



# FX2LP DMB-T/H TV Dongle Reference Design Guide

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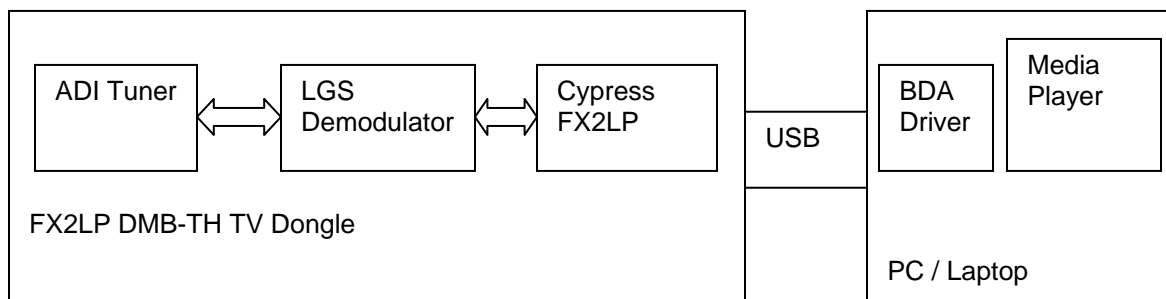
# 1. Introduction



Welcome to the Cypress FX2LP – Legend Silicon based DMB-T/H TV Dongle Reference Design. This guide is a good place to get started with the design. Included are the details of the design contents to get you on the way to developing your TV Dongle design. The design has two versions, with LGS 8GL5 and LGS 8G75 demodulator from Legend Silicon.

## 1.1 Design Introduction

### 1.1.1 Block Diagram



The Cypress FX2LP and Legend Silicon based DMB-TH TV Dongle Reference Design consists of almost all files required for the complete design. It has a tuner from ADI, which tunes the RF signal to the Legend Silicon demodulator. This sends the TV signals in MPEG2\_TS stream to Cypress FX2LP, which then sends them to the PC through the USB interface. In the PC, the BDA driver forwards the data from the USB to the Media Player application where it is played.

## Document Revision History

Revision	Issue Date	Origin of Change	Description of Change
**	July 02, 2009	PRKU	Initial version of Reference Design Guide
*A	June 27, 2012	RSKV	No change. Sunset review



## 2. Reference Design Package Contents



This section provides a detailed description of the structure and contents of the design as it exists on your system after downloading from the website. The following image shows the root level folder structure .

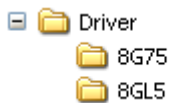


### 2.1.1 Documents

This folder contains the Reference Design Guide which helps in getting started on this project.

### 2.1.2 Driver

This folder contains the drivers for both versions of the TV Dongle design.



SI. No.	Section	Description
1	8G75	Contains the LGS 8G75 driver files
2	Layout	Contains the LGS8GL5 driver files

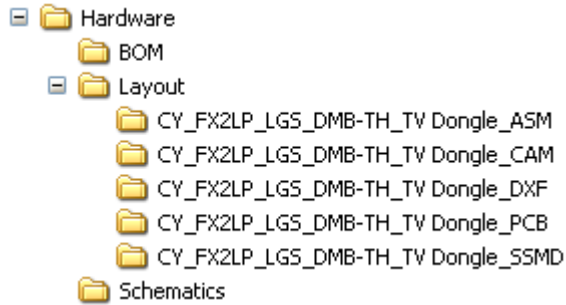
### 2.1.3 Firmware

This folder contains the firmware. For USB Download, the firmware is available in .hex format.

Contact your local Cypress Sales office for more information and support on firmware.

### 2.1.4 Hardware

This folder contains all the files required for hardware design.



Sl. No.	Section	Description
1	BOM	Contains the Bill of Materials for both versions of the design
2	Layout	Contains the layout files for PCB manufacturing
3	Schematics	Contains the schematics files of the design in .pdf and .dsn format

## 2.2 Device Functionality

After the PCB is fabricated and assembled based on the files mentioned earlier, the next step is to check the functionality of the design.

The design has multiple firmware download options. These include:

- USB Download (Manual)
- USB Download (Automatic)
- EEPROM Download (C0 Load, C2 Load)

The current PCB settings support C0 Load with your own VID and PID. A driver is also provided along with the design for automatic USB Download. Automatic USB Download option is explained in the following sections.

