AKD5374-A
Evaluation board Rev.1 for AK5374

GENERAL DESCRIPTION

AKD5374-A is an evaluation board for AK5374, which is a stereo A/D Converter with a USB 2.0 interface. The AK5374 can be tested easily on the AKD5374-A, as the operation of the device is compatible with USB standard audio class. The AKD5374-A has not only an external audio interface, but also an external EEP-ROM that all descriptor contents are stored and customizable.

■ **Ordering guide**

AKD5374-A --- Evaluation board for AK5374

FUNCTION

■ **Microphone Jack**
■ **3.3 volt Regulator (LM1117-3.3V)**
■ **8k bit EEPROM(AK6506CT)**
■ **USB B-type Connector**

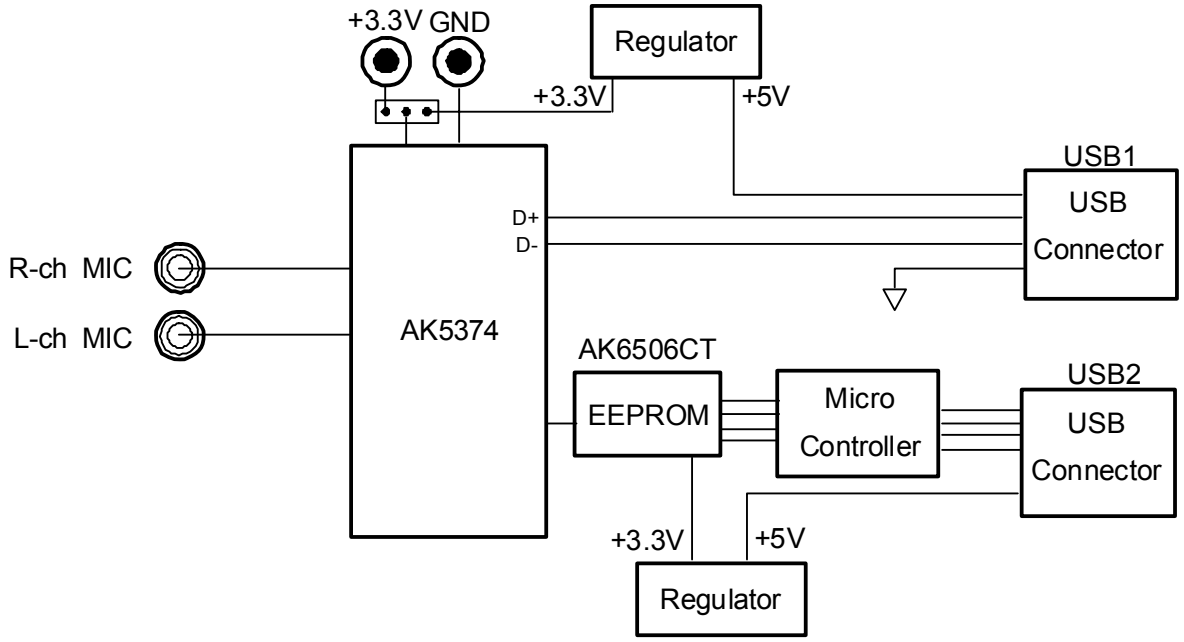


Figure 1. AKD5374-A Block Diagram

* Circuit diagram and PCB layout are attached at the end of this manual

BOARD OUTLINE CHART

■ Outline Chart

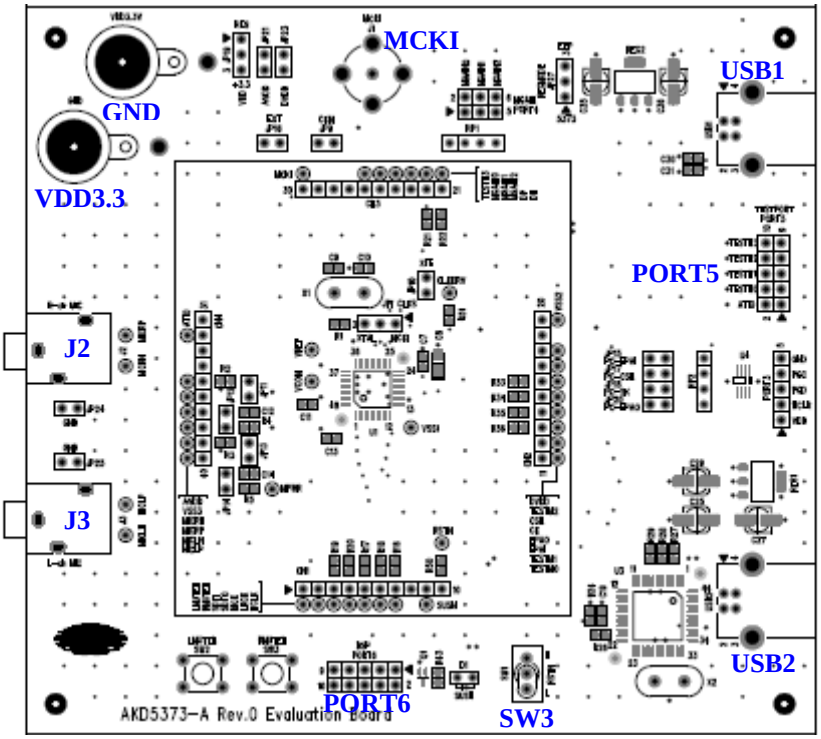


Figure 2. AKD5374-A top view

■ Comment

(1) VDD3.3V, GND
These are the power supply connectors. Connect power supply with these pins.
As for the detail comments, refer to the setup of power supply on the next page.

