Application Report
SLAA483–January 2011

Setting TAS5727EVM Environment Variables

Matt Lauer *Audio Products*

ABSTRACT

This application report describes how to set the Microsoft® Windows® environment variables for correct I²C™ operation of the TAS5727EVM evaluation module (EVM). The proper environment variables must be set in order for the TAS5727 amplifier to communicate properly over the I²C interface.

Throughout this document, the abbreviation *TAS57xx* applies to the entire family of related devices, unless otherwise indicated.

Contents

List of Figures

1 Introduction

Most devices in the TAS57xx audio amplifier series have a 7-bit I²C address of *0x36* (0011 011). These devices can also have an address of *0x34* (0011 010) if the A_SEL pin (or similar pin) is pulled low. The TAS5727 has an address of *0x54* (0101 010) or *0x56* (0101 011), depending on the polarity of A_SEL (external pulldown for 0x54; external pullup for 0x56, respectively). The current graphical user interface (GUI) software for the TAS57xx devices create a Windows environment variable that references only the *0x36* address. Without the correct I²C address, the PC cannot properly communicate with the TAS5727EVM, so the user must change this environment variable to ensure valid communication. The next section explains how to set the Windows environment variable correctly.

2 Equipment Configuration

2.1 Equipment/Setup

The user must have the TAS5727EVM board, one of the MC57xxPSIA interface boards, and a USB to mini-USB cable. Connect the TAS5727EVM to the MC57xxPSIA board.

2.2 Changing Windows Environment Variables

From the Windows desktop, press *Start*; right-click *My Computer* and select *Properties*, as Figure 1 shows.

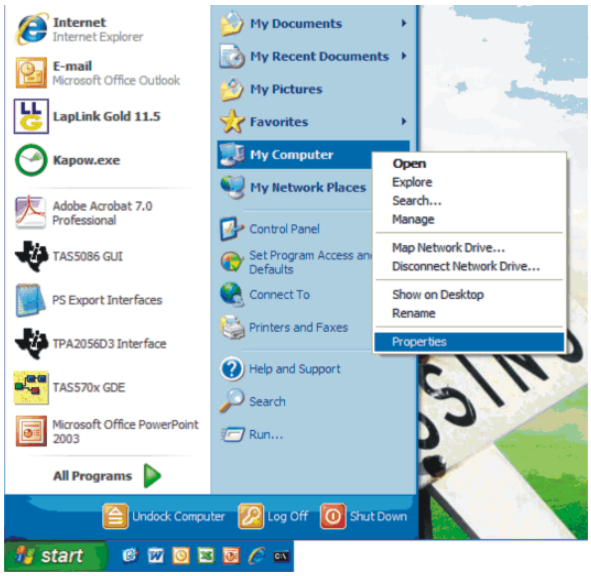

Figure 1. Selecting *Properties* from the Windows Start Menu

The *System Properties* window pops up. Click on the *Advanced* tab. Then select the **Environment Variables** button. As Figure 2 illustrates, the *Environment Variables* window appears.

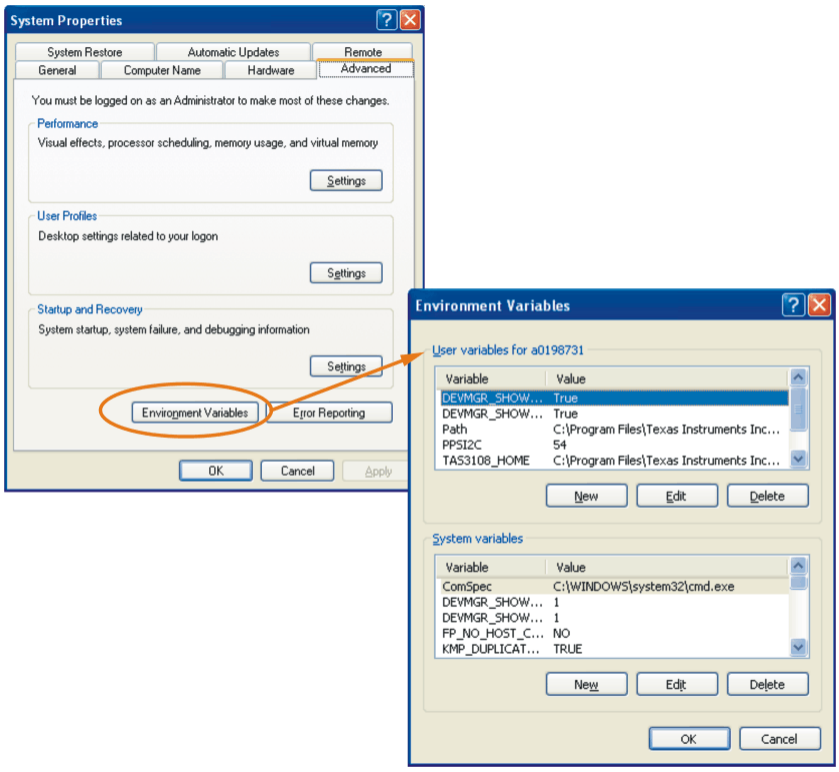

Figure 2. System Properties and Environment Variables Dialog Boxes

In the User Variables section of the dialog, scroll through the list to see whether the variable ***PPSI2C*** shows. If the variable is not already listed, click the **New** button. If the variable name PPSI2C already exists in the list, click on ***PPSI2C*** to select it, then click the **Edit** button. The *Edit User Variable* window appears, as Figure 3 shows.

