



32LP645H 47LP645H
39LP645H 55LP645H
42LP645H 60LP645H

Lodging Guest Interactive Pro:Centric[®] TVs

Commercial Mode Setup Guide

Note: Selected features shown in this guide may not be available on all models.

EXPERIENCED INSTALLER

EZ-Manager Wizard
pages 11–17

Custom Master TV Setup
pages 29–32

FTG Mode of Operation
pages 43–44

For Customer Support/Service, please call:
1-888-865-3026

The latest product information and documentation is available online at:
www.LGSolutions.com

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:

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 Electrical 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

Marketed and Distributed in the United States by LG Electronics U.S.A., Inc.
1000 Sylvan Avenue, Englewood Cliffs, NJ 07632

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.



13. 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.
14. Never touch this apparatus or antenna during a thunder or lightning storm.
15. 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.
16. Do not allow an impact shock or any objects to fall into the product, and do not drop objects onto the screen.

17. 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 TV specifications 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.

18. 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.

19. 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).

20. 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, lightning rods, or gas pipes.

21. 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.

(Continued on next page)

IMPORTANT SAFETY INSTRUCTIONS

(Continued from previous page)

22. Outdoor Antenna Grounding

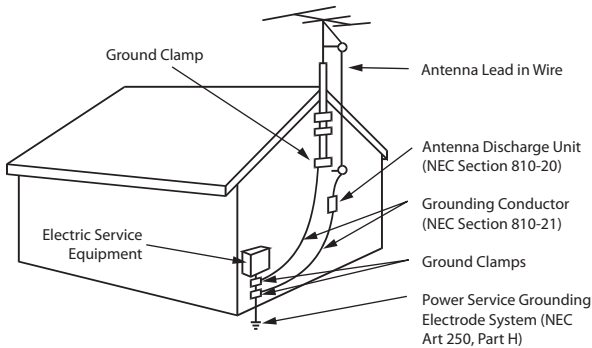
If an outside antenna or cable system is connected to the product, follow the precautions below.

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



23. Cleaning

When cleaning, unplug the power cord and wipe 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.

24. Transporting Product

Make sure the TV 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 during transport.

25. Ventilation

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

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

27. 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.

28. Do not press against the front panel of the TV with your hand or a sharp object (e.g., a nail, pencil, or pen) or make a scratch on it.

29. Keep the product away from direct sunlight.

30. Dot Defect

The LCD panel is a high technology product with resolution of two million to six million pixels. In a very few cases, you could see fine dots on the screen while you are viewing the TV. Those dots are deactivated pixels and do not affect the performance and reliability of the TV.

31. Generated Sound

“Cracking”: A cracking noise that occurs while the TV is On or when it is turned Off is generated by plastic thermal contraction due to temperature and humidity. This noise is common for products where thermal deformation is required.

Electrical circuit humming/panel buzzing: A low level noise is generated from a high-speed switching circuit, which supplies a large amount of current to operate a product. It varies depending on the product. This generated sound does not affect the performance and reliability of the product.

32. For LCD TV

If the TV feels cold to the touch, there may be a small “flicker” when it is turned On. This is normal; there is nothing wrong with the TV. Some minute dot defects may be visible on the screen, appearing as tiny red, green, or blue spots. However, they have no adverse effect on the TV’s performance. Avoid touching the LCD screen or holding your finger(s) against it for long periods of time. Doing so may produce some temporary distortion effects on the screen.

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Notes

- Installer Menu content is intended for use primarily by qualified TV electronics technicians.
- Refer to the applicable Quick Reference Guide for additional information on TV installation, specifications, maintenance, and safety instructions.
- Design and specifications subject to change without prior notice. This document provides examples of typical TV displays. Your displays may vary from those shown in this document.

Commercial Mode Overview

This document describes how to set up LP645H Pro:Centric® TVs for Commercial Mode operation. LG commercial TV functionality is based on “ownership” of the Channel Map; that is, the Channel Map resides in the TV’s CPU, Protocol Translator Card (PTC), or embedded *b*-LAN™ (EBL) module, or it resides externally from the TV (i.e., in a device from the solution provider).

These TV models are capable of Free-To-Guest (FTG) Mode operation via the TV CPU. Alternatively, the EBL module can be configured either for Pass-through Mode (default) or FTG Mode. When neither the CPU nor EBL is in FTG Mode, these TV models also allow external control via the TV’s MPI port.

Setup Checklist

Note: This document provides information specific to Commercial Mode operation. Refer to the Quick Reference Guide for information on TV installation and hardware and cable connections.

Installation

- ___ Unpack TV and all accessories.
- ___ Install batteries in the Installer Remote.
- ___ 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.

Cable Connections

- ___ Make all rear jack panel and MPI card slot connections, as appropriate.

Commercial Mode Setup

- ___ Complete appropriate procedures as described in this document for Commercial Mode operation.

Hardware Connections

- ___ Install any additional hardware as appropriate to your institution, LAN, etc.

Pass-through Mode

This mode allows you to configure individual TVs for Pro:Centric or FTG Mode via CPU operation and/or create a Master TV Setup for cloning purposes for TVs that are to remain in Pass-through Mode. This mode also allows external control via the GAME CONTROL/MPI port on the TV rear jack panel.

There are two methods for configuring individual TVs that are currently in Pass-through Mode: either using the EZ-Manager Wizard or the Custom Master TV Setup procedure as described in this document.

EZ-Manager Wizard

The EZ-Manager Wizard provides automated or manual options for configuring essential items for Pro:Centric operation and also provides an option for using a USB memory device to configure the TV. Use the Installer Remote to make selections and complete each step. See “EZ-Manager Wizard” on pages 11 to 17 for detailed information.

Custom Master TV Setup

The Custom Master TV Setup procedure enables you to create a customized Master TV Setup for cloning purposes. Use the Installer Remote to configure Installer Menu items as required for TV operation and set up TV features (Channel, Picture, Audio, etc.). See “Custom Master TV Setup” on pages 29 to 32 for detailed information.

Commercial Mode Overview (Cont.)

Installer Menu

To create a Master TV Setup, you will need to know how to access the commercial controller (PTC) Installer Menu and make changes to the default values as required. If necessary, familiarize yourself with the Installer Menu and how to make and save changes. Refer to pages 20 to 28 for information on accessing the Installer Menu and for detailed descriptions of the Installer Menu items.

TV Setup Menus

On-screen setup menus control the features of the TV. Use the Installer Remote to access the TV setup menus, and set the TV features to the desired configuration for the end user.

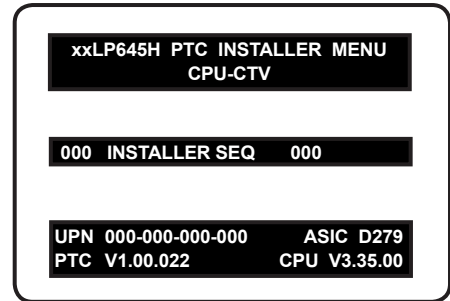
Cloning

Cloning refers to the process of capturing a Master TV Setup and transferring it to a Target TV. Both TVs must be in Pass-through Mode and both TVs must be identical models. The Master TV's clonable setup menu features should be configured as part of the Master TV Setup. If there are features in the Master TV's setup—channel icons or labels, digital font options, etc.—that are not set or that are set incorrectly, those features also will not be set or will be set incorrectly in the Target TVs. Refer to pages 34 to 42 for detailed information on cloning requirements and procedures.

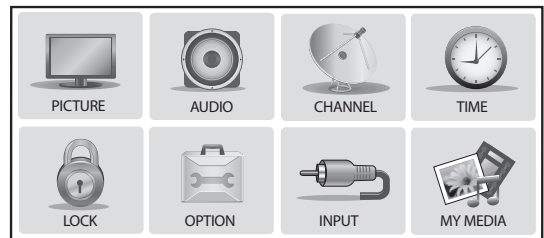
External MPI Control

To control the TV using an external MPI control device, you must use the TV's GAME CONTROL/MPI port for communication purposes. In these TVs, Installer Menu item 118 POWER SAVINGS controls the power circuitry for both the embedded *b*-LAN module and the GAME CONTROL/MPI port; therefore, to ensure that the GAME CONTROL/MPI port circuitry is powered, thus enabling MPI communication, Installer Menu item 118 POWER SAVINGS must be set appropriately. See Installer Menu item descriptions as well as Reference section, "*b*-LAN Setup & Overview," for further information.

Note: These TV models are not equipped with MPI card slots.



Typical Installer Menu



TV Setup Menus

Commercial Mode Overview (Cont.)

FTG Mode

This mode enables Pro:Idiom[®] decryption and also allows logical channel mapping of physical channels to remove the need for dash tuning. TV operation in FTG Mode is based on which element of the TV owns the FTG Logical Channel Map—the CPU or the EBL. Understanding the application in which the TV will be used is vital in determining the owner.

As indicated above, FTG mode operation in the LP645H models can be provided either by the TV CPU or the EBL. These are two separate and distinct FTG Modes of operation, each with its own unique advantages and requirements as described later in this document. When the TV CPU is configured with an FTG Channel Map, the CPU controls the operation of the TV, and when the EBL is configured with an FTG Channel Map, the EBL controls the operation of the TV.

Once it is determined whether the TV CPU or the EBL will own the FTG Channel Map, configuration can begin. Configuration of either requires a PC application—the LG FTG File Manager for the TV CPU or the LG FTG Device Configuration Application for the EBL. Each application provides utilities that enable you to create/edit an FTG Channel Map and configure Installer Menu settings. See “FTG Mode of Operation Overview” on pages 43 to 44 for further information on FTG Mode operation and configuration.

Remote Management in FTG Mode

When the TV is configured for FTG Mode via CPU, remote management of the FTG Channel Map and FTG Installer Menu settings is provided by a Pro:Centric server. Refer to the ***Pro:Centric Server Admin Client User Guide*** for further information.

When the TV is configured for FTG Mode via EBL, the *b*-LAN module, which is internal to the TV, allows hotel/institution head end equipment (for example, an FMA-LG101) with *b*-LAN technology to communicate with the TV to provide remote management of the FTG Channel Map and FTG Installer Menu settings. See Reference section, “*b*-LAN Setup & Overview,” for further information.

Pro:Centric TV Interactive Menu Features

When running the Pro:Centric application, the interactive Pro:Centric TV enables guests to locate and select television entertainment using an interactive channel guide, check the daily weather, and view hotel and surrounding amenities via custom billboards and points-of-interest maps.

Pro:Centric application features include:

- Portal and information screens/pages (including a “Welcome” page) that include branding logos.
- An optional customized user interface (custom “skins”).
- Billboards and points-of-interest maps that can be customized to focus on hotel amenities, local attractions and businesses, restaurants, news, events, etc.
- An optional Weather billboard that includes a local radar map, current conditions, and a four day forecast.
- An interactive channel guide that provides a channel list with channel icons. An electronic program guide (EPG) is an optional feature that displays up to three days of programming information viewable by channel and time.
- Video spooling that enables the hotel to deliver a video file to guest TVs for promotion and information purposes.

The Pro:Centric server Admin Client web editor/content wizard is provided for customer configuration of portal messages and billboards/maps.

Note: Customized content is typically defined by the service integrator and/or hotel administrators. LG does not provide hotel-specific content.

Pro:Centric Interactive Menu Navigation

Use the Pro:Centric TV remote control to operate both interactive menus and regular TV features. Press **PORTAL** on the remote to access the interactive menus.

Note: Interactive menu options may vary, depending on Pro:Centric features enabled for the site. The following are default interactive menus.



Channel Guide

Shows available TV networks and logical channels. When available, EPG data provides additional channel and program information.

Information

Typically displays information on hotel amenities, for example, restaurants, in-room dining, business centers, facilities, etc., as well as information on local weather and attractions.

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.

Pro:Centric Operation (Cont.)

Pro:Centric Setup

Administration and management options for the Pro:Centric server are described in detail in the **Pro:Centric Server Admin Client User Guide**. This document describes only those settings that must be specified on the TVs.

On the TVs, the Data Channel must be set appropriately to enable Pro:Centric remote management/administration facilities, while the Pro:Centric Application Mode must be set appropriately to enable the Pro:Centric application.

- Remote management/administration (TV E-Z Installation): The Pro:Centric server Admin Client provides remote management/administration facilities for downloading splash screens and software/firmware updates as well as facilities for downloading the FTG Channel Map and FTG Installer Menu settings for TVs that are in FTG Mode via CPU.
- Pro:Centric application: The application, which operates in conjunction with FTG and PPV Modes, comprises the Pro:Centric interactive menus/features described on the previous page. Pro:Centric application settings are managed via the Pro:Centric Admin Client.

The Data Channel and Pro:Centric Application Mode can be set using one of the following methods:

- When the TV is in a factory default state, the EZ-Manager Wizard provides automated or manual options for configuring both the Data Channel and the Pro:Centric Application Mode.

The EZ-Manager Wizard also provides a USB Configuration option that enables you to configure a TV for FTG Mode via CPU using an FTG Configuration (.tlx) file stored on a USB memory device. The FTG Configuration file incorporates FTG Installer Menu settings, which includes Installer Menu items 098 PRO:CENTRIC and 119 DATA CHANNEL.

Refer to “EZ-Manager Wizard” on pages 11 to 17 for further information on the EZ-Manager Wizard options.

- If the TV is in Pass-through Mode, set Installer Menu items 098 PRO:CENTRIC and 119 DATA CHANNEL to the appropriate values. Refer to “Installer Menu” information on pages 20 to 28 for further details. Also, as necessary, refer to “Custom Master TV Setup” information on pages 29 to 32 and/or cloning information on pages 34 to 42.

Note: When the TV is in either Pass-through Mode or FTG Mode via CPU, you can also leave Installer Menu item 119 DATA CHANNEL set to its default value (255) to enable the TV’s Data Channel Auto Search feature to set the DATA CHANNEL value. See item 119 description on page 28 for additional information.

- If the TV is in FTG Mode (via CPU or EBL), use the appropriate software to update the Pro:Centric and Data Channel Installer Menu items and then transfer the FTG Installer Menu settings to the TV in accordance with the FTG Mode of configuration. Refer to “FTG Mode of Operation Overview” on pages 43 to 44 for further information on FTG Mode operation and configuration. Also—for FTG Mode via CPU only—see note above regarding the option to use the TV’s Data Channel Auto Search feature to set the DATA CHANNEL value.

The primary purpose of the EZ-Manager Wizard is to guide you through the process (automated or manual) of configuring the essential Installer Menu items for Pro:Centric TV operation. The wizard will appear on the screen each time the TV is turned ON, until one of its configuration methods has been completed or the wizard is exited. Use the Installer Remote to make selections and complete each wizard step.

While the EZ-Manager Wizard is intended primarily for Pro:Centric-related configuration, the wizard also offers Zoning as well as USB configuration options.

- LP645H TVs support the TV Zoning feature, which enables location-specific settings (see Reference section, “Using the TV Zoning Feature,” for further information). The EZ-Manager Wizard enables you to set the TV Zone # in the TV as part of the configuration process.
- The EZ-Manager Wizard also enables you to redirect to the TV’s standard USB Download Menu as part of the configuration process, if desired, to perform USB configuration functions, including FTG Mode via CPU configuration, cloning, and software upgrades.
- You can connect a USB memory device to the TV at any time while the wizard is in progress (either at the Welcome level or beyond) to use the LG Smart Install utility to perform USB configuration functions. Any file(s) you wish to use for configuration purposes must be stored in a folder named “LGSMARTINSTALL” in the root directory of the USB memory device. See “LG Smart Install Utility” on pages 18 to 19 for further information.



Caution: Do NOT unplug the TV power cord or remove the antenna cable during the configuration process, as doing so will interrupt the current step and may corrupt the configuration data.

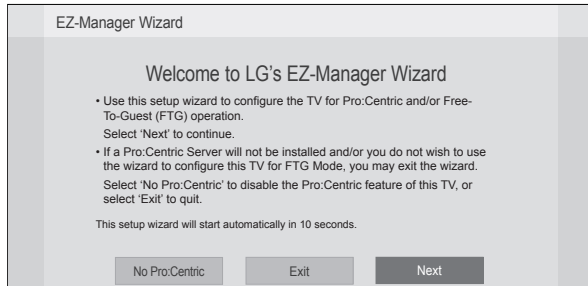
Before You Begin

- If you plan to create a Master TV Setup using the procedure described on pages 29 to 32, be sure to exit the EZ-Manager Wizard in order to avoid setting modes that may restrict the custom setup procedure. See also “Initiate Configuration or Exit the EZ-Manager Wizard” on the following page.
- If it has been completed or exited and therefore does not display, the EZ-Manager Wizard can be reactivated; however, this requires that you perform an “IN-STOP” to restore factory defaults on the TV(s). Refer to Reference section, “Restoring Factory Defaults on the TV(s),” for further information.
- Each wizard step is allotted a time frame after which the wizard proceeds without user interaction. If the Pro:Centric server is configured on the system and if no location-specific settings are required in the TV, for example, for TV Zone, Label, and/or Room Number settings, you can simply turn ON the TV, and once initiated, the wizard will proceed through each of the configuration steps with no further user interaction.
- If any of the configuration steps fails, you will see a “Diagnostics” screen with an indication of the failure. You will then have the opportunity to reinitiate the configuration process from the previous screen or exit the EZ-Manager Wizard.

EZ-Manager Wizard (Cont.)

Initiate Configuration or Exit the EZ-Manager Wizard

The Welcome screen provides a brief introduction to the EZ-Manager wizard.



Note: If there is no user action in this screen within 10 seconds, the wizard will proceed to the first configuration step. Once the wizard has proceeded, it is not possible to return to the Welcome screen; however, if you simply wish to exit the wizard, you can do so by selecting the “Exit” option from the subsequent screen(s).

Note: As indicated on the previous page, you may use the LG Smart Install feature to configure the TV using a USB memory device at any time while the EZ-Manager Wizard is in progress. However, if you want to use the TV Zoning feature for location-specific configuration purposes, proceed to the EZ-Manager’s Zone, Label, and Room Number screen and assign a TV Zone # for this TV before inserting your USB device. See “TV Configuration Options” on the following page for further information.

From the Welcome screen, you have the following options:

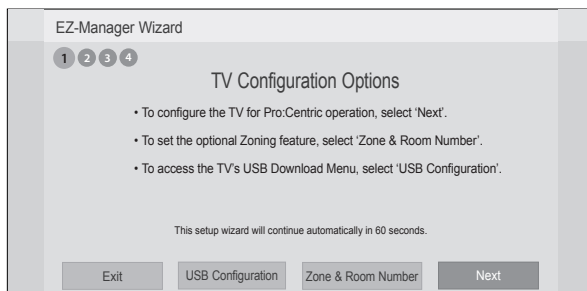
- To proceed with the EZ-Manager Wizard, use the arrow keys on the Installer Remote to select/highlight **Next** and press **OK**. Then, continue to the “TV Configuration Options” section on the following page.
- To exit the wizard, but retain the use of the Pro:Centric feature of this TV (i.e., Installer Menu item 119 DATA CHANNEL set to 255) in the future, use the arrow keys on the Installer Remote to select/highlight **Exit** and press **OK**. In the confirmation pop-up window, select **OK**, and then press **OK** once more on the Installer Remote.
- If you do not intend to install a Pro:Centric server on this system and you do not wish to use the wizard’s Zoning or USB configuration options, exit the wizard as follows: Use the arrow keys on the Installer Remote to select/highlight the **No Pro:Centric** option. This will disable the Pro:Centric feature of this TV (i.e., Installer Menu item 119 DATA CHANNEL will be set to 0) and exit the wizard. In the confirmation pop-up window, select **OK**, and then press **OK** once more on the Installer Remote.

TV Configuration Options

From the TV Configuration Options screen, you can choose how to proceed with the configuration of this TV (assuming you do not opt to exit the wizard—which you may also do at any time).



Note: If you intend to use the Zoning feature on the TV for location-specific configuration purposes, assign the TV Zone # in the TV BEFORE you continue with additional configuration.



Note: If there is no user action in this screen within one minute, the wizard will automatically continue to the next configuration step.

Use the Left/Right arrow keys on the Installer Remote to navigate between options on this screen. Each time you select/highlight one of the following options, the screen text and fields will change in accordance with your selection.

- To continue with Pro:Centric configuration, select **Next** (default) and press **OK** on the Installer Remote. Refer to “Configure Pro:Centric Settings” on pages 15 to 16 for additional information.
- Select **Zone & Room Number** to set the Zoning feature on this TV. See “Zone and Room Number Assignments” on the following page for further information.
- The “USB Configuration” option from this screen allows you to access the TV's USB Download Menu. See “USB Configuration” on page 17 for further information.

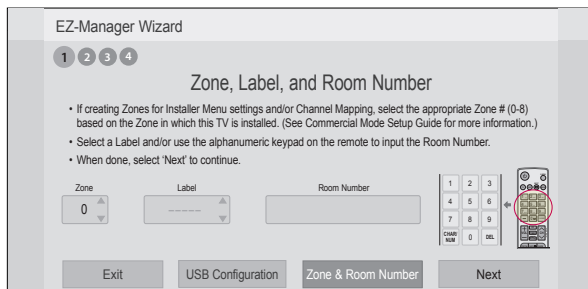
Note: If you have already inserted a USB memory device with the intent to use the LG Smart Install utility and the Integrated USB Downloading screen is on display, you may still set the Zoning feature on this TV by selecting **Previous** to return to the EZ-Manager/TV Configuration Options screen. Set the Zoning feature as required, and then select **USB Configuration** and press **OK** on the Installer Remote to return to the Integrated USB Downloading screen.

Note: If you choose to exit the EZ-Manager Wizard from this point on, you will have the option to save any settings made by selecting **Save and Exit** in the exit confirmation pop-up window. Or, you can exit the wizard without saving any settings by simply selecting **OK** in the confirmation pop-up window.

EZ-Manager Wizard (Cont.)

Zone and Room Number Assignments

You may complete one or more of the fields in the Zone, Label, and Room Number screen or leave them blank, as desired; however, in order to use the Zoning feature on this TV, you **MUST** set the TV Zone # as described below. See Reference section, “Using the TV Zoning Feature,” for further information on Zone designations. Note that the Zoning feature is only applicable for TVs that will be configured for FTG Mode via CPU (using an FTG Configuration [.tlx] file) or for TVs that will be configured via “Teaching” (cloning) using a USB memory device / .tlx file.



