

# **ADV7280-M**

# **Installation Guide**

Rev. A

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## **INTRODUCTION TO THE ADV7280-M INSTALLATION GUIDE**

The ADV7280-M Installation Guide describes the ADV7280-M evaluation board; and provides instructions for setting up the ADV7280-M evaluation board, installing the required ADV7280-M software, and running the scripts needed to operate the ADV7280-M evaluation board.

### **AUDIENCE**

The ADV7280-M Installation Guide is intended for the use of the person installing an ADV7280-M evaluation board.

### **DISCLAIMER**

The information contained in this document is proprietary of Analog Devices Inc. (ADI). This document must not be made available to anybody other than the intended recipient without the written permission of ADI.

The content of this document is believed to be correct. If any errors are found within this document, or if clarification is needed, contact the local FAE.

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# 1. DESCRIPTION OF THE ADV7280-M EVALUATION BOARD

Analog video is fed into the analog inputs (Ain1 to Ain8) of the ADV7280-M evaluation board. The ADV7280-M evaluation board can be configured to receive many different analog video formats (refer to [Table 1](#)). The analog video from analog inputs is fed into the ADV7280-M video decoder which converts it into a MIPI CSI-2 output stream.

The MIPI CSI-2 output of the ADV7280-M consists of one differential data lane (D0+ and D0-) and one differential clock lane (Clk+ and Clk-). These are output to the SMA connectors on the evaluation board.

*Table 1. Acceptable Analog Video Input Formats to ADV7280-M Evaluation Board*

	<b>Ain1</b>	<b>Ain2</b>	<b>Ain3</b>	<b>Ain4</b>	<b>Ain5</b>	<b>Ain6</b>	<b>Ain7</b>	<b>Ain8</b>
<b>Single-ended CVBS (NTSC, PAL, SECAM)</b>	SE CVBS1	SE CVBS2	SE CVBS3	SE CVBS4	SE CVBS5	SE CVBS6	SE CVBS7	SE CVBS8
<b>Differential CVBS</b>	No	No	No	No	No	No	No	No
<b>S-Video (YC)</b>	S-Video1 (Y)	S-Video1 (C)	S-Video2 (Y)	S-Video2 (C)	S-Video3 (Y)	S-Video3 (C)	S-Video4 (Y)	S-Video4 (C)
<b>Component (YPbPr)</b>	Component1 (Y)	Component1 (Pb)	Component1 (Pr)	Component2 (Y)	Component2 (Pb)	Component2 (Pr)	No	No

