

LM4970 Evaluation Package Instructions

The LM4970 Evaluation Package includes the following:

LM4970 Demoboard
I²C Card
I²C Cable
Software

Hardware Installation Instructions:

- 1) Plug the I²C Card to the parallel port (LPT1) of the PC.
- 2) Connect the LM4970 Demoboard to the I²C Card with the I²C Cable. Refer to the Silkscreen for the corresponding pin locations of SCL, SDA, extV_{DD} and GND. The I²C Cable uses the following color coding scheme:

(Green – SCL; Blue – ADR; Orange – SDA)
(White/Green – extV_{DD}; White/Blue – GND)

SCL	ADR	SDA
extV _{DD}	GND	NC

I²C Silkscreen Pinout

Green	Blue	Orange
White/Green	White/Blue	

Color Code for I²C Cable

I²C Card Instructions:

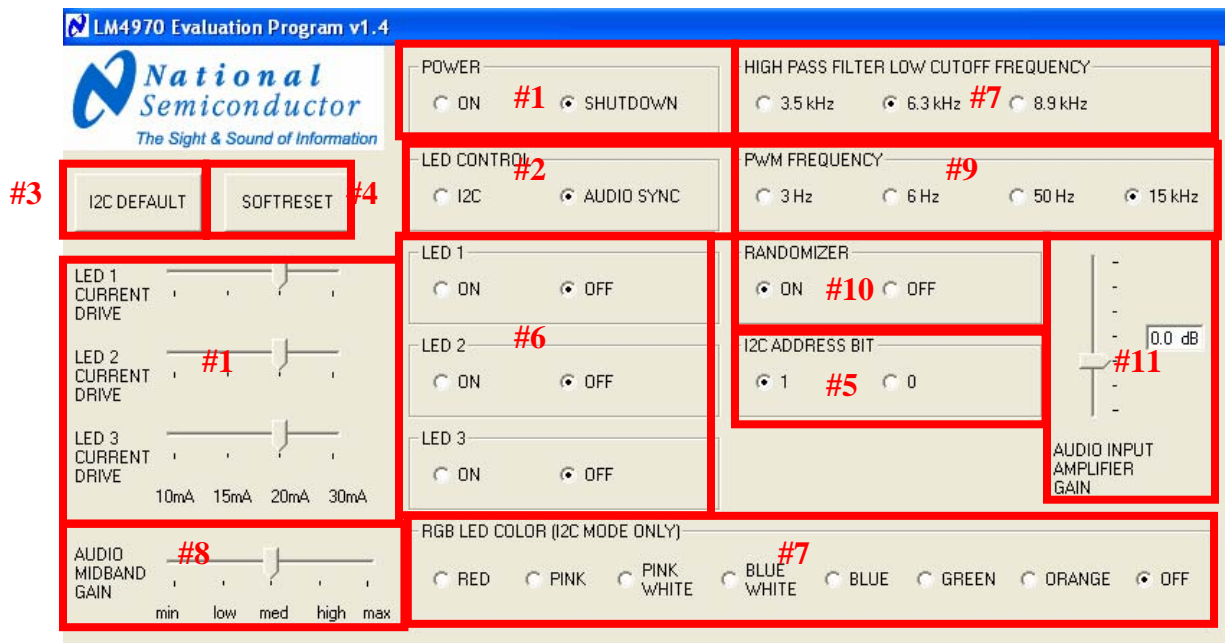
- 1) Attach the I²C Card to the PC's parallel port using the I²C Card's male DB-25 connector.
- 2) The LED indicator on the I²C card will light up when a proper connection is made.
- 3) Attach the I²C Cable to the I²C Card's corresponding 6-pin header.
- 4) The I²C Card can be powered up either through the PC's parallel port (pcV_{DD}) or the LM4970 Demoboard's power supply (extV_{DD}).
- 5) For pcV_{DD} operation, the slide switch on the I²C Card must be set to the pcV_{DD} position.
- 6) For extV_{DD} operation, the slide switch on the I²C Card must be set to the extV_{DD} position. The extV_{DD} supply is generated through the I²CV_{DD} pin on the demoboard, which can be shorted to the main power supply pin, V_{DD}, by closing jumper (J1).

LM4970 Demoboard Instructions:

- 1) The supply pin, ground pin, inputs, and outputs are all easily accessed through the header pins of the LM4970 Demoboard. Each header pin is labeled accordingly on the Demoboard's Silkscreen layer.
- 2) Attach the I²C Cable to the LM4970 Demoboard's corresponding 6-pin header.
- 3) Connect a power supply to the V_{DD} and GND pin of the LM4970 Demoboard for power-up.

Software Installation Instructions:

- 1) A Windows95/98/NT/2000/XP operating system is required.
- 2) Run *setup.exe* to begin the software installation.
- 3) Run *LM4970v5.exe* to begin the software program.



Software Instructions:

Control Settings

- 1) The main functions of the LM4970 include shutdown control, and LED 1 to 3 drive current control. These functions are independent of the LED control mode setting.
- 2) The LED control mode setting sets whether Audio Synchronization mode or I²C LED Control mode is active.
- 3) The I²C DEFAULT button resets the GUI back to the default state.
- 4) The Softreset button resets the LM4970 when pressed.
- 5) The I²C address bit can be programmed with this radio button.

I²C Control Mode

- 6) When turning LED1, LED2 or LED3 on or off, I²C LED control mode must be active. If Audio Synchronization mode is selected, the LEDs will change according to the audio input signal and cannot be controlled via I²C.
- 7) The demoboard's RGB LED can be set to seven distinct colors. (This applies only for the demoboard's RGB LED module.)

Audio Sync Mode

- 8) The midband frequency filter is accessed through the slider bar.
- 9) The PWM frequency sets the sample rate of the audio signal to LED lighting effect conversion.
- 10) The Audio Synchronization Randomizer is can be activated with this radio button.
- 11) The gain of the incoming audio signal can be changed with this slider bar.