



# **Configuring LG Hospitality Free-To-Guest (FTG) Displays with ZeeVee RF and IP devices**

**May 18, 2021**

## **Table of Contents**

Introduction .....	2
Supported LG Models .....	2
Creating a Channel Map for LG Display .....	3
Cloud Based Configuration Utility .....	3
Creating an IP Channel .....	4
Creating an RF Channel .....	5
Installer Menu Profile .....	5
Windows Based FTG File Manager .....	8
FTG Channel Map Editor .....	9
Creating a Channel Map for IP channels .....	9
Creating a Channel Map for RF channels .....	11
Special Notes for configuring the ZeeVee ZyPerMX .....	12
Configuration settings on AV Encode tab .....	12
Configuration settings on the IP Channel tab .....	12
Installing the FTG Channel Guide file via USB .....	13
Accessing the Installer Menu .....	14
Forcing a Factory Reset of the LG Display .....	15

## Introduction

This document describes how to properly configure ZeeVee RF and IP streaming devices with LG brand Hospitality Free-To-Guest Displays. Supported ZeeVee devices include the ZyPerMX4, ZyPerMX2, ZyPerMX, ZvPro and HDbridge products.

## Supported LG Models

The following models are known to be supported with the ZeeVee RF and IP streaming devices: This may not be a 100% comprehensive list. As a rule, any model that supports IP streaming is supported.

### Current Models:

UT/US770H (75, 65, 55, 49-inch displays)  
UT/US670H (55, 50, 43-inch displays)  
UT672M (55, 49, 43-inch displays)  
ET960H (65, 55-inch displays)  
WS960H (65, 55-inch displays)  
STB-6500 (STB)  
US772M (65, 55-inch displays)  
15LT766A (LG Smart ARM TV)

### Older Models:

UU770H (49, 55, 65-inch displays)  
UU670H (43, 49, 55, 65-inch displays)  
UV770H (49, 55, 65-inch displays)  
UV670H (43, 49, 55, 65-inch displays)  
UV770M (43, 49, 55-inch displays)  
LV760M (24, 28, 32-inch displays)  
EW/EV/EU960H (55, 65, 77 inch displays)  
UV570H (43, 49, 55, 65-inch displays) **RF Only**  
UV560H (43, 49, 55, 65-inch displays) **RF Only**  
LV570H (32, 40, 43, 49, 55, 65-inch displays) **RF Only**  
LV560H (32, 40, 43, 49, 55-inch displays) **RF Only**  
LX770H (40, 43, 49, 55, 65-inch displays)  
LX774M (32, 43, 55-inch displays)  
UW660H (43, 49, 55-inch displays)  
UX970H (49, 55, 65, 79-inch displays)  
UW970H (49, 55, 65, 75-inch displays)  
65WU960H  
EU960H (55, 65, 77-inch displays)  
75UU770H

## Creating a Channel Map for LG Display

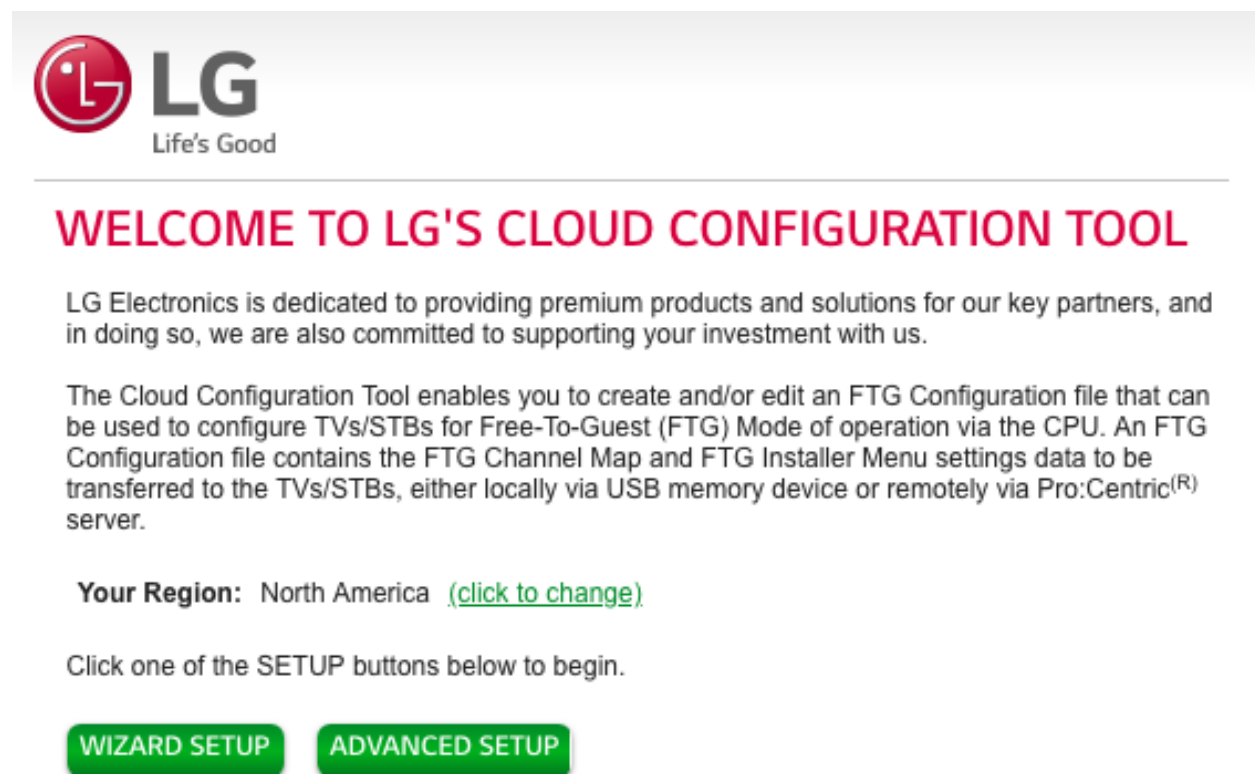
The user must create a channel map file that will be installed onto the LG display in order to find all of the provided channels.