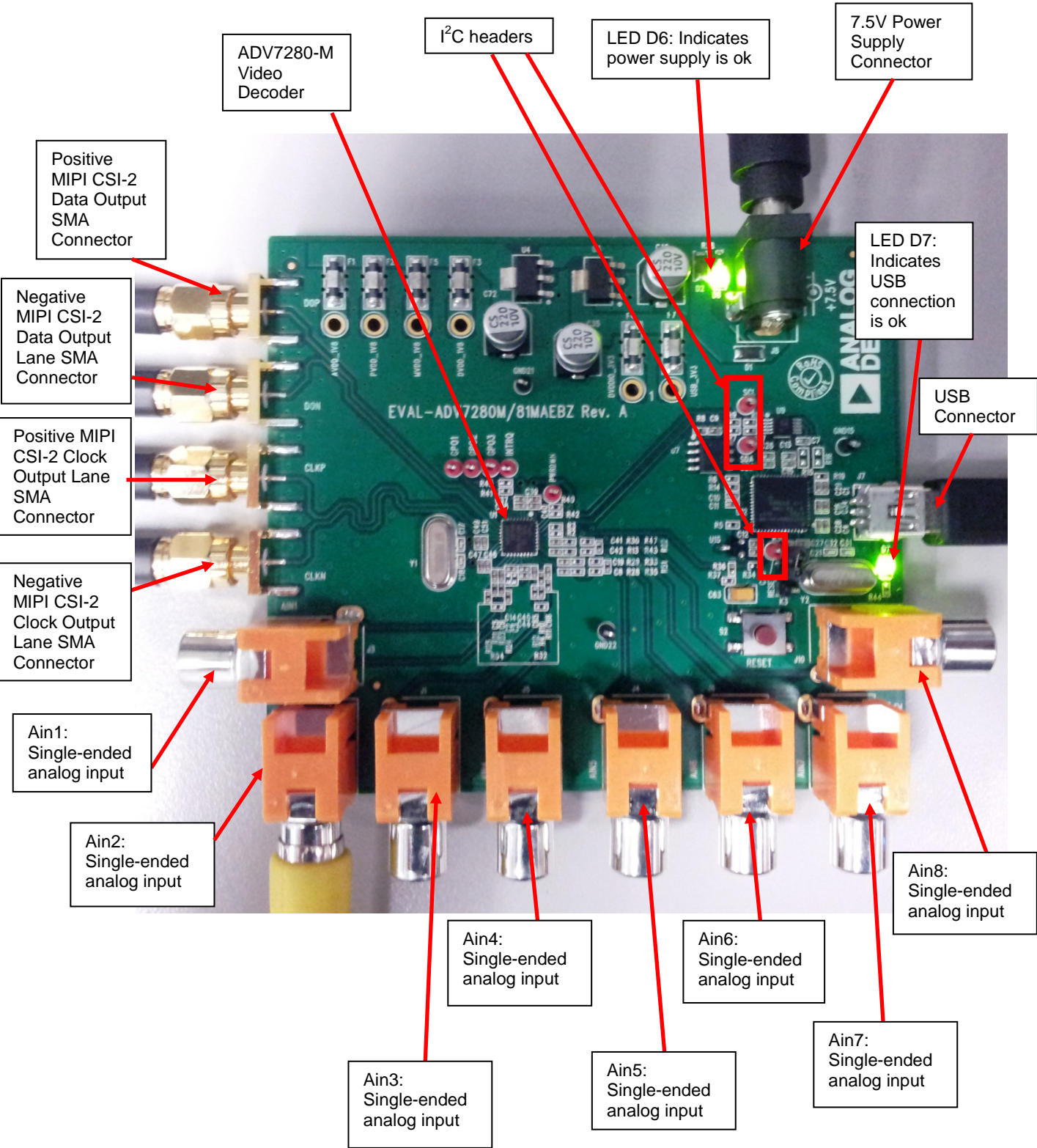


Figure 1. ADV7280-M Evaluation Board

## 2. SETTING UP THE ADV7280-M EVALUATION BOARD

The ADI DVP Eval program and ADV7280-M script files are needed in order to operate the ADV7280-M evaluation board. The ADI DVP Eval program and ADV7280-M script files are available on an ADI File Transfer Protocol (FTP) site.

The following setup process is recommended, and is described in detail in Section 2.1 to Section 2.6.

1. Download and install an FTP client.
2. Download the DVP Eval program and ADV7280-M script files from the ADI FTP site.
3. Install the DVP Eval program.
4. Load the ADV7280-M script files.
5. Power up the ADV7280-M evaluation board.
6. Program the ADV7280-M evaluation board.

### 2.1. DOWNLOAD AND INSTALL AN FTP CLIENT

Download and install an FTP client such as FileZilla in order to access the ADI FTP site.

1. Go to the <http://filezilla-project.org/download.php?type=client> website.
2. Download the FileZilla FTP client .exe installation file.
3. When the download is completed, run the .exe installation file and follow the onscreen instructions.

### 2.2. DOWNLOAD ADV7280-M FILES FROM ADI FTP SITE

The DVP Eval program and ADV7280-M script files are available on the ADI FTP site.

1. Open the FTP client, for example, FileZilla.
2. A quick connect bar appears near the top of the FileZilla client window. Enter the following information. (Note that the boxes are case sensitive.)
  - a. In the **Host** box, enter **ftp.analog.com**.
  - b. In the **Username** box, enter **adv728x**.
  - c. In the **Password** box enter **1dN62jy**.
  - d. Leave the **Port** box blank.
3. Press the **Quickconnect** button.

FileZilla then shows two panes (refer to [Figure 2](#)). The left pane displays the Local Site Pane (that is, your computer). The right pane displays the Remote Site Pane (that is, the ADI FTP site).