Contact your local Cypress Sales office for any support related to the demonstration or for queries on designing the PCB.



## 2.3 Device Connection

Connect the antenna to the TV dongle and plug it into the USB port.



Place the antenna near a window. This helps you get a better signal reception.



## 2.4 Driver Installation

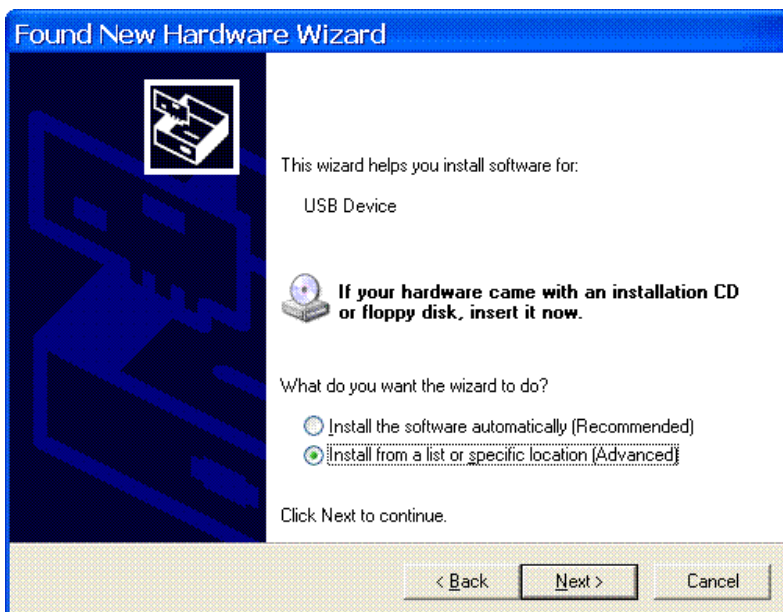
### 2.4.1 Firmware Loader Driver Installation

If TV Dongle does not have EEPROM to store the program, the hardware will be enumerated as a USB device. The Cypress firmware loader driver then needs to be installed. Follow these instructions to install the driver.

Click on the **No, not this time** option and then click **Next**.

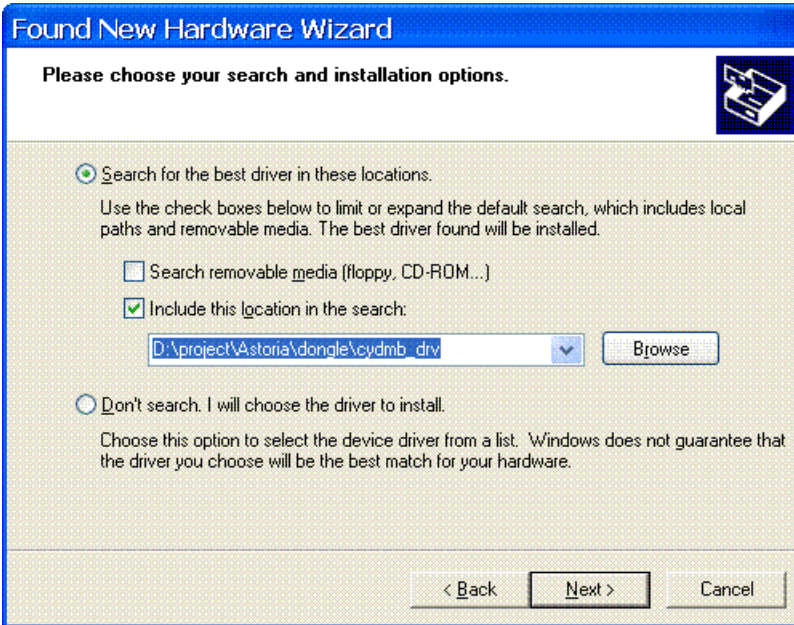


Select **Install from a list or specific location (Advanced)** and then click **Next**.