The LG provided FTG Channel Map Configuration Utility enables you to create, view, edit and print a Logical Channel Map.

There is a Cloud based utility and there is the FTG File Manager application that requires a Windows based PC.

### Cloud Based Configuration Utility

The Cloud based configuration utility can be accessed by going the following location:  
<http://cct.procentric.tv/>



This Cloud based utility will allow you to create both IP and RF Channel to add to the channel lineup. Click on the Wizard Setup button to begin.



## CHANNEL MAP

(Use only wizard buttons -- do not use browser buttons)

NEXT STEP

RF CHANNEL


IP CHANNEL

Logical	Channel Icon	Label	RF IP Address	Major	Minor	PLP ID IP Type	IP Port	Prog #	Source Address	Attribute	Restricted from Zones	Actions
---------	--------------	-------	------------------	-------	-------	-------------------	---------	--------	----------------	-----------	-----------------------	---------

Click on the RF Channel or IP Channel button to create a channel.

### Creating an IP Channel

Click on the IP Channel button. Fill in the appropriate Channel number, Logo, IP Address, IP Type (UDP) and Port number. Source address can remain 0.0.0.0. Click Save when done.

Logical	Channel Icon	Label	RF IP Address	Major	Minor	PLP ID IP Type	IP Port	Prog #	Source Address	Attribute	Restricted from Zones	Actions
5		CNN	225.1.1.96			UDP	21216	5	0.0.0.0	<input type="checkbox"/> Encrypted <input checked="" type="checkbox"/> OSD <input type="checkbox"/> Blank Video	<input type="checkbox"/> Zone 1 <input type="checkbox"/> Zone 2 <input type="checkbox"/> Zone 3 <input type="checkbox"/> Zone 4 <input type="checkbox"/> Zone 5 <input type="checkbox"/> Zone 6 <input type="checkbox"/> Zone 7 <input type="checkbox"/> Zone 8	SAVE CANCEL

Note that the IP address and IP Port information is obtained from the ZeeVee hardware. There is an example using the ZyPerMX shown later in this document.

Below is an example where 4 IP Channels have been created. Note that each channel has a unique IP Address.

## CHANNEL MAP













(Use only wizard buttons -- do not use browser buttons)

NEXT STEP

Channel Map Search: (enter Logical or Label)

RF CHANNEL


IP CHANNEL

Logical	Channel Icon	Label	RF IP Address	Major	Minor	PLP ID IP Type	IP Port	Prog #	Source Address	Attribute	Restricted from Zones	Actions
5		CNN	225.1.1.96			UDP	21216	5	0.0.0.0	OSD	No	 
6		Bravo	225.1.1.97			UDP	21216	6	0.0.0.0	OSD	No	 
7		ESPN	225.1.1.95			UDP	21216	4	0.0.0.0	OSD	No	 
8		HBO	225.1.1.94			UDP	21216	7	0.0.0.0	OSD	No	 

## Creating an RF Channel

Click on the RF Channel button. Fill in the Logical channel number, Logo, Label, RF #, Major and Minor channel number. Then click save.