1. Complete the appropriate field(s) as described below. Use the Left/Right arrow keys on the Installer Remote to navigate between each of the fields.
 - **Zone:** Enables you to set a TV Zone # so that the TV can be configured with Installer Menu and/or TV Setup Menu settings intended only for the assigned Zone. The Installer Menu and/or TV Setup Menu settings may be provided in a .tlx file to be used either for Teaching (cloning) or FTG Mode via CPU configuration. If the TV is being configured for FTG Mode via CPU, the TV Zone # setting also allows the TV to omit channels that have been restricted in the FTG Channel Map. To set a TV Zone, navigate to the Zone field at the left of the screen, and use the Up/Down arrow keys to specify a TV Zone # (1–8).
 - **Label:** Allows you to select a North, South, East, or West text label for this TV. In the Label field, use the Up/Down arrow keys to select the applicable label.
 - **Room Number:** Allows you to specify the number of the room in which the TV is located. In the Room Number field, you can use the number keys on the Installer Remote to direct enter a room number. Use the Dash key on the Installer Remote as necessary to toggle between number and letter characters in the Room Number field. Also, you can use the Flashback key on the Installer Remote to delete characters in this field.
2. When you are ready to continue, select the appropriate option, as follows:
 - To proceed to the next EZ-Manager screen, use the arrow keys to select **Next**, and then press **OK** on the Installer Remote. Continue to the “Configure Pro:Centric Settings” section on the following page.
 - If you wish to use a USB memory device in conjunction with the TV’s standard USB Download Menu to complete the configuration, continue to “USB Configuration” on page 17.
 - If you wish to use a USB memory device in conjunction with the LG Smart Install utility to complete the configuration, see “LG Smart Install Utility” on pages 18 to 19.

Configure Pro:Centric Settings

Once you select “Next” from the TV Configuration Options screen, the Searching for Pro:Centric Server screen is displayed (see example at right), and you have the following options:

- You can allow the EZ-Manager Wizard to proceed with a series of automated steps to configure the TV for Pro:Centric operation and then to look for the Pro:Centric application and maintenance (E-Z Installation) files to download. In this case, the wizard uses a search algorithm to determine the Data Channel and the Pro:Centric Application Mode to set in the TV.

Continue with the “Automated Pro:Centric Configuration” subsection below.

- If you already know the settings (i.e., Data Channel and Pro:Centric Application Mode) that need to be configured in order for the TV to connect to the Pro:Centric server and/or if the Pro:Centric server is not yet installed, you may expedite the setup process by entering this data manually.

Continue with the “Manual Pro:Centric Configuration” subsection on the following page.

Automated Pro:Centric Configuration

Note: If the server is not yet configured on the system, use the manual configuration option to configure the Pro:Centric operation.

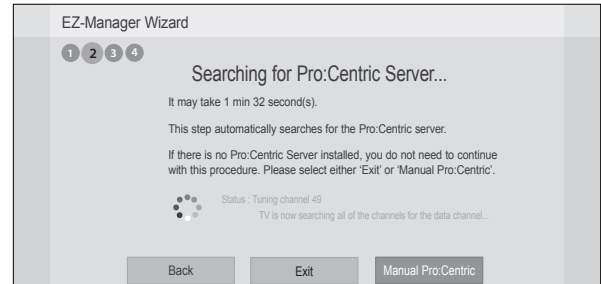
Once the RF channel used by the Pro:Centric server as its data channel is found (the Pro:Centric Server Was Found screen will be displayed—see example at right) and the Pro:Centric Application Mode is determined, the wizard will advance to the Processing the Pro:Centric Configuration screen, which shows the progress of the data downloads. Note that some steps may require a few minutes.

If the process is successful, no further user interaction is required, though, in some instances, where the option (for example “Next”) is available, you may manually move forward to subsequent steps within the wizard to speed up the process.

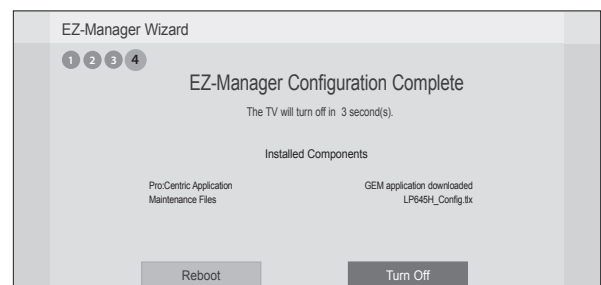
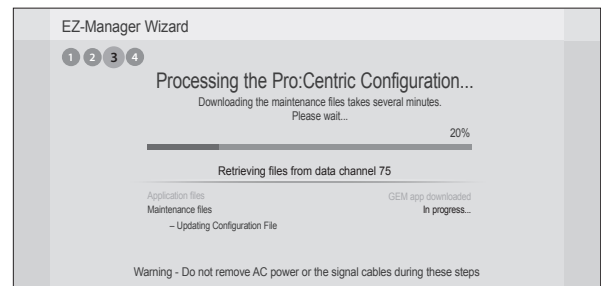
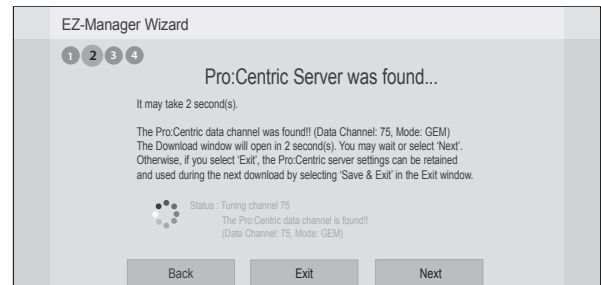
Note: If, after completing the search, the TV is unable to find a Pro:Centric server’s RF channel (while the Searching for Pro:Centric Server screen is on display), the wizard will stop and show a Diagnostics screen that enables you to manually return to the previous screen (to reinitiate the configuration) or exit the wizard.

When the Pro:Centric Configuration is complete, an EZ-Manager Configuration Complete screen is displayed, and after 10 seconds, the wizard exits, and the TV turns OFF.

Note: With the EZ-Manager Configuration Complete screen on display, you can also manually turn off or reboot the TV. If desired, select **Turn Off** or **Reboot**, respectively, and then press **OK** on the Installer Remote.



Note: You can select the “Back” button, where available, to check previous settings, as necessary.



EZ-Manager Wizard (Cont.)

Manual Pro:Centric Configuration

1. With the Searching for Pro:Centric Server screen on display, use the arrow keys on the Installer Remote to select/highlight the **Manual Pro:Centric** option at the bottom right of the screen, and press **OK**.

In the Pro:Centric Manual Configuration screen (see example at right), you will be able to configure the appropriate Pro:Centric settings in the TV. Use the Up/Down arrow keys on the Installer Remote to navigate between fields.

2. In the Pro:Centric Mode field, use the Left/Right arrow keys to select the appropriate Pro:Centric Application Mode—GEM, FLASH, or Configuration Only.

Note: For remote management only, select “Configuration Only.” The TV will search for TV E-Z Installation data downloads; however, Pro:Centric application data will not be downloaded, i.e., Installer Menu item 098 PRO:CENTRIC will be set to 0.

3. In the Data Channel field, either key in or use the Left/Right arrow keys to select the RF channel number that will be used by the Pro:Centric server as its data channel. The Data Channel value can be set from 1 to 135.*

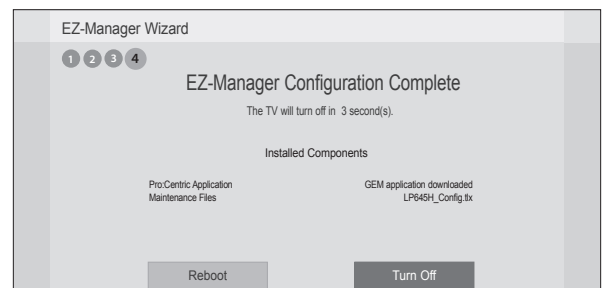
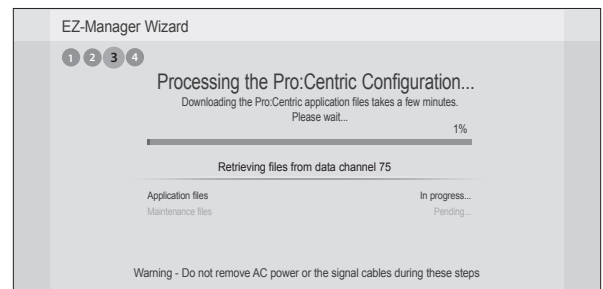
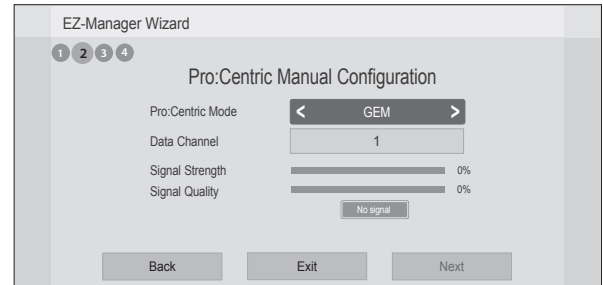
4. Once all fields are completed as required, you have two options (see also note below):
 - To save the data entered and exit the wizard, use the arrow keys to select **Exit** and then press **OK**. In the subsequent pop-up confirmation window, select **Save and Exit**, and then press **OK** once more. The Pro:Centric application and/or E-Z Installation data will be downloaded to the TV at a later time. This option is useful, in particular, if the Pro:Centric server has not yet been configured.
 - To initiate a real-time download of Pro:Centric application and/or E-Z Installation data, use the arrow keys to select **Next**, and then press **OK**.

The EZ-Manager Wizard will proceed with the remaining Pro:Centric application and/or E-Z Installation data download steps, as shown on the Processing the Pro:Centric Configuration screen.

Note: Pro:Centric server data must be present on the RF channel selected as the TV’s Data Channel in order for you to select “Next” (you will see a “Data Channel found” message below the signal strength indicator).

When the Pro:Centric configuration is complete, an EZ-Manager Configuration Complete screen is displayed, and after 10 seconds, the wizard exits, and the TV turns OFF.

Note: With the EZ-Manager Configuration Complete screen on display, you also have the option to manually turn off or reboot the TV. If desired, select **Turn Off** or **Reboot**, respectively, and then press **OK** on the Installer Remote.



* PCS150R and later Pro:Centric servers do not support HRC or IRC cable channel frequencies.

USB Configuration

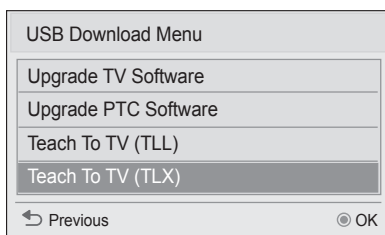
Before you begin, note the following:

- Each of these functions requires that you have the appropriate file(s) loaded on a USB memory device. If you wish to perform a software upgrade from the USB Download Menu, the software upgrade files must be stored in a folder named “LG_DTV” in the root directory of the USB memory device. Cloning (.tll/.tlx) or FTG Configuration (.tlx) files should simply be stored in the root directory of the USB device.
- If you intend to use the TV Zoning feature on this TV, make sure to assign the TV Zone # in the EZ-Manager’s Zone, Label, and Room Number screen BEFORE continuing with USB Configuration. See “TV Configuration Options” on page 13 for further information.
- Refer to “Creating an FTG Configuration File using the FTG File Manager” on pages 45 to 46 for information on creating an FTG Configuration (.tlx) file that can be used for FTG Mode via CPU configuration. Also note that to configure the TV for FTG Mode via CPU, the FTG Configuration file must contain an FTG Channel Map. If it does not, any Installer Menu and/or TV setup menu settings contained in the file will be transferred to the TV (as with typical cloning); however, the TV will remain in Pass-through Mode and will not be configured for FTG Mode via CPU.
- Refer to “Custom Master TV Setup” on pages 29 to 32, for information on creating a .tll file that can be used for cloning.
- Ensure the USB device to be used has been formatted with FAT format.

With either the TV Configuration Options or the Zone, Label, and Room Number screen on display, proceed as follows to configure the TV using the USB memory device.

1. Insert the USB memory device that contains the appropriate file(s) into the TV’s USB IN port.
2. Use the arrow keys to select **USB Configuration**, and then press **OK** on the Installer Remote.

You will be redirected to the TV’s USB Download Menu. For further information on USB Download Menu functions, refer to the appropriate section(s) in this document.



Note: With the USB Download Menu on display, you can press ↵ on the Installer Remote at any time to return to the EZ-Manager Wizard.

Note: If you perform a software upgrade from the USB Download Menu, the TV will complete the upgrade and then reboot. Upon restart, the TV will display the EZ-Manager TV Configuration Options screen. If desired, you can re-access the USB Download Menu (to perform additional functions), proceed with configuration via the wizard, or exit the wizard.

Note: (FTG configuration only) When configuration is complete, the TV tunes according to the Start Channel setting in the Installer Menu. If a Start Channel is specified, the TV will tune to that channel; otherwise, the TV will tune to the lowest logical channel in the FTG Channel Map.

3. Remove the USB memory device, and verify that the appropriate configuration is resident on the TV.

LG Smart Install Utility

LG Smart Install is a new utility that enables you to configure the TV or update multiple TV configuration elements at one time using files loaded on a USB memory device. You may use LG Smart Install to download any one or all of the following to a TV: an FTG Configuration (.tlx) file, a .tlx file for cloning purposes (no Channel Map), a TV or PTC software update, a splash screen image.

Before you begin, note the following:

- All files must be stored in a folder named “LGSMARTINSTALL” in the root directory of the USB memory device. Also, ensure the USB device has been formatted with FAT format.
- Cloning using a .tll file is only available from the TV’s USB Download Menu.
- Refer to “Creating an FTG Configuration File using the FTG File Manager” on pages 45 to 46 for information on creating an FTG Configuration (.tlx) file that can be used for FTG Mode via CPU configuration. Also note that to configure a TV that is currently in Pass-through Mode for FTG Mode via CPU, the FTG Configuration file must contain an FTG Channel Map. If it does not, any Installer Menu and/or TV setup menu settings contained in the file will be transferred to the TV (as with typical cloning); however, the TV will remain in Pass-through Mode and will not be configured for FTG Mode via CPU.
- Refer to Reference section, “Downloading a Splash Screen using a USB Memory Device,” for splash screen image guidelines.



Caution: Do not unplug the TV power cord or remove the USB memory device during a data download, as doing so may cause the TV to malfunction or harm the USB device, respectively.

The following procedure describes how to use the LG Smart Install utility.

1. If it is not ON already, turn ON the TV.

The next step to access the LG Smart Install utility depends on whether the EZ-Manager Wizard appears on the screen when you turn ON the TV:

- If the wizard is displayed, you can insert the USB memory device that contains the appropriate file(s) into the TV’s USB IN port at any time to initiate the LG Smart Install utility.

The LG Smart Install utility Integrated USB Downloading screen will be displayed (see example on following page). Go to step 3.

- If the wizard is not displayed, insert the USB memory device that contains the appropriate file(s) into the TV’s USB IN port, and continue with step 2.



Note: If you intend to use the TV Zoning feature for location-specific configuration purposes, make sure to assign the TV Zone # in the TV BEFORE continuing with LG Smart Install. If the EZ-Manager is currently active, see “TV Configuration Options” on page 13 for further information. If the TV is currently in Pass-through Mode, see Reference section, “Using the TV Zoning Feature,” for further information.

(Continued on next page)

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- To access the LG Smart Install utility Integrated USB Downloading screen from the TV menus:
 - Press **MENU SETTINGS** on the Installer Remote to display the TV setup menus (TV is in Pass-through Mode) or the Function Menu (TV is not in Pass-through Mode).
 - Use the arrow navigation keys to select/highlight either the **Option** menu icon from the TV setup menus or the **Lock** menu icon from the Function Menu. Then, press the number “7” key a total of seven times.

- The Integrated USB Downloading screen contains a listing of the files stored in the LGSMARTINSTALL folder on the USB device.

The utility will only ever allow you to select one of each file type for downloading. For example, if there are two .tlx files in the LGSMARTINSTALL folder, you will only be able to select one of those two files. By default, the first instance of each file type listed on the screen is selected. To select or de-select a file, respectively, use the Up/Down arrows on the Installer Remote to highlight the filename, and press **OK** to add or remove the checkmark at the left of the filename.

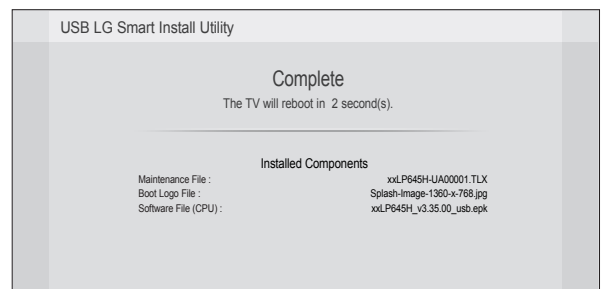
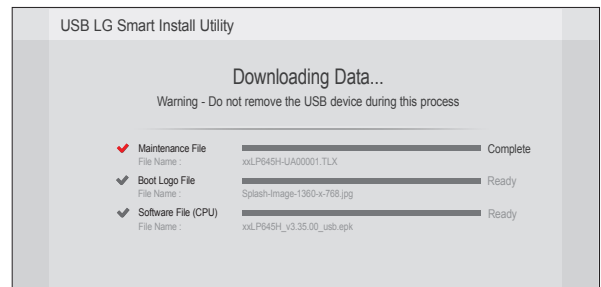
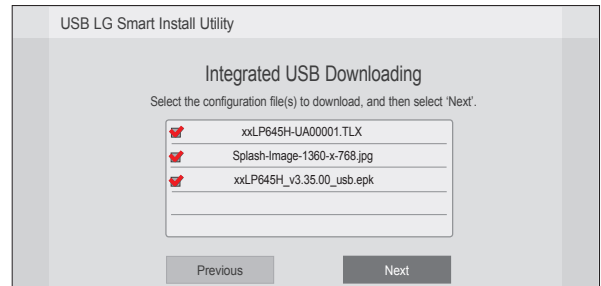
Note: Use the arrow keys on the Installer Remote to select **Previous** and press **OK**, as necessary, to exit the LG Smart Install utility. If you accessed the utility via the EZ-Manager Wizard, you will be returned to the last screen on display before you inserted the USB device. If you accessed the utility via the TV menus, you will be returned to TV viewing.

- When you are ready to continue, use the arrow keys on the Installer Remote to select **Next**, and then press **OK**.

The TV will show download progress in a new window. Do NOT remove the USB device until downloading is complete. When the download is complete, the TV will briefly display an overview of the results in a “Complete” window and then return to TV viewing or reboot (the latter if software has just been downloaded).

- Remove the USB memory device, and verify that the appropriate configuration is resident on the TV.

Note: (FTG configuration only) When configuration is complete, the TV tunes according to the Start Channel setting in the Installer Menu. If a Start Channel is specified, the TV will tune to that channel; otherwise, the TV will tune to the lowest logical channel in the FTG Channel Map.



Installer Menu

Use the Installer Menu to set up, change, or view operational settings. This section describes how to access, use, and exit the Installer Menu from the TV itself; however, you should also refer to the Installer Menu descriptions in this document if you are configuring the TV using LG's FTG configuration software.

Refer to the table on pages 22 and 23 for brief descriptions of Installer Menu items. More detailed descriptions follow the table listing.

Accessing the Installer Menu

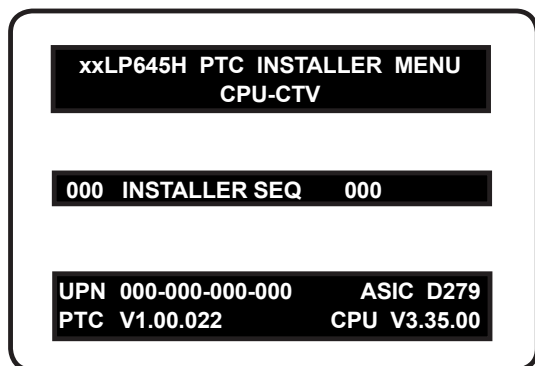
1. Turn ON the TV.

If the EZ-Manager Wizard appears on the screen when you turn ON the TV, use the arrow keys on the Installer Remote to select **Exit** from the Welcome screen and press **OK**. In the confirmation pop-up window, select **OK**, and then press **OK** once more on the Installer Remote to exit the wizard.

2. Using an Installer Remote, press **MENU SETTINGS** repeatedly until the on-screen display of the TV setup menus (if the TV is in Pass-through Mode) or the Function Menu (if the TV is not in Pass-through Mode) no longer toggles, and then press the Installer Menu entry sequence (e.g., **9-8-7-6**) + **OK** to access the Installer Menu.

Note: The default Installer Menu entry sequence is "9876"; however, if Installer Menu item 000 INSTALLER SEQUENCE has been modified, the entry sequence may be one of three additional options. See Installer Menu detailed descriptions for further information.

The Installer Menu opens with item 000 INSTALLER SEQ 000.



Typical Installer Menu

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

Note: If the password (entry sequence) is not entered or registered correctly, you will see the message "ENTER PASSWORD 0000" at the top of the screen instead of the Installer Menu header. Once you re-enter the correct password (e.g., press 9-8-7-6 + OK), the Installer Menu will display.

Note: If the TV is not in Pass-through Mode, the Installer Menu is accessible as read-only. Also, the TV Zone # will be indicated in the Installer Menu header under the configuration mode indicator described on the following page.

As part of the Installer Menu header (in all modes), two 3-character acronyms are displayed to indicate the TV's current configuration mode. The table below lists all possible mode identifiers for these TV models.

Acronym	Description
CPU-CTV	Pass-through Mode with Channel Map in CPU
CPU-FTG	FTG Mode via CPU
CPU-P:C	Application Tuning Mode via CPU
EBL-FTG	FTG Mode via EBL
EBL-LNT	LodgeNet PPV Mode
MPI-EXT	External MPI Control
PTC-CTV	Pass-through Mode with Channel Map in PTC

Using the Installer Menu

Refer to the table starting on the next page for an overview of the available Installer Menu items, including their item numbers, functions, value ranges, and default values.