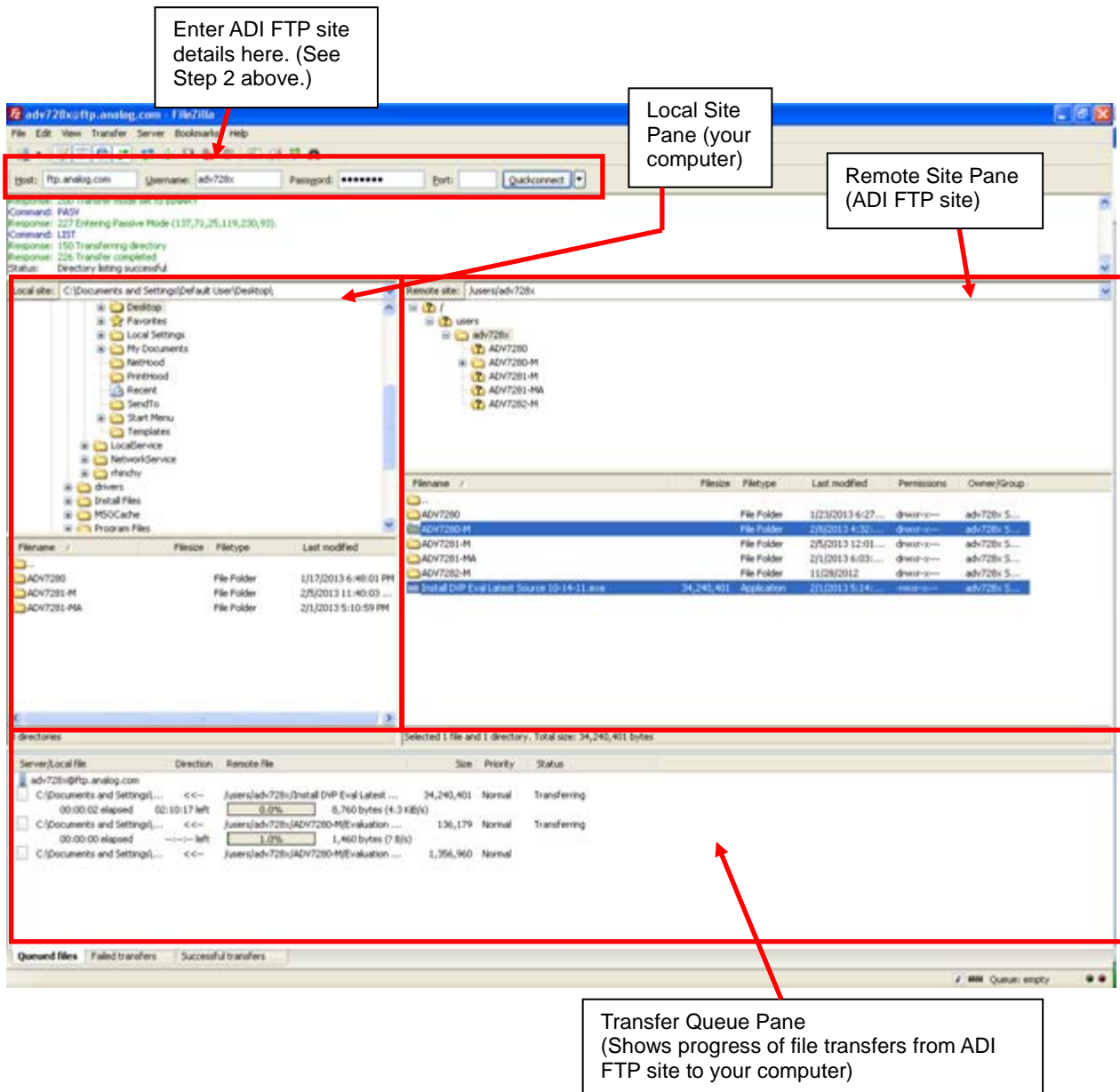


Figure 2. Image of ADI ADV7280-M FTP Site

4. On the Local Site Pane, navigate to where you want to drop the ADV7280-M files.
5. On the Remote Site Pane, select the ADV7280-M folder and drag it to the desired location in the Local Site Pane  
**Note:** Do NOT select the ADV7280 folder.  
 The files and folders on the ADI FTP site then copy to your computer.
6. On the Remote Site Pane, select the Install DVP Eval Latest Source 10-14-11.exe and drag it to the desired location in the Local Site Pane.  
**Note:** The Transfer Queue Pane shows the progress of this copying.