**Important note** for configuring Digital RF channels: The “Channel Minor” field must be set to a value other than “0” for digital channels. Setting the “Channel Minor” field to “0” will cause the display to assume the channel’s source is Analog.



















Logical	Channel Icon	Label	RF IP Address	Major	Minor	PLP ID	Attribute	Restricted from Zones	Actions
10		ABC	10	10	1	<input type="checkbox"/> ATSC 3.0	<input type="checkbox"/> Encrypted <input checked="" type="checkbox"/> OSD <input type="checkbox"/> Blank Video	<input type="checkbox"/> Zone 1 <input type="checkbox"/> Zone 2 <input type="checkbox"/> Zone 3 <input type="checkbox"/> Zone 4 <input type="checkbox"/> Zone 5 <input type="checkbox"/> Zone 6 <input type="checkbox"/> Zone 7 <input type="checkbox"/> Zone 8	<input type="button" value="SAVE"/> <input type="button" value="CANCEL"/>

Below is example with a mix of RF and IP Channels configured.

## CHANNEL MAP

(Use only wizard buttons -- do not use browser buttons)

Channel Map Search: (enter Logical or Label)

Logical	Channel Icon	Label	RF IP Address	Major	Minor	PLP ID	Attribute	Restricted from Zones	Actions
5		CNN	225.1.1.96			5	OSD	No	 
6		Bravo	225.1.1.97			6	OSD	No	 
7		ESPN	225.1.1.95			4	OSD	No	 
8		HBO	225.1.1.94			7	OSD	No	 
9		History	9	9	1		OSD	No	 
10		ABC	10	10	1		OSD	No	 

Once all of the channels have been created you can move to the next step.

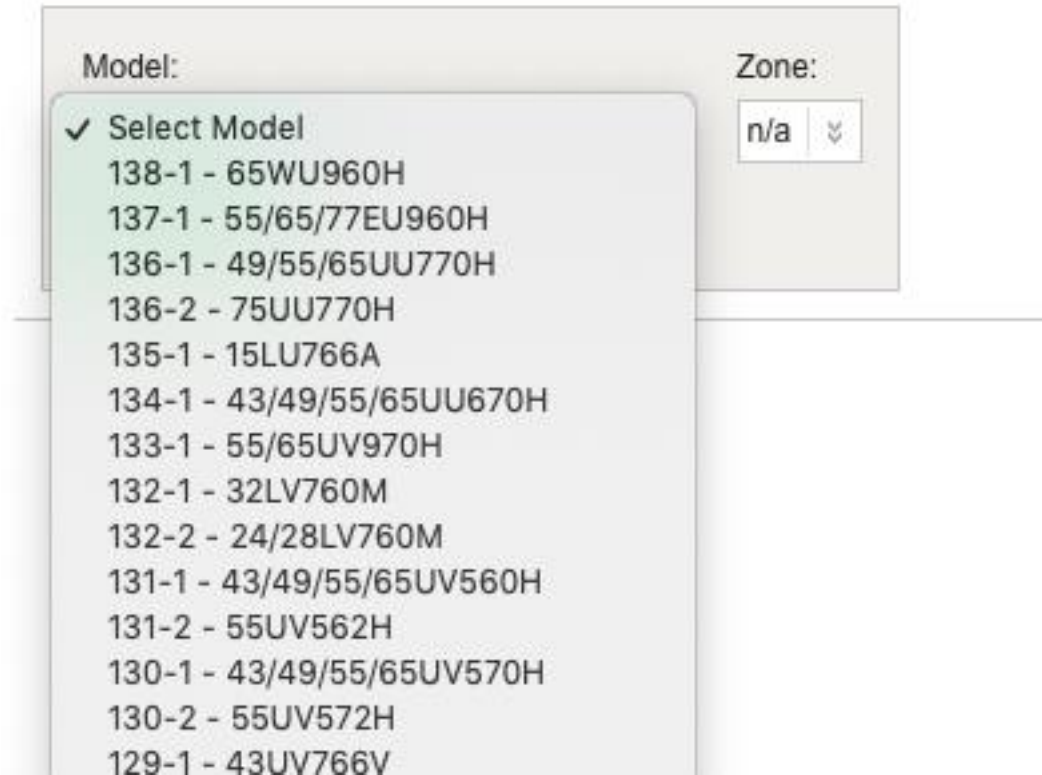
## Installer Menu Profile

You will be asked if you want to create an installer menu profile. This will allow you to select the targeted LG display that the Channel Guide FTG file will be installed to.

