM TV
(4) SET TV CLOCK FROM CLONE
(5) DISPLAY TV SETUP
(6) DISPLAY CLONE SETUP

MPI Cable

TLL-1100A Clone Programmer

TV Link Loader

TLL1100A Ready

MODE   MENU
ENTER
RECEIVE   SEND
TLL-1100A

Learn Setup from Master TV

1. Ensure the Master TV is set up completely and the EBL is in Pass-through Mode.

2. If an analog channel is not available, tune the TV to an Aux source, such as AV-1. Then, plug one end of the MPI cable into the TV MPI port.

3. Turn ON the TLL-1100A.

4. Use the **MODE** button on the TLL-1100A to select **Clone Mode**.

5. Use the Left/Right arrows on the TLL-1100A to select the Memory CBank (1 to 8) in which to store the Master TV Setup.

6. Plug the other end of the MPI cable into the MPI port on the bottom of the TLL-1100A. The Clone Selection Menu will display on the TV screen.

7. Press **1** on the Installer Remote to select **LEARN FROM TV** from the Clone Selection Menu. Then, press ENTER to transfer the Master TV Setup into CBankX on the TLL-1100A.

   Learning usually takes about 90 seconds. "LEARNING IN PROGRESS" will be displayed on the screen while the TLL-1100A copies the Master Setup. When the Learning process is complete, a "LEARNING COMPLETE" message will be displayed.

CLONE SELECTION MENU
Selected Bank: CBankX Saved
(1) LEARN FROM TV
(2) TEACH TO TV
(3) SET CLONE CLOCK FROM TV
(4) SET TV CLOCK FROM CLONE
(5) DISPLAY TV SETUP
(6) DISPLAY CLONE SETUP

CLONE CLOCK = XX:XX
TV   CLOCK = XX:XX
THE CLONE IS VERSION VX.X.X

- To change menu items, press channel keys or digits.
- To execute item, press Enter.

Learning / Teaching a Master TV Setup using a TLL-1100A Clone Programmer (Cont.)

(Optional) Set the Clock

Set the time on a Master TV's clock. (If the time has already been copied from a TV into the TLL-1100A clone programmer, you can set the Master TV's clock by copying the time from the clone programmer.) The TLL-1100A can copy the current time to both a Master TV and to the clone's internal clock—accurate to within one minute.

Since the TLL-1100A's time cannot be set directly, the current time needs to be copied from an LG TV equipped with MPI input capability.

After the time is copied to the TLL-1100A clone programmer, the current time can then be transferred to another TV. (This can be a Master TV or another TV which has already had the features set up.)

Teach Master TV Setup to Target TV

1. When Learning is complete, disconnect the MPI cable from the Master TV, and connect it to the MPI port on the Target TV. The Clone Selection Menu will display on the TV screen.

2. Ensure the correct Memory CBank(X) is selected on the TLL-1100A.

3. Press **2** on the Installer Remote to select **TEACH TO TV** from the Clone Selection Menu. Then, press **ENTER** to transfer the Master TV Setup to the Target TV.

   Teaching usually takes 3 to 4 minutes. "TEACHING IN PROGRESS" will be displayed on the screen during Teaching. When the Teaching process is complete, a "TEACHING COMPLETE" message will be displayed.

4. When Teaching is done, disconnect the MPI cable from the Target TV, turn OFF the TV, and unplug the TV power cord for 15 seconds.

5. Reconnect the TV power cord, and turn ON the TV. The Master TV Setup should be resident on the Target TV.

```
CLONE SELECTION MENU
Selected Bank: CBankX Saved
(1)  LEARN FROM TV
(2)  TEACH TO TV
▶ (3)  SET CLONE CLOCK FROM TV
▶ (4)  SET TV CLOCK FROM CLONE
(5)  DISPLAY TV SETUP
(6)  DISPLAY CLONE SETUP

CLONE CLOCK  =  XX:XX
TV       CLOCK  =  XX:XX
THE CLONE IS VERSION VX.X.X
- To change menu items, press
  channel keys or digits.
- To execute item, press Enter.
```

```
CLONE SELECTION MENU
Selected Bank: CBankX Saved
(1)  LEARN FROM TV
(2)  TEACH TO TV
(3)  SET CLONE CLOCK FROM TV
(4)  SET TV CLOCK FROM CLONE
(5)  DISPLAY TV SETUP
(6)  DISPLAY CLONE SETUP

CLONE CLOCK  =  XX:XX
TV       CLOCK  =  XX:XX
THE CLONE IS VERSION VX.X.X
- To change menu items, press
  channel keys or digits.
- To execute item, press Enter.
```

Cloning Procedures (Cont.)

Learning / Teaching a Master TV Setup using an LT2002 Clone Programmer

⚠️ **Warning: Do not connect a clone programmer to any PPV card installed in the Master TV or any MPI port while the TV is in PPV Mode, or the clone programmer and the PPV card will be damaged.**

Cloning is accomplished using the TV/ clone programmer MPI ports for communication (see figure).

LT2002 Cloning Notes

• Read the IMPORTANT CLONING INFORMATION on page 28 before beginning any cloning procedures.

• A slow flashing green light indicates that there are communication problems between the TV and the LT2002 clone programmer. If this is the case, check for a damaged cable, poor contacts, or other connection troubles.

• If the status indicator is red, the LT2002 batteries are low and should be replaced. Install four (4) high-quality alkaline AA batteries.

• Teaching and Learning is only possible between identical model TVs/STBs; however, the LT2002 clone programmer can store up to three different Master TV Setups.
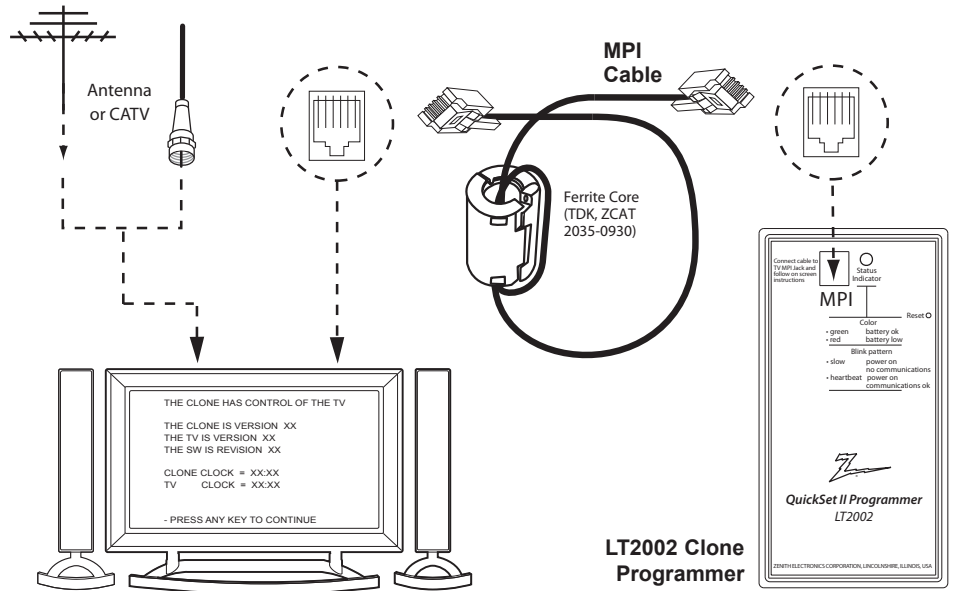
Antenna or CATV