## 2.3. INSTALL THE DVP EVAL PROGRAM

**Note:** This section can be skipped if the DVP Eval program is already installed on your computer.

1. When the transfer from the FTP site is complete (as described in Section 2.2), double click on the Install DVP Eval Latest Source 10-14-11.exe file.
2. A window appears showing a software license agreement. After you have read the agreement, press the **I Agree** button.
3. A new window appears asking if you want to add Desktop and Start Menu shortcuts. Press the **Next** button.
4. A new window appears (refer to Figure 3), prompting you to select the installation destination folder. Press the **Install** button.

**Note:** It is strongly recommended to use the default destination folder. Selecting a different folder can cause the DVP Eval program to not install correctly in some versions of Windows.

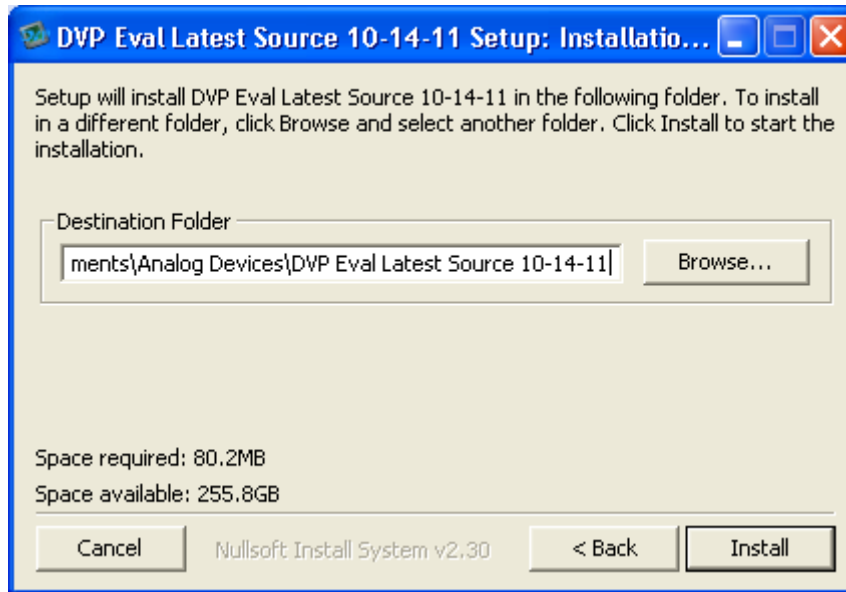


Figure 3. Installation Destination for DVP Eval Program

5. Restart your computer after the DVP Eval program is installed.

## 2.4. LOAD THE ADV7280-M SCRIPT FILES

This section describes how to load the ADV7280-M script files to the DVP Eval program.

1. Open the ADV7280-M folder downloaded from the ADI FTP site.
2. Open the Software for RevA evaluation board (U3 silicon) folder that is inside the ADV7280-M folder.
3. Copy the ADV7280M\_CUST folder to the following directory:  
C:\Documents and Settings\USER\_NAME\My Documents\Analog Devices\DVP Eval Latest Source 10-14-11\xml\New Boards

**Note:** This directory may be slightly different depending on where you installed the DVP Eval program.

4. To open the DVP Eval program, select Start -> Analog Devices -> DVP Eval Latest Source 10-14-11.
5. Select File -> Update Boards.