Select the appropriate LG Display from the drop-down menu.

## INSTALLER MENU

(Use only wizard buttons -- do not use browser buttons)



The screenshot shows a software interface for selecting an LG Display model. It features a 'Model:' label and a 'Zone:' label. The 'Model:' dropdown menu is open, displaying a list of model numbers. The 'Zone:' dropdown menu is closed, showing 'n/a' and a downward arrow. The list of models includes:

- ✓ Select Model
- 138-1 - 65WU960H
- 137-1 - 55/65/77EU960H
- 136-1 - 49/55/65UU770H
- 136-2 - 75UU770H
- 135-1 - 15LU766A
- 134-1 - 43/49/55/65UU670H
- 133-1 - 55/65UV970H
- 132-1 - 32LV760M
- 132-2 - 24/28LV760M
- 131-1 - 43/49/55/65UV560H
- 131-2 - 55UV562H
- 130-1 - 43/49/55/65UV570H
- 130-2 - 55UV572H
- 129-1 - 43UV766V

Click on “Create Profile” once you have selected the appropriate LG Display.

There are now very many options that can be selected depending on display. Once these have been reviewed and confirmed; click on the “Next Step” button.

This will allow you to export the FTG file so that it can be installed on the LG Display.

## FTG CONFIGURATION FILE EXPORT

**FTG CONFIGURATION LIST**

**Channel Map Summary**

2 Mapped RF Channels

4 Mapped IP Channels

**Installer Menu Summary (1 profile)**

Zone: 0 - Model: 49/55/65UU770H (0 items modified)

File name: FTG\_Configuration.tlx

EXPORT FILE

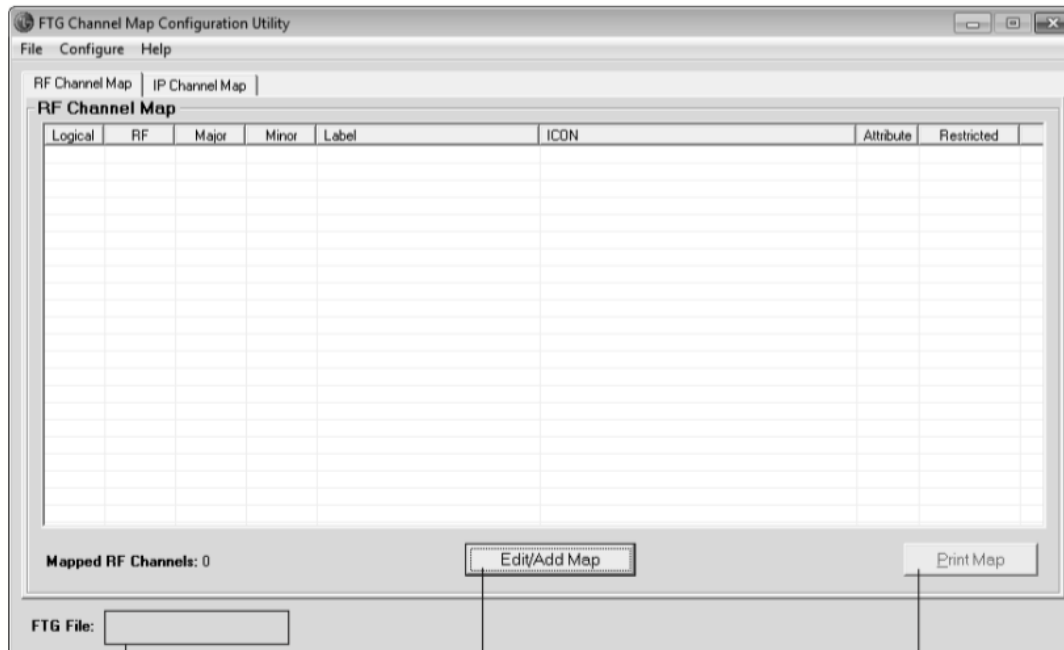
CLEAR LIST

See the ***Installing the FTG Channel Guide file via USB*** section of this document starting on page 13.