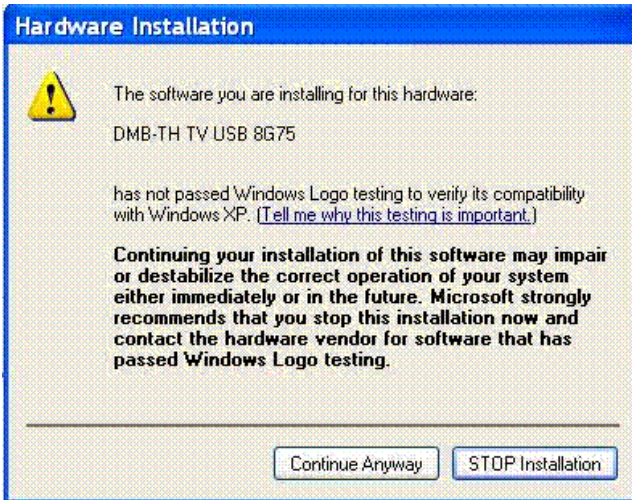


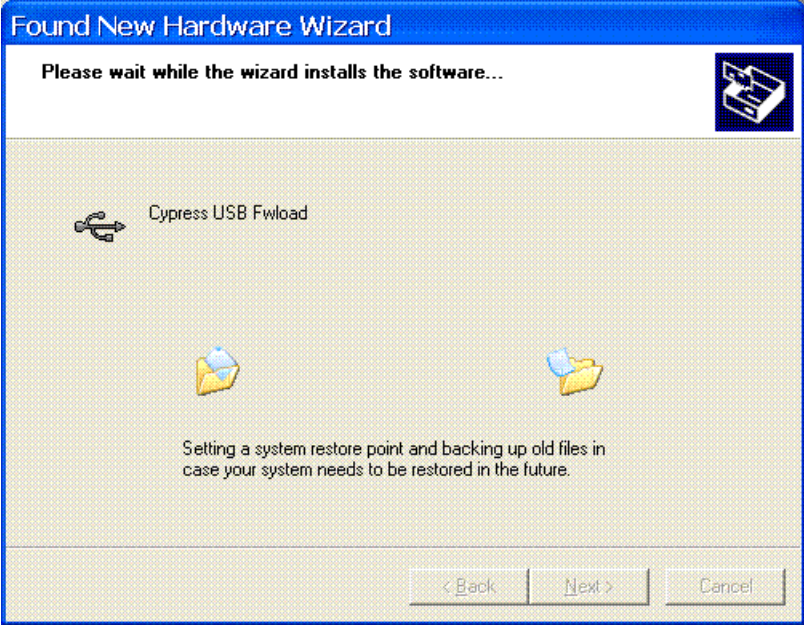
Browse to the folder `\\.\CY_FX2LP_LGS_DMB-TH_TV Dongle\Driver\8G75` or `\\.\CY_FX2LP_LGS_DMB-TH_TV Dongle\Driver\8GL5` based on the demodulator used in the design; click **Next**.

Select **Search for the best driver in these locations**; and then click **Next**. Again click **Next**.



A pop up window may appear as shown in the figure below. Click on **Continue Anyway**.





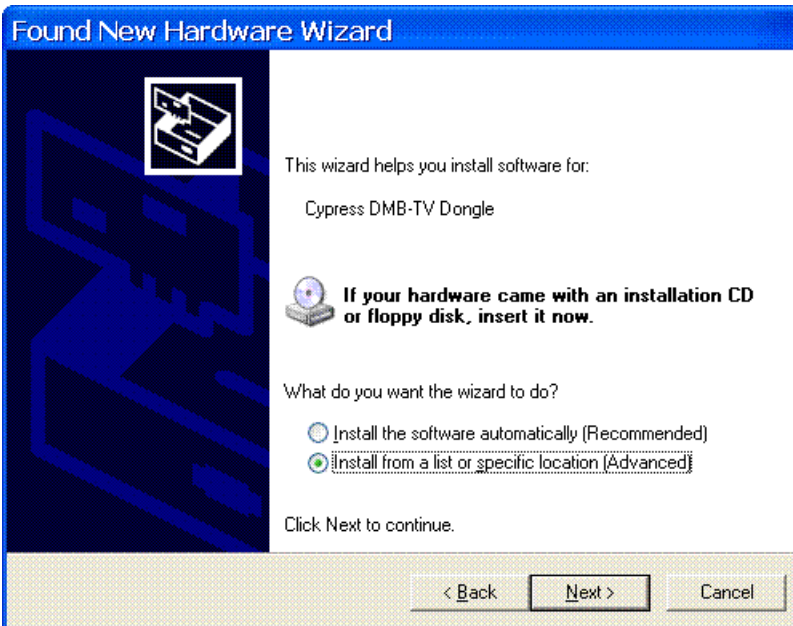
Click **Finish** to close the wizard.