Installer Menu items not relevant to these TV models are not present in the Installer Menu; therefore, some numbers are missing. For example, item 006 will not appear. In addition, items that are dependent on other Installer Menu item settings will not be initially accessible. For example, item 046 STRT AUX SRCE will not display in the Installer Menu unless item 004 STRT CHANNEL is set to 0.

Navigation within the Installer Menu

Use the Up/Down arrow keys on the Installer Remote to sequence through the available menu items, or access an item directly by keying in the item number and then pressing **MENU SETTINGS**. For example, to access the SLEEP TIMER option, which is item 015, press 0-1-5 + MENU SETTINGS.

Changing Installer Menu Settings

To change an Installer Menu item value, use the Left/Right arrow keys on the Installer Remote, or enter a valid value directly. To save the new setting, press **OK**, or use the Up/Down arrow keys to navigate to a new Installer Menu item if you have additional items to edit. Note that invalid values will not be saved.

Exiting the Installer Menu and Activating Settings

After you have adjusted all required Installer Menu item settings, press **OK** once on the Installer Remote to save your changes; then, press **OK** again to exit the Installer Menu. Any changes you make will be stored in non-volatile memory.

Note: Each time you exit the Installer Menu in Pass-through Mode, all V-Chip (Parental Control) settings in the TV are reset to their default values; that is, the Lock System, if previously enabled from the Lock setup menu, will now be disabled, and the individual Parental Control settings will be restored to default values.

Installer Menu (Cont.)

Installer Menu Items 000 through 075

Menu Item	Function	Value Range	Default Value	Brief Description of Function
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 TV to 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	If set to 1, menu navigation buttons on display panel are not functional.
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.
020	FEATURE LEVEL	0, 16 ~ 24	0	Determines an additional IR code scheme to which the TV will respond.
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. OVERRIDE	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, enables ACK feature of MPI.
031	POLL RATE	20 ~ 169	94	Selects poll rate for MPI.
032	TIMING PULSE	186 ~ 227	207	Sets baud rate for MPI.
035	HDMI1 ENABLE	0 ~ 2	1	Set to 0 to disable HDMI 1. Set to 1 (DTV Mode) or 2 (PC Mode), as applicable, to enable HDMI 1.
039	REAR AUX EN.	0 / 1	1	Set to 1 to enable display panel Video 1 input jack.
041	SIMPLINK EN	0 ~ 3	0	Determines the status of the SIMPLINK feature. (See detailed descriptions.)
042	AUTO INPUTS	0 ~ 255	0	Determines the Aux inputs for which auto-sensing is enabled. (See detailed descriptions.)
046	STRT AUX SRCE	1, 3 ~ 5, 7, 255	7	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.
073	CH NOT AVBLE	0 / 1	0	If set to 1 and item 028 CH. OVERRIDE is set to 0, "NOT AVAILABLE" message is displayed if user direct tunes a channel that is 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.

Installer Menu Items 078 through 122

Menu Item	Function	Value Range	Default Value	Brief Description of Function
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	1	Dependent on item 093 RJP AVAILABLE setting. Set to 0 to disable RGB input. Set to 1 to enable RGB input. Set to 17 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, display panel buttons are locked. IR is still functional.
091	HDMI2 ENABLE	0 ~ 2	1	Set to 0 to disable HDMI 2. Set to 1 (DTV Mode) or 2 (PC Mode), as applicable, to enable HDMI 2.
092	HDMI3 ENABLE	0 ~ 2	1	Set to 0 to disable HDMI 3. Set to 1 (DTV Mode) or 2 (PC Mode), as applicable, to enable HDMI 3.
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.
097	AUDIO OUTPUT	0 ~ 9	7	Set as required in accordance with external audio equipment connected to the TV. See detailed descriptions.
098	PRO:CENTRIC	0 ~ 2	0	Set to 0 to disable Pro:Centric operation. Set to 1 for Flash Mode. Set to 2 for GEM (Java Application) Mode.
099	BACK LIGHTING	1 ~ 200, 255	255	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	Determines the powered status of the embedded b-LAN module and the GAME CONTROL/MPI port. (See detailed descriptions.)
119	DATA CHANNEL	0 ~ 135, 255	255	Set to 0 to disable. Set from 1 to 135 to match the RF channel number used by the Pro:Centric server as its data channel. Set to 255 to use Auto Search to find the Pro:Centric RF channel. (See detailed descriptions.)
121	P:C RF WAKE HR	0 ~ 23, 128	128	Sets the hour for Wake On RF. The value "128" is displayed as "OFF." Directly entering 128 turns the Wake On RF feature OFF.
122	P:C RF WAKE MN	0 ~ 59	0	Sets the minute for Wake On RF.



Caution: Installer Menu settings may affect options available from the TV setup menus or the Function Menu.

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 Management 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 POWER button is not necessary. This is desirable if the TV is plugged into a switched AC outlet (i.e., a set-top box). Set to 0 (default) for standard TV turn ON/OFF operation.

Note: If set to 1, the TV does not respond to ON/OFF commands from either the remote or the display 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 Major Start 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. If set to 255, the last channel tuned before the TV was turned OFF will be the channel tuned when the TV is turned ON again.

0 = Aux 127 = Map to Major CH 4
1 ~ 125 = Major CH # 255 = Last Channel
126 = Map to Major CH 3

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

Note: 126 and 127 are mapped only in LodgeNet PPV Mode.

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 item 004 STRT CHANNEL 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 will always select that volume level when it is turned ON. The range of values is 0 to 63, 255. If set to 255, the last volume level before the TV was turned OFF will be the current volume level when the TV is turned ON again.

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. The factory default is 0, which provides the full range of volume control, if item 009 MAX VOLUME is set to 63. It is recommended 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 cannot 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 set at 0. It is recommended 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

If set to 1, Key Defeat is enabled, which means that end users cannot access or navigate within the on-screen menu(s) from the display panel, i.e., SETTINGS, OK, and menu navigation buttons on the display panel will not function. Set to 0 to disable Key Defeat. Note that all IR features remain functional regardless of this setting.

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: The TV clock must be set in order for timers to be used.

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: The TV clock must be set before the Alarm function will work.

020 - FEATURE LEVEL

Determines an additional IR code scheme to which the TV will respond, allowing for the use of unique IR codes based on “bed number” in a multi-TV single room installation. First determine the IR mode; then select the bed number.

Values	IR Mode	Bed #
0	Disabled	N/A
16–24	Multi-code Remote	1–9

Note: For further information, see documentation for the accessory package that includes the multi-code remote.

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.

Note: This item is not available in the Installer Menu when item 084 PERMANENT BLK is set to 1.

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. OVERRIDE (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 to remap the PTC’s direct tune channels for Aux inputs from 13x to 9x. This allows 2-digit only tuning systems (i.e., legacy OCV) to direct tune Aux inputs. See also Reference section, “TV Aux Input Configuration.”

030 - ACK MASK

MPI Communication Parameter. When set to 1, enables ACK feature of MPI.

031 - POLL RATE

MPI Communication Parameter. Selects poll rate for MPI. Step size of 16 ms. Changing from default may affect communication via MPI.

032 - TIMING PULSE

MPI Communication Parameter. Sets baud rate for MPI. Step size of 4.3 uS. Changing from default may affect communication via MPI.

035 - HDMI1 ENABLE

Set to 1 to enable HDMI 1 input in DTV Mode. Set to 2 to enable HDMI 1 input in PC Mode. Set to 0 to disable display panel HDMI 1 input.

Note: This setting is ignored if item 093 RJP AVAILABLE is set to 1.

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.

041 - SIMPLINK EN

Set to 0 to disable the SIMPLINK feature. Set to 1 to enable SIMPLINK functionality without enabling remote control access to the SIMPLINK Menu. Set to 2 to enable both SIMPLINK functionality and SIMPLINK Menu access, though note that the Speaker menu option will be inaccessible/grayed out. Set to 3 to enable all aspects of SIMPLINK feature and SIMPLINK Menu. If a home theater device is connected to the TV, users can select either the TV or HT (home theater) speaker.

Note: When both this item *and* item 042 AUTO INPUTS are enabled in the Installer Menu, HDMI inputs will be detected by SIMPLINK, but the Auto Input(s) Sensing Feature will not function.

042 - AUTO INPUTS

Determines the Aux inputs for which auto-sensing is enabled. Set to 0 to disable auto-sensing for all available inputs. Set to 255 to enable auto-sensing for all available inputs. For information on options for individual input settings, refer to Reference section, “Auto Input(s) Sensing Feature.”

Note: In order for auto-sensing to be enabled for an input, that input must also be enabled in the Installer Menu. For example, to enable auto-sensing for HDMI 1, item 035 HDMI1 ENABLE must also be set to 1 or 2. Also, see note above regarding TV operation when both this item and item 041 SIMPLINK EN are enabled.

Note: When this item is enabled in the Installer Menu, item 093 RJP AVAILABLE is automatically set to 0.

Installer Menu (Cont.)

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.

1 = Video 1 4 = RGB 7 = HDMI 3
3 = HDMI 1 5 = HDMI 2 255 = Last Aux

Note: Above is applicable only if all Aux sources are enabled.

Note: This item is not available in the Installer Menu unless item 004 STRT CHANNEL is set to 0.

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.

Note: Applies only to "Channel Not Available" message if item 073 CH NOT AVBLE is set to 1 (enabled). Also, items 070 FOR. CH-TIME and 071 BCK. CH-TIME are not available in the Installer Menu when item 069 EN. CH-T COL. is set to 0.

071 - BCK. CH-TIME (Channel-Time Display Background Color)

See description for item 070 FOR. CH-TIME above. The color chart is the same for both items.

073 - CH NOT AVBLE (Channel Not Available)

If set to 1 and item 028 CH. OVERRIDE is set to 0, a "NOT AVAIL-ABLE" message is displayed when a user direct tunes a channel that is not in the channel scan list available in memory.

Note: This item is not available in the Installer Menu when item 028 CH. OVERRIDE is set to 1.

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.

Note: This item is not available in the Installer Menu when item 004 STRT CHANNEL is set to 255.

078 - UPN MSB (UPN Most Significant Byte)

User programmable number, most significant byte readable by MPI command. Note: 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. Note: 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 to enable RGB input. Set to 17 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, Key Lock is enabled, which means that all display panel buttons will be locked, i.e., non-functional. Set to 0 to disable Key Lock. Note that all IR features remain functional regardless of this setting.

091 - HDMI2 ENABLE

Set to 1 to enable HDMI 2 input in DTV Mode. Set to 2 to enable HDMI 2 input in PC Mode. Set to 0 to disable display panel HDMI 2 input.

092 - HDMI3 ENABLE

Set to 1 to enable HDMI 3 input in DTV Mode. Set to 2 to enable HDMI 3 input in PC Mode. Set to 0 to disable display panel HDMI 3 input.

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.

Note: See also Reference section, "RJP Model List & Input Auto-sensing Hierarchy." Settings 1, 2, 5, and 6 allow the lodge staff to customize each TV's RJP setup based on customer requirements.

Note: When this item is enabled in the Installer Menu, item 042 AUTO INPUTS is automatically set to 0.

094 - SAP MENU EN (2nd Audio Program)

Set to 1 to enable SAP feature on Function Menu, if Function Menu is available (i.e., TV is not in Pass-through Mode). 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: This item is not available in the Installer Menu unless item 106 ASP RATIO LOCK is set to 0.

097 - AUDIO OUTPUT

Determines availability and signal type/level (fixed speaker, variable speaker, or fixed line level [amplifier]) of the audio output to be used by external audio equipment connected to the Speaker Out jack on the TV. Set to 0 to disable audio output. Otherwise, see the table below and set as required in accordance with audio equipment.

	Value	Status
Speaker Output	1	Fixed 0.01 Watts
	2	Fixed 0.03 Watts
	3	Fixed 0.05 Watts
	4	Fixed 0.10 Watts
	5	Fixed 0.20 Watts
	6	Fixed 0.50 Watts
	7	Fixed 1.00 Watt (default)
	8	Control with volume
Line Output	9	Fixed line level (typically 400 mVrms ± 100 mVrms @10KΩ) output

See also Reference section, "External Stereo Speaker Setup."

098 - PRO:CENTRIC

Selects the Pro:Centric Application Mode. Set to 0 (default) to disable Pro:Centric operation. Set to 1 for Flash Mode. Set to 2 for GEM (Java Application) Mode.

The TV must be turned OFF for a few seconds to initiate the Pro:Centric application download. When it is turned OFF for a second time, the TV will load the Pro:Centric application.

Note: This item is not available in the Installer Menu when item 119 DATA CHANNEL is set to 0.

099 - BACK LIGHTING

Sets the TV screen brightness at power up. Default setting is 255.

- 1 - 100 Static Back Lighting
(1 = Dimmest picture, 100 = Brightest picture)
- 101 - 200 Dynamic Back Lighting
(101 = Dimmest picture, 200 = Brightest picture)

If set between 101 and 200, the TV automatically controls back lighting depending upon 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.

Installer Menu (Cont.)

104 - START MINOR CHANNEL

Sets Minor Start Channel number at power up. 0 = NTSC. If not 0, number selected is the digital channel's Minor Start Channel number.

Note: This item is not available in the Installer Menu when item 004 STRT CHANNEL is set to 0 or 255.

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 restore the factory default settings of all Installer Menu items.



Caution: If set to 1, this will restore the factory defaults and clear the channel lineup, including any assigned channel icons and custom text labels.

Note: See also Reference section, "Restoring Factory Defaults on the TV(s)," for further information.

118 - POWER SAVINGS

Default set to 3—the power circuitry for both the embedded *b*-LAN module and the GAME CONTROL/MPI port is only powered when the TV is turned ON. When the TV is turned OFF, the embedded *b*-LAN and the GAME CONTROL/MPI port are not 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. If POWER SAVINGS is set to 1, the *b*-LAN module is always powered.

Similarly, if MPI communication is required for external MPI control, POWER SAVINGS should be set to 1 so that the GAME CONTROL/MPI port circuitry is always powered.

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



Caution: POWER SAVINGS should NEVER be set to 7. This setting is intended for factory use only.

119 - DATA CHANNEL

Set to 0 to disable. Set from 1 to 135 to match the RF channel number that will be used by the Pro:Centric server as its data channel.*

For TVs in Pass-through Mode or FTG Mode via CPU, if this item is left at its default value (255), the TV's Data Channel Auto Search feature will be enabled (see additional information below).

Note: The Data Channel Auto Search feature is not available when the TV's EBL is in FTG Mode. If the DATA CHANNEL value is 255 when the TV is configured for FTG Mode via EBL, DATA CHANNEL is defaulted to 0.

Data Channel Auto Search feature: When this item is set to 255 (default), once every 24 hours, the TV will initiate a search of 10 predefined channels (10, 20, 30, ... 100) and then, if necessary, perform a complete search of the RF channels (1 to 135) in an attempt to find the RF channel used by the Pro:Centric server as its data channel. If the Pro:Centric RF channel is found, the DATA CHANNEL value will be changed from 255 to match the server's RF channel number. The time at which the Auto Search occurs depends on the setting of item 121 P:C RF WAKE HR. See item 121 description for further information.

Note: Pro:Centric updates are downloaded from the Pro:Centric server to the TV when the TV is turned OFF. While Pro:Centric updates are in progress, it is not possible to turn ON the TV.

121 - P:C RF WAKE HR

Set the Wake On RF hour from 0 to 23. This item uses the 24-hour clock format. The value "128" is displayed as "OFF." Directly entering 128 turns the Wake On RF feature OFF.

The Wake On RF feature uses a timer, based on the settings of this item and item 122 P:C RF WAKE MN, to wake the TV to check for and, if applicable, download updates.

If Wake On RF is OFF, the time at which a Data Channel Auto Search (item 119 set to 255) occurs is determined as follows: The TV will initiate the search at 2:00 PM (if the TV clock is set) or at 14 hours of elapsed time from when AC power was applied (if the TV clock is not set). If the TV display is ON when the Auto Search is due to occur, the Auto Search will take place the next time the TV is turned OFF.

Note: This item is not available in the Installer Menu when item 119 DATA CHANNEL is set to 0.

Note: The TV clock must be set in order for a Wake On RF event to occur at the precise time of day in accordance with item 121 and 122 settings.

122 - P:C RF WAKE MN

Set the Wake On RF minute from 0 to 59. See also description for item 121 P:C RF WAKE HR above.

Note: This item is not available in the Installer Menu unless item 121 P:C RF WAKE HR is set from 0 to 23.

Note: The TV clock must be set in order for a Wake On RF event to occur at the precise time of day in accordance with item 121 and item 122 settings.

* PCS150R and later Pro:Centric servers do not support HRC or IRC cable channel frequencies.

This section describes how to create a customized Master TV Setup for cloning purposes when the TV is in Pass-through Mode.

Note: Cloning requirements and procedures are described in detail on pages 34 to 42. Refer to “FTG Mode of Operation Overview” on pages 43 to 44 for information on FTG Mode operation and configuration.

Before You Begin

- It is recommended that you disconnect all Aux inputs if you intend to run Auto Tuning (Channel Search). Under certain conditions, Auto Tuning is disabled if there is an Aux input active.
- Determine which cloning tool—USB memory device or clone programmer—is appropriate for your application; several of the Master TV Setup procedure steps are dependent on the cloning tool to be used. See “Cloning Methods” at right for further information.
- If you intend to use a USB memory device, determine the type of file—either the new “.tlx” file format or the legacy “.tll” file format—to use for cloning purposes; several of the Master TV Setup procedure steps are dependent on the desired file type. See “Cloning Methods” at right for further information.
- If the EZ-Manager Wizard appears on the screen, exit the wizard before beginning/continuing the Custom Master TV Setup procedure.

Cloning Methods

See also “Clonable TV Setup Menu Features” list below.

Using a USB Memory Device / .tlx File

- The .tlx file format clones Installer Menu settings and all TV sources’ (analog, digital, AV1, HDMI, etc.) clonable setup menu settings.
- Not intended for cloning an auto-tuned/edited Channel Map, as the channel lineup is converted to a logical FTG Channel Map when saved (Learned) from a TV to a .tlx file. If the .tlx file with the FTG Channel Map is then used for Teaching purposes, all Target TVs will be configured for FTG Mode via CPU.

Using a USB Memory Device / .tll File

The .tll file format clones the contents of the commercial controller (PTC) memory, including an auto-tuned/edited Channel Map, Installer Menu settings, and one TV source’s (analog, digital, or Aux) clonable setup menu settings.

Using a Clone Programmer (TLL-1100A or LT2002)

Both the TLL-1100A and LT2002 clone the contents of the commercial controller (PTC) memory, including an auto-tuned/edited Channel Map, Installer Menu settings, and one TV source’s (analog or Aux) clonable setup menu settings.

Clonable TV Setup Menu Features

Channel Auto Tuning (Channel Lineup) Manual Tuning Channel Edit Channel Label	Audio Auto Volume Clear Voice Sound Mode Balance TV Speaker	Time Clock Mode (Auto/Manual) * Time Zone Auto Off
Picture Picture Mode *		Option Language Caption Standby Light

* Advanced Control (Picture Mode) and DST (Clock Mode) settings are cloned via .tlx file only.

Note: Some menu options vary between analog and digital channels and Aux inputs.

Custom Master TV Setup (Cont.)

Custom Master TV Setup Procedure

1. Turn ON the TV.

If the EZ-Manager Wizard appears on the screen when you turn ON the TV, use the arrow keys on the Installer Remote to select **Exit** from the Welcome screen and press **OK**. In the confirmation pop-up window, select **OK**, and then press **OK** once more on the Installer Remote to exit the wizard.

2. Set Installer Menu items.

This step provides specific instruction only on the Installer Menu items that should be set on a Master TV. Refer to pages 20 to 28 for detailed information on all Installer Menu items.

- a) Use the Installer Remote to access the PTC Installer Menu (see “Accessing the Installer Menu” on page 20 for further information).

The next step depends on whether the EZ-Manager Wizard appeared when you turned ON the TV:

- If the wizard did appear, the TV is in a factory default state, and you can proceed to set Installer Menu items. Go to step (c).
- If the wizard did not appear, go to step (b).

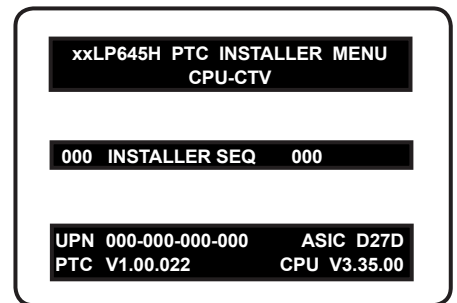
- b) Set Installer Menu item **117 FACT DEFAULT** to **1** and press **OK** on the Installer Remote.

This clears all Installer Menu custom settings, channel lineup, etc. and restores the factory default settings. The value will change back to 0 after the PTC has been restored to factory default condition. This step ensures that the TV Channel Memory will be the active channel lineup.

- c) Set Installer Menu item **003 BAND/AFC**, as appropriate.
- Broadcast: Set to 0.
 - CATV: Set to 1 (default).
 - HRC: Set to 2.
 - IRC: Set to 3.
- d) Set any other Installer Menu items that affect your TV programming network to the required configuration. For example, enable/disable Aux inputs, set a Start Channel, etc.
- e) After you have adjusted all Installer Menu item settings as required, press **OK** once on the Installer Remote to save your changes; then, press **OK** again to exit the menu.

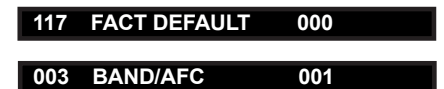
3. Set up TV features.

On-screen setup menus control the features of the TV. Press **MENU SETTINGS** on the Installer Remote to access the TV setup menus, and then set Channel, Picture, Audio, Time, etc. options to the desired configurations. See “Clonable TV Setup Menu Features” list on previous page and also notes on the following page.

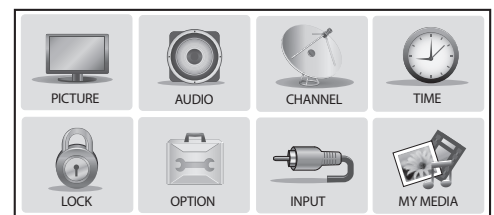


Typical Installer Menu

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



Adjust the values for these Installer Menu items, as required.



Use the TV setup menus to set the TV features to the desired configuration for the end user.

(Continued on next page)

(Continued from previous page)

Note: If you intend to use a USB memory device / .tlx file for cloning purposes, and you wish to use the TV Zoning feature, make sure to assign a TV Zone # at this time as described in Reference section, "Using the TV Zoning Feature."