## Windows Based FTG File Manager

The Windows based FTG File Manager application can be downloaded from the following location: <http://www.lg.com/us/commercial/display-solutions/ftg>

[https://www.lg.com/us/business/commercial-display/resources/FTG/FTG\\_File\\_Manager\\_v1.3.9%20setup.exe.zip](https://www.lg.com/us/business/commercial-display/resources/FTG/FTG_File_Manager_v1.3.9%20setup.exe.zip)



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

### EDIT/ADD MAP

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

### PRINT MAP

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



## 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.

Logical	RF	Major	Minor	Label	ICON	Attribute	Restricted
1	84	84	1	CBS	14 - CBS	E0	
2	20	20	5	NBC	15 - NBC	E0	
3	81	81	1	CNN	5 - CNN	E0	
4	18	18	1	ABC	13 - ABC	E0	
5	19	19	3	PBS	17 - PBS	E0	
6	68	68	1	MAX	47 - Cinemax	E0	
7	81	81	2	ESPN	2 - ESPN	E0	
9	61	61	1	HDNet	161 - HDNet	E0	
10	64	64	1	Nat Geo	145 - National Geographic Channel	E0	
18	65	65	1	Comedy	36 - Comedy Central	E0	
19	62	62	2	TBS	3 - TBS	E0	
20	19	19	1	WGN	89 - WGN	E0	
23	86	86	3	TNT	4 - TNT	E0	
24	62	62	2	HBO2	168 - HBO 2	E0	
25	59	59	2	HBO	12 - HBO	E0	

### ZONE RESTRICTION

Set Zone restriction(s) per channel. See Reference section, "Using the TV's Zoning Features," 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.

## Creating a Channel Map for IP channels

Click on the IP Channel Map tab near the top of the window. Then click "Edit/Add Map" button.

This will bring up the Channel Map Editor screen shown below:

**FTG Channel Map Editor**

Logical Channel: 2

IP Address: 224.1.1.96

IP Type: UDP

IP Port: 2121

Prog #: 17

Channel Label: 17 Character Limit  
CNN

Channel ICON: 5 - CNN OR Lookup by Name

Description: CNN

Attribute: ☐ Encrypted ☒ OSD ☐ Blank Video

Zone Restriction: ☐ Zone 1 ☐ Zone 2 ☐ Zone 3 ☐ Zone 4 ☐ Zone 5 ☐ Zone 6 ☐ Zone 7 ☐ Zone 8

Mapped IP Channels: 1

**IP Channel Map**

Logical	Type	IP Address	Port	Prog#	Source Address	Label	ICON	Attribute	Restricted
2	UDP	224.1.1.96	2121	17	0.0.0.0	CNN	5 - CNN	0	

**Update** **Add** **Delete** **Exit**

Fill in all of the fields for each unique IP source and click the “Add” button. In the example above Logical Channel 2 was selected, IP address of 224.1.1.96, Port 2121, Prog # 17, Label = CNN, ICON = CNN. Note that each channel must have its own unique logical channel and IP address.

The example below shows multiple IP channels configured:

**FTG Channel Map Editor**

Logical Channel: 3

IP Address: 224.1.1.99

IP Type: UDP

IP Port: 21216

Prog #: 76

Channel Label: 17 Character Limit  
ZyPerMX

Channel ICON: Select Number OR Lookup by Name

Description: 5 - CNN

Attribute: ☐ Encrypted ☒ OSD ☐ Blank Video

Zone Restriction: ☐ Zone 1 ☐ Zone 2 ☐ Zone 3 ☐ Zone 4 ☐ Zone 5 ☐ Zone 6 ☐ Zone 7 ☐ Zone 8

Mapped IP Channels: 2

**IP Channel Map**

Logical	Type	IP Address	Port	Prog#	Source Address	Label	ICON	Attribute	Restricted
2	UDP	224.1.1.96	21216	17	0.0.0.0	ZeeVee	72 - Outdoor Life Network (O...	0	
3	UDP	224.1.1.99	21216	76	0.0.0.0	ZyPerMX	5 - CNN	0	

**Update** **Add** **Delete** **Exit**

## Creating a Channel Map for RF channels

Click on the RF Channel Map tab near the top of the window. Then click “Edit/Add Map” button.

This will bring up the Channel Map Editor screen shown below:

FTG Channel Map Editor

Logical Channel: 0, 1, 2, 3, 4, 5, 6 (4 selected)

Increment: ☒ Auto

RF Channel: 4, Channel Major: 4, Channel Minor: 1

Channel Label: 17 Character Limit, Fox News

Channel ICON: 74, OR, Lookup by Name

Description: Fox News Channel

Attribute: ☐ Encrypted, ☒ OSD, ☐ Blank Video

Zone Restriction: ☐ Zone 1, ☐ Zone 2, ☐ Zone 3, ☐ Zone 4, ☐ Zone 5, ☐ Zone 6, ☐ Zone 7, ☐ Zone 8

RF Channel Map | IP Channel Map

**RF Channel Map**

Logical	RF	Major	Minor	Label	ICON	Attribute	Restricted
4	4	4	1	Fox News	74 - Fox News Channel	0	Restricted

Mapped RF Channels: 1

Update Add Delete Exit

Fill in the fields for Logical Channel, RF Channel, Channel Major/Minor, Channel Label and Channel Icon. Hit the Add button to channel to the lineup. Remember that all channels need their own unique Logical Channel. RF channels must have a unique Logical Channel from IP channels and vice-versa.