MPI Cable

Ferrite Core (TDK, ZCAT 2035-0930)

THE CLONE HAS CONTROL OF THE TV

THE CLONE IS VERSION XX
THE TV IS VERSION XX
THE SW IS REVISION XX

CLONE CLOCK = XX:XX
TV   CLOCK = XX:XX

- PRESS ANY KEY TO CONTINUE

Connect cable to TV MPI jack and follow on screen instructions

Status Indicator

Reset

MPI

Color
• green   battery ok
• red   battery low

Blink pattern
• slow   power on
             no communications
• heartbeat power on
             communications ok

QuickSet II Programmer
LT2002

ZENITH ELECTRONICS CORPORATION, LINCOLNSHIRE, ILLINOIS, USA

LT2002 Clone Programmer

Learn Setup from Master TV

1. Ensure the Master TV is set up completely and the EBL is in Pass-through Mode.

2. If an analog channel is not available, tune the TV to an Aux source, such as AV-1. Then, plug one end of the MPI cable into the TV MPI port.

3. If there is a good connection after the LT2002 is connected to the TV MPI port, "THE CLONE HAS CONTROL OF THE TV" message will appear on the TV screen. Press any key on the Installer Remote to access the LT2002 Clone Selection Menu.

4. Press **1** on the Installer Remote to select **LEARN FROM TV** from the Clone Selection Menu; then press **ENTER** to proceed to the Memory Bank Selection Menu (see sample screen on next page).

5. Select the clone Memory Bank in which to store the Master Setup by pressing either Channel key repeatedly to choose Memory Bank 1, 2, or 3. Note: If you choose a Memory Bank that already has a Master device's setup programmed into it, that setup will be overwritten by the new Master TV Setup.

THE CLONE HAS CONTROL OF THE TV

THE CLONE IS VERSION XX
THE TV IS VERSION   XX
THE SW IS REVISION   XX

CLONE CLOCK = XX:XX
TV   CLOCK = XX:XX

- PRESS ANY KEY TO CONTINUE.

- DISCONNECT CLONE WHEN DONE.

CLONE SELECTION MENU

(1) LEARN FROM TV
(2) TEACH TO TV
(3) SET CLONE CLOCK FROM TV
(4) SET TV CLOCK FROM CLONE
(5) DISPLAY TV SETUP
(6) DISPLAY CLONE SETUP

- TO CHANGE MENU ITEMS, PRESS
  CHANNEL KEYS OR DIGITS.

- TO EXECUTE ITEM, PRESS ON/OFF,
  POWER, OR ENTER.

Learning / Teaching a Master TV Setup using an LT2002 Clone Programmer (Cont.)

(Continued from previous page)

6. Once you select the clone Memory Bank, press **ENTER** on the Installer Remote. The Memory Bank you selected will be shown.

7. Press **POWER** to transfer the Master TV Setup into the selected Memory Bank on the LT2002.

   Learning usually takes about 90 seconds. "LEARNING IN PROGRESS" will be displayed on the screen while the LT2002 copies the Master Setup. When the Learning process is complete, a "LEARNING COMPLETE" message will be displayed.

(Optional) Set the Clock

Set the time on a Master TV's clock. (If the time has already been copied from a TV into the LT2002 clone programmer, you can set the Master TV's clock by copying the time from the clone programmer.) The LT2002 can copy the current time to both a Master TV and to the clone's internal clock—accurate to within one minute. (Another reason that the LT2002 should be equipped with fresh, high-quality alkaline batteries, is for it to keep the time as accurately as possible.)

Since the LT2002's time cannot be set directly, the current time needs to be copied from an LG TV equipped with MPI input capability.

After the time is copied to the LT2002 clone programmer, the current time can then be transferred to another TV. (This can be a Master TV or another TV which has already had the features set up.)

Teach Master TV Setup to Target TV

1. When Learning is complete, disconnect the MPI cable from the Master TV, and connect it to the MPI port on the Target TV.

2. With "THE CLONE HAS CONTROL OF TV" message on display, press **2** on the Installer Remote to select **TEACH TO TV** from the LT2002 Clone Selection Menu. Then, press **ENTER**.

3. Select the LT2002 Memory Bank in which the new setup is located. Then, press **POWER** to transfer the Master TV Setup to the Target TV.

   Teaching usually takes 3 to 4 minutes. "TEACHING IN PROGRESS" will be displayed on the screen during Teaching. When the Teaching process is complete, a "TEACHING COMPLETE" message will be displayed.

4. When Teaching is done, press any key on the Installer Remote to return to the Clone Selection Menu. Then, press **ENTER**.