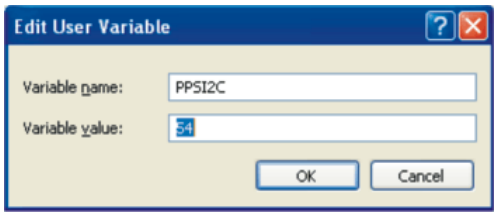

Figure 3. Edit User Variables Dialog

In this window, type *PPSI2C* as the variable name (for new variables) and *54* as the variable value. Click **OK** and close the dialog boxes.

3 Testing I²C Communication

Once the environment variables have been confirmed, you need to test the system for successful I²C communication. To do this, follow these procedures.

1. Connect a USB cable from the MC57xxPSIA (attached to the TAS5727EVM) to your PC.
2. If the TAS57x GUI software is already open on your system, close it; the environment variable settings change does not take effect until the software is closed.
3. Start the TAS57x GUI software.
4. Navigate to *Tools*, then select *I²C Memory Tool*. Select the I²C tab.
5. Read the I²C subaddress 0x00. The data should read ***6C***, as shown in Figure 4.

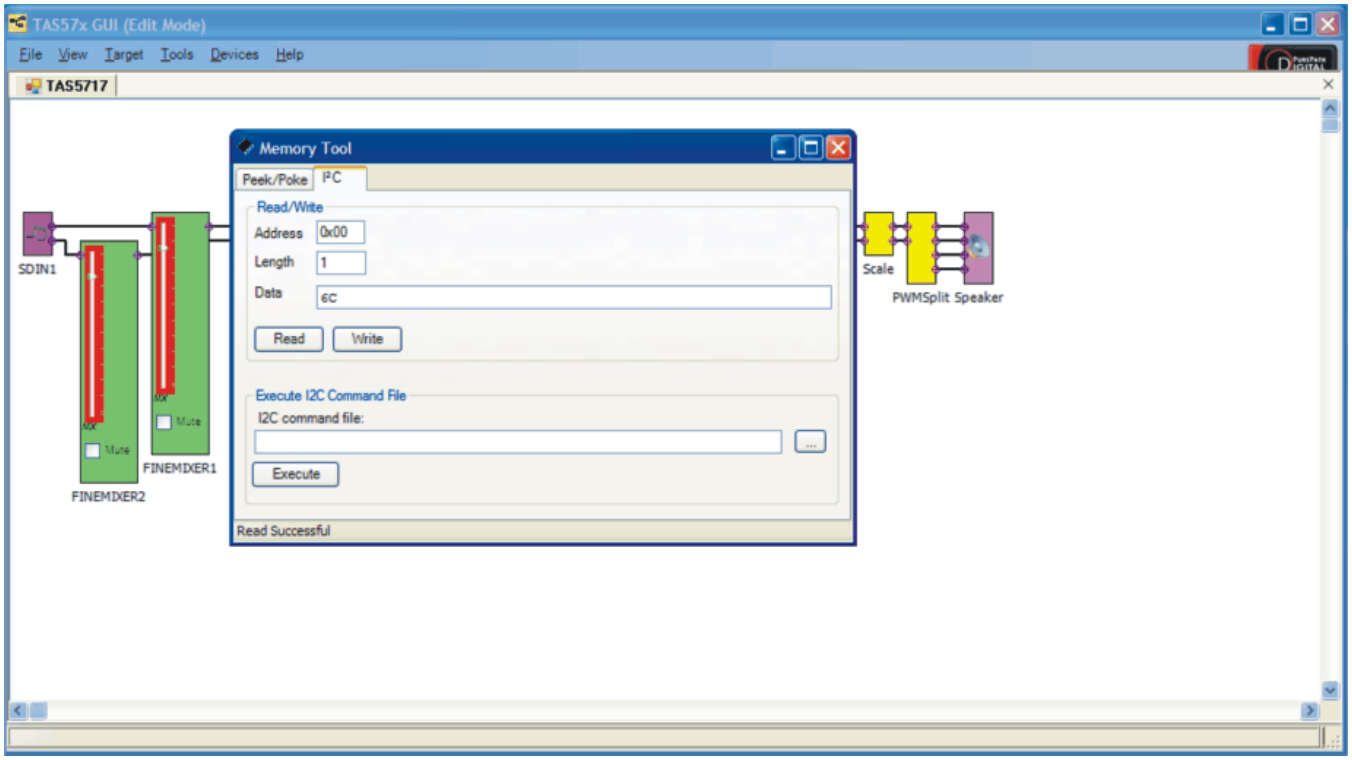

Figure 4. I²C Communication Dialog

This result verifies that correct communication over the I²C interface to the TAS5727EVM is taking place.