Note: If you intend to clone the PTC, remember that only one TV source's clonable setup menu settings will be cloned. Thus, for a clone programmer, the TV setup menu settings should be applicable to either an analog channel or Aux input, while for a USB device / .tll file, the TV setup menu settings should be applicable to the analog or digital channel or Aux input to which the Target TV will be set during the Teaching process.

Note: If desired and if appropriate depending on the cloning method to be used (see "Cloning Methods" on page 29), you can run Auto Tuning (see step 4) prior to completing this step.



Note: The next three steps (4 to 6) are applicable for PTC cloning only (i.e., cloning using a USB memory device / .tll file or clone programmer). If you intend to use a USB memory device / .tlx file for cloning purposes, proceed directly to step 7 to verify the TV setup.

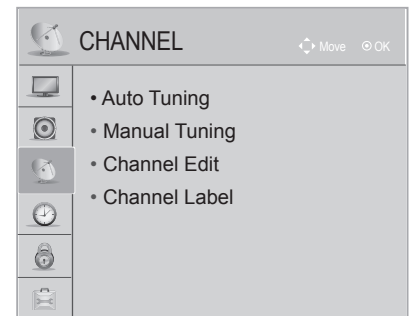
4. (PTC cloning only / Optional) Run Auto Tuning.

Note: If you run Auto Tuning with the intention to clone the resulting Channel Map, you MUST use a USB memory device / .tll file or a clone programmer for this cloning purpose. If you Teach a .tlx file with an auto-tuned/edited Channel Map to a Target TV, this will put the Target TV in FTG Mode via CPU.

- a) To 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 only free to guest (non-encrypted) channels.
 - Add/delete channels per your system requirements.
 - Use the **Channel Label** option in the Channel Menu to select the appropriate trademark/icon for each channel's Channel-Time on-screen display. Icons are available for familiar channels, such as ABC, CBS, NBC, etc. Identifiable labels (icons) should enable the end user to readily know what common networks are available.

Note: If Installer Menu item 103 ATSC TUNE MODE is set for Physical Channel tuning (default and recommended setting), channels with minor channel numbers higher than 255 will not transfer correctly in step 5. If item 103 is set for Virtual Channel tuning and either the major or minor channel numbers are higher than 255, the channel(s) will not transfer correctly in step 5.

Note: You can add the channel icons in this step or as described in step 6. Also in step 6, you can add custom text labels for channels without icons.



(Optional) Use Channel Menu options to run Auto Tuning, edit channels, and select channel icons.

(Continued on next page)

Custom Master TV Setup (Cont.)

(Continued from previous page)

5. (PTC cloning only) Transfer the TV setup menu settings to the commercial controller (PTC): 2-5-5 + MENU Mode



Note: This step is essential for successful cloning using a USB memory device / .tll file or a clone programmer. Without this step, the PTC will not contain any of the TV setup menu settings.



Note: The maximum number of channels (analog, digital, and Aux inputs) that can be transferred to the PTC is 141. An attempt to transfer more than 141 channels of any combination will result in a PTC Channel Map of exactly 141 channels; any extra channels will not be available in the PTC Channel Map. For example, if you enabled three Aux inputs in the Installer Menu and Auto Tuning found 141 channels, you must edit the TV channel lineup to decrease the number of analog/digital channels to (at most) 138 in order to accommodate the Aux inputs in the PTC Channel Map.

- a) After the TV channel lineup has been edited and channel label icons added, tune to the channel (source) for which you wish to transfer TV setup menu settings.

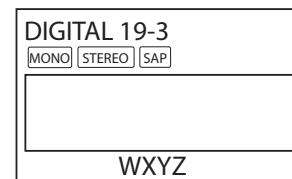
Note: If you intend to use a clone programmer for cloning purposes, this must be either an analog channel or Aux input.

- b) Access the Installer Menu, and press **2-5-5 + MENU SETTINGS** on the Installer Remote to initiate the transfer of the Master TV Setup to the PTC. The TV exits the Installer Menu and then tunes through the channels in the channel lineup during the transfer. When the transfer is complete, the TV tunes back to the channel that was tuned before the transfer began.

6. (PTC cloning only / Optional) Add Custom Channel and Aux Input Labels: 2-5-4 + MENU Mode

Note: 2-5-4 + MENU Mode enables you to add/edit channel icons and custom text labels in the PTC once the Master TV Setup has been transferred as described in the previous step.

Access the Installer Menu, and press **2-5-4 + MENU SETTINGS** on the Installer Remote. Add/edit custom text labels and/or change icons for the Channel-Time on-screen displays (see 2-5-4 + MENU procedural information on page 33). Note that broadcast digital channels often already have a broadcaster generated label. When you are finished, press **MENU SETTINGS** to exit 2-5-4 + MENU Mode.



Custom text label "WXYZ" created in 2-5-4 + MENU Mode.

7. Verify the TV setup.

Make sure the TV features are set per your requirements. Also, if cloning the PTC, verify that the channel lineup, channel icons, and custom text labels are correct.

8. (Recommended) Lock the channel lineup.

Access the Installer Menu. Set item **028 CH. OVERRIDE** to **0** and press **OK** to lock the channel lineup and restrict access to the TV setup menus. Press **OK** again to save your changes and exit the Installer Menu.*

The Master TV Setup is now ready to be copied to the predetermined cloning tool—a USB memory device (.tll or .tll file) or a clone programmer. See cloning procedures in this document.

028 CH. OVERRIDE 000

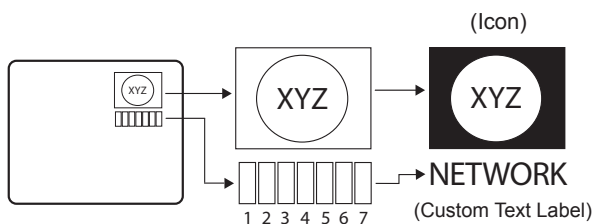
After verifying the TV Setup, set Installer Menu item 028 CH. OVERRIDE to 0.*

* This step prevents end users from accessing channel settings (i.e., the Channel Menu will be inaccessible/grayed out).

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

Changing Channel Icons and/or Adding or Editing Custom Text Labels in the Channel-Time Display

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



Changing icons and/or adding or editing custom text labels can only be done if there are channels that have been transferred to the TV's PTC either during Master TV Setup (see pages 29 to 32) or by cloning.

Note: A blank letter space is available between “Z” and “!”.

To perform channel editing/labeling:

1. Use the Installer Remote to access the Installer Menu (see “Accessing the Installer Menu” on page 20 for further information).
2. Press **2-5-4 + MENU SETTINGS** on the Installer Remote to access the Channel Label Editing Menu.
3. Change channel icons and/or add or edit custom text labels as described in the procedures below. (You can do this more than once.)
4. To exit the menu when done, press **MENU SETTINGS**.

Changing a Channel's Icon on the Master TV

1. Use Channel Up/Down to select the desired channel.
2. Use the Left/Right arrow keys to select the thin letter “I” on the Channel-Time 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 **OK**.)
4. Proceed to add/edit custom text labels, or go to the next channel.

Adding/Editing Channel Labels on the Master TV

1. Use Channel Up/Down to select the desired channel.
2. Press the Left or 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 go to the next channel.

Adding/Editing Source Labels on the Master TV

1. Press **INPUT** to select the desired Aux input source: AV, RGB, HDMI, HDMI2, or HDMI3.
2. Press the Left or 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 input, or use Channel Up/Down to return to channels.

Installer Remote Control Key Functions for Master TV Channel Label Editing Menu

- **Channel Up/Down:** Tunes to 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.
- **OK:** Changes the icon after the icon number has been entered.
- **INPUT:** Changes the Aux input label.
- **MENU SETTINGS:** Exits the editing process.

Cloning Overview

IMPORTANT CLONING INFORMATION

There are four different procedures for cloning a Master TV Setup, each with its own advantages and limitations (see also “Cloning Methods” on page 29):

- Using a USB memory device / .tlx file
- Using a USB memory device / .tll file
- Using a TLL-1100A clone programmer
- Using a LT2002 clone programmer

Each cloning method 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.



Caution: Copying a blank or incorrect memory into a TV from a clone programmer will cause the TV to operate erratically or become inoperable.



Caution: If the TV is in LodgeNet PPV Mode or FTG Mode via EBL (check with the site administrator if you are not certain), do not connect a clone programmer to the GAME CONTROL/MPI port, as this will damage the clone programmer.

Before you begin cloning:

- Complete the Custom Master TV Setup procedure (see pages 29 to 32).
- All equipment should be connected to power and turned ON.
- Both the Master and Target TVs must be in Pass-through Mode (i.e., the TV setup menus should be displayed when you press **MENU SETTINGS** on the Installer Remote).
- Learning and Teaching is only possible between identical model TVs. In the case of the LP645H models, the chassis size is also important. In particular, a 60LP645H TV should only be cloned using a Master TV Setup created from another 60LP645H TV.
- If using a USB memory device, ensure the USB device has been formatted with FAT format.
- If using a USB memory device / .tlx file, ensure that the Master TV Setup does not contain a Channel Map; otherwise, Teaching will result in the Target TV(s) being configured for FTG Mode via CPU.
- For both Master and Target TVs—If using a clone programmer, ensure the TV is tuned to either an Aux input or an analog (not a digital) channel.
- LT2002 only—Make sure the batteries in the clone programmer are fresh. If batteries are removed, the clone programmer clock time (if set) will be lost (see page 41 for information on the clone programmer clock).



Caution: Do not unplug the TV power cord or remove/disconnect the USB memory device/ clone programmer while Learning or Teaching, as doing so may cause the TV to malfunction or harm the USB device/clone programmer, respectively.

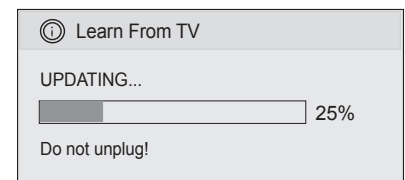
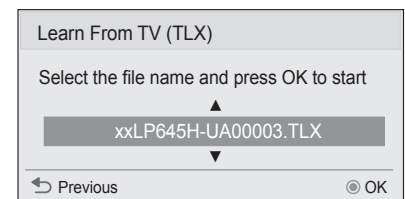
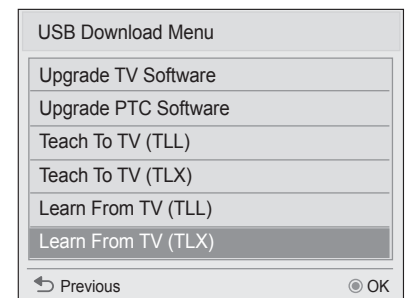
Learning / Teaching a Master TV Setup using a USB Memory Device / .tlx File

USB Cloning Notes

- Read the IMPORTANT CLONING INFORMATION on page 34 before beginning any cloning procedures. In particular, ensure that the Master TV Setup does not contain a Channel Map; otherwise, Teaching will result in the Target TV(s) being configured for FTG Mode via CPU.
- If a TV Zone # (for location-specific configuration) has been set in the Master TV before the Learning process is initiated, the Zone designation will be used during the subsequent Teaching process(es). This means that in order for the “Learned” clone data with the TV Zone assignment to be applied, any Target TVs will need to be assigned the same Zone designation BEFORE Teaching is performed. Refer to Reference section, “Using the TV Zoning Feature,” for further information. See also bullet below.
- If you intend to use the TV Zoning feature, make sure to assign a TV Zone # as described in Reference section, “Using the TV Zoning Feature,” BEFORE continuing with the Learning procedure below. See also bullet above.
- You may edit the filename as part of the Learning procedure; however, a file with edited contents will not be recognized.
- It is not possible to clone a Master TV’s clock using a USB memory device. Either set a Target TV’s 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 in Pass-through Mode.
2. Insert the USB memory device into the USB IN port on the Master TV.
3. Press **MENU SETTINGS** on the Installer Remote to display the TV setup menus. Use the arrow navigation keys to select/highlight the **Option** menu icon, and then press the number “7” key a total of seven times to display the USB Download Menu.
4. To gain access to the “Learn From TV” option in the USB Download Menu, key in the password used to access the Installer Menu (Example: Press **9-8-7-6**).
5. Use the Up/Down arrow keys to select **Learn From TV (TLX)**, and then press **OK**.
6. To differentiate this .tlx file from others, you can use the Up/Down arrow keys to change the last five digits of the filename. Press **OK** when you are ready to initiate Learning.
Learning status will be shown on a progress bar in a new window. When the Learning process is complete, the USB Download menu will reappear on the screen.
7. When Learning is done, press **↵** on the Installer Remote to exit the USB Download Menu, and remove the USB memory device from the Master TV.



USB Cloning Procedures (Cont.)

Teach Master TV Setup to Target TV

1. Turn ON the Target TV.

The next step depends on whether the EZ-Manager Wizard appears on the screen:

- If the wizard is displayed, the TV is in the required factory default state. If desired, you can complete the Teaching process via the EZ-Manager Wizard (see “USB Configuration” on page 17) or using the LG Smart Install utility (see “LG Smart Install Utility” on pages 18 to 19). To continue with this procedure, exit the wizard: Use the arrow keys on the Installer Remote to select **Exit** from the Welcome screen and press **OK**. In the confirmation pop-up window, select **OK**, and then press **OK** once more on the Installer Remote.

Then, go to step 3.

- Otherwise, ensure the Target TV is in Pass-through Mode, and then continue with step 2.



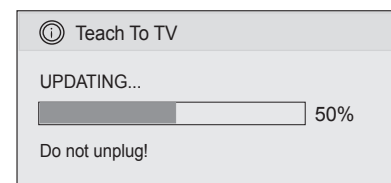
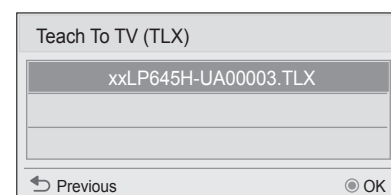
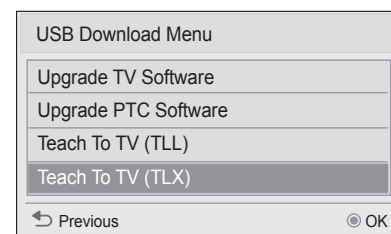
Note: If the Master TV Setup contains a TV Zone # assignment, in order for the proper location-specific TV Zone profile data to be applied, you will need to assign the same Zone designation in the Target TV(s) BEFORE Teaching is performed. Refer to Reference section, “Using the TV Zoning Feature,” for further information.

2. Use the Installer Remote to access the Target TV Installer Menu (see “Accessing the Installer Menu” on page 20 for further information). Set Installer Menu item **117 FACT DEFAULT** to **1**, and press **OK**. When the value changes back to 0, press **OK** again to exit the Installer Menu.

Note: This step restores factory default settings on the TV. If applicable, set the TV Zone # (see note above); and then continue with step 3.

3. Insert the USB memory device with the .tlx file into the Target TV USB IN port.
4. Press **MENU SETTINGS** on the Installer Remote to display the TV setup menus. Use the arrow navigation keys to select/highlight the **Option** menu icon, and 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 **Teach To TV (TLX)**, and then press **OK**.
6. Use the Up/Down arrow keys to select the Master TV Setup you want to install, and then press **OK**. Note: Filenames identify the TV, the TLX version, and, in the case of the 60LP645H model, the chassis size.
Teaching status will be shown on a progress bar in a new window. When the Teaching process is complete, the TV will briefly display a “Teaching Completed” window and then exit the USB Download Menu.
7. Remove the USB memory device from the Target TV, and verify that the Master TV Setup is now resident on the Target TV.

Note: After the Teaching process is complete, the TV tunes according to the setting of Installer Menu item 004 STRT CHANNEL (Start Channel). If a Start Channel is specified, the TV will tune to that channel; otherwise, the TV will return to the last channel tuned.



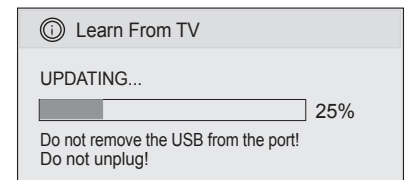
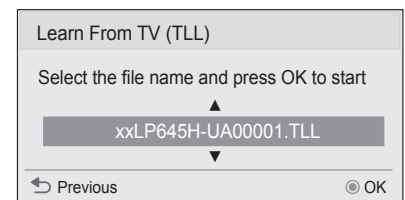
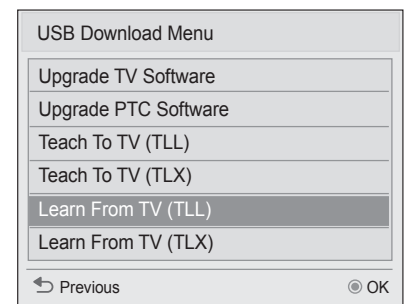
Learning / Teaching a Master TV Setup using a USB Memory Device / .tll File

USB Cloning Notes

- Read the IMPORTANT CLONING INFORMATION on page 34 before beginning any cloning procedures.
- You may edit the filename as part of the Learning procedure; however, a file with edited contents will not be recognized.
- It is not possible to clone a Master TV's clock using a USB memory device. Either set a Target TV's 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 in Pass-through Mode.
2. Insert the USB memory device into the USB IN port on the Master TV.
3. Press **MENU SETTINGS** on the Installer Remote to display the TV setup menus. Use the arrow navigation keys to select/highlight the **Option** menu icon, and then press the number "7" key a total of seven times to display the USB Download Menu.
4. To gain access to the "Learn From TV" option in the USB Download Menu, key in the password used to access the Installer Menu (Example: Press **9-8-7-6**).
5. Use the Up/Down arrow keys to select **Learn From TV (TLL)**, and then press **OK**.
6. To differentiate this .tll file from others, you can use the Up/Down arrow keys to change the last five digits of the filename. Press **OK** when you are ready to initiate Learning.
Learning status will be shown on a progress bar in a new window. When the Learning process is complete, the USB Download Menu will reappear on the screen.
7. When Learning is done, press ↵ on the Installer Remote to exit the USB Download Menu, and remove the USB memory device from the Master TV.



USB Cloning Procedures (Cont.)

Teach Master TV Setup to Target TV

1. Turn ON the Target TV.

The next step depends on whether the EZ-Manager Wizard appears on the screen:

- If the wizard is displayed, the TV is in the required factory default state. If desired, you can complete the Teaching process via the EZ-Manager Wizard (see “USB Configuration” on page 17). To continue with this procedure, exit the wizard: Use the arrow keys on the Installer Remote to select **Exit** from the Welcome screen and press **OK**. In the confirmation pop-up window, select **OK**, and then press **OK** once more on the Installer Remote.

Then, go to step 3.

- Otherwise, ensure the Target TV is in Pass-through Mode, and then continue with step 2.

2. Use the Installer Remote to access the Target TV Installer Menu (see “Accessing the Installer Menu” on page 20 for further information). Set Installer Menu item **117 FACT DEFAULT** to **1**, and press **OK**. When the value changes back to 0, press **OK** again to exit the Installer Menu.

Note: This step restores factory default settings on the TV.

3. Tune/set the TV to an analog or digital channel or Aux input (ideally the same source tuned for 2-5-5 + MENU Mode during the Master TV Setup procedure).
4. Insert the USB memory device with the .tll file into the Target TV USB IN port.
5. Press **MENU SETTINGS** on the Installer Remote to display the TV setup menus. Use the arrow navigation keys to select/highlight the **Option** menu icon, and then press the number “**7**” key a total of seven times to display the USB Download Menu.

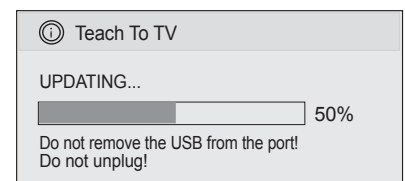
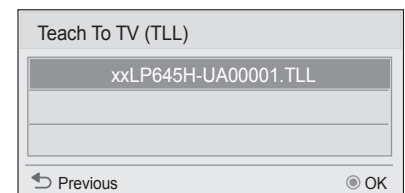
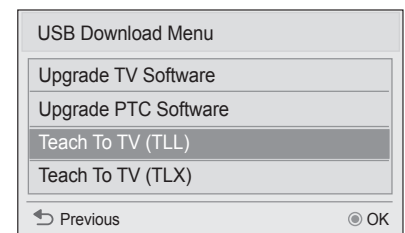
6. Use the Up/Down arrow keys to select **Teach To TV (TLL)**, and then press **OK**.

7. Use the Up/Down arrow keys to select the Master TV Setup you want to install, and then press **OK**. Note: Filenames identify the TV, the TLX version, and, in the case of the 60LP645H model, the chassis size.

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

8. When Teaching is done, press **↵** on the Installer Remote to exit the USB Download Menu, remove the USB memory device from the Target TV, and turn OFF the TV.
9. After a few seconds, turn ON the TV, and verify that the Master TV Setup is now resident on the Target TV.

Note: When you turn it back ON, the TV will tune according to the setting of Installer Menu item 004 STRT CHANNEL (Start Channel). If a Start Channel is specified, the TV will tune to that channel; otherwise, the TV will return to the last channel tuned.



Clone Programmer Cloning Procedures

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

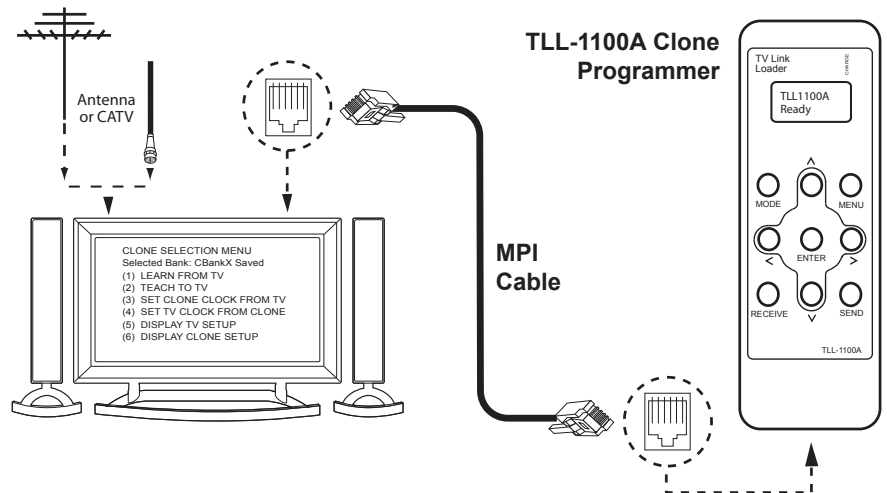


Caution: If the TV is in LodgeNet PPV Mode or FTG Mode via EBL (check with the site administrator if you are not certain), do not connect a clone programmer to the GAME CONTROL/MPI port, as this will damage the clone programmer.