5. Disconnect the MPI cable from the Target TV, turn OFF the TV, and unplug the TV power cord for 15 seconds.

6. Reconnect the TV power cord, and turn ON the TV. The Master TV Setup should be resident on the Target TV.

```
SAVE TV SETUP IN SELECTED
CLONE MEMORY

(1)  MEMORY 1  VER XX  REV XX
(2)  MEMORY 2  VER XX  REV XX
(3)  MEMORY 3  VER XX  REV XX
(4)  RETURN TO CLONE MENU


- TO CHANGE MENU ITEMS, PRESS
  CHANNEL KEYS OR DIGITS.

- TO EXECUTE ITEM, PRESS ON/OFF,
  POWER, OR ENTER.
```

```
CLONE SELECTION MENU

(1)  LEARN FROM TV
(2)  TEACH TO TV
(3)  SET CLONE CLOCK FROM TV
(4)  SET TV CLOCK FROM CLONE
(5)  DISPLAY TV SETUP
(6)  DISPLAY CLONE SETUP

- TO CHANGE MENU ITEMS, PRESS
  CHANNEL KEYS OR DIGITS.

- TO EXECUTE ITEM, PRESS ON/OFF,
  POWER, OR ENTER.
```

```
CLONE SELECTION MENU

(1)  LEARN FROM TV
(2)  TEACH TO TV
(3)  SET CLONE CLOCK FROM TV
(4)  SET TV CLOCK FROM CLONE
(5)  DISPLAY TV SETUP
(6)  DISPLAY CLONE SETUP

- TO CHANGE MENU ITEMS, PRESS
  CHANNEL KEYS OR DIGITS.

- TO EXECUTE ITEM, PRESS ON/OFF,
  POWER, OR ENTER.
```

```
COPY SELECTED CLONE MEMORY
TO TV

(1)  MEMORY 1  VER XX  REV XX
(2)  MEMORY 2  VER XX  REV XX
(3)  MEMORY 3  VER XX  REV XX
(4)  RETURN TO CLONE MENU


- TO CHANGE MENU ITEMS, PRESS
  CHANNEL KEYS OR DIGITS.

- TO EXECUTE ITEM, PRESS ON/OFF,
  POWER, OR ENTER.
```

Remote Jack Pack / TV Connections & Setup

Remote Jack Pack Setup

RJP Available? If you will use a Remote Jack Pack (RJP) in your system, set Installer Menu item **093 RJP AVAILABLE** appropriately (for example, on a legacy model RJP: HDMI Mode, set RJP AVAILABLE to 001). See Installer Menu detailed descriptions for further information.

093	RJP AVAILABLE	001

TV Connections

⚠ **Make these connections ONLY after Commercial Mode Setup and Cloning Master TV procedures are complete.**

Refer to the appropriate figure below, and connect the RJ-45 Control cable from the RJP cable bundle to the RJP INTERFACE port on the TV's jack panel. Then, connect HDMI, RGB, and Composite Video/Audio connectors, as applicable, for the cable bundle.

32/37/42LD650H/LD655H Jack Panel

HDMI/DVI IN 1
Connect HDMI connector from RJP cable bundle.

RJP INTERFACE
Connect RJ-45 Control cable from RJP cable bundle.

RGB IN (PC)
Connect RGB connector from RJP cable bundle (legacy RJP only).

AUDIO/VIDEO IN 1
Connect Composite Video/Audio connectors from RJP cable bundle. (Composite Video on legacy RJP only.)

47/55LD650H Jack Panel

HDMI/DVI IN 1
Connect HDMI connector from RJP cable bundle.

RJP INTERFACE
Connect RJ-45 Control cable from RJP cable bundle.

RGB IN (PC)
Connect RGB connector from RJP cable bundle (legacy RJP only).

AUDIO/VIDEO IN 1
Connect Composite Video/Audio connectors from RJP cable bundle. (Composite Video on legacy RJP only.)

LG710H Jack Panel

RGB IN (PC)
Connect RGB connector from RJP cable bundle (legacy RJP only).

HDMI/DVI IN 1
Connect HDMI connector from RJP cable bundle.

RJP INTERFACE
Connect RJ-45 Control cable from RJP cable bundle.

AUDIO/VIDEO IN 1
Connect Composite Video/Audio connectors from RJP cable bundle. (Composite Video on legacy RJP only.)

Reference: Upgrading TV/PTC Software with a USB Memory Device

Checking the Software Versions

You can check the software versions of the TV by accessing the Installer Menu: Press **MENU** repeatedly until the on-screen menu locks up, and then press **9**-**8**-**7**-**6** + **ENTER**. When you are finished, press **ENTER** again to exit the Installer Menu.

```
┌──────────────────────────────────────┐
│  ┌────────────────────────────────┐  │
│  │   XXLG710H PTC INSTALLER MENU  │  │
│  └────────────────────────────────┘  │
│                                      │
│  ┌────────────────────────────────┐  │
│  │ 000   INSTALLER SEQ      000   │  │
│  └────────────────────────────────┘  │
│                                      │
│  ┌────────────────────────────────┐  │
│  │ UPN  000-000-000-000  FPGA E0F1│  │
│  │ PTC V1.00.000       CPU V3.06.00│ │
│  └────────────────────────────────┘  │
└──────────────────────────────────────┘
        PTC Version    CPU Version
```

Typical Installer Menu
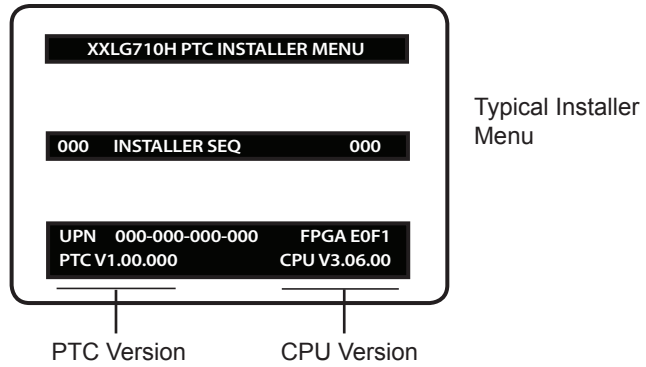
Upgrading TV/PTC Software

Before you begin, note that the software upgrade files must be stored in a folder named "LG_DTV" in the root directory of USB memory device.

1. Turn the TV ON.

2. Plug the USB memory device into the USB IN port on the TV. Note: Ensure the memory device has been formatted with FAT format.

3. Press **MENU** to display the TV setup menus.

4. Use the arrow navigation keys to select/highlight the **Option** menu icon; then, press the number "**7**" key a total of seven times to display the USB Download Menu.

5. Use the Up/Down arrow keys to select **Upgrade TV Software** or **Upgrade PTC Software**, as applicable, and press **ENTER**. (See screen samples at right. The TV Software Upgrade screen provides information on the current software as well as the potential software to be downloaded.)