**Important note** for configuring Digital RF channels: The “Channel Minor” field must be set to a value other than “0” for digital channels. Setting the “Channel Minor” field to “0” will cause the display to assume the channel’s source is Analog.

See LG Documentation for additional details.

Use the FTG Channel Map Configuration Utility to map all of the RF and IP channels. Each channel should be configured individually.

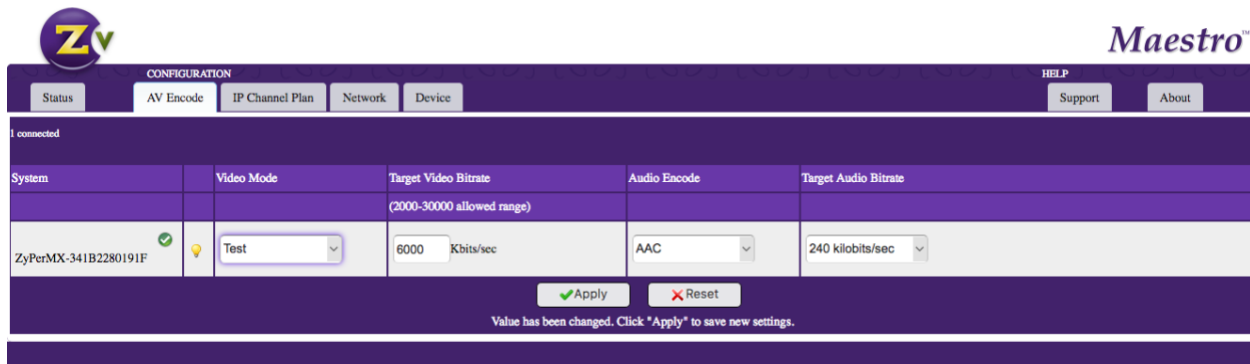
Once all channels are configured you must save the FTG file to a USB memory device. This file will need to be copied onto the LG display so that the display knows how to access all of the channels. This process requires either the LG to be fresh out of the box, or requires a Reset to Factory Defaults.

## Special Notes for configuring the ZeeVee ZyPerMX

To ensure proper video and audio steaming from the ZyPerMX is it important to configure the ZyPerMX correctly.

### Configuration settings on AV Encode tab

Settings in the AV Encode tab should be set similar to what is shown below. Note that Audio Encode **MUST** be set to “AAC”. Failure to set Audio to “AAC” will result in no video being displayed.



The screenshot shows the ZeeVee Maestro configuration interface. The top navigation bar includes 'Status', 'AV Encode', 'IP Channel Plan', 'Network', and 'Device'. The 'AV Encode' tab is selected. Below the navigation bar, there is a table with columns: System, Video Mode, Target Video Bitrate, Audio Encode, and Target Audio Bitrate. The 'ZyPerMX-341B2280191F' system is listed with a 'Test' video mode, a target video bitrate of 6000 Kbits/sec, and an 'AAC' audio encode. The target audio bitrate is 240 kilobits/sec. Below the table, there are 'Apply' and 'Reset' buttons, and a message: 'Value has been changed. Click "Apply" to save new settings.'