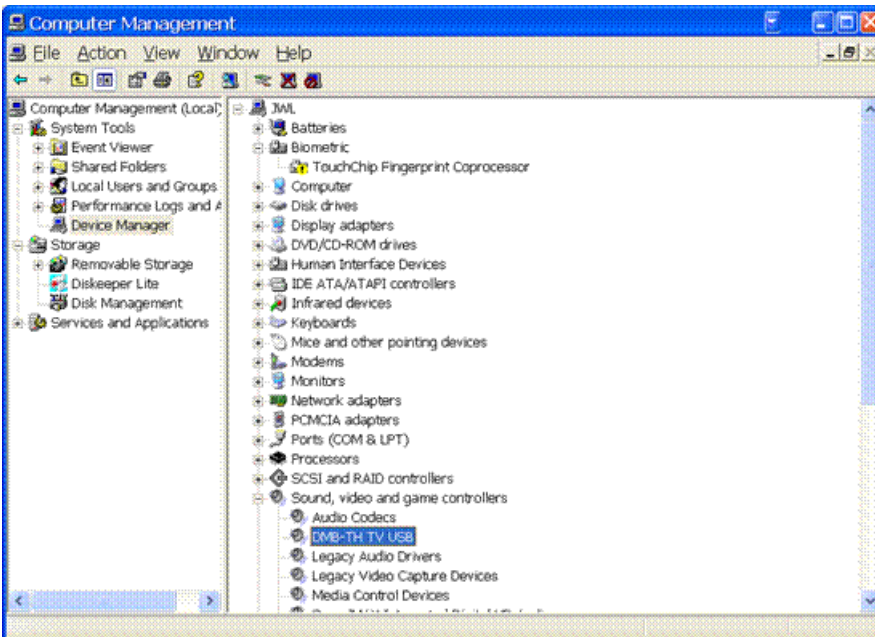


## 2.4.2 BDA Driver Installation

The firmware download is now complete and will be loaded automatically the next time the application is started. When the firmware download is done, the USB device is reset and another device appears.



Follow the steps described earlier and install the BDA driver again. When the installation is complete, the new device appears in the Device Manager.

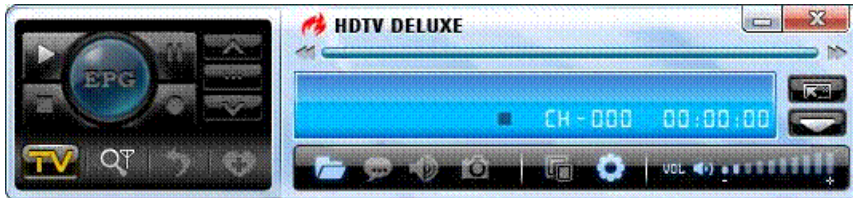


The driver is installed and the hardware is ready to use.

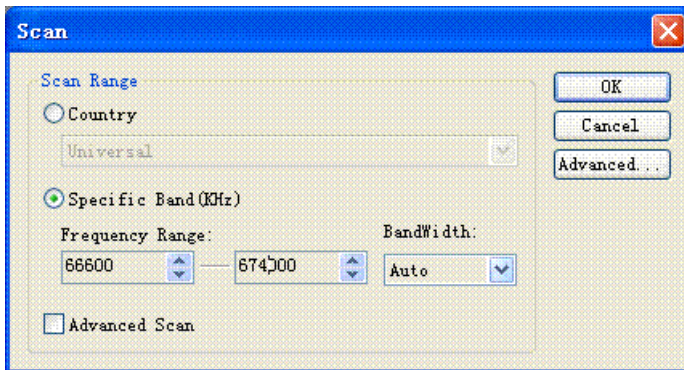
## 2.5 TV Player Setup

Use the windows media center in Windows Vista to watch HDTV. If this is not possible, TV player software such as Blaze HDTV player 4.0 should be installed (this application is not included in the design).

Click **Scan Channels**.



Select your country or input the frequency directly; click **OK** to scan. You are able to watch HDTV if a signal is detected.



## 3. Appendix

### 3.1 Sample Board Photos

Sample CY\_FX2LP\_LGS\_DMB-TH\_TV Dongle Board Top View



Sample CY\_FX2LP\_LGS\_DMB-TH\_TV Dongle Bottom View