6. Use the Up/Down arrow keys to select/highlight the upgrade to install and press **ENTER**.

Copying progress will be shown. When the upgrade is complete, the TV will turn OFF.

```
┌────────────────────────────────────────┐
│ USB Download Menu                      │
│ ┌────────────────────────────────────┐ │
│ │ Upgrade TV Software           ◉    │ │
│ │ Upgrade PTC Software               │ │
│ │ Teach To TV                        │ │
│ └────────────────────────────────────┘ │
└────────────────────────────────────────┘
```

TV Software Upgrade   PTC Software Upgrade

```
┌─────────────────────────────┐   ┌─────────────────────────────┐
│ ▣ TV Software Update        │   │ ▣ Upgrade PTC Software       │
│ ─────────────────────────── │   │ ─────────────────────────── │
│ [ Current TV Software Version Information ] │ │
│ epak : 3.0b.0    rootfs(RELEASE) : 0.00.1 │ │
│ model(RELEASE) : 3.12.0   emanual(RELEASE) : 0.00.1 │ │
│ ezcal(RELEASE) : 3.0b.0   kernel(RELEASE) : 3.12.0 │ │
│ lgfont(RELEASE) : 3.12.0  micom(RELEASE) : 0.d0.b8 │ │
│                          │   │  The following software files are │
│                          │   │  found in the memory card.  │
│ cpak : 3.31.0   lgapp(RELEASE) : 3.31.0 │ │
│ lgres(RELEASE) : 3.31.0  model(RELEASE) : 3.31.0 │ │
│ ezcal(RELEASE) : 3.31.0  boot(RELEASE) : 0.00.1 │ │
│ kernel(RELEASE) : 0.00.1  rootfs(REA/LEASE) : 0.00.1 │ │
│ ┌─────────────────────────┐ │   │ ┌─────────────────────────┐ │
│ │ 710H_V3.31_usb      ◉   │ │   │ │ PTC_xx710H_v1.00.014  ◉ │ │
│ └─────────────────────────┘ │   │ └─────────────────────────┘ │
└─────────────────────────────┘   └─────────────────────────────┘
```

```
┌─────────────────────────────┐   ┌─────────────────────────────┐
│ ⚠ TV Software Update        │   │ ⚠ Upgrade PTC Software       │
│                             │   │                             │
│ UPGRADING...                │   │ UPGRADING...                │
│ ┌──────────────┐            │   │ ┌──────────────┐            │
│ │██████        │ 27%        │   │ │█████         │ 25%        │
│ └──────────────┘            │   │ └──────────────┘            │
│ Do not unplug!              │   │ Do not unplug!              │
└─────────────────────────────┘   └─────────────────────────────┘
```

Note: (TV Software Upgrades only) If the TV detects a later version of software on the USB device, it will automatically display a dialog from which you can start the software upgrade immediately. Otherwise, you can close the dialog, and access the USB Download Menu as described in the procedure.

Reference: Power Consumption Settings

32/37/42/47/55LD650H, 32/37/42LD655H, 32/37/42LG710H

The following tables assume that Installer Menu item 118 POWER SAVINGS is set to 003 (default) and Installer Menu item 099 BACK LIGHTING is set as shown below (default value is 255).

32LD650H/LD655H

Item 099 Back Lighting (Static)	Picture Lumin.	Power Consumption (Watts)	Percent Savings	Item 099 Back Lighting (Dynamic)	Picture Lumin.	Power Consumption (Watts)	Percent Savings
100	290.2	96.1	0.00%	202	105.1	56.1	41.62%
90	258.2	90.9	5.41%	200	85.5	51.5	46.41%
80	220.2	84.8	11.76%	190	80.0	50.5	47.45%
70	189.1	80.2	16.55%	180	75.7	49.7	48.28%
60	166.6	75.5	21.44%	170	70.6	48.6	49.43%
50	145.2	69.1	28.10%	160	67.1	48.0	50.05%
40	126.4	63.9	33.51%	150	63.2	47.1	50.99%
30	108.2	58.8	38.81%	140	60.0	46.3	51.82%
20	90.2	53.2	44.64%	130	56.6	45.7	52.45%
10	72.1	48.6	49.43%	120	52.5	44.7	53.49%
1	57.5	44.0	54.21%	110	49.2	44.1	54.11%

37LD650H/LD655H

Item 099 Back Lighting (Static)	Picture Lumin.	Power Consumption (Watts)	Percent Savings	Item 099 Back Lighting (Dynamic)	Picture Lumin.	Power Consumption (Watts)	Percent Savings
100	193.5	113.4	0.00%	202	116.4	82.7	27.07%
90	178.5	106.5	6.08%	200	94.1	72.1	36.42%
80	163.1	100.1	11.73%	190	88.6	70.1	38.18%
70	149.0	93.8	17.28%	180	83.1	67.7	40.30%
60	134.6	88.0	22.40%	170	77.5	65.3	42.42%
50	118.9	81.5	28.13%	160	71.9	63.0	44.44%
40	104.1	75.2	33.69%	150	67.1	61.3	45.94%
30	89.1	69.2	38.98%	140	61.4	59.0	47.97%
20	72.6	62.5	44.89%	130	55.8	56.4	50.26%
10	57.1	56.1	50.53%	120	50.2	54.1	52.29%
1	41.5	49.7	56.17%	110	44.3	51.8	54.32%

42LD650H/LD655H

Item 099 Back Lighting (Static)	Picture Lumin.	Power Consumption (Watts)	Percent Savings	Item 099 Back Lighting (Dynamic)	Picture Lumin.	Power Consumption (Watts)	Percent Savings
100	212.8	144.1	0.00%	202	109.8	98.2	31.85%
90	195.8	135.0	6.32%	200	90.1	85.8	40.46%
80	177.9	125.7	12.77%	190	84.2	82.8	42.54%
70	160.0	117.5	18.46%	180	78.6	79.7	44.69%
60	143.7	109.1	24.29%	170	72.5	76.6	46.84%
50	124.7	100.1	30.53%	160	66.6	73.6	48.92%
40	107.6	91.8	36.29%	150	62.2	71.2	50.59%
30	90.8	83.4	42.12%	140	56.3	68.2	52.67%
20	72.6	74.2	48.51%	130	50.7	65.2	54.75%
10	55.3	65.7	54.41%	120	45.1	62.1	56.90%
1	39.4	57.5	60.10%	110	39.5	59.8	58.50%

47LD650H

Item 099 Back Lighting (Static)	Picture Lumin.	Power Consumption (Watts)	Percent Savings	Item 099 Back Lighting (Dynamic)	Picture Lumin.	Power Consumption (Watts)	Percent Savings
100	268.0	199.3	0.00%	202	119.0	117.2	58.81%
90	249.0	188.3	94.48%	200	87.3	105.0	52.68%
80	226.0	174.7	87.66%	190	76.8	101.0	50.68%
70	203.0	162.7	81.64%	180	72.1	98.3	49.32%
60	179.0	150.6	75.56%	170	66.2	95.0	47.67%
50	151.0	137.7	69.09%	160	62.1	92.7	46.51%
40	131.0	125.5	62.97%	150	58.1	90.0	45.16%
30	109.0	113.5	56.95%	140	53.2	86.7	43.50%
20	83.7	100.8	50.58%	130	49.3	84.3	42.30%
10	62.4	89.0	44.66%	120	45.1	81.8	41.04%
1	43.3	77.4	38.84%	110	41.6	79.3	39.79%

Note: Values are results of controlled experiments under laboratory conditions.