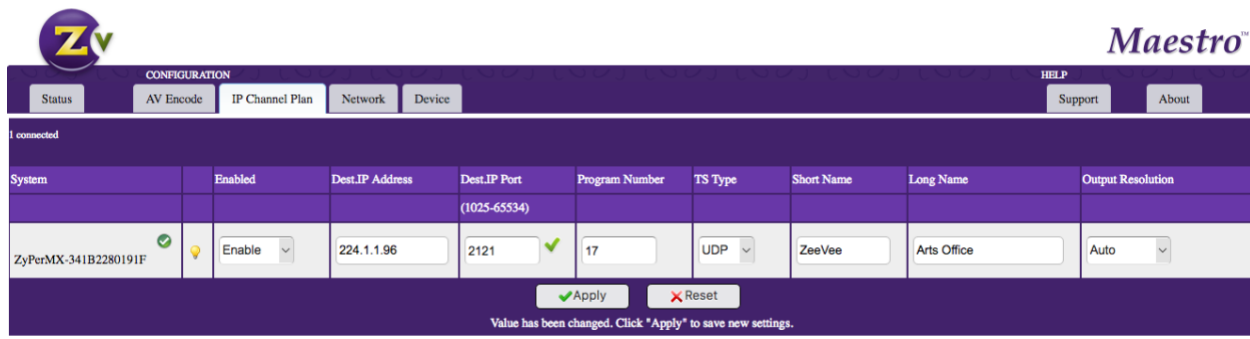
System	Video Mode	Target Video Bitrate (2000-30000 allowed range)	Audio Encode	Target Audio Bitrate
ZyPerMX-341B2280191F	Test	6000 Kbits/sec	AAC	240 kilobits/sec

### Configuration settings on the IP Channel tab

Settings in the IP Channel Plan tab should be set similar to what is shown below.

Note that each ZyPerMX in the system must have a Unique Dest.IP Address setting. This setting will be applied to the FTG channel map created for the LG Display.

Destination IP Address settings must fall in the allowable range for Multicast transmissions.  
(Range 224.0.0.0 to 239.255.255.255)



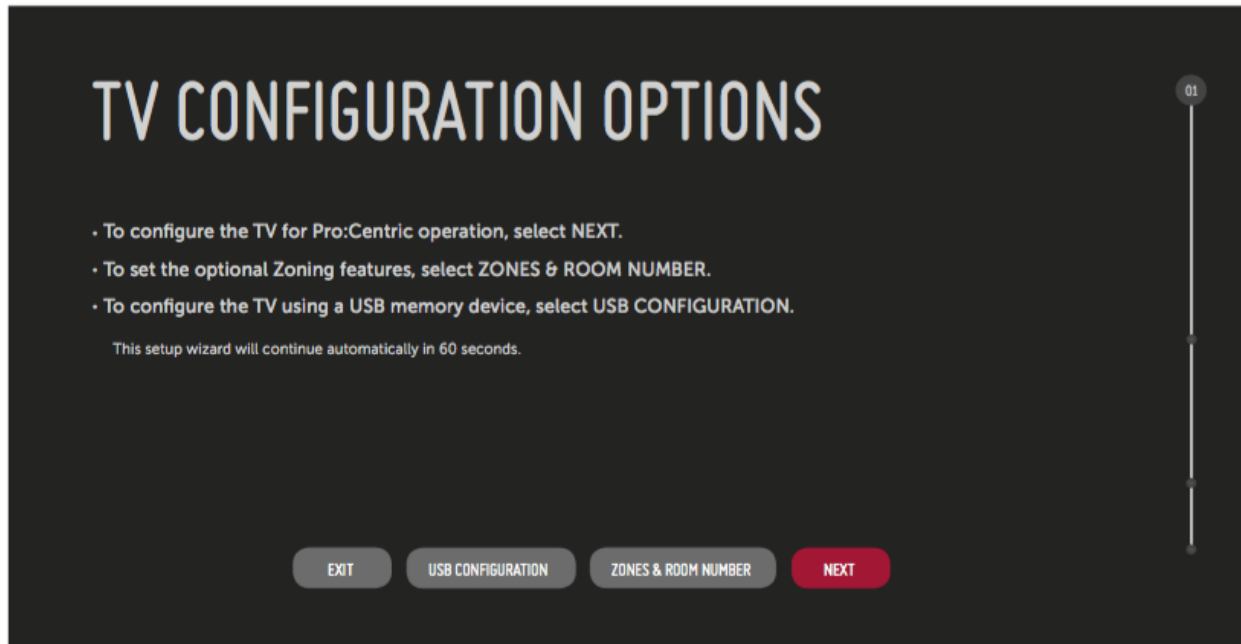
The screenshot shows the ZeeVee Maestro configuration interface. The top navigation bar includes 'Status', 'AV Encode', 'IP Channel Plan', 'Network', and 'Device'. The 'IP Channel Plan' tab is selected. Below the navigation bar, there is a table with columns: System, Enabled, Dest.IP Address, Dest.IP Port, Program Number, TS Type, Short Name, Long Name, and Output Resolution. The 'ZyPerMX-341B2280191F' system is listed with 'Enable' checked, a destination IP address of 224.1.1.96, a destination IP port of 2121, a program number of 17, and a TS type of UDP. The short name is 'ZeeVee' and the long name is 'Arts Office'. The output resolution is set to 'Auto'. Below the table, there are 'Apply' and 'Reset' buttons, and a message: 'Value has been changed. Click "Apply" to save new settings.'