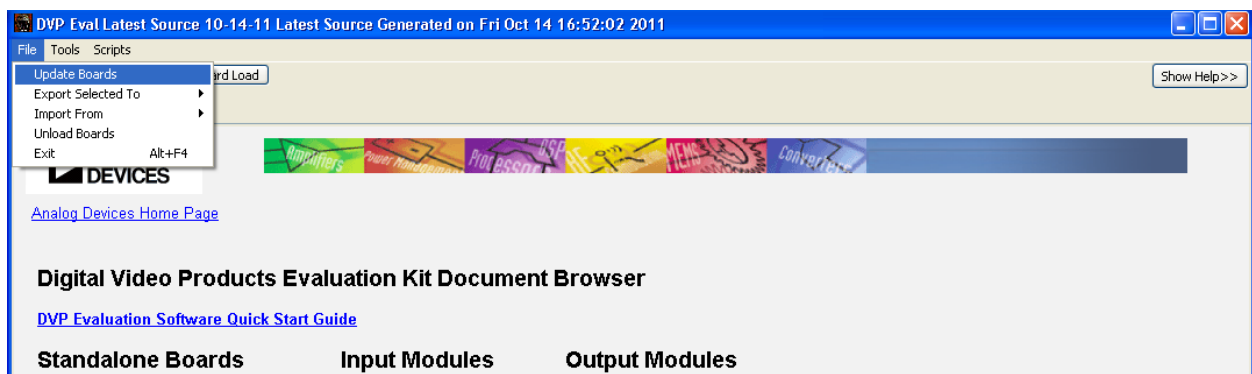




Figure 4. Update Board Files on DVP Eval Program

- A number of black command prompt windows should appear and then disappear. Finally, a window appears with the message “update boards successful”. Click on the **OK** button.  
The ADV7280-M script files have now been added to the DVP Eval program.
- Exit the DVP Eval program.

## 2.5. POWER UP THE ADV7280-M EVALUATION BOARD

This section describes the ADV7280-M Evaluation board and describes how to power it up.

- Connect a mains cable to the 7.5 V supply cable included in the ADV7280-M evaluation kit.
- Connect the 7.5 V supply cable to Jumper J8 on the ADV7280-M evaluation board. The LED D6 turns on when this is done correctly (refer to [Figure 1](#)).
- Connect the USB cable included in the ADV7280-M evaluation kit to the computer where you installed the DVP Eval program and ADV7280-M script files. This cable is used to send commands from your computer to the ADV7280-M evaluation board.
- Connect the other end of the USB cable to Jumper J7 of the ADV7280-M evaluation board. The LED D7 turns on when this is done correctly (refer to [Figure 1](#)).
- Connect the analog video input(s) to the Ain inputs of the ADV7280-M evaluation board. Refer to [Table 1](#) for information on how to connect these inputs.
- Connect SMA cables to the MIPI CSI-2 output connectors and feed these to a sink device.

### Notes:

- The USB connection allows a computer to communicate with the ADV7280-M. However, the I<sup>2</sup>C lines to the ADV7280-M can also be accessed via test points on the evaluation board. Refer to [Figure 1](#).
- Even after the ADV7280-M evaluation board is powered up, the 28.63636 MHz crystal (Y1) will not oscillate until the ADV7280-M is programmed.

## 2.6. PROGRAM THE ADV7280-M EVALUATION BOARD

- To run the DVP Eval Latest Source application, select Start-> All Programs -> Analog Devices -> DVP Eval Latest Source 10-14-11.
- Press the **Choose Board** button on the top left of the DVP Eval program window and the Board Selector window appears (refer to [Figure 5](#)).



Figure 5. Board Selector Window of DVP Eval Program

- Select ADV7280M\_CUST in the Rx section of the Board Selector window.
- Select None in the MotherBoard section.
- Select None in the Tx section.
- Press the **Load** button. A console similar to that shown in [Figure 6](#) appears.