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 34 before beginning any cloning procedures.
- Ensure the TLL-1100A is either fully charged or connected to AC power.
- Learning and Teaching is only possible between identical model TVs; however, the TLL-1100A can store up to eight different Master TV Setups.



Learn Setup from Master TV

1. Ensure the Master TV is set up completely and in Pass-through Mode.
2. Tune/set the TV to an analog channel or Aux input, and 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 **OK** 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.

8. When Learning is complete, disconnect the MPI cable from the Master 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 Programmer Cloning Procedures (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 an enabled MPI port.

After the time is copied to the TLL-1100A clone programmer, the current time will be maintained and 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. Turn ON the Target TV.

The next step depends on whether the EZ-Manager Wizard appears on the screen when you turn ON the TV:

- If the wizard is displayed, the TV is in the required factory default state. Use the arrow keys on the Installer Remote to select **Exit** from the Welcome screen and press **OK**. In the confirmation pop-up window, select **OK**, and then press **OK** once more on the Installer Remote to exit the wizard. Then, go to step 3.
- Otherwise, ensure the Target TV is in Pass-through Mode. Then, continue with step 2.

2. Use the Installer Remote to access the Target TV Installer Menu (see "Accessing the Installer Menu" on page 20 for further information). Set Installer Menu item **117 FACT DEFAULT** to **1**, and press **OK**. When the value changes back to 0, press **OK** again to exit the Installer Menu.

Note: This step restores factory default settings on the TV.

3. Tune/set the TV to an analog channel or Aux input (ideally the same source tuned for 2-5-5 + MENU Mode during the Master TV Setup procedure), and then connect the MPI cable to the MPI port on the Target TV. The Clone Selection Menu will display on the TV screen.
4. Ensure the correct Memory CBank(X) is selected on the TLL-1100A.
5. Press **2** on the Installer Remote to select **TEACH TO TV** from the Clone Selection Menu. Then, press **OK** 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.