32/37/42/47/55LD650H, 32/37/42LD655H, 32/37/42LG710H

55LD650H

Item 099 Back Lighting (Static)	Picture Lumin.	Power Consumption (Watts)	Percent Savings
100	168.0	246.0	0.00%
90	155.0	230.0	93.50%
80	140.0	214.5	87.20%
70	126.0	199.5	81.10%
60	113.0	184.3	74.92%
50	98.0	168.0	68.29%
40	84.0	152.2	61.87%
30	69.7	136.5	55.49%
20	50.8	113.5	46.14%
10	32.2	91.3	37.11%
1	15.9	69.7	28.33%

Item 099 Back Lighting (Dynamic)	Picture Lumin.	Power Consumption (Watts)	Percent Savings
202	55.1	114.5	46.54%
200	42.1	99.7	40.53%
190	38.4	96.5	39.23%
180	36.0	94.5	38.41%
170	32.8	91.3	37.11%
160	29.8	88.0	35.77%
150	26.9	84.7	34.43%
140	23.9	81.4	33.09%
130	21.2	78.0	31.71%
120	18.3	74.5	30.28%
110	15.8	70.8	28.78%

32LG710H

Item 099 Back Lighting (Static)	Picture Lumin.	Power Consumption (Watts)	Percent Savings
100	206	104	0 %
90	204	103.5	0.48 %
80	203	103	0.96 %
70	172	93	10.58 %
60	147	85	18.27 %
50	127	79	24.04 %
40	108	73.5	29.33 %
30	86	67	35.58 %
20	66	60	42.31 %
10	50	55.5	46.63 %
1	39	51.5	50.48 %

Item 099 Back Lighting (Dynamic)	Picture Lumin.	Power Consumption (Watts)	Percent Savings
200	103	74	28.85 %
190	96	73	29.81 %
180	84	69.5	33.17 %
170	73	65.5	37.02 %
160	64	62	40.38 %
150	57	60	42.31 %
140	51	57.5	44.71 %
130	44	55	47.12 %
120	38	52.5	49.52 %
110	33	50.5	51.44 %
101	29	49	52.88 %

37LG710H

Item 099 Back Lighting (Static)	Picture Lumin.	Power Consumption (Watts)	Percent Savings
100	258	151.5	0 %
90	230	136.5	9.90 %
80	201	122.5	19.14 %
70	170	111	26.73 %
60	145	101.3	33.14 %
50	120	91.5	39.60 %
40	95	81.3	46.34 %
30	72	71	53.14 %
20	54	63.5	58.09 %
10	41	58	61.72 %
1	31	53	65.02 %

Item 099 Back Lighting (Dynamic)	Picture Lumin.	Power Consumption (Watts)	Percent Savings
200	93	91.5	39.60 %
190	79	85.5	43.56 %
180	67	80	47.19 %
170	58	74.8	50.63 %
160	50	70.8	53.27 %
150	44.5	67.5	55.45 %
140	38	63.5	58.09 %
130	31.5	59.3	60.86 %
120	27	56.5	62.71 %
110	23.5	54.5	64.03 %
101	21	52.8	65.15 %

42LG710H

Item 099 Back Lighting (Static)	Picture Lumin.	Power Consumption (Watts)	Percent Savings
100	286	185	0%
90	250	164.5	11.08 %
80	216	147.5	20.27 %
70	185.5	133.5	27.84 %
60	159	121.3	34.43 %
50	133.5	109.5	40.81 %
40	107.5	97	47.57 %
30	81	84	54.59 %
20	61	75	59.46 %
10	46.5	67.5	63.51 %
1	35	61.5	66.76 %

Item 099 Back Lighting (Dynamic)	Picture Lumin.	Power Consumption (Watts)	Percent Savings
200	113	109	41.08 %
190	108	103	44.32 %
180	96	96.4	47.89 %
170	83	89.7	51.51 %
160	73.8	84.5	54.32 %
150	65.2	80.2	56.65 %
140	55.8	75.2	59.35 %
130	46.13	69.9	62.22 %
120	39.6	66.1	64.27 %
110	34.4	63.5	65.68 %
101	29.85	61.4	66.81 %

Note: Values are results of controlled experiments under laboratory conditions.

Reference: TV Camport Auto Sense Operation

The Camport Auto Sense function is enabled when:
1. Installer Menu item 034 CAMPORT EN is set to 1 AND
2. Installer Menu item 040 AUTO CAMPORT is enabled (1).

Selectable: Can be accessed with INPUT key, direct access, etc.
Auto Sense: TV switches to this input when connector is inserted. The Camport (Side Video) has the highest priority and will override any commands including tuning to the Start Channel.

CAMPORT (Side Video) Functionality Control

Item 034 CAMPORT EN	Item 040 AUTO CAMPORT	Side Video Operation
0	0	Disabled
0	1	Disabled
1	0	Selectable
1	1	Auto Sense

Camport Operation (Stand-Alone)

When Camport Auto Sense is enabled as above, the TV's source will switch to the Side Video Aux source whenever a plug is inserted into either of the Side Video panel inputs (Composite Video or S-Video).

When the plug is removed, the TV will switch back to the previous channel or input source that was being displayed before the plug was inserted. However, if any direct access to an RF channel or Aux channel is requested while the Camport is active, then, when the video plug is removed, the TV will switch to the last requested channel. Source changes using any Source keys (INPUT) are ignored. Channel Up/Down and Flashback commands are not direct access tuning commands, and they are also ignored.

Previous State Before Inserting CAMPORT	Operation While CAMPORT is Active	State Upon Removal of CAMPORT
Aux or RF Channel	None	Previous Aux or RF Channel
Aux or RF Channel	Direct Access	Last Requested Aux or RF Channel
Aux or RF Channel	Ch Up/Down, Flashback, and Input Keys	Previous Aux or RF Channel

Camport Operation (FTG or PPV)

The operation will be similar to that of the Stand-alone Mode. However, when the Channel Map is maintained external to the PTC (i.e., FTG and PPV), Channel Up/Down or Flashback keys are sent as Direct Access tuning commands to the PTC/TV.