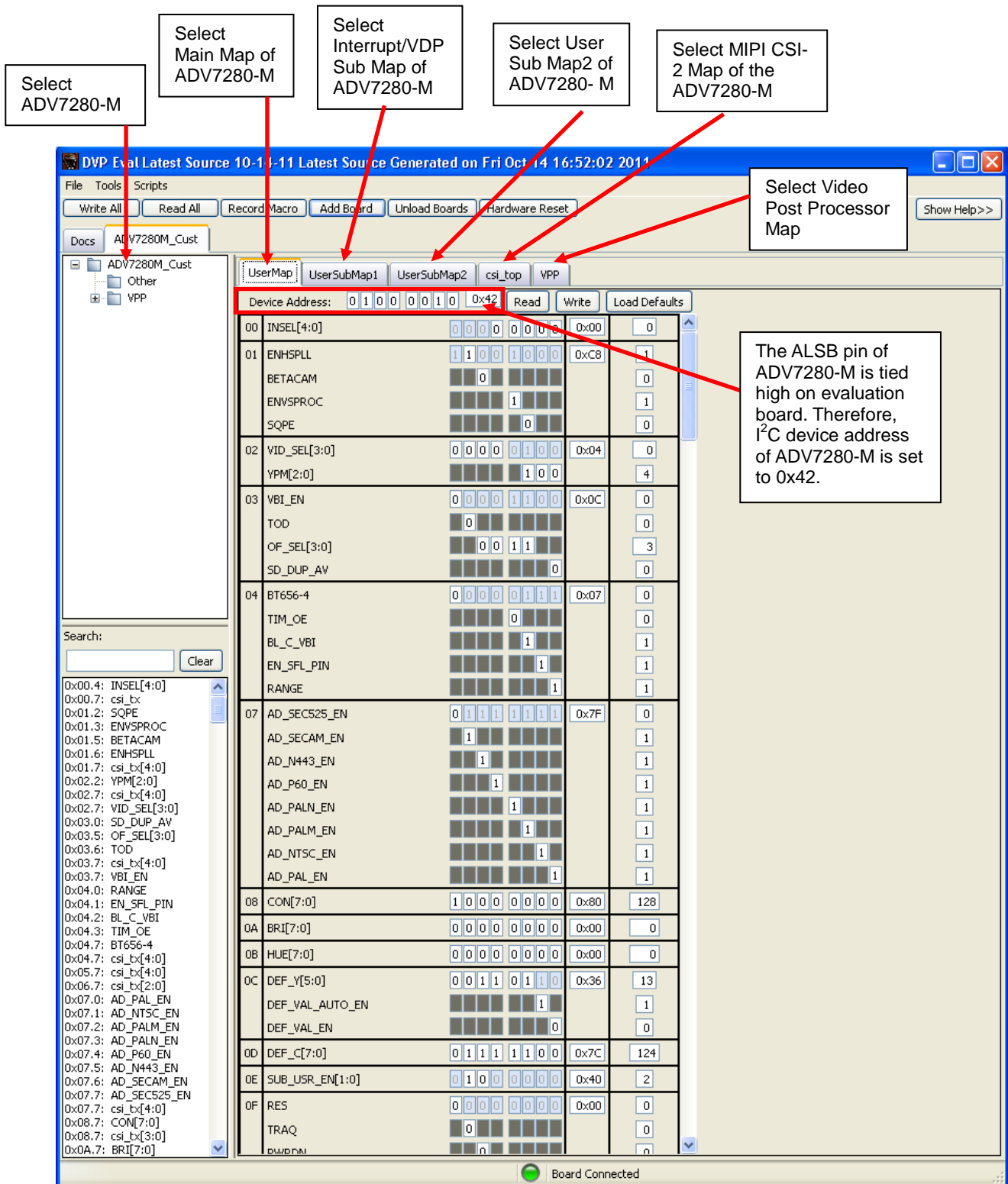


Figure 6. DVP Eval Program After Loading ADV7280-M Board

**Note:** A warning similar to that shown in Figure 7 will appear. This is expected as the I<sup>2</sup>C slave address of the CSI\_Top Map has not yet been programmed. This warning will disappear after any script is run (see step 7).