6. When Teaching is done, disconnect the MPI cable from the Target TV, and turn OFF the TV.
7. After a few seconds, turn ON the TV, and verify that the Master TV Setup is now 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.
```


Clone Programmer Cloning Procedures (Cont.)

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

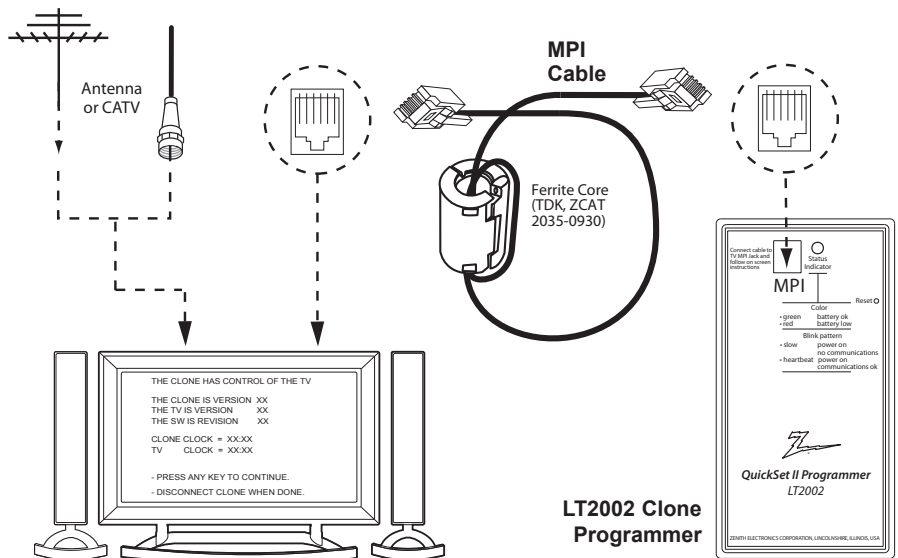


Caution: If the TV is in LodgeNet PPV Mode or FTG Mode via EBL (check with the site administrator if you are not certain), do not connect a clone programmer to the GAME CONTROL/MPI port, as this will damage the clone programmer.

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

LT2002 Cloning Notes

- Read the IMPORTANT CLONING INFORMATION on page 34 before beginning any cloning procedures.
- A slow flashing green light indicates that there are communication problems between the TV and the LT2002. 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.
- Learning and Teaching is only possible between identical model TVs; however, the LT2002 can store up to three different Master TV Setups.



Learn Setup from Master TV

1. Ensure the Master TV is set up completely and in Pass-through Mode.
2. Tune/set the TV to an analog channel or Aux input, and 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 **OK** to proceed to the Memory Bank Selection Menu.
5. Press 1, 2, or 3 on the Installer Remote to select the clone Memory Bank in which to store the Master Setup. Then, press **OK**.

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.

6. Verify the Learning setup information on the next screen, and then 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.

7. When Learning is complete, disconnect the MPI cable from the Master TV.

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.

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.

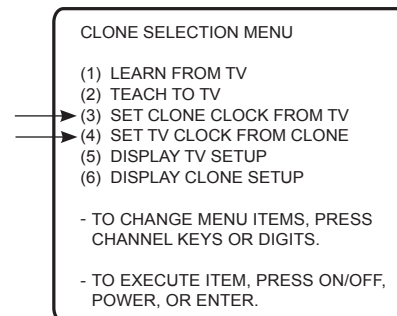
Clone Programmer Cloning Procedures (Cont.)

(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 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 an enabled MPI port.

After the time is copied to the LT2002 clone programmer, the current time will be maintained and 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. Turn ON the Target TV.

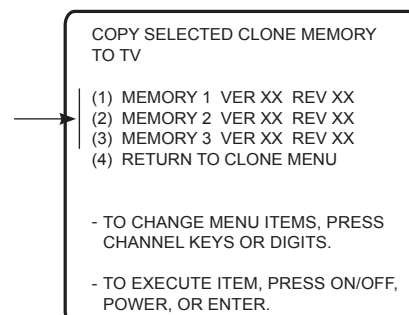
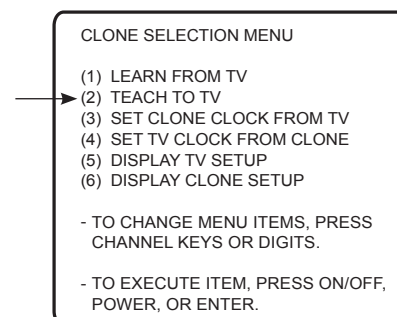
The next step depends on whether the EZ-Manager Wizard appears on the screen when you turn ON the TV:

- If the wizard is displayed, the TV is in the required factory default state. Use the arrow keys on the Installer Remote to select **Exit** from the Welcome screen and press **OK**. In the confirmation pop-up window, select **OK**, and then press **OK** once more on the Installer Remote to exit the wizard. Then, go to step 3.
- Otherwise, ensure the Target TV is in Pass-through Mode. Then, continue with step 2.

2. Use the Installer Remote to access the Target TV Installer Menu (see “Accessing the Installer Menu” on page 20 for further information). Set Installer Menu item **117 FACT DEFAULT** to **1**, and press **OK**. When the value changes back to 0, press **OK** again to exit the Installer Menu.

Note: This step restores factory default settings on the TV.

3. Tune/set the TV to an analog channel or Aux input (ideally the same source tuned for 2-5-5 + MENU Mode during the Master TV Setup procedure), and then connect the MPI cable to the MPI port on the Target TV.
4. 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 **OK**.
5. Select the LT2002 Memory Bank in which the new Master TV Setup is located, and press **OK**.
6. Verify the Teaching setup information on the next screen, and 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-screen during Teaching. When the Teaching process is complete, a “TEACHING COMPLETE” message will be displayed.
7. When Teaching is done, disconnect the MPI cable from the Target TV, and turn OFF the TV.
8. After a few seconds, turn ON the TV, and verify that the Master TV Setup is now resident on the Target TV.



FTG Mode via CPU or EBL

FTG Mode enables Pro:Idiom decryption and also allows logical channel mapping of physical channels.

As indicated in the introduction to this document, there are two separate and distinct methods for configuring LP645H TVs for FTG Mode of operation: one (new) method is to configure the TV CPU for FTG Mode operation, while the other is to configure the TV EBL for FTG Mode operation. FROM A LOCAL CONFIGURATION STANDPOINT, EACH OF THESE METHODS IS MUTUALLY EXCLUSIVE. IF THE CPU IS IN FTG MODE, THE EBL CANNOT BE SWITCHED TO FTG MODE. LIKEWISE, IF THE EBL IS IN FTG MODE, THE CPU CANNOT BE SWITCHED TO FTG MODE.

FTG Mode via CPU

This mode provides the following features:

- Logical channels mapped to RF delivered content.
- Digital RF channel minor (program) numbers up to 999.
- FTG Channel Map of up to 600 logical channels.
- Start Channel set for RF or Aux input delivered content.
- Pro:Centric data delivery over RF.
- TV Zoning option for location-specific configuration.

FTG Mode via CPU requires that you use LG FTG File Manager PC software to create an FTG Configuration (.tlx) file, which will in turn be used to configure the CPU. In this mode, the CPU is the owner of the FTG Channel Map and must be configured with an FTG Channel Map and FTG Installer Menu settings using one of the following processes:

- Local: Configure an individual LP645H TV via its USB port using an FTG Configuration (.tlx) file on a USB memory device. The “Teach to TV (TLX)” process, along with associated procedures, is described on pages 45 to 49.
- Remote: Configure all LP645H TVs at the site using a Pro:Centric server (Example: PCS150R). Load an FTG Configuration (.tlx) file on the Pro:Centric server using the TV E-Z Installation “Configuration” option in the Pro:Centric server Admin Client. Refer to the **Pro:Centric Server Admin Client User Guide** for further information.

FTG Mode via EBL

This mode provides the following features:

- Logical channels mapped to RF delivered content.
- Digital RF channel minor (program) numbers up to 255.
- FTG Channel Map of up to 141 logical channels.
- Start Channel set for RF or Aux input delivered content.
- Pro:Centric data delivery over RF.

FTG Mode via EBL requires that you use LG FTG Device Configuration Application PC software to configure the EBL. In this mode, the EBL is the owner of the FTG Channel Map and must be configured with an FTG Channel Map and FTG Installer Menu settings using one of the following processes:

- Local: Configure an individual LP645H TV's EBL via its TV-LINK CFG jack using a direct PC-to-TV connection and the FTG Device Configuration Application. See Reference section, “FTG Mode via EBL (Local Configuration),” for information on the “Write” process for an FTG Channel Map and FTG Installer Menu settings.
- Remote: Configure all LP645H TV EBLs at the site using a Free-To-Guest Management Appliance (FMA) head end device (Example: FMA-LG101). Refer to the **Free-To-Guest (FTG) Device Configuration Application User Guide** and/or the Installation & Configuration Guide for the FMA device for further information.

FTG Mode of Operation Overview (Cont.)

While the TV is in FTG Mode:

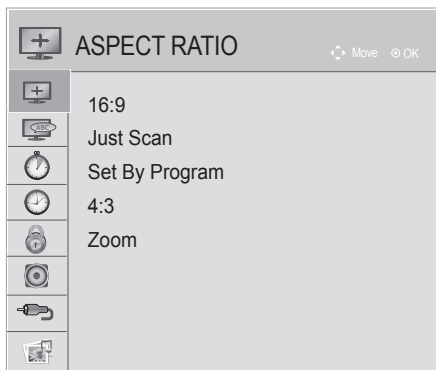
- Users can still access the Installer Menu using an LG Installer Remote; however, all Installer Menu items will be read-only.
- Any FTG configuration changes must be made using either the FTG File Manager (FTG Mode via CPU) or the FTG Device Configuration Application (FTG Mode via EBL). FTG Channel Map Configuration and FTG Installer Menu Configuration Utilities enable you to make changes, respectively, to the FTG Channel Map and FTG Installer Menu settings as necessary. Based on the initial method used to configure the TV for FTG Mode operation (via CPU or EBL), all subsequent changes must be transferred to either the TV CPU or the EBL via a process that is in accordance or compatible with that method (see information on local configuration in this document or refer to documentation for the head end device/server for information on remote management).
- If it becomes necessary to restore the TV to Pass-through Mode, there are several options that will enable you to do so. Refer to Reference section, "Restoring Factory Defaults on the TV(s)," for further information.

Pages 50 to 53 provide overviews of the utilities that comprise the FTG File Manager. Refer to the **Free-To-Guest (FTG) File Manager User Guide** for further information on the FTG File Manager. Refer to the **Free-To-Guest (FTG) Device Configuration Application User Guide** for information on the FTG Device Configuration Application.

Determining the TV Operating Mode

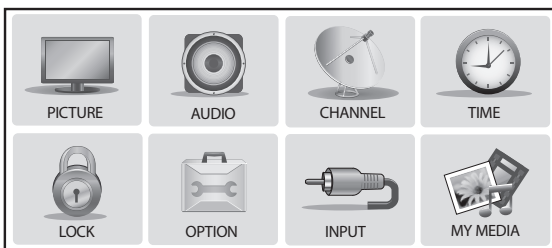
To determine the operating mode of the TV, press **MENU SETTINGS** on the Installer Remote. The menu displayed depends on the operating mode. See examples below.

If the Function Menu appears, the TV is in a mode (FTG, PPV, etc.) that does not allow the end user to change the fundamental TV setup. If the TV setup menus appear, the TV is in Pass-through Mode.



Function Menu

Indicates the TV is not in Pass-through Mode. While the TV is in this mode, Installer Menu settings can be accessed as read-only.



TV Setup Menus

Shows that the TV is in Pass-through Mode.

Creating an FTG Configuration File using the FTG File Manager

This section describes how to create an FTG Configuration (.tlx) file that can be saved to a USB memory device. In order to enable Pro:Idiom decryption, it is recommended that you create an FTG Configuration file using the FTG File Manager.

Before you begin, note the following:

- FTG File Manager software is available online at: www.LGolutions.com/ftgsoftware.
- There is also an option to save (Learn) an FTG Configuration file from a TV, which may be desirable or required in either of the following situations:
 - If you want to save customized TV setup menu settings to the FTG Configuration file (in addition to the FTG Channel Map and FTG Installer Menu settings).
 - If you do not know the RF channels at the site.

See “Learning FTG Configuration from a TV” on page 48 for further information. However, if you use this option to save an FTG Configuration file, it is still highly recommended that you open the saved FTG Configuration file in the FTG File Manager to verify the file contents/settings and to enable Pro:Idiom decryption by marking Encrypted channels using the FTG Channel Map Editor.

The procedure below provides an overview of the steps required to create an FTG Configuration (.tlx) file. Refer to the **Free-To-Guest (FTG) File Manager User Guide** for further information. See also FTG File Manager sample screens on pages 50 to 53.

1. Install (if necessary) and launch the FTG File Manager (v1.1.0 or higher) on the PC that will be used to create the FTG Configuration (.tlx) file.
2. You have a number of options:
 - To view and/or base a new FTG Configuration file on an existing FTG Configuration (.tlx) file, click the **Open** button in the TLX File command section of the FTG File Manager main screen, and select the desired (.tlx) file.

A list of the file’s contents will be displayed in the TLX File Contents window. Either double-click on an individual item to copy it or click the **Copy All** button directly above the TLX File Contents window to automatically copy all the contents of the opened .tlx file to the FTG Configuration List and, if applicable, TV Setup Menu List. Note, though, that while TV setup menu settings can be included in the new FTG Configuration file, the TV setup menu settings are not available for editing.

Edit the configuration of the items in the FTG Configuration List as well as the FTG Configuration List itself and/or the TV Setup Menu List, as necessary, to create a new file. Then, proceed to step 3 when you are ready to continue.
 - To open an existing FTG Configuration (.rml) file created in the FTG Device Configuration Application to use its FTG Channel Map and/or FTG Installer Menu settings, click **File** and then **Open** from the FTG File Manager menu bar, and select/double-click on the desired “.rml” file.

Edit the channels and/or settings as necessary, and then proceed to step 3 when you are ready to continue.
 - Create a new FTG Channel Map using the FTG Channel Map Editor in the FTG Channel Map Configuration Utility. Up to 600 logical channels can be defined in the FTG Channel Map.

When you are ready to continue, click **Configure** and then **FTG File Manager** from the FTG File Manager menu bar to return to the FTG File Manager main screen, and then proceed to step 3.

(Continued on next page)

FTG Mode via CPU (Cont.)

(Continued from previous page)

Note: To remove an individual item from the FTG Configuration List or the TV Setup Menu List, click on/highlight the item to be removed, and then click the **Remove Item** button directly above the applicable “List” window. To clear both the current FTG Configuration List and TV Setup Menu List contents, click the **Clear** button in the List command section of the FTG File Manager main screen.

Note: To clear the current TLX File Contents, click the **New** button in the TLX File command section of the FTG File Manager main screen (above the TLX File Contents window).

3. To add an FTG Channel Map to the FTG Configuration List, click **>>** under FTG Channel Map. This will copy the current mapped channels to the FTG Configuration List.

Note: If you make any change(s) in the FTG Channel Map Configuration Utility to the current data to be included in the FTG Configuration List, you will need to recopy the FTG Channel Map to the FTG Configuration List.

4. (Optional) Load default FTG Installer Menu settings for the TV:

- Click the down arrow at the right of the Chassis field in the Installer Menu Templates section of the FTG File Manager main screen, and select the appropriate chassis (depending on the TV type) from the drop-down list of available models.
- Click the **Load** button.
- Use the FTG Installer Menu Configuration Utility to modify settings, if necessary. Then, return to the FTG File Manager main screen.

5. If you wish to assign a Zone designation for the current FTG Installer Menu settings, click on the down arrow at the right of the Zone field (below the FTG Installer Menu Settings field), and select the appropriate Zone (1–8).

Note: See Reference section, “Using the TV Zoning Feature,” for further information on the TV Zoning feature and setting the TV Zone # in the TV(s).

6. To add FTG Installer Menu settings to the FTG Configuration List, click **>>** under FTG Installer Menu Settings. This will copy the selected model settings to the FTG Configuration List.

Note: If you make any change(s) in the FTG Installer Menu Configuration Utility to the current data to be included in the FTG Configuration List, you will need to recopy the FTG Installer Menu settings to the FTG Configuration List.

Note: At the top of both the FTG Configuration List and TV Setup Menu List windows, an Edit Zone field enables you to change the Zone assignment for each LP645H Installer Menu and/or TV Setup Menu profile, if desired. Select/highlight the desired profile, and then click on the down arrow at the right of the applicable Edit Zone field to select the appropriate Zone.

7. Click the **Save** button in the List command section of the FTG File Manager main screen to save the FTG Configuration List and, if present, TV Setup Menu List contents to an FTG Configuration (.tlx) file on the PC’s hard drive for later use.

In the Save As pop-up window, name the file, and click **Save**. The default folder path is C:\Program Files\Zenith\FTG\TLX. Note that the FTG Configuration file will have a “.tlx” file extension.

Note: To remove an individual item from the FTG Configuration List or the TV Setup Menu List before saving the new file, click on/highlight the item to be removed, and then click the **Remove Item** button directly above the applicable window. To clear both the current FTG Configuration List and TV Setup Menu List contents, click the **Clear** button in the List command section of the FTG File Manager main screen.

8. Transfer the FTG Configuration (.tlx) file to a USB memory device, and proceed to “Teaching FTG Configuration to a TV” on the following page to transfer the FTG Configuration file to an LP645H TV.

Teaching FTG Configuration to a TV

This section describes how to “Teach” an FTG Configuration file from a USB memory device to a TV, using the USB Download Menu. Ensure you have completed the procedure on the previous page to create the FTG Configuration file before proceeding with the steps below.

Before You Begin

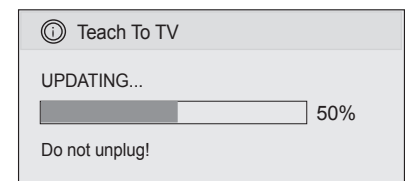
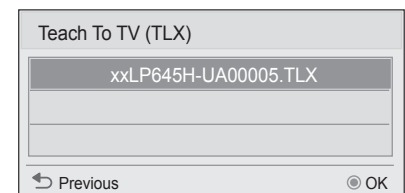
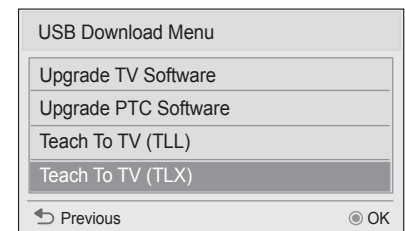
- If the TV EBL is already in FTG Mode, you cannot use this procedure to make changes to the FTG Channel Map and FTG Installer Menu settings. You must use a direct PC-to-TV connection as described in Reference section, “FTG Mode via EBL (Local Configuration),” or an FMA head end device to reconfigure the EBL.
- If the preceding condition applies, but you wish to switch the TV to FTG mode via CPU, refer to Reference section, “Restoring Factory Defaults on the TV(s),” for further information before proceeding.
- If the EZ-Manager Wizard appears on the screen when you turn ON the TV, you can complete the Teaching process via the wizard (see “USB Configuration” on page 17).
- You may also use the LG Smart Install utility to complete this process. See “LG Smart Install Utility” on pages 18 to 19 for further information.
- If the TV is currently in Pass-through Mode and you intend to use the TV Zoning feature, make sure to assign a TV Zone # as described in Reference section, “Using the TV Zoning Feature,” BEFORE continuing with the procedure below.

Teach FTG Configuration

1. Turn ON the Target LP645H TV, and then insert the USB memory device that contains the FTG Configuration file into the TV’s USB IN port.
2. Press **MENU SETTINGS** on the Installer Remote to display the TV setup menus (TV is in Pass-through Mode) or the Function Menu (TV is already in FTG Mode).
3. Use the arrow navigation keys to select/highlight either the **Option** menu icon from the TV setup menus or the **Lock** menu icon from the Function Menu. 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 (TLX)**, and then press **OK**.
5. Use the Up/Down arrow keys to select the FTG Configuration file you want to install, and then press **OK**.
Teaching status will be shown on a progress bar in a new window.
Do NOT remove the USB device until Teaching is complete. When the Teaching process is complete, the TV will briefly display a “Teaching Completed” window and then exit the USB Download Menu.
6. Remove the USB memory device from the Target TV, and verify that the FTG Configuration is resident on the Target TV.

The Target TV CPU is now in FTG Mode (if it was previously in Pass-through Mode).

Note: After the Teaching process is complete, the TV tunes according to the Start Channel setting in the Installer Menu. If a Start Channel is specified, the TV will tune to that channel; otherwise, the TV will tune to the lowest logical channel in the FTG Channel Map.



FTG Mode via CPU (Cont.)

Learning FTG Configuration from a TV

To ensure that Pro:Idiom decryption is enabled, it is recommended that you create an FTG Configuration file using the FTG File Manager as described on pages 45 to 46. However, if necessary, this option enables you to save (Learn) an FTG Configuration file from an LP645H TV to a USB memory device.

The option to save (Learn) an FTG Configuration file from a TV may be desirable or required in either of the following situations:


- If you want to save customized TV setup menu settings to the FTG Configuration file (in addition to the FTG Channel Map and FTG Installer Menu settings).
- If you do not know the RF channels at the site.

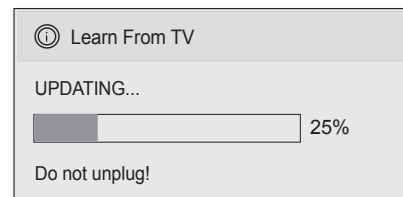
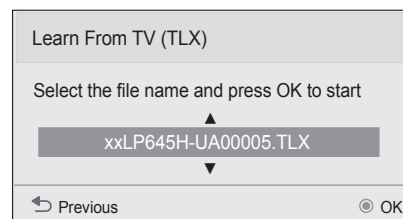
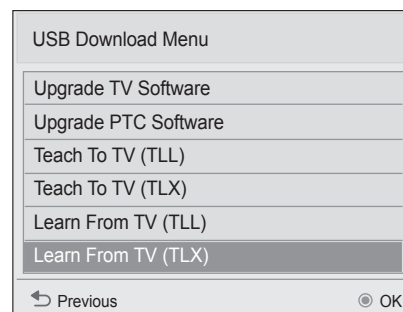
Before You Begin

- If the TV is NOT already in FTG Mode, you may need to perform some manual configuration on the TV before you start this procedure (see “Optional Manual Configuration / TV Setup” on next page).
- If you intend to use the TV Zoning feature, make sure to assign a TV Zone # as described in Reference section, “Using the TV Zoning Feature,” BEFORE continuing with the procedure below.

Learn FTG Configuration

1. Turn ON the TV, and then insert a USB memory device into the USB IN port on the TV.
2. Press **MENU SETTINGS** on the Installer Remote to display the TV setup menus (TV is in Pass-through Mode) or the Function Menu (TV is already in FTG Mode).
3. Use the arrow navigation keys to select/highlight either the **Option** menu icon from the TV setup menus or the **Lock** menu icon from the Function Menu. Then, press the number “7” key a total of seven times to display the USB Download Menu.
4. To gain access to the Learn From TV options in the USB Download Menu, key in the password used to access the Installer Menu (Example: Press **9-8-7-6**).
5. Use the Up/Down arrow keys to select **Learn From TV (TLX)**, and then press **OK**.
6. To differentiate this .tlx file from others, you can use the Up/Down arrow keys to change the last five digits of the filename. Press **OK** when you are ready to initiate Learning.
Learning status will be shown on a progress bar in a new window. Do NOT remove the USB device until Learning is complete. When the Learning process is complete, the USB Download Menu will reappear on the screen.
7. When Learning is done, press **↵** on the Installer Remote to exit the USB Download Menu, and remove the USB memory device.

 **Note: It is highly recommended that you open this FTG Configuration file in the FTG File Manager—BEFORE transferring (Teaching) the file to any TVs—to verify FTG Channel Map and FTG Installer Menu settings and enable Pro:Idiom decryption by marking Encrypted channels. This will also enable you to confirm channels and add channel attributes, labels, etc.**



Optional Manual Configuration / TV Setup

The manual configuration procedures below should only be performed if you do not know the RF channels at the site and need to “Learn” FTG Configuration from an LP645H TV as described on the previous page. Ensure the TV is in Pass-through Mode before you begin.