Previous State Before Inserting CAMPORT	Operation While CAMPORT is Active	State Upon Removal of CAMPORT
Aux or RF Channel	None	Previous Aux or RF Channel
Aux or RF Channel	Direct Access	Last Requested Aux or RF Channel
Aux or RF Channel	Ch Up/Down, Flashback, and Input Keys	Last Requested Aux or RF Channel

DIRECT ACCESS Tuning		TV		ENABLE				MPI DATA			START AUX SOURCE ASSIGN-MENT
				Installer Menu		MPI DATA STATUS TYPE 0x41 SOURCES ENABLED (R/W)		DATA STATUS TYPE 0xD2 CURRENT AV SOURCE (R)		DATA STATUS TYPE 0x0D AUX SOURCE (R)	
OLD_ OCV = 0	OLD_ OCV = 1	Source Input	Source Mode	Number	Labeling	Value	Labeling	Value	Labeling		
130	90	Video2 (Side)	CV/SVIDEO	34	CAMPORT_EN	0x01	Video Front (Camport)	0	Video Front (Camport)	0 (VIDEO)	2
131	91	Video1 (Rear)	CV/SVIDEO	39	REAR_AUX_EN	0x02	Rear Video (Aux)	1	Rear Video (Aux)	0 (VIDEO)	1
132	92	HDMI2	DTV/PC	91	YPrPb2 EN = 1	0x04	S-Video Rear	2	S-Video Rear	0 (VIDEO)	5
133	93	HDMI1/DVI	DTV/PC	35	COMPPORT_EN = 1	0x08	Front Computer	3	Front Computer	0 (VIDEO)	3
134	94	RGB	PC	87	REAR RGB EN = 2	0x10	SVGA Rear Computer	4	SVGA Rear Computer	2 (COMPUTER)	4
136	96	Component		38	YPrPb EN	0x40	Y/UV Component	6	Rear Y/PrPb Component Video	0 (VIDEO)	6

Reference: *b*-LAN Setup & Overview

The *b*-LAN module is internal to the TV. It allows the hotel/institution head end equipment to communicate, via the institution's RF distribution system, with the TV for configuration and control. The *b*-LAN module also comprises the data tuner required for Pro:Centric operation.

Note: MPI cards with *b*-LAN technology—LMT7Z5, LMT7Z7, LMT7Z9—are NOT supported on TVs in which the *b*-LAN module is embedded.

Power to the *b*-LAN module is controlled by Installer Menu item 118 POWER SAVINGS. The default value is 003—the *b*-LAN module is only powered when the TV is turned ON. See chart below.

POWER SAVINGS	TV Standby State	TV Power On State
	b-LAN Power	*b*-LAN Power
001	On	On
003 (default)	Off	On
007	Off	Off

The control device at the head end, for example, an FMA-LG101 or a PCS100R, can control multiple TVs. When the TV is first installed, it must be turned ON in order for the head end to be able to communicate with the *b*-LAN. At this point, if it is desired for the *b*-LAN to always be powered, including while the TV is in Standby, set Installer Menu item 118 POWER SAVINGS to 001.

If the embedded *b*-LAN, including the Pro:Centric data tuner, will not be used, enable maximum power savings in both Standby and TV Power On Mode by setting Installer Menu item 118 POWER SAVINGS to 007. However, note that this action will disable Pro:Centric operation.

⚠ **Warning for LD650H/LD655H TVs: If an MPI card is installed, POWER SAVINGS must be set to 001. See table below. (Also see note regarding MPI cards at the top of the page.)**

POWER SAVINGS	32/37/42LD650H/LD655H MPI Slot
001	Supported
003 (default)	Not Supported
007	Not Supported

RJP Model List

Legacy Models	Scaler Models
RJP-101M	N/A
RJP-101ML	N/A
RJP-110F	RJP-210F
RJP-110FW	RJP-210FW
RJP-110W	RJP-210W
RJP-110WBR	RJP-210WBR
RJP-110S	RJP-210S
RJP-120G	RJP-220G
RJP-120T	RJP-220T
RJP-201B	RJP-301B
RJP-202B	RJP-302B

RJP Input Auto-sensing Hierarchy

Priority	Video	Audio
1st (Highest)	Digital Video In	Audio In (3.5mm)
2nd	PC Video In	Audio In (L/R)
3rd	Video In	Digital Video In

Troubleshooting

General Troubleshooting

Some Quick and Easy Tips for Resolving Problems

Symptom	Possible Cause(s)	Possible Solution(s)
Software Problems		
Cannot direct enter channel number or "No Signal" appears.	Channel not included in channel lineup in TV controller.	After 2-5-5 + MENU, only channels included in TV controller will appear. If channel is available, it can be added to channel lineup. If it is not available, the "No Signal" message appears on the TV screen.
Power		
No power.	See troubleshooting flowchart on following page.	
Display Panel Picture		
No picture.	Display panel is turned off.	• Turn TV ON. • Power failure?
	Antenna/cable not connected.	Connect antenna/cable signal to TV.
	Connections incorrect.	Check connections on TV.
	MPI not connected.	If applicable, connect MPI cable to MPI device.
	Encrypted program.	Try another channel.
	Wrong tuning band.	Adjust Installer Menu settings.
Erratic Operation		
Installer Menu setup.	Wrong Installer Menu settings.	Adjust Installer Menu settings as required.
Installer Remote		
Remote doesn't work.	Remote not in TV Mode.	Use MODE key to select "TV"; puts remote into TV Mode.
	Not aimed at IR remote sensor.	Point remote at TV's IR receiver on TV.
	Remote too far from IR sensor.	Move remote closer to TV's IR receiver or darken room.
	MPI not connected.	If applicable, connect MPI cable to MPI device.
	IR path to TV's receiver obstructed.	Remove obstructions.
	Weak batteries.	Replace batteries.
	Wrong battery polarity.	Check that "+" and "-" match in battery compartment.
	Too much light in room.	Dim room light.
	Wrong Installer Remote.	Requires compatible Installer Remote. Contact your LG dealer.
Picture Reception		
Normal picture, poor or no sound.	Audio muted.	Press MUTE or use Volume Up key to increase sound level.
	Broadcast problem.	Try a different channel.

Note: For other problems not caused by the TV, refer to the other devices' operating guide(s).

