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ISD-ES_MINI_USB User Manual

Version 0.1



Contents

| | |
|----------------------------------|---|
| Overview | 3 |
| Introduction | 4 |
| Installation | 5 |
| Normal Operations under VPE..... | 6 |
| Push Button Operation | 7 |
| Board Schematic | 9 |



Overview

This manual is for ISD-ES_MINI_USB Rev_A.

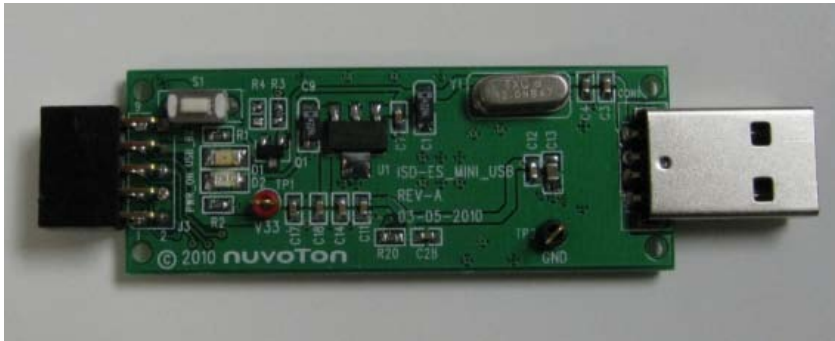


Figure 1 – Top view of ISD-ES_MINI_USB board

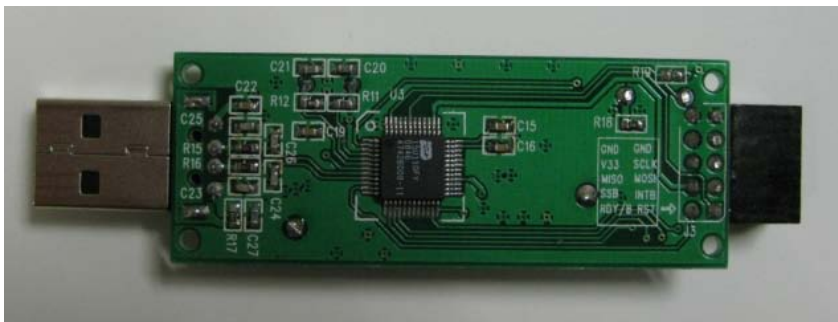


Figure 2 – Bottom view of ISD-ES_MINI_USB board



Figure 3 – ISD-ES_MINI_USB board in plastic case

Introduction

ISD-ES_MINI_USB, with its informal name as ISD USB dongle, is a USB bridge device which provides the communication link between PC and ISD digital ChipCorder demo board.

Figure 4 shown below is a complete evaluation environment for ISD2100 series devices. The ISD USB dongle receives commands and data in USB packet from host PC, communicates with ISD2100 demo board through SPI and GPIO lines, and sends back ISD2100 device status and/or data to PC via USB packets. All the operations are initiated from VPE, a GUI application which runs on Windows PC.