Note: These configuration procedures parallel the initial steps required for creating a Master TV Setup. See also screen examples on pages 30 to 31.

Set Installer Menu Items

These steps provide specific instruction only on the Installer Menu items that should be set on an LP645H TV. Refer to pages 20 to 28 for detailed information on all Installer Menu items.

1. Turn ON the TV.* Then, use the Installer Remote to access the Installer Menu (see “Accessing the Installer Menu” on page 20 for further information).
2. Set Installer Menu item **117 FACT DEFAULT** to **1** and press **OK** on the Installer Remote.
This clears all Installer Menu custom settings, the channel lineup, etc. and restores the factory default settings. The value will change back to 0 after the commercial controller (PTC) has been restored to factory default condition. This step ensures that the TV Channel Memory will be the active channel lineup.
3. Set Installer Menu item **003 BAND/AFC**, as appropriate.
 - Broadcast: Set to 0.
 - CATV: Set to 1 (default).
 - HRC: Set to 2.
 - IRC: Set to 3.
4. Set any other Installer Menu items that affect your TV programming network to the required configuration. For example, enable/disable Aux inputs, set a Start Channel, etc.
5. After you have adjusted all Installer Menu item settings as required, press **OK** once on the Installer Remote to save your changes; then, press **OK** again to exit the menu.

Set Up TV Features

On-screen setup menus control the features of the TV. Press **MENU SETTINGS** on the Installer Remote to access the TV setup menus, and then set Channel, Picture, Audio, Time, etc. options to the desired configurations. In particular, if you intend to use the TV Zoning feature, make sure to assign a TV Zone # in this TV as described in Reference section, “Using the TV Zoning Feature.”

Run Auto Tuning (Channel Search)

Note: In the FTG Configuration file, Logical Channel numbers will automatically be assigned in ascending order, starting with 0 (zero), to the Physical Channels from the TV Channel Map.

Note: Pro:Idiom decryption for encrypted channels will not be enabled unless you use the FTG File Manager to set the channel attributes.

1. Search for all available analog and digital channels: Use the Installer Remote to go to the Channel Menu, select the **Auto Tuning** option, and follow the on-screen instructions.
2. 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.

Once you have completed these procedures, return to “Learning FTG Configuration from a TV” on the previous page to complete the Learn sequence.

* If the EZ-Manager Wizard appears on the screen when you turn ON the TV, use the arrow keys on the Installer Remote to select **Exit** from the Welcome screen and press **OK**. In the confirmation pop-up window, select **OK**, and then press **OK** once more on the Installer Remote to exit the wizard. Note that in this case, you will not need to perform step 2 because the TV is already in a factory default state.

FTG File Manager Utilities Overview

FTG File Manager Main Screen

The FTG File Manager main screen enables you to compile, modify, and save FTG Configuration (.tlx) files. It also allows you to assign a Zone designation to each Installer Menu profile, if desired (see Reference section, "Using the TV Zoning Feature," for further information).

The screenshot shows the FTG File Manager interface with the following callouts:

- FTG CONFIGURATION LIST**: Data to be saved in FTG Configuration (.tlx) file. (Points to the FTG Configuration List table)
- CLEAR/SAVE**: FTG Configuration and TV Setup Menu List options. (Points to the Clear and Save buttons)
- NEW/OPEN**: TLX File options. (Points to the New and Open buttons)
- Filename of opened FTG Configuration (.rml) file created using FTG Device Configuration Application.** (Points to the FTG File text box)
- Copy FTG Channel Map to and from FTG Configuration List.** (Points to the FTG Channel Map section)
- Copy FTG Installer Menu settings to and from FTG Configuration List. Assign Zone as applicable.** (Points to the FTG Installer Menu Settings section)
- Load default FTG Installer Menu for 32/39/42/47/55LP645H or 60LP645H chassis.** (Points to the Installer Menu Templates section)
- TV SETUP MENU LIST**: Data to be saved in FTG Configuration file. (Points to the TV Setup Menu List table)
- TLX FILE CONTENTS**: Data contained in opened FTG Configuration (.tlx) file. (Points to the TLX File Contents table)



Note: The data referenced in the FTG Configuration List is only a snapshot of the current FTG Channel Map and FTG Installer Menu settings when copied to the list. If you make any change(s) to the current data to be included in the FTG Configuration List, you will need to recopy Channel Map and Installer Menu settings to the FTG Configuration List.

FTG File Manager Utilities Overview (Cont.)

FTG Channel Map Editor

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

LOGICAL CHANNEL MAPPING

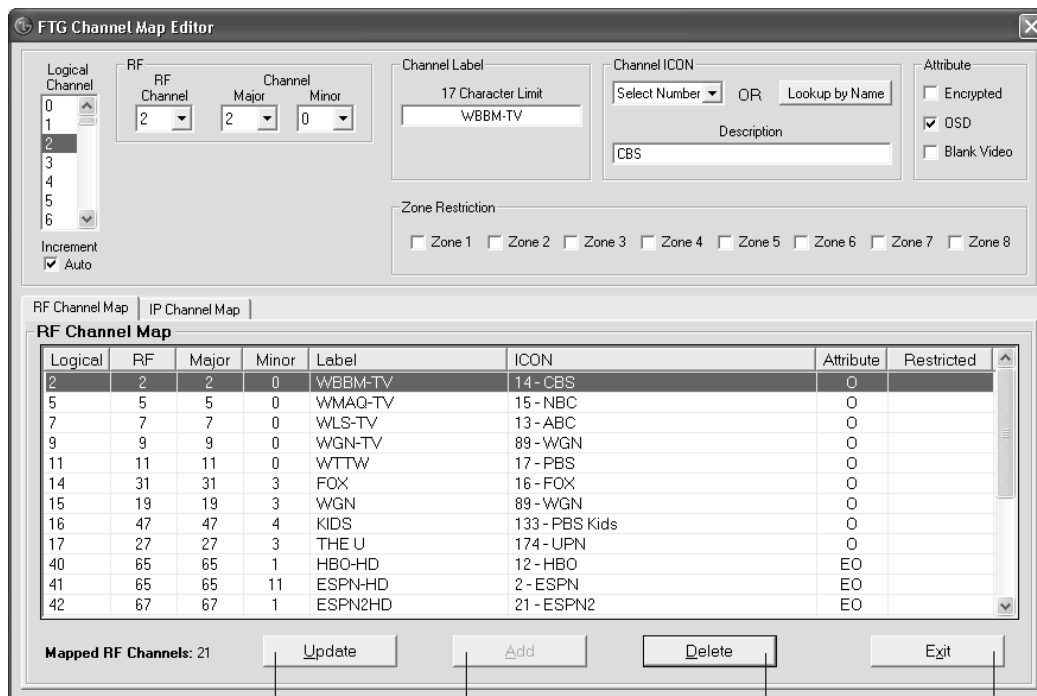
Select a Logical Channel number. Then, assign the RF, Major, and Minor channel numbers to complete the mapping.

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.



ZONE RESTRICTION

Select Zone restriction for channel. See Reference section, "Using the TV Zoning Feature," for further information.

ADD

After defining a new Logical Channel, click to add channel to the FTG Channel Map.

EXIT

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

UPDATE

After editing an existing Logical Channel's data, click to commit the changes in the FTG Channel Map.

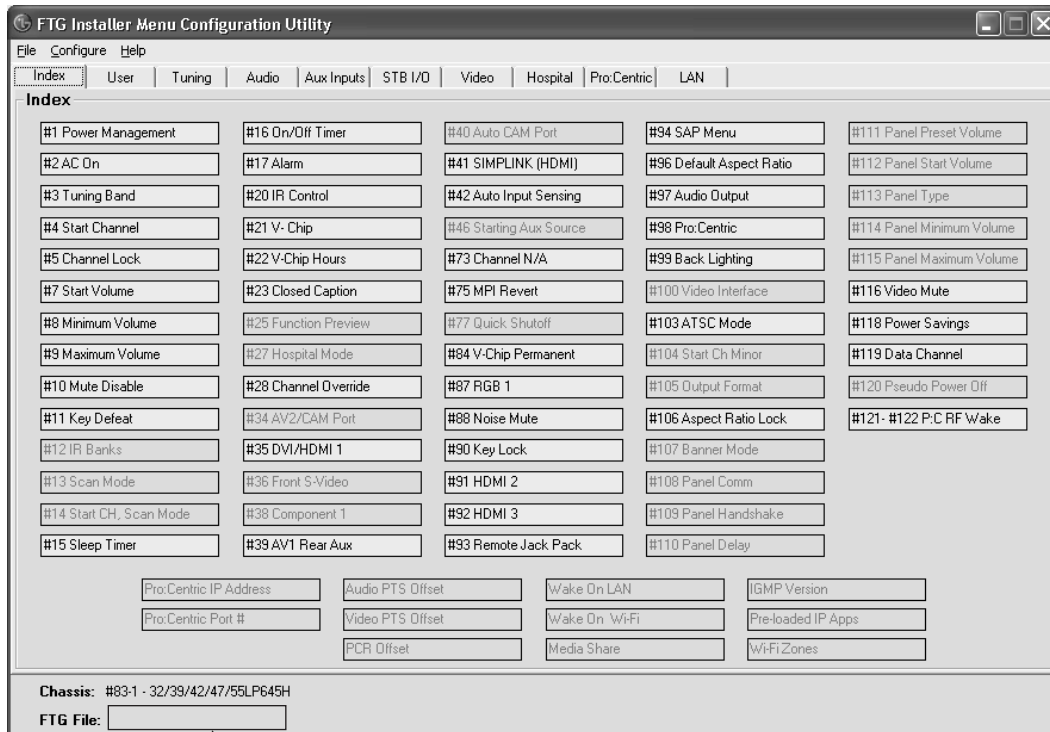
DELETE

Click to remove highlighted channel from FTG Channel Map.

FTG Installer Menu Configuration Utility

CONFIGURATION SETTINGS

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



Filename of opened FTG Configuration (.rml) file created using FTG Device Configuration Application.

Notes:

- The Pro:Centric tab enables you to set up Pro:Centric-specific parameters. Refer to the **Free-To-Guest (FTG) File Manager User Guide** for further information.
- LAN and Hospital parameters are not applicable for these TV models.

Reference: Remote Jack Pack / TV Connections & Setup

Remote Jack Pack Setup

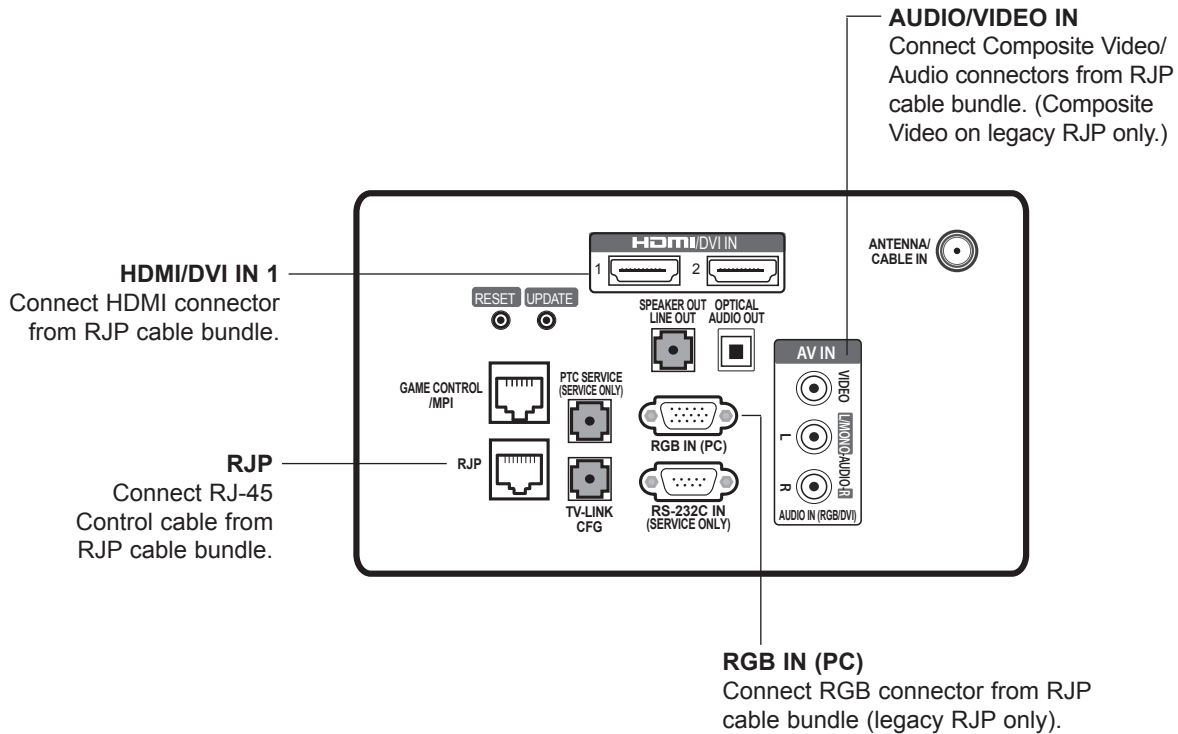
RJP Available? If you will use a Remote Jack Pack (RJP) in your system, set Installer Menu item **093 RJP AVAILABLE** appropriately (for example, on a legacy model RJP: HDMI Mode, set RJP AVAILABLE to 1). See Installer Menu detailed descriptions for further information.

093 RJP AVAILABLE 001

TV Connections

! Make these connections **ONLY** after Master TV Setup and TV cloning procedures are complete.

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



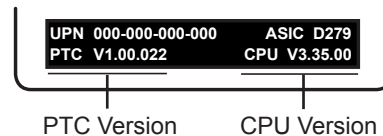
Reference: Upgrading TV/PTC Software using a USB Memory Device

Checking the Software Versions

You can check the software versions of the TV by accessing the Installer Menu with the Installer Remote (see “Accessing the Installer Menu” on page 20 for further information).

When you are finished, press **OK** again to exit the Installer Menu.

Typical Installer Menu Footer



Upgrading TV/PTC Software

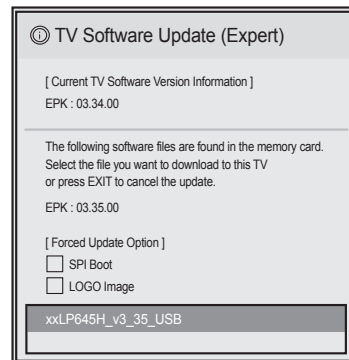
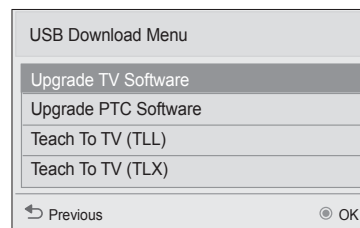
The following procedure describes how to update TV/PTC software using the USB Download Menu, though you may also use the new LG Smart Install utility to upgrade software, if desired. See “LG Smart Install Utility” on pages 18 to 19 for further information.

Before you begin this procedure, note that the software upgrade files must be stored in a folder named “LG_DTV” in the root directory of the USB memory device. Also, ensure the USB device has been formatted with FAT format.

Note for TV Software Upgrade 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 below.

1. Turn ON the TV, and then insert the USB memory device into the USB IN port on the TV.
2. Press **MENU SETTINGS** on the Installer Remote to display the TV setup menus (TV is in Pass-through Mode) or the Function Menu (TV is not in Pass-through Mode).
3. Use the arrow navigation keys to select/highlight either the **Option** menu icon from the TV setup menus or the **Lock** menu icon from the Function Menu. 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 **Upgrade TV Software** or **Upgrade PTC Software**, as applicable, and press **OK**.
5. Select the appropriate option(s), depending on the type of upgrade:
 - TV Software Upgrade: (See screen samples at right.) Select **TV Software Update** from the first TV Software Update window. In the second TV Software Update window, select/highlight the update file to install and press **OK**.
Note: Do not select Forced Update options unless you have been specifically instructed to do so or have previous experience with Expert Software Updates.
 - PTC Software Upgrade: In the PTC Software Update window, select/highlight the update file to install and press **OK**.
Note: The PTC Software Update window is similar to the second TV Software Update window, though there are no Forced Update options. Current software version information is shown at the top and update files on the USB device are listed at the bottom of the window.

The TV will show update completion progress in a new window. Do NOT remove the USB device until the software upgrade is complete. When a TV or PTC software upgrade is complete, the TV will reset itself with an automatic restart.



Reference: Downloading a Splash Screen using a USB Memory Device

Splash Screen Image File Guidelines

- The splash screen image must be a baseline (not progressive) JPEG.
- The image should be no larger than 1 MB.
- The maximum resolution allowed for a 32LP645H splash screen image is 1360 x 768 pixels (HD).
- The maximum resolution allowed for a 39/42/47/55/60LP645H splash screen image is 1920 x 1080 pixels (FHD).
- Avoid using special characters, such as ?, -, etc., in the splash screen image file name.

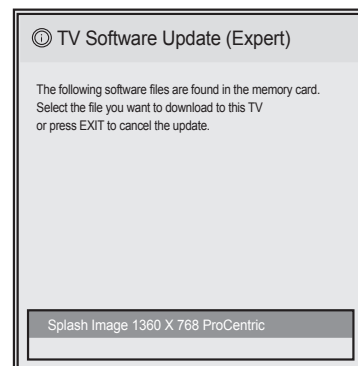
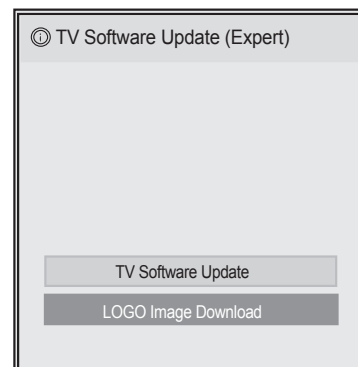
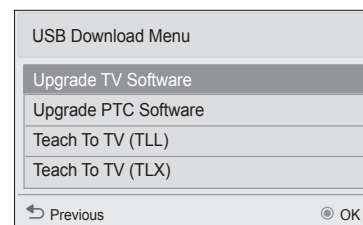
Downloading a Splash Screen Image

The following procedure describes how to download a splash screen image using the USB Download Menu, though you may also use the new LG Smart Install utility to download the splash image, if desired. See “LG Smart Install Utility” on pages 18 to 19 for further information.

Before you begin this procedure, note that the splash screen image file must be stored in a folder named “LG_DTV” in the root directory of the USB memory device. Also, ensure the USB device has been formatted with FAT format.

1. Turn ON the TV, and then insert the USB memory device into the USB IN port on the TV.
2. Press **MENU SETTINGS** on the Installer Remote to display the TV setup menus (TV is in Pass-through Mode) or the Function Menu (TV is not in Pass-through Mode).
3. Use the arrow navigation keys to select/highlight either the **Option** menu icon from the TV setup menus or the **Lock** menu icon from the Function Menu. 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 **Upgrade TV Software**, and then press **OK**.
5. Select **LOGO Image Download** from the first TV Software Update window.
6. In the second TV Software Update window, use the Up/Down arrow keys to select the image file to download, and then press **OK**.

The TV will show download completion progress in a new window. Do NOT remove the USB device until the image download is complete. When the image download is complete, the TV will reset itself with an automatic restart. Upon the restart, you should see the new splash screen.



Reference: Power Consumption Settings

The following tables assume that Installer Menu item 118 POWER SAVINGS is set to 3 (default) and Installer Menu item 099 BACK LIGHTING is set as shown below (default value is 255).

Item 099 Back Lighting (Static)	32LP645H		39LP645H		42LP645H		47LP645H	
	Power Consumption (Watts)	Percent Savings	Power Consumption (Watts)	Percent Savings	Power Consumption (Watts)	Percent Savings	Power Consumption (Watts)	Percent Savings
100	42.3	0%	56.1	0%	64.2	0.0%	85.9	0%
90	39.8	6%	52.3	7%	59.8	6.9%	80.2	7%
80	38.0	10%	49.7	11%	56.8	11.5%	76.2	11%
70	36.6	14%	47.4	15%	54.9	14.5%	72.8	15%
60	35.5	16%	46.0	18%	53.0	17.4%	70.5	18%
50	34.0	20%	43.8	22%	51.0	20.6%	67.1	22%
40	32.3	24%	41.4	26%	48.1	25.1%	63.1	27%
30	28.3	33%	35.5	37%	41.9	34.7%	54.1	37%
20	24.6	42%	30.1	46%	35.9	44.1%	45.5	47%
10	20.5	52%	24.2	57%	29.6	53.9%	36.1	58%
1	17.1	60%	19.4	65%	24.5	61.8%	28.0	67%

Item 099 Back Lighting (Dynamic)	32LP645H		39LP645H		42LP645H		47LP645H	
	Power Consumption (Watts)	Percent Savings	Power Consumption (Watts)	Percent Savings	Power Consumption (Watts)	Percent Savings	Power Consumption (Watts)	Percent Savings
200	42.6	0%	56.6	0%	64.3	0.0%	86.4	0%
190	39.9	6%	52.7	7%	59.7	7.2%	80.5	7%
180	38.1	11%	49.9	12%	56.8	11.7%	76.4	12%
170	36.5	14%	47.7	16%	55.0	14.5%	73.0	15%
160	35.5	17%	46.3	18%	53.2	17.3%	70.6	18%
150	34.0	20%	44.0	22%	50.9	20.8%	67.3	22%
140	32.3	24%	41.6	26%	48.0	25.3%	63.2	27%
130	28.3	33%	35.6	37%	41.9	34.8%	54.2	37%
120	24.6	42%	30.2	47%	36.0	44.0%	45.5	47%
110	20.5	52%	24.3	57%	29.5	54.1%	36.2	58%
101	17.1	60%	19.4	66%	24.5	61.9%	28.1	68%

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

Reference: Power Consumption Settings (Cont.)

Item 099 Back Lighting (Static)	55LP645H		60LP645H	
	Power Consumption (Watts)	Percent Savings	Power Consumption (Watts)	Percent Savings
100	95.3	0%	101.3	0%
90	88.9	7%	98.9	2%
80	84.5	11%	96.9	4%
70	81.1	15%	95.5	6%
60	78.7	17%	94.5	7%
50	74.6	22%	91.9	9%
40	70.4	26%	87.8	13%
30	60.3	37%	74.1	27%
20	50.6	47%	60.5	40%
10	40.3	58%	46.3	54%
1	31.2	67%	34.0	66%

Item 099 Back Lighting (Dynamic)	55LP645H		60LP645H	
	Power Consumption (Watts)	Percent Savings	Power Consumption (Watts)	Percent Savings
200	93.7	0%	101.3	0%
190	89.5	5%	99.1	2%
180	84.5	10%	96.9	4%
170	81.2	13%	95.5	6%
160	78.8	16%	94.5	7%
150	74.6	20%	92.1	9%
140	70.4	25%	88.0	13%
130	60.3	36%	74.2	27%
120	50.5	46%	60.5	40%
110	40.3	57%	46.5	54%
101	31.1	67%	34.1	66%

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

Reference: TV Aux Input Configuration

DIRECT ACCESS Tuning *		TV		ENABLE					MPI DATA				Installer Menu Item 046 START AUX SRCE (Start Aux Source) Value
				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)		
Installer Menu Item 029 OLD OCV = 0	Installer Menu Item 029 OLD OCV = 1	Aux Input	Input Mode	Item	Function	Value	Enable Bit	Label	Value	Value	Description		
131	91	Video1 (Rear)	CV	39	REAR AUX EN	1	1	Rear Video (Aux)	1	0	VIDEO	1	
132	92	HDMI2	DTV	91	HDMI2 ENABLE	1	2	S-Video Rear	2	0	VIDEO	5	
			PC			2				2	COMPUTER		
133	93	HDMI1/ DVI	DTV	35	HDMI1 ENABLE	1	3	Front Computer	3	0	VIDEO	3	
			PC			2				2	COMPUTER		
134	94	RGB	PC	87	REAR RGB EN	1	5	SVGA Rear Computer	4	2	COMPUTER	4	
135	95	HDMI3	DTV	92	HDMI3 ENABLE	1	6	NTSC Rear Computer	5	0	VIDEO	7	
			PC			2				2	COMPUTER		

* Use Installer Remote to enter channel number indicated based on OLD OCV Installer Menu setting.

Reference: *b*-LAN Setup & Overview


The *b*-LAN module is internal to the TV. It allows hotel/institution head end equipment with *b*-LAN technology to communicate, via the institution's RF distribution system, with the TV for configuration and control.

Installer Menu item 118 POWER SAVINGS controls the power circuitry for both the embedded *b*-LAN module and the GAME CONTROL/MPI port. The default value is 3—the *b*-LAN module is only powered when the TV is turned ON. See chart below.

POWER SAVINGS	TV OFF	TV ON
	<i>b</i> -LAN & GAME CONTROL/MPI Port Power	<i>b</i> -LAN & GAME CONTROL/MPI Port Power
1	On	On
3 (default)	Off	On

A *b*-LAN enabled head end device, such as an LG FMA-LG101, broadcasts over the RF distribution system to communicate to multiple TVs. When the TV is first installed, it must be turned ON in order for its embedded *b*-LAN module to receive communication from the head end device. At this point, if it is desired for the *b*-LAN module to always be powered, including while the TV is turned OFF, set Installer Menu item 118 POWER SAVINGS to 1.

Also, if MPI communication is required for external MPI control, set Installer Menu item 118 POWER SAVINGS to 1 so that the GAME CONTROL/MPI port circuitry is always powered.

 **Caution: POWER SAVINGS should NEVER be set to 7. This setting is intended for factory use only.**

Reference: FTG Mode via EBL (Local Configuration)

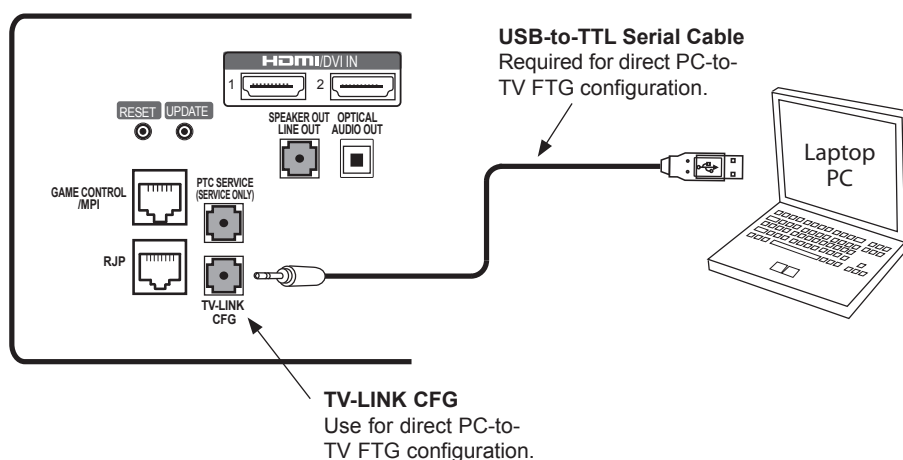
The following steps outline local FTG configuration of individual TV EBLs using a direct PC-to-TV connection. Refer to the **Free-To-Guest (FTG) Device Configuration Application User Guide** for further information.

FTG Device Configuration Application software is available online at: www.LGolutions.com/ftgsoftware.

Note: If the TV CPU is already in FTG Mode, you cannot use this procedure to make changes to the FTG Channel Map and FTG Installer Menu settings. Instead, refer to and use the processes described on pages 45 to 49 to reconfigure the TV CPU.

Note: If the preceding condition applies, but you wish to switch the TV to FTG Mode via EBL, refer to Reference section, “Restoring Factory Defaults on the TV(s),” for further information before proceeding.

1. Install (if necessary) and launch the FTG Device Configuration Application (v5.4.0 or higher) on the PC that will be used to configure the EBL.
2. Build an FTG 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).
Note: Up to 141 logical channels can be defined in the FTG Channel Map.
3. Connect the PC to the TV-LINK CFG jack on the TV's rear jack panel using a USB-to-TTL serial cable (TTL-232R-5V-AJ). If necessary, install the device driver on the PC.
4. Turn ON the TV.
Note: If Installer Menu item 118 POWER SAVINGS is set to 3 (default), the TV must be ON in order for steps 5 and 6 below to be successful.
5. “Write” the FTG Channel Map to the EBL (switches the EBL from Pass-through Mode to FTG Mode).
Note: After a “Write” of new data, the TV will briefly display a green text banner that shows the EBL firmware version and release date.
6. “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.
7. Save the FTG Channel Map and FTG Installer Menu settings to an FTG Configuration (.rml) file for future use.
8. Tune the TV to a logical channel in the FTG Channel Map.

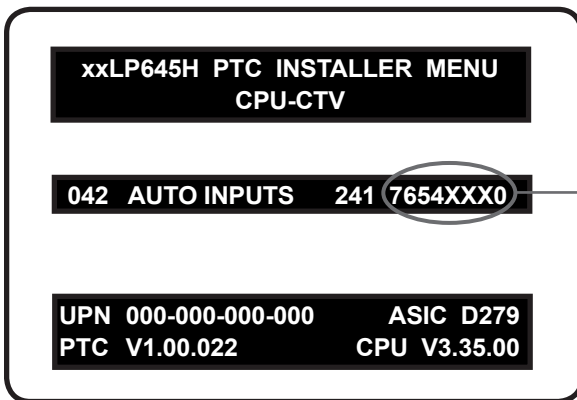


Reference: Auto Input(s) Sensing Feature

This section provides detailed settings information for Installer Menu item 042 AUTO INPUTS. To disable auto-sensing for all available Aux inputs, set item 042 to 0. To enable auto-sensing for all available Aux inputs, set item 042 to 255. For specifications on all other available settings (i.e., settings for individual inputs), refer to the table on the following page.

Note: When both item 042 AUTO INPUTS *and* item 041 SIMPLINK EN are enabled in the Installer Menu, HDMI inputs will be detected by SIMPLINK, but the Auto Input(s) Sensing Feature will not function.

In the Installer Menu, an informational code is displayed at the right of each Auto Inputs value, for example:



AUTO INPUTS Display Code

This example illustrates Installer Menu item 042 value 241, which enables auto-sensing for all available Aux inputs. The input #s in the display code (7, 6, 5, 4, 0 in this example) identify the enabled Aux inputs. See table below for a listing of the LP645H Aux inputs and their corresponding display code input #s. The table on the following page shows the display codes for all item 042 values.

Each code consists of eight characters that identify the Aux input(s) for which auto-sensing is enabled. The following table identifies the Installer Menu display code Input # for each Aux input that is available on the LP645H TV models. The table also identifies the Installer Menu item associated with each Aux input. Remember that in order for auto-sensing to be enabled for an input, that input must also be enabled in the Installer Menu.

Installer Menu Display Code Input #	Aux Input	Installer Menu	
		Item	Function
0	AV1	039	REAR AUX EN
4	RGB	087	REAR RGB EN
6	HDMI 1	035	HDMI1 ENABLE
7	HDMI 2	091	HDMI2 ENABLE
5	HDMI 3	092	HDMI3 ENABLE

Reference: Auto Input(s) Sensing Feature (Cont.)

Item 042 Value	Inputs					Installer Menu Display
	AV1	RGB	HDMI 1	HDMI 2	HDMI 3	
001	Enabled	Disabled	Disabled	Disabled	Disabled	DDDDXXX0
016	Disabled	Enabled	Disabled	Disabled	Disabled	DDD4XXXD
017	Enabled	Enabled	Disabled	Disabled	Disabled	DDD4XXX0
032	Disabled	Disabled	Disabled	Disabled	Enabled	DD5DXXXD
033	Enabled	Disabled	Disabled	Disabled	Enabled	DD5DXXX0
048	Disabled	Enabled	Disabled	Disabled	Enabled	DD54XXXD
049	Enabled	Enabled	Disabled	Disabled	Enabled	DD54XXX0
064	Disabled	Disabled	Enabled	Disabled	Disabled	D6DDXXXD
065	Enabled	Disabled	Enabled	Disabled	Disabled	D6DDXXX0
080	Disabled	Enabled	Enabled	Disabled	Disabled	D6D4XXXD
081	Enabled	Enabled	Enabled	Disabled	Disabled	D6D4XXX0
096	Disabled	Disabled	Enabled	Disabled	Enabled	D65DXXXD
097	Enabled	Disabled	Enabled	Disabled	Enabled	D65DXXX0
112	Disabled	Enabled	Enabled	Disabled	Enabled	D654XXXD
113	Enabled	Enabled	Enabled	Disabled	Enabled	D654XXX0
128	Disabled	Disabled	Disabled	Enabled	Disabled	7DDDXXXD
129	Enabled	Disabled	Disabled	Enabled	Disabled	7DDDXXX0
144	Disabled	Enabled	Disabled	Enabled	Disabled	7DD4XXXD
145	Enabled	Enabled	Disabled	Enabled	Disabled	7DD4XXX0
160	Disabled	Disabled	Disabled	Enabled	Enabled	7D5DXXXD
161	Enabled	Disabled	Disabled	Enabled	Enabled	7D5DXXX0
176	Disabled	Enabled	Disabled	Enabled	Enabled	7D54XXXD
177	Enabled	Enabled	Disabled	Enabled	Enabled	7D54XXX0
192	Disabled	Disabled	Enabled	Enabled	Disabled	76DDXXXD
193	Enabled	Disabled	Enabled	Enabled	Disabled	76DDXXX0
208	Disabled	Enabled	Enabled	Enabled	Disabled	76D4XXXD
209	Enabled	Enabled	Enabled	Enabled	Disabled	76D4XXX0
224	Disabled	Disabled	Enabled	Enabled	Enabled	765DXXXD
225	Enabled	Disabled	Enabled	Enabled	Enabled	765DXXX0
240	Disabled	Enabled	Enabled	Enabled	Enabled	7654XXXD
241	Enabled	Enabled	Enabled	Enabled	Enabled	7654XXX0

X = Aux input source is Disabled or Not Available (i.e., on this TV model)

D = Auto-sensing for input is Disabled

Input # = Auto-sensing for input is Enabled

Reference: RJP Model List & Input Auto-sensing Hierarchy

RJP Legacy Models

- RJP-101M
- RJP-101ML
- RJP-110F
- RJP-110FW
- RJP-110W
- RJP-110WBR
- RJP-110S
- RJP-120G
- RJP-120T
- RJP-201B/202B

RJP Scaler Models

- RJP-201M
- RJP-301B
- RJP-401B

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

Reference: Restoring Factory Defaults on the TV(s)

This section describes how to restore factory defaults either on a single TV that is currently in Pass-through or FTG Mode or on multiple TVs that are currently in FTG Mode.