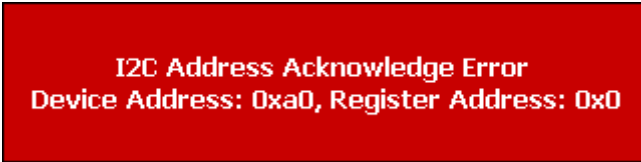


Figure 7. Warning Message That Appears After Loading ADV7280-M Board

7. Select Scripts-> ADV7280M\_CUST to select the script you wish to run (refer to Figure 8).

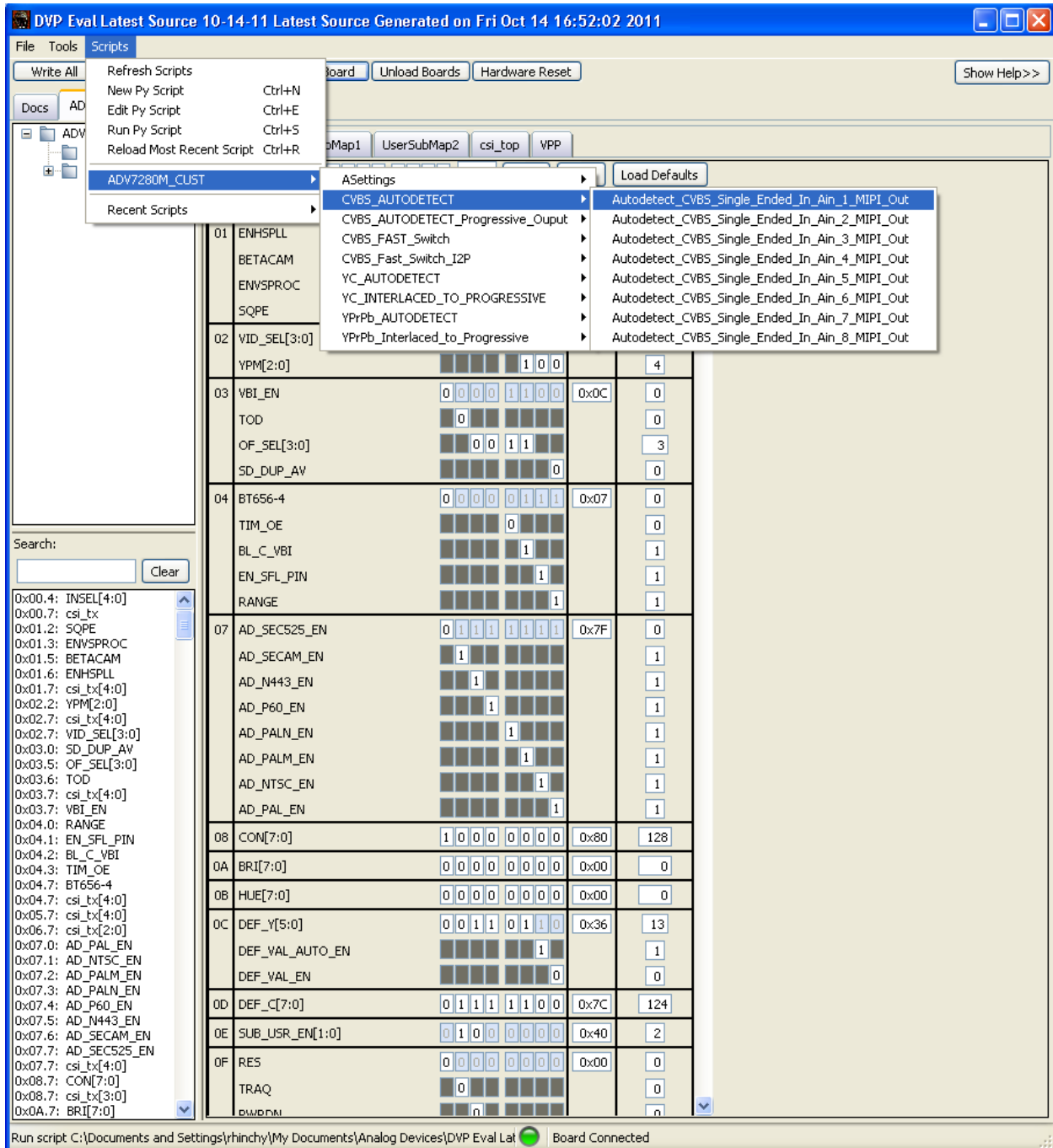


Figure 8. Running ADV7280-M Script on DVP Eval Program

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## REVISION HISTORY

### March 2013 – Rev. A

Initial version.