System	Enabled	Dest.IP Address	Dest.IP Port (1025-65534)	Program Number	TS Type	Short Name	Long Name	Output Resolution
ZyPerMX-341B2280191F	Enable	224.1.1.96	2121	17	UDP	ZeeVee	Arts Office	Auto

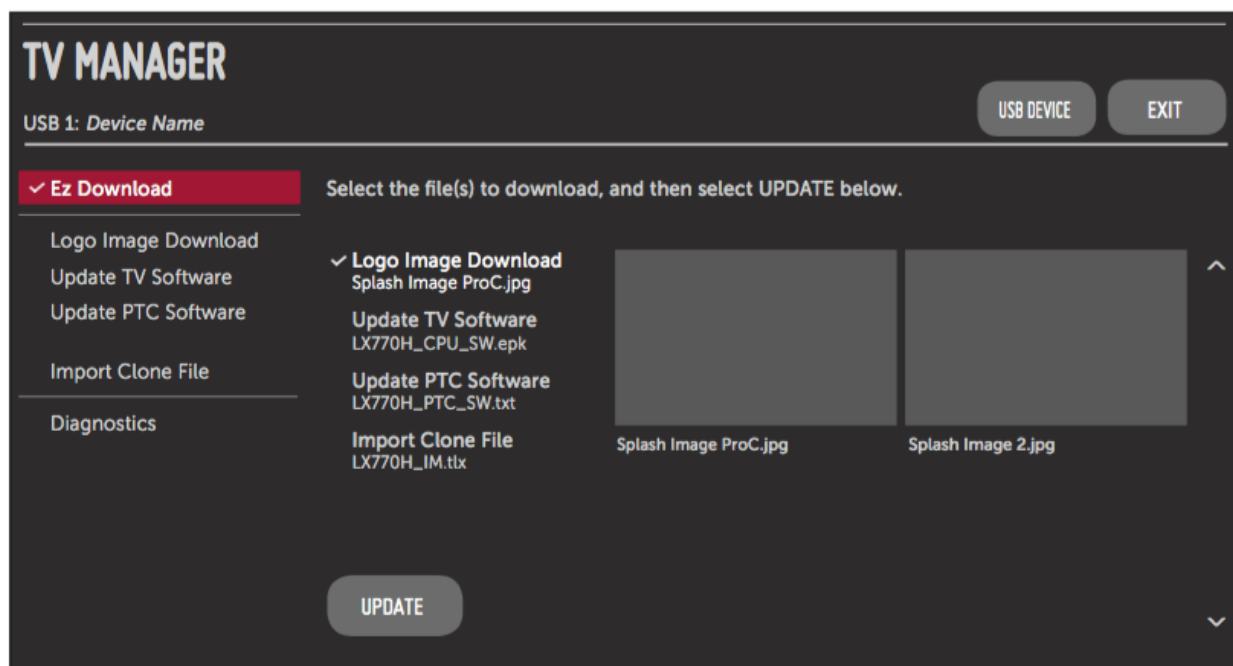
## Installing the FTG Channel Guide file via USB

Insert the USB memory device with the appropriate TLX file into either of the Display's USB ports.

If the LG Display is fresh from the box, power on the Display and when the menu appears, use the arrow keys on the Installer Remote to select USB CONFIGURATION, and then press OK.



You will be redirected to the TV Manager / USB download options (see example below).



Select “Import Clone File” and then click on the FTG file found on the USB device. The Display will restart and all channels should be available for selection via the remote.

**Note: If the LG Display is not fresh from the box it will require a factory reset to be able to access the USB option. Please see instructions below for Accessing the Installer Menu and Forcing a Factory Reset.**

### Accessing the Installer Menu

1. Turn ON the TV. If the EZ-Manager Wizard appears on the screen when you turn ON the TV, then the box is already reset. Hit the “Next” button and then Select USB Configuration option.
2. If the TV is not in the EZ-Manager Wizard; 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.

## Forcing a Factory Reset of the LG Display

1. Use the Installer Remote to access the TV's Installer Menu as detailed above.
2. Navigate to Installer Menu item 117 FACT DEFAULT, and key in the value provided by technical support. Then, press **OK**. **Note:** Secret value is "413"
3. At the prompt for confirmation, key in the password provided by technical support. This will initiate the IN-STOP that restores the factory defaults on the TV. **Note:** Password is 0413