206-4137

```
                    ┌─────────────────┐
                    │   Controller    │
                    │  Quick Check    │
                    └────────┬────────┘
                             │
                             ▼
              ◇ STATUS          No      ◇ TV                No   ┌──────────────┐
              LED on PTC  ───────────►   connected   ──────────► │ Plug into AC │
              Board                      to AC                   │ Power outlet.│
              blinking?                  Power?                  └──────────────┘
                    │                         │
                   Yes                       Yes
                    │                         │
                    │                         ▼
                    │                    ┌─────────┐
                    │                    │  Bad    │
                    │                    │  TV     │
                    │                    └─────────┘
                    ▼
        ┌───────────────────────┐
        │ Cycle the power by    │
        │ removing and          │
        │ reconnecting the AC   │
        │ Power cord. Then,     │
        │ observe POWER LED     │
        │ on front of TV.       │
        └───────────┬───────────┘
                    │
                    ▼
              ◇ POWER     No    ┌───────────────────┐
              LED lit?  ──────► │ Bad Analog or     │
                    │           │ Digital Board     │
                   Yes          └───────────────────┘
                    ▼
        ┌───────────────────┐
        │ Press POWER on    │
        │ Installer Remote. │
        └─────────┬─────────┘
                  │
                  ▼
              ◇ TV       No    ┌─────────┐
              turned ON? ────► │ Bad TV  │
                    │          └─────────┘
                   Yes
                    ▼
        ┌───────────────────┐
        │ Press VOLUME UP/  │
        │ DOWN or MUTE key  │
        │ on Installer      │
        │ Remote.           │
        └───────────────────┘
```

```
              ◇ TV          No   ┌─────────┐
              responded?  ──────► │ Bad TV  │
                    │             └─────────┘
                   Yes
                    ▼
        ┌───────────────────┐
        │ Press VOLUME UP/  │
        │ DOWN or MUTE key  │
        │ on User-supplied  │
        │ Remote.           │
        └─────────┬─────────┘
                  │
                  ▼
              ◇ TV          No   ┌──────────────┐
              responded?  ──────► │ Bad PPV Card │
                    │             └──────────────┘
                   Yes
                    ▼
              ┌─────────┐
              │  End    │
              └─────────┘
```

Troubleshooting (Cont.)

Commercial Mode Check / FTG Operation Troubleshooting

Commercial Mode Check

```
         ┌─────────────────────┐
         │   Press POWER on     │
         │  Installer Remote.   │
         └─────────────────────┘
                    │
                    ▼
              ╱───────────╲         No      ┌──────────┐
             ╱     TV       ╲──────────────▶│   Bad    │
             ╲  responded?  ╱               │   TV     │
              ╲───────────╱                 └──────────┘
                    │
                   Yes
                    ▼
         ┌─────────────────────┐
         │  Leave the TV set ON.│
         └─────────────────────┘
                    │
                    ▼
         ┌─────────────────────┐
         │ Go to Installer Menu │
         │ by pressing MENU until│
         │ the TV stops responding.│
         └─────────────────────┘
                    │
                    ▼
              ╱───────────╲
             ╱     TV       ╲
            ╱   stopped      ╲   Stopped    ┌──────────────────┐
            ╲ responding or  ╱  responding  │    TV is in      │
             ╲ continued to ╱──────────────▶│ Commercial Mode. │
              ╲  respond?  ╱                └──────────────────┘
                    │
               Continued
               to respond
                    ▼
         ┌─────────────────────┐
         │ TV is not in Commercial│
         │ Mode. Call Technical │
         │ Support for assistance.│
         └─────────────────────┘
```
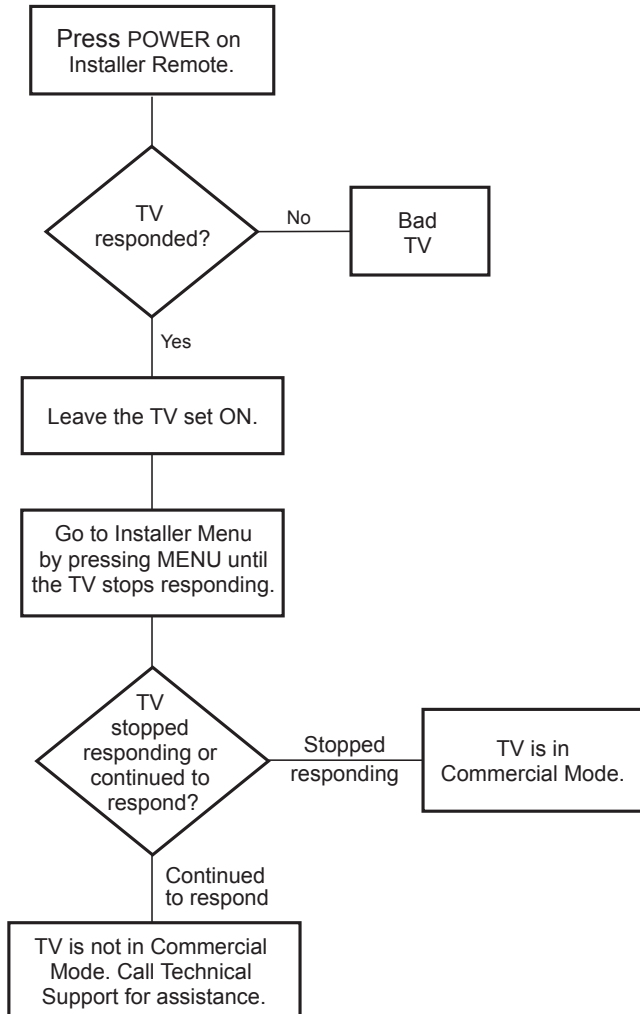
FTG Operation Troubleshooting

The following table provides troubleshooting information for when the EBL is configured in the FTG Mode of operation.

Symptom	Possible Cause(s)	Solution(s)
Communication Error ("Communications Timeout")	Cable(s) not connected.	Check and connect communication cables.
	TV not powered.	Check/connect the TV power cord.
	TV not turned ON.	TV needs to be turned ON (default FTG Mode).
	Wrong COM (communication) port.	In the FTG Configuration Application, select the correct COM port for the cable being used.

Clone Programmer Troubleshooting

⚠️ **Warning: Do not connect a clone programmer to any PPV card installed in the Master TV or any MPI port while the TV is in PPV Mode, or the clone programmer and the PPV card will be damaged.**

Reset Clone Programmer After Static Shock

After replacing exhausted batteries (LT2002 only), or if the clone programmer behaves strangely after a static shock:

• TLL-1100A: Turn the TLL-1100A OFF and then ON.

• LT2002: Use a paper clip or similar instrument inserted through the small hole marked RESET to activate the internal reset switch and restore normal operation.

After a reset, check the real-time clock setting. It may be necessary to reset the clone programmer clock from a TV containing the correct time.