4 Changing Environment Variables for Other Devices

TAS57xx devices other than the TAS5715, TAS5717, TAS5719, and TAS5727 have the I^2C address *0x36* (or *0x34*). If the user has changed the Windows environment variable *PPSI2C* to *0x54*, the user must change the variable back to *0x36* (or *0x34*) to communicate properly with these other TAS57xx devices.

5 Conclusion

This report has explained how to configure the Windows environment variables necessary for successful I^2C communication with the TAS5727EVM. Completing the steps discussed in this document allows the user to further configure the TAS5727EVM to communicate over the I^2C interface.

IMPORTANT NOTICE

Texas Instruments Incorporated and its subsidiaries (TI) reserve the right to make corrections, modifications, enhancements, improvements, and other changes to its products and services at any time and to discontinue any product or service without notice. Customers should obtain the latest relevant information before placing orders and should verify that such information is current and complete. All products are sold subject to TI's terms and conditions of sale supplied at the time of order acknowledgment.

TI warrants performance of its hardware products to the specifications applicable at the time of sale in accordance with TI's standard warranty. Testing and other quality control techniques are used to the extent TI deems necessary to support this warranty. Except where mandated by government requirements, testing of all parameters of each product is not necessarily performed.

TI assumes no liability for applications assistance or customer product design. Customers are responsible for their products and applications using TI components. To minimize the risks associated with customer products and applications, customers should provide adequate design and operating safeguards.

TI does not warrant or represent that any license, either express or implied, is granted under any TI patent right, copyright, mask work right, or other TI intellectual property right relating to any combination, machine, or process in which TI products or services are used. Information published by TI regarding third-party products or services does not constitute a license from TI to use such products or services or a warranty or endorsement thereof. Use of such information may require a license from a third party under the patents or other intellectual property of the third party, or a license from TI under the patents or other intellectual property of TI.

Reproduction of TI information in TI data books or data sheets is permissible only if reproduction is without alteration and is accompanied by all associated warranties, conditions, limitations, and notices. Reproduction of this information with alteration is an unfair and deceptive business practice. TI is not responsible or liable for such altered documentation. Information of third parties may be subject to additional restrictions.

Resale of TI products or services with statements different from or beyond the parameters stated by TI for that product or service voids all express and any implied warranties for the associated TI product or service and is an unfair and deceptive business practice. TI is not responsible or liable for any such statements.

TI products are not authorized for use in safety-critical applications (such as life support) where a failure of the TI product would reasonably be expected to cause severe personal injury or death, unless officers of the parties have executed an agreement specifically governing such use. Buyers represent that they have all necessary expertise in the safety and regulatory ramifications of their applications, and acknowledge and agree that they are solely responsible for all legal, regulatory and safety-related requirements concerning their products and any use of TI products in such safety-critical applications, notwithstanding any applications-related information or support that may be provided by TI. Further, Buyers must fully indemnify TI and its representatives against any damages arising out of the use of TI products in such safety-critical applications.

TI products are neither designed nor intended for use in military/aerospace applications or environments unless the TI products are specifically designated by TI as military-grade or "enhanced plastic." Only products designated by TI as military-grade meet military specifications. Buyers acknowledge and agree that any such use of TI products which TI has not designated as military-grade is solely at the Buyer's risk, and that they are solely responsible for compliance with all legal and regulatory requirements in connection with such use.

TI products are neither designed nor intended for use in automotive applications or environments unless the specific TI products are designated by TI as compliant with ISO/TS 16949 requirements. Buyers acknowledge and agree that, if they use any non-designated products in automotive applications, TI will not be responsible for any failure to meet such requirements.

Following are URLs where you can obtain information on other Texas Instruments products and application solutions:

Products		**Applications**	
Audio	www.ti.com/audio	Communications and Telecom	www.ti.com/communications
Amplifiers	amplifier.ti.com	Computers and Peripherals	www.ti.com/computers
Data Converters	dataconverter.ti.com	Consumer Electronics	www.ti.com/consumer-apps
DLP® Products	www.dlp.com	Energy and Lighting	www.ti.com/energy
DSP	dsp.ti.com	Industrial	www.ti.com/industrial
Clocks and Timers	www.ti.com/clocks	Medical	www.ti.com/medical
Interface	interface.ti.com	Security	www.ti.com/security
Logic	logic.ti.com	Space, Avionics and Defense	www.ti.com/space-avionics-defense
Power Mgmt	power.ti.com	Transportation and Automotive	www.ti.com/automotive
Microcontrollers	microcontroller.ti.com	Video and Imaging	www.ti.com/video
RFID	www.ti-rfid.com	Wireless	www.ti.com/wireless-apps
RF/IF and ZigBee® Solutions	www.ti.com/lprf		
	TI E2E Community Home Page		e2e.ti.com

Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265