Note: If the TV(s) is/are currently in FTG Mode, restoring the factory defaults also resets the TV to Pass-through Mode.

Installer Menu Item 117 FACT DEFAULT

If the TV is currently in Pass-through Mode, you can set Installer Menu item 117 FACT DEFAULT to 1 to restore the factory defaults and clear the channel lineup, including any assigned channel icons and custom text labels.

Factory “IN-STOP”

If the TV is currently in FTG Mode, a predefined value for Installer Menu item 117 FACT DEFAULT enables access to initiate a factory “IN-STOP” process that will restore the TV to Pass-through Mode in addition to restoring all factory defaults. The “IN-STOP” will also reactivate the EZ-Manager Wizard. Contact technical support for the required value for Installer Menu item 117 and for additional information on performing the IN-STOP from the Installer Menu.


Additional FTG Mode via CPU Options

There are two additional options for restoring Pass-through Mode/factory defaults on TVs that are in FTG Mode via the CPU. The first enables you to restore a single TV to Pass-through Mode, while the second enables you to restore multiple TVs to Pass-through Mode at one time. However, both options require that you create a “Zero Mapped Channels” FTG Configuration (.tlx) file, i.e., an FTG Configuration file with no data. Refer to the *Free-To-Guest (FTG) File Manager User Guide* for further information.

- Using a USB memory device, “Teach” a “Zero Mapped Channels” FTG Configuration (.tlx) file to the TV. Refer to “Teaching FTG Configuration to a TV” on page 47 of this document for further information on the Teaching process.
- If your system uses a Pro:Centric server for remote management/administration, use the Pro:Centric server Admin Client to load a “Zero Mapped Channels” FTG Configuration (.tlx) file on the Pro:Centric server. Refer to the *Pro:Centric Server Admin Client User Guide* for further information.

Additional FTG Mode via EBL Options

There are two additional options for restoring Pass-through Mode/factory defaults on TVs that are in FTG Mode via the EBL. The first enables you to restore a single TV to Pass-through Mode, while the second enables you to restore multiple TVs to Pass-through Mode at one time.

 **Note: While the IN-STOP process described above will clear both the PTC and the CPU, both options below only clear the PTC. Thus, the current Channel Map and TV setup menu settings will remain in the CPU after the reset is completed.**

- Using a direct PC-to-TV connection, “Write” an unpopulated Channel Map—that is, a Channel Map with 0 (zero) channels—to the TV. Refer to Reference section, “FTG Mode via EBL (Local Configuration),” and/or the *Free-To-Guest (FTG) Device Configuration Application User Guide* for further information.
- If your system uses an FMA for remote management/broadcast configuration, configure the FMA device with an FMA Configuration (.fma) file that only contains a “0 Mapped Channels” FTG Channel Map to broadcast to the TV EBL(s). Refer to the *Free-To-Guest (FTG) Device Configuration Application User Guide* and/or the Installation & Configuration Guide for the FMA device for further information.

Reference: Using the TV Zoning Feature

This section describes the TV Zoning feature available with the LP645H model TVs. The TV Zoning feature enables you to create localized configurations for TVs in selected locations, or “Zones,” within the installation environment. This feature is primarily intended for use when the TV is configured for FTG Mode via CPU operation. However, selected elements of TV Zoning (Installer Menu and TV Setup Menu profile Zone assignments) may also be used with TV cloning processes using a USB memory device / .tlx file.

Refer to the appropriate section(s) below for further information on the TV Zoning feature and how to set the TV Zone # in a TV that is currently in Pass-through Mode.

Using the TV Zoning Feature with FTG Mode via CPU Configuration

The FTG File Manager may be used to create an FTG Configuration (.tlx) file that contains multiple Zone assignments. Zones can be designated for multiple Installer Menu and/or TV Setup Menu profiles. Zone restrictions can also be assigned to individual channels in the FTG Channel Map. Thus, for example, you may create an FTG Installer Menu and/or TV Setup Menu profile to be downloaded to a TV in a hotel lobby and also restrict the channels that are available on that TV.

On location, you must set the TV Zone # in all the TVs in a select area, so that the TVs are configured with corresponding FTG Installer Menu and/or TV Setup Menu settings and/or can omit channels that have been restricted in the FTG Channel Map (see “Set the TV Zone # in the TV” on the following page for further information). TV Zone 0 is the default TV Zone #.

The following subsections briefly describe how to assign Zone designations in the FTG File Manager. Refer to the *Free-To-Guest (FTG) File Manager User Guide* for further information.

FTG Installer Menu Profile Zone Assignments

The FTG File Manager main screen enables you to assign a Zone designation to each Installer Menu profile to be included in an FTG Configuration (.tlx) file. For example, you may wish to create one LP645H Installer Menu profile for a hotel lobby and another LP645H Installer Menu profile for a fitness center, both of which are different from the FTG Installer Menu profile for standard guest rooms. The TV Zoning feature enables you to save multiple FTG Installer Menu profiles, each with its own Zone assignment, in one FTG Configuration (.tlx) file. If each TV in the aforementioned locations has been assigned a TV Zone # as described in the procedure on the following page or via the EZ-Manager Wizard, the TV(s) will only download the Installer Menu profile in accordance with its(their) Zone assignment.

In the FTG File Manager main screen, you can also edit the Zone designation for each Installer Menu profile and/or TV Setup Menu profile already present in the FTG Configuration List and TV Setup Menu List windows.

Note: See also the FTG File Manager main screen overview on page 50. In addition, note that TV Setup Menu profiles cannot be created in the FTG File Manager; they must be “Learned” from a TV.

FTG Channel Map Zone Assignments

The FTG Channel Map Editor in the FTG File Manager’s FTG Channel Map Configuration Utility enables you to assign Zone restrictions to individual channels that may be prohibited or deemed unsuitable for selected locations. In the FTG Channel Map Editor, one or more Zone restrictions (1–8) may be placed on each channel that is to be restricted. For example, if you wish to restrict a channel from Zones 2 and 4, select both “Zone 2” and “Zone 4” in the Zone Restriction section of the FTG Channel Map Editor screen when defining or editing that channel.

Note: While a channel can be restricted from up to eight Zones, a TV can only ever be in (set for) one Zone. See also the FTG Channel Map Editor overview on page 52.

Reference: Using the TV Zoning Feature (Cont.)

At the same time, keep in mind that the TV Zone designations are not mutually exclusive. That is, you may opt to configure Zone restrictions for selected channels in the FTG Channel Map, but at the same time, you can choose to configure all TVs at the site with the same Installer Menu and/or TV Setup Menu settings. For example, an FTG Configuration (.tlx) file being used to configure the TVs at a site may contain multiple Installer Menu and TV Setup Menu profiles with different Zone designations, as well as several channels with Zone restrictions. Each TV configured with the default TV Zone 0 will download only the Installer Menu and/or TV Setup Menu profile(s) with a Zone 0 designation. If, on the other hand, the TV Zone # is set to 1, during configuration the TV will first attempt to retrieve Installer Menu and/or TV Setup Menu profiles with a Zone 1 designation. If none of the Installer Menu and/or TV Setup Menu profiles has a Zone 1 designation, the TV will download the profile(s) with a Zone 0 designation. For the FTG Channel Map configuration, when the TV Zone # is set to 0, the TV will ignore any Zone restrictions (1–8) that may be placed on channels in the FTG Channel Map. However, when the TV Zone # is set to 1, during configuration, the TV will omit any channels that have been restricted from Zone 1 in the FTG Channel Map.

Using the TV Zoning Feature with Cloning Configuration

A location-specific configuration / .tlx file may be saved (Learned) from an individual TV as part of a Master TV Setup and then be used during Teaching. For example, if the TV Zone # in the Master TV is set to 3 before Learning is initiated, the Master TV's Installer Menu and TV Setup Menu profiles will be saved with the TV Zone 3 assignment when Learning is completed. In order to configure the Target TVs with the Zone 3 Installer Menu and TV Setup Menu profiles Learned from the Master TV, you must set the TV Zone # accordingly in the Target TVs before transferring (Teaching) the Master TV Setup. See "Set the TV Zone # in the TV" below. Also, see "Learning / Teaching a Master TV Setup using a USB Memory Device / .tlx File" on pages 35 to 36 for additional information on the cloning processes. TV Zone 0 is the default TV Zone #.

Set the TV Zone # in the TV

You can set the TV Zone # in the EZ-Manager Wizard (see "EZ-Manager Wizard" on pages 11 to 17) or, if the TV is in Pass-through Mode, via the TV's setup menus as described below. Note that the following procedure can only be performed while the TV is in Pass-through Mode. You will also be able to specify a Label (North, South, East, West) and Room Number for this TV, if desired.

1. Turn ON the TV.
2. Press **MENU SETTINGS** on the Installer Remote, and use the arrow navigation keys to select/highlight the **OPTION** menu option. Then, press **OK**.
3. Use the Up/Down arrows to select **Zones & Room Number**, and then press **OK**.
4. In the Zone, Label, and Room Number pop-up window, complete the appropriate fields as described below. Use the Left/Right arrow keys on the Installer Remote to navigate between each of the fields
 - TV Zone: Enables you to set a TV Zone # so that the TV can be configured with Installer Menu and/or TV Setup Menu settings intended only for the assigned Zone. The Installer Menu and/or TV Setup Menu settings may be provided in a .tlx file to be used either for Teaching (cloning) or FTG Mode via CPU configuration. If the TV is being configured for FTG Mode via CPU, the TV Zone # setting also allows the TV to omit channels that have been restricted in the FTG Channel Map. To set a TV Zone, navigate to the TV Zone field, and use the Up/Down arrow keys to specify a TV Zone # (1–8).

(Continued on next page)

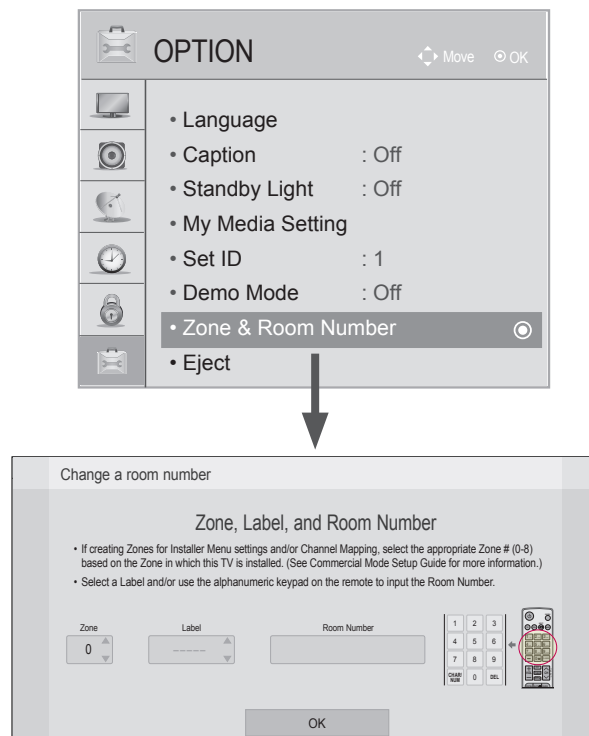
Reference: Using the TV Zoning Feature (Cont.)

(Continued from previous page)

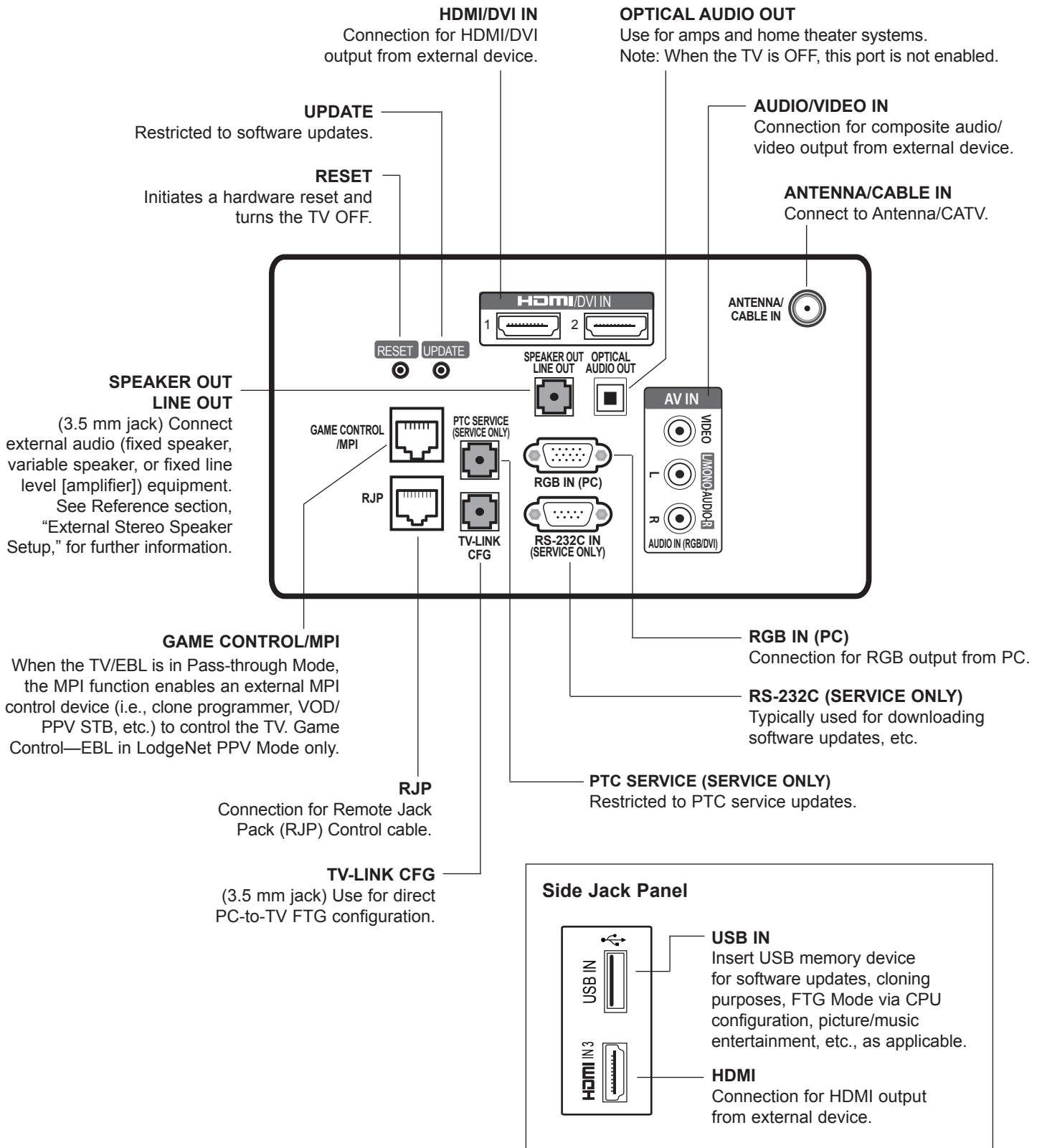
- **Label:** Allows you to select a North, South, East, or West text label for this TV. Use the Up/Down arrow keys to select the applicable label.
- **Room Number:** Allows you to specify the number of the room in which the TV is located. You can use the number keys on the Installer Remote to direct enter a room number. Use the Dash key on the Installer Remote as necessary to toggle between number and letter characters in the Room Number field. Also, you can use the Flashback key on the Installer Remote to delete characters in this field.

Note: Use the Left/Right arrow keys on the Installer Remote to navigate between each of the fields.

5. When you have completed the fields as necessary, select **OK**, and then press **OK** on the Installer Remote to close the window and return to the Option Menu.
6. Press **MENU SETTINGS** to return to TV viewing.



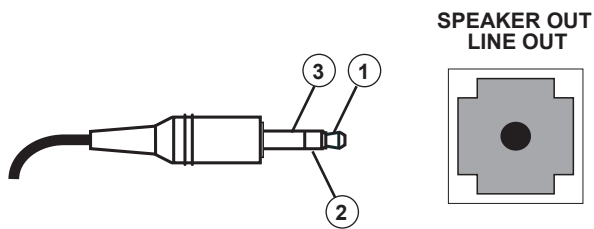
Reference: LP645H Rear and Side Jack Panels



Reference: External Stereo Speaker Setup

The three-contact (left, right, ground) SPEAKER OUT 3.5 mm jack on the LP645H rear panel provides stereo speaker signal outputs (fixed speaker, variable speaker, or fixed line level [amplifier]) for external audio equipment. Set Installer Menu item 097 AUDIO OUTPUT as required in accordance with external audio equipment connected to the TV. Also, refer to the following diagram for pinout details.

⚠ Caution: Do NOT plug in a mono connector, as this may damage the TV.



-
- | | |
|---|-----------------|
| 1 | LEFT(Tip) |
| 2 | RIGHT(Ring) |
| 3 | GROUND (Sleeve) |
-

Reference: Installer Remote Control Typical Key Functions

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

⏻ (POWER)
Turns the TV ON or OFF

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

INPUT
Displays available Aux inputs.
(Q. MENU/MARK options N/A for these TV models)

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

FLASHBK (FLASHBACK)
Returns to the previously tuned channel or input.

VOLUME UP/DOWN
Increases/decreases sound level.

CC
Activates subtitles.

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

MUTE
Switches sound ON or OFF.

CHANNEL/PAGE UP/DOWN
Changes channels based on channels in the channel lineup. Moves to previous or next screen in Pro:Centric channel guide.

DVD/USB buttons
Use to control DVD player or view USB memory device content.

SIMPLINK
Accesses the AV devices connected to the HDMI ports of the TV. Opens the SIMPLINK Menu (when Installer Menu item 041 SIMPLINK EN is set to 2 or 3).
(PIP/SWAP options N/A for these TV models)

SAP
Analog Mode: Selects MTS sound (Mono, Stereo, or SAP). DTV Mode: Changes audio language, if additional languages are available.*

Arrows (Up/Down/Left/Right) & OK/ENTER
Use to navigate on-screen menus, direct tune channels, and adjust TV settings.

MENU SETTINGS
Displays and removes the TV setup menus (or, if applicable, the Function Menu).

PORTAL
Displays and removes the Pro:Centric interactive menu.

INFO
Displays channel information.

GUIDE
Displays and removes the Pro:Centric channel guide/EPG.

↶ (RETURN)
Returns one level to the previous menu/display.

EXIT
Clears all on-screen displays and returns to TV viewing.

Color buttons access special functions in some menus.

* 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 when TV is turned Off/On.

Troubleshooting

General Troubleshooting

Some Quick and Easy Tips for Resolving Problems

Installation

Symptom	Possible Cause(s)	Possible Solution(s)
Cannot direct enter channel number.	(TV in Pass-through Mode) Installer Menu item 028 CH. OVERRIDE is set to 0, i.e., disabled (recommended setting).	If Installer Menu item 028 CH. OVERRIDE is set to 0, only channels that are active in the TV's channel lineup can be selected. Set CH. OVERRIDE to 1 to allow access for direct keypad entry to all channels.
	(TV in FTG Mode) The channel entered is not part of the FTG Channel Map.	Channel access is restricted to channels included in the FTG Channel Map. If necessary, make changes to the FTG Channel Map using the FTG File Manager or the FTG Device Configuration Application, as appropriate.

Picture Reception and Sound

Symptom	Possible Cause(s)	Possible Solution(s)
No picture.	TV is turned OFF.	<ul style="list-style-type: none"> • 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.
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.

Erratic Operation

Symptom	Possible Cause(s)	Possible Solution(s)
Installer Menu setup.	Wrong Installer Menu settings.	Adjust Installer Menu settings as required.

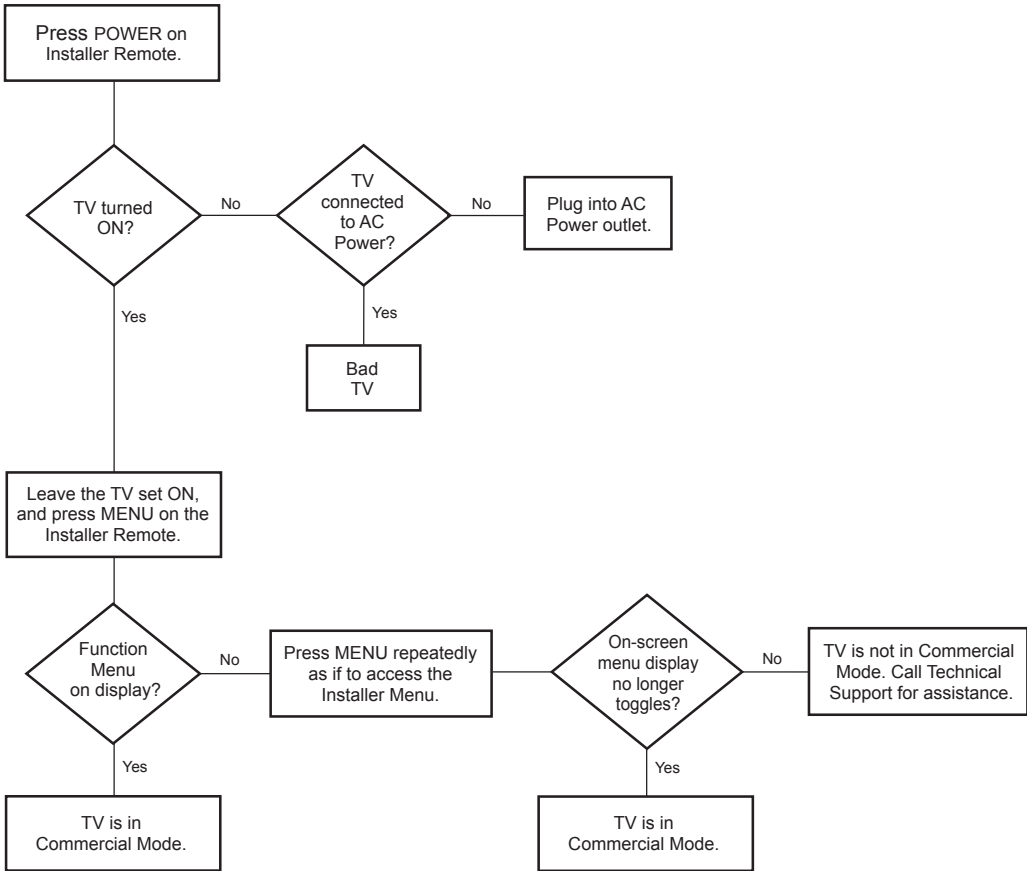
Installer Remote

Symptom	Possible Cause(s)	Possible Solution(s)
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 IR receiver on TV.
	Remote too far from IR sensor.	Move remote closer to IR receiver on TV 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.	

Commercial Mode Check / FTG Operation Troubleshooting

Commercial Mode Check

Use this flowchart to determine whether the TV is currently in Commercial Mode.




FTG Operation Troubleshooting

The following table provides troubleshooting information for when the EBL is configured for FTG Mode 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 setting of Installer Menu item 118 POWER SAVINGS).
	Wrong COM (communication) port.	In the FTG Device Configuration Application, select the correct COM port for the cable being used.

Troubleshooting (Cont.)

Clone Programmer Troubleshooting

 **Caution:** If the TV is in LodgeNet PPV Mode or FTG Mode via EBL (check with the site administrator if you are not certain), do not connect a clone programmer to the GAME CONTROL/MPI port, as this will damage the clone programmer.

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 set the clone programmer clock from a TV containing the correct time.

Note: Both the Master and Target TVs must be in Pass-through Mode for cloning purposes. See also IMPORTANT CLONING INFORMATION on page 34.

Clone Programmer

Symptom	Possible Cause(s)	Possible Solution(s)
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 cable not connected.	Connect MPI cable properly, and ensure good connection.
	TV not turned ON.	TV must be turned 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.	<ul style="list-style-type: none"> • 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

Symptom	Possible Cause(s)	Possible Solution(s)
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 15 seconds.

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

b-LAN

LodgeNet Interactive Corporation proprietary RF communication system used to configure/control TV via RF distribution system.

Channel Map

Typically refers to a logical channel mapping of physical channels. This allows digital channels, like analog channels, to be tuned without requiring the dash key. Also, channels (analog or digital) can be arranged in any order that seems logical for customer tuning/viewing.

Channel Lineup

Channels set in the TV memory, via Auto Tuning/manual editing or FTG configuration.

Cloning

The process of capturing a Master TV Setup and transferring it to a Target TV. May be accomplished using either a USB memory device (available on select models) or clone programmer.

Clone Programmer

An accessory device (sold separately), such as the TLL-1100A or LT2002, used to transfer the Master TV Setup from the Master TV to the Target TV.

Commercial Mode

A mode of operation that provides a broad range of commercial TV features based on control (settings) provided by the PTC and/or an MPI control device.

CPU

The TV's Central Processing Unit. Responsible for the presentation of video and audio from content received via the TV's tuner or Aux inputs.

EBL

Embedded *b-LAN* module. See also *b-LAN*.

E-Z Installation

Enables splash screen image and TV configuration and firmware file downloads to selected TV models from a Pro:Centric server. Managed and administered via the Pro:Centric Admin Client.

EZ-Manager Wizard

Lodging model TV configuration wizard that provides configuration options for Pro:Centric operation as well as an option for using a USB memory device to configure a TV.

FTG Mode

LG commercial TV mode that enables Pro:Idiom decryption and logical channel mapping. Implementation and TV operation is based on the "owner" of the FTG Logical Channel Map—the CPU or the EBL. LG's proprietary PC software is required for configuration.

Function Menu

Available via Installer Remote "MENU" key. Indicates the TV is not in Pass-through Mode. Restricts menu options to a subset of the TV setup menus, allowing users to retain functional control, while disabling setup options.

Installer Menu

Defines commercial TV functionality based on the parameters set.

LG Free-To-Guest (FTG)

Refers to a particular commercial mode of operation within an LG TV. See also FTG Mode.

Logical Channel Number

A number assigned to either a physical or virtual channel number in a Logical Channel Map.

Major Channel Number

Typically, the RF channel number assigned to a digital video stream.

Master TV

A TV whose Channel Map and Installer Menu and TV setup menu settings have been configured as a Master TV Setup for cloning purposes.

Minor Channel Number

A sub-channel or program number assigned to the content embedded in the digital video stream.

MPI

Multiple Protocol Interface. An MPI port or, for some TV models, an MPI card slot provides external control options for solution providers.

Pass-through Mode

The TV's factory default mode of operation. TVs can be configured for stand-alone use or as Master TVs for cloning purposes, and/or TVs may be controlled externally in this mode.

Physical Channel Number

The major channel number assigned to represent a specific 6 MHz RF band as specified by either the broadcast or CATV channel plan. See CEA (formerly EIA) or NCTA specifications for further information.

Pro:Centric Application

LG content delivery and communication interface that provides interactive entertainment, weather, amenities, etc. information for end users. (Powered by Pro:Centric server.)

Pro:Centric Admin Client

Web editor/content wizard provided for service provider and customer configuration of Pro:Centric application elements.

Pro:Idiom

Zenith proprietary security software that unlocks access to premium content to help assure rapid, broad deployment of HDTV and other high-value digital content.

PTC

Protocol Translator Card. The commercial controller (microprocessor) of the commercial TV.

Target TV

A TV to which a Master TV Setup will be transferred.

TV Setup Menus

Available via Installer Remote "MENU" key in Pass-through Mode only. Menus provide access to setup and functional features of the TV.

USB Memory Device

A USB flash drive or USB storage device, etc. that can be used for TV configuration purposes (typically cloning or FTG Mode via CPU configuration) or for updating TV software.

Virtual Channel Number

An alias (virtual) channel number provided in the data stream, by the broadcaster, of a digital broadcast channel to be displayed by consumer TVs in place of the physical channel number. The major number is the same as the original analog channel number and the minor number is the nth program available in that digital video stream.

Document Revision History / Open Source Software Notice

Document Revision History

Date	Description
May 2013	Revision A: New document
August 2013	Revision B: 55/60LP645H, EZ-Manager, TV Zoning updates

Product documentation is available online at: www.LGolutions.com.

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