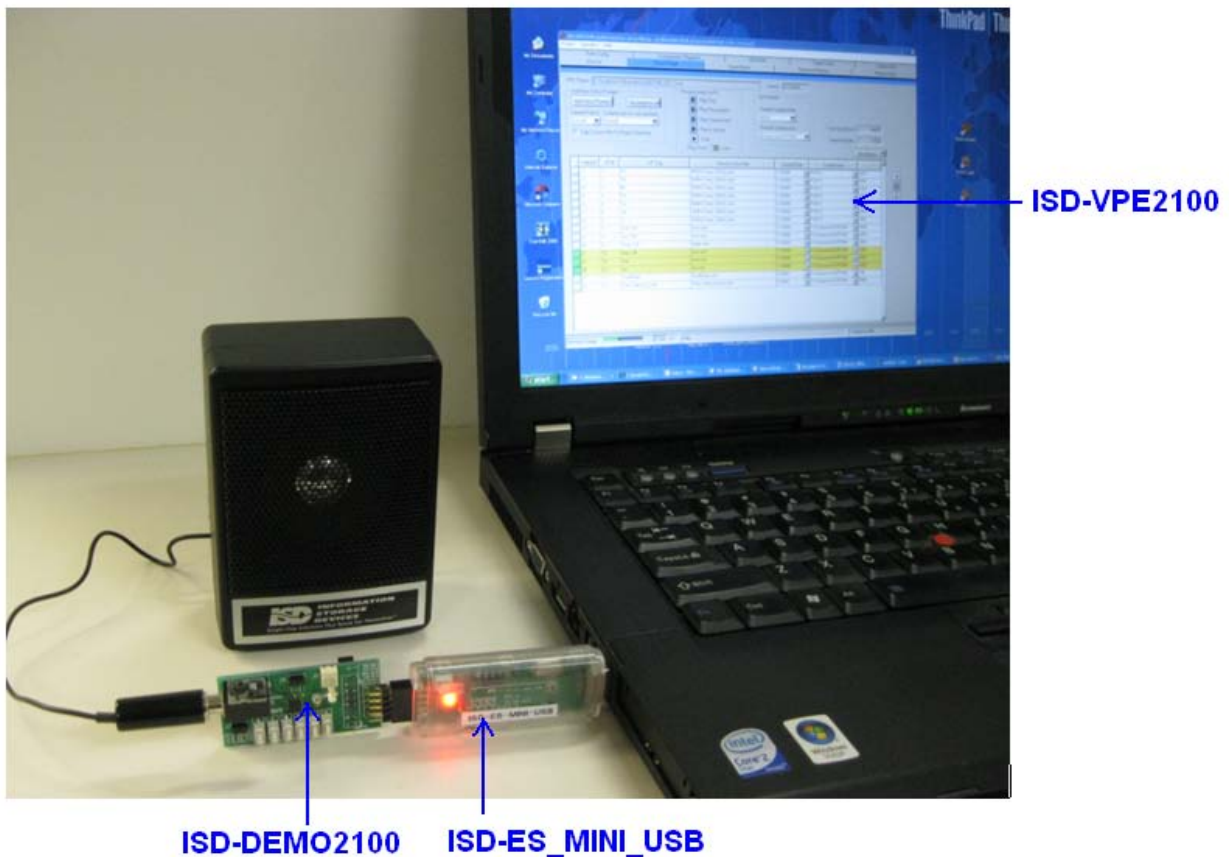


Figure 4 – A complete evaluation environment for ISD2100 device



Installation

Software download

ISD-ES_MINI_USB must work under **VPE – Voice Prompt Editor**, the GUI application for evaluating Nuvoton Digital ChipCorder devices. Table below provides a lookup table for user to find what VPE is in need and where to download the corresponding VPE.

| Product | VPE | Download link |
|---------------------------|--------------|---|
| ISD2100 | ISD-VPE2100 | http://www.nuvoton-usa.com/ISD2100/vpe |
| ISD15100/ISD3900/ISD15C00 | ISD-VPE15100 | http://www.nuvoton-usa.com/ISD15100/vpe |
| ISD3800/ISD15D00 | ISD-VPE15D00 | http://www.nuvoton-usa.com/ISD15D00/vpe |

Table 1: VPE needed and download address

User needs to fill out and submit the form on the website to request the username and password. Unfortunately, this registration process is not fully automatic yet when this manual is being written. Instead, Nuvoton staff will generate the username and password based on the information received, and send them to user in an email.

System Requirements

- PC running Windows Vista, XP, NT, or 2000.
- Support for Windows 7 will be available soon.

Normal Operations under VPE

- Connect a demo board to USB dongle
- Plug in USB dongle into a PC USB port
- Launch VPE



Figure 5 – To connect demo board and USB dongle: top side face up for both boards.

To connect demo board with the USB dongle, both board need to face up for the connection. Please refer to **Figure 5** above.

These operations do not have to follow a special order. USB dongle is hot pluggable, and so is the demo board. However, during digital programming, demo board needs to be connected otherwise the integrity of flash image cannot be guaranteed.

User can look for the VPE user manual in the VPE installation folder. Information regarding VPE and hardware evaluation functions can be found there.



Figure 6 below shows ISD-DEMO1500 and USB dongle together to provide an ISD15D00 evaluation environment.

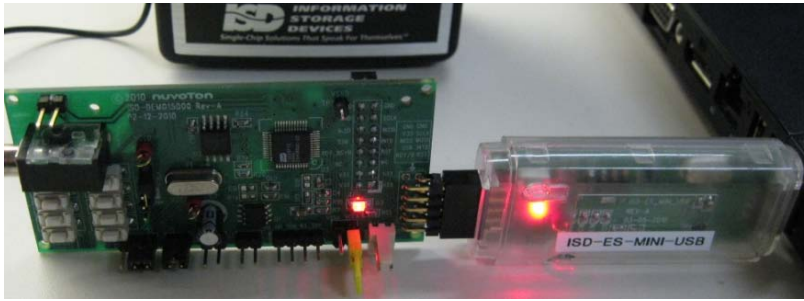


Figure 6 – USB dongle connected with ISD-DEMO15D00

Push Button Operation

Figure 7 shows the MM interface for the ISD USB dongle, they are:

- Power LED – Once board plugged in, this red LED should be lit indicating that 3.3 VCC is on.
- Status LED – The meaning of this LED is explained below.
- Push button – User press and hold the button for more than 2 seconds, then USB dongle will try to send Power-Up command and read back device status.
 - If USB dongle detects that there is no demo board connected, the status LED will flash infinitely; meantime, the USB dongle will continuously send power up and check status command until it detects a demo board presented.
 - If USB detects ISD device powered up, then the USB dongle will send play_VM_#3 (SPI command sequence as 0xB0, 0x00, 0x03) command and meantime the Status LED will stay constantly on. If the ISD device has output path enabled and speaker connected, then user should be able to hear the sound effect in VM#3.

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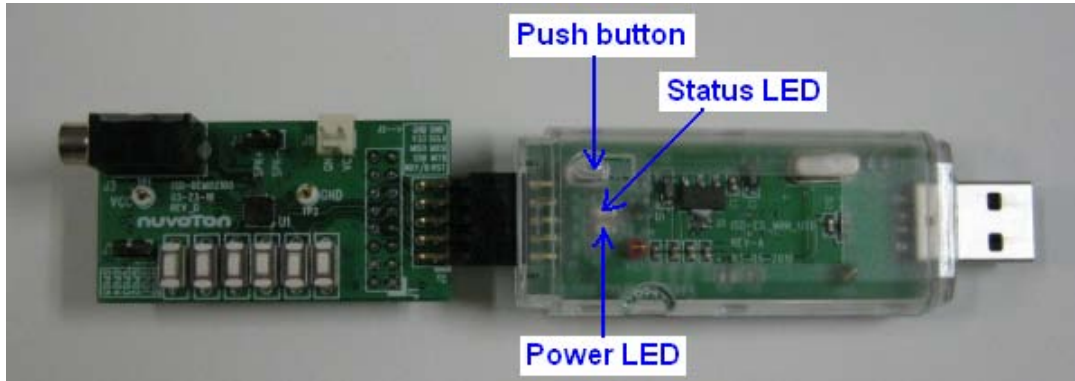


Figure 7 – Power LED, Status LED and Push button



Board Schematic

