

1 Introduction

Thank you for your interest in the PE0601-7262 Evaluation Board.

This quick start guide will help you get started with your PE0601-7262 evaluation. The respective datasheets and user manuals provide full details on the boards, but this “quick start” guide consolidates information from multiple sources to accelerate your testing.

This guide walks the user through the following steps:

- Downloading necessary files
- Connecting the PE0601-7262 and PE0003
- Installing PE0003 USB driver
- Using PE0003 graphical user interface with CMX7262 to:
 - Apply PC sound card output to CMX7262 for encoding.
 - Save encoded data to file on PC.
 - Retrieve encoded data and write to CMX7262 for decoding.
 - Apply decoded audio to attached speakers.

2 History

Version	Changes	Date
1	Initial release	15-XX-YY

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3 PE0601-7262 Operation

3.1 Download of Documents and Software

Please visit the CML website (www.cmlmicro.com) and download the following files:

- “CMX7262 Speech Evaluation” application note
- PE0601-7262 User Manual
- PE0601-7262 Schematic
- Script files to automate CMX7262 configuration:
 - “Encode2dsk.pes”
 - “Decode_from_disk.pes”
- PE0003 Evaluation Software package
- PE0003 User Manual
- PE0003 Driver

Please visit the CMX7262 Technical Portal to download:

- CMX7262 Datasheet/User Manual
- CMX7262 Function Image™

3.2 PE0003 Installation

- Connect PE0003 “C-BUS1” port to PE0601-7262 J10 “PE0002 C-BUS” header.
- Connect +5V to PE0003 J11.
 - PE0003 right-angle connector J4 provides power to the PE0601-7262 board.
- Connect the PE0003 to your PC with a USB cable.
 - The PC will ask for a USB driver the first time a PE0003 is connected. When prompted, load the USB driver from the unzipped PE0003 Driver package.
 - Your PC may attempt to use "Windows Update" to find the PE0003 USB driver. Cancel the "Windows Update" search. On your PC click "Start" button, right click on "Computer" and select "Properties". Select "Device Manager". Right click "PE0003 Evaluation Kit" and choose "Update driver software". Choose "Browse my computer" and locate the PE0003 driver you downloaded earlier. Click "Install anyway" if you get a driver warning message.

3.3 Preparing for Operation

- Connect PC sound card output to PE0601-7262 “IP1” (J1).
- Connect powered speakers to PE0601-7262 “SPKR2” (J4). The test setup should look like this:

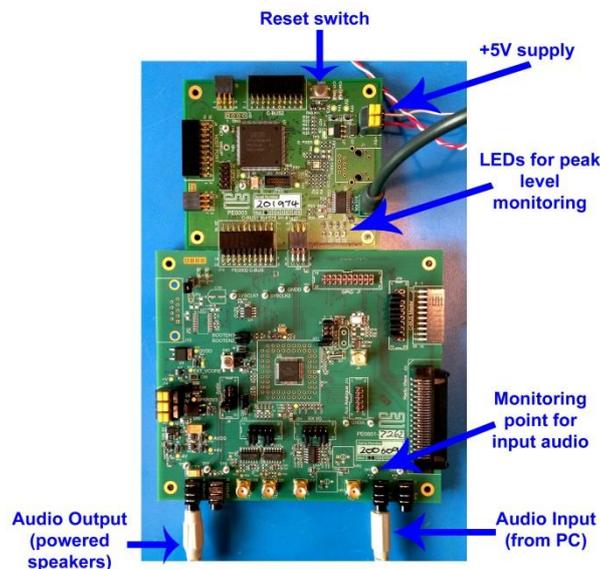


Figure 1: CMX7262 Evaluation Setup

- Unzip the PE0003 Evaluation Software package (“ES000311.zip”) and double-click the “ES000311.exe” graphical user interface (GUI).
- Click the GUI “FI Manager” tab. Ensure “Source” = “PC” and “Destination” = “Target C-BUS1”. Click “Browse” to locate the Function Image file, and then click “Load”.