Note

The TLL-1100A and LT2002 clone programmers are designed to be used with TVs containing the 221-01006 and later processors. Use with earlier TVs may give unpredictable results. Processors used before the 221-01006-04 have a limited screen display capability. They cannot display entire screens as shown in the setup instructions accompanying the clone programmer. Use the printed menu illustrations in the documentation supplied with the clone programmer as an aid to making your programming choices.

Symptom	Possible Cause(s)	Possible Solution(s)
Clone Programmer		
Clone copies setup in less than 30 seconds.	Not enough time to copy entire TV setup.	TLL-1100A: Turn the TLL-1100A Off and then ON. LT2002: Press RESET on clone programmer. Then redo Learn/Teach. (Learning usually takes about 90 seconds; Teaching usually takes 3 to 4 minutes.)
Remote does not operate clone programmer.	Wrong Installer Remote.	Only use an LG Installer Remote to operate clone programmer with TV.
Clone menu does not display on TV screen, TLL-1100A shows error message, or LT2002 LED does not blink.	MPI cord not connected.	Connect MPI cord properly, and ensure good connection.
	TV not turned ON.	TV must be powered ON for clone programmer to work.
	(LT2002 only) Weak batteries.	Install four (4) fresh AA high-quality alkaline batteries.
	(TLL-1100A only) No charge.	Ensure the TLL-1100A is fully charged or connected to AC power.
Clone menu hard to read.	Weak signal.	Connect TV to a reliable analog channel signal source.
No time set.	Time not available.	Set time on a TV, and copy time to clone programmer.
Clone not working.	Clone programmer problem.	Try a different clone programmer.
		Reset the clone programmer.
Clone scans channels more than once.	Clone should only scan channels once.	Ensure TV is set up correctly, and try cloning again.
Master and Target TVs		
Cloning did not work.	Procedure interrupted.	Wait until procedure complete message is displayed.
	Different TV models.	Cloning is only possible with identical model TVs.
	Step(s) omitted or not performed.	Refer to the applicable cloning procedure(s), and make sure all tasks were performed.
(LT2002 only) Clone time disappeared.	Batteries were removed.	Batteries must remain installed to retain time settings.
New setup not present.	Target TV not reset.	Disconnect Target TV from AC power for fifteen (15) seconds.

• After cloning operations are complete, unplug the TLL-1100A/LT2002 from the TV.
• If the TV does not display a picture on the TV (blank screen) after a few seconds, just change channels.

Glossary of Terms

A list of definitions for some of the words found in this guide.

75 OHM RF CABLE
The wire that comes from an off-air antenna or cable service provider. The end looks like a hex-shaped nut with a wire through the middle. It screws onto the Antenna/Cable threaded jack on the back of the TV.

300 TO 75 OHM ADAPTER
A small device that connects a 2-wire 300 ohm antenna to a 75 ohm RF jack. It is usually about an inch long with two screws on one end and a round opening with a wire extending out the other end.

A/V CABLES
Audio/Video cables. Three cables bunched together—right audio (red), left audio (white), and video (yellow). A/V cables are used for stereo playback of videocassettes and for higher quality picture and sound from other A/V devices.

A/V DEVICE
Any device that produces video or sound (VCR, DVD, cable box, or television).

AMPLIFIER
An electronic device that amplifies sound from a television, CD player, VCR, DVD, or other Audio/Video device.

ANTENNA
The physical receiver of television signals sent over the air. A large metal piece of equipment does not always have to be visible to be using an antenna.

b-LAN
Licensed proprietary RF communication system used to configure/control TV via RF distribution system.

CABLE
Cable service box. Refers to the descrambler box cable subscribers use to receive cable programming signals.

CATV
Programming provided by a cable service.

COMPONENT VIDEO
Uses three wires for transporting three-color video signals. The end result is usually better video quality.

COMPOSITE VIDEO
Typical video jack, uses one wire for transporting three-color video signals.

DELETE
Lets you remove channels from the list that the end user can scroll through using Channel Up/Down.

DIGITAL TELEVISION
High-resolution, cinema-quality television signals transmitted digitally.

DVI
Digital Video Interface. Accommodates analog and digital interfaces with a single connector.

HDMI
High-definition multi-media interface.

HDSTB
High-definition set top box. Refers to a tuner device that receives high-definition television signals which have higher resolution than ordinary analog TV signals.

HDTV
High-definition television. Refers to television signals that have higher resolution than ordinary analog TV signals.

INPUT
Refers to the input jack that receives a signal from a TV, VCR, DVD Player or other Audio/Video device.

JACK
An input or output connector on the back of a TV, VCR, DVD Player or other Audio/Video device.

MONO SOUND
Mono (monaural) sound is one channel of sound. On more than one speaker, all the speakers play the same audio.

OUTPUT
Refers to the output jack that sends a signal out of a VCR, DVD, or other A/V device.

PHYSICAL CHANNEL NUMBER
The actual channel number. Analog channels use the Physical Channel number and digital channels can use a Virtual Channel number.

RGB (RED, GREEN, BLUE)
Connection input or output port available for producing a video image using three separate colors: Red, Green, and Blue.

RS-232
Serial communication port through which firmware is downloaded.

2ND AUDIO PROGRAMMING/SAP
Second Audio Programming (SAP) is another, separate audio channel available with some programming. Choosing SAP often refers to listening to audio in another language, such as Spanish or French.

SIGNAL
Picture and sound traveling through a cable, or over the air, to the TV.

STEREO SOUND
Stereo (Stereophonic) sound refers to audio that's divided into right and left sides.

TUNER
Device that picks up the broadcast signal and turns it into picture and sound.

VIRTUAL CHANNEL NUMBER
A re-mapped channel number. Analog channels use the Physical Channel number; however digital channels use a Virtual (or false) Channel number.

XDS
Extended Data Service (XDS) is additional program information included on the signal provided at the discretion of the broadcaster.

Note: Refer to www.atsc.org for further information.

Document Revision History

Date	Description
August 2010	Revision A: New document
October 2010	Revision B: Power Savings updates for LD65xH TVs; troubleshooting update

Product documentation is available online at: **www.LGsolutions.com/products**. From the Products page, select **TVs, Systems & Solutions**, then **LCD TVs**, then the applicable TV. Click the **Literature & Downloads** tab at the bottom of the TV page, and select the required document(s) from the Downloads list.

Notes

LG
Life's Good

The model and serial number of the TV is located on the back and/or on one side of the TV. Record these numbers below should you ever need service.

MODEL _____

SERIAL _____