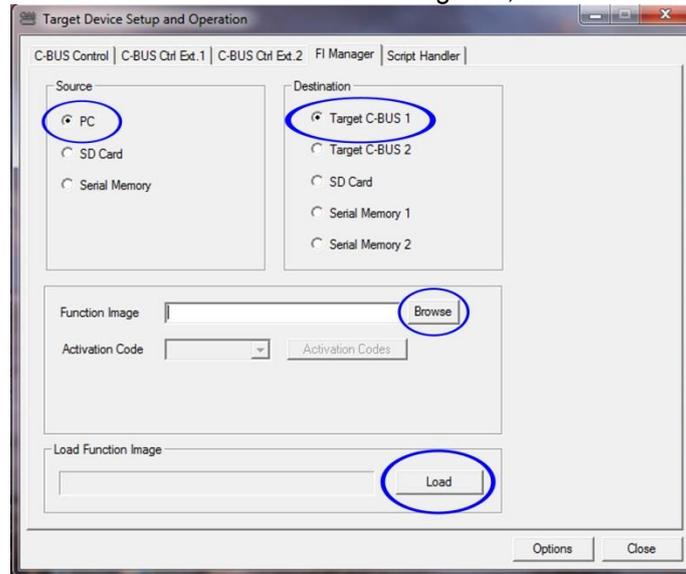


Figure 2: PE0003 GUI “FI Manager” Key Functions

3.4 CMX7262 Encode Operation

- Open the “Encode2dsk.pes” script file with a text editor. Go to script line 11 and change the “peak_select” variable from 0 to 1, then save the script with same file name. This change will activate the CMX7262 level detector function and allow PE0003 LEDs (D1-D4) to indicate various input levels.

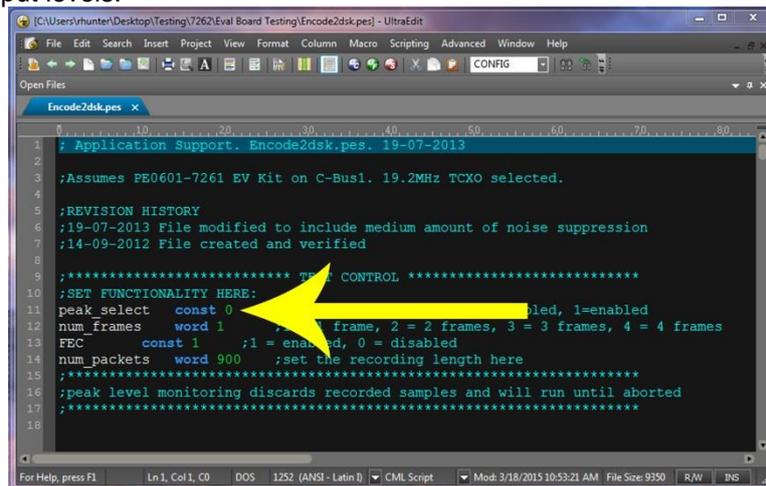


Figure 3: Location of Script Variable for Peak Level Monitoring

- In the PE0003 GUI, click the “Script Handler” tab. Click “Select Script”. Locate the “Encode2dsk.pes” script, and then click “Run”. Click “OK” to start monitoring the peak detector.
- Use a PC audio editing application (such as Audacity) to loop-play an audio file.
- Adjust PC speaker output so that PE0003 LEDs D1-D3 illuminate, but D4 does not illuminate.
- Click “Abort” to stop the script. The proper input level for CMX7262 encoding has been set.
- Go back into “Encode2dsk.pes” script and set “peak_select” variable to 0. Save the file.
- With the audio file loop-playing, go back to the GUI and “Run” the “Encode2dsk.pes” script again. The input audio is encoded by CMX7262, encoded data is transferred to PE0003, and the PE0003 writes the data to a PC file named “vocoder.cfg”.

3.5 CMX7262 Decode Operation

- In the GUI, click “Select Script” and locate “Decode_from_disk.pes”. Click “Run”.
- The PE0003 retrieves the encoded data file from the PC, transfers the data to CMX7262 for decoding, and the decoded audio is passed to the external speakers.

The initial CMX7262 test is complete.

4 Next Steps

Other tests can be performed with this evaluation setup, such as:

- Use of a microphone with male and female voices as input source.
- Operation with radio equipment.
- Varying the amount of noise reduction.
- Enabling or disabling FEC.
- Varying the number of frames and packets that are encoded/decoded (this will change the recording length).
- Changing CMX7262 xtal frequency.
- Experimenting with different CMX7262 inputs and outputs.

The CMX7262 datasheet/user manual and PE0601-7262 user manual should be consulted while crafting experiments.

5 Helpful Hints

Detailed PE0003 driver installation information can be found in the PE0003 User Manual. For Win7 and Win8 driver signing issues see the FAQ tab on the CML website’s PE0003 Product page.

Detailed information on GUI operation can be found in the PE0003 User Manual.

An Application Note is available from the CMX7262 Product page that describes how to configure the optimum audio environment for audio evaluation. It includes advice on connections, cables and avoiding common noise pitfalls.

A reference document for the Script language can be downloaded from the CML website’s PE0003 product page on the Knowledge Base tab.

Please contact CML Technical Support if you have any questions or require further assistance.

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