(2) MCKI (BNC-JACK)
This is external clock source for the MCKI/XTI pin of the AK5374.

(3) USB1 (USB Connector)
This is USB B-type connector for evaluation of the AK5374. Connect this to PC.

(4) USB2 (USB Connector)
This is USB B-type connector for EEP-ROM write operation.

(5) J2, J3 (Mini Jacks)
These are analog signal inputs.

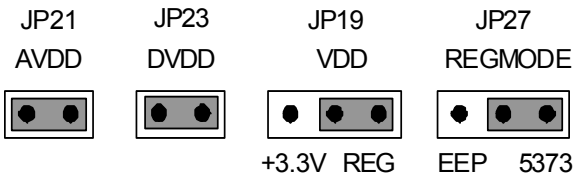
(6) PORT5, PORT6 (10 pin header)
PORT5 (TEST PORT): It is not used except test mode

(7) SW3 (Switch)
SW3: Reset of AK5374. Keep “H” during normal operation.

Evaluation Board Manual

■ Operation sequence

1) Set up the jumper pins as the followings.



2) Connect USB1 port of the AKD5374-A to PC with an USB cable. Windows recognizes the AK5374 automatically, and it is not necessary to install any driver. Device manage shows "AK5374" as an USB Audio Device in "Sound, video and game controllers" if Windows recognizes the device successfully.

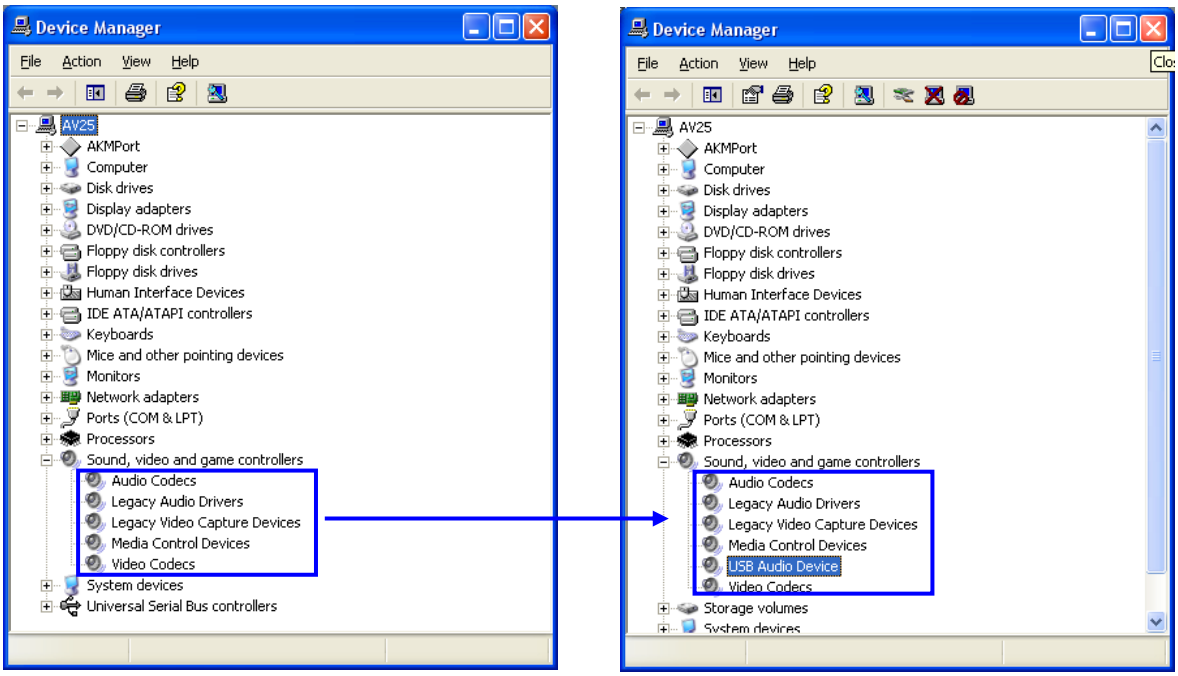


Figure 3. Device Manager "Sound, video and game controllers"

3) Double click "USB Audio Device", the window of "USB Audio Device Properties" shows the properties including device type as "Sound, video and game controllers", Manufacturer as "Generic USB Audio", and Location as "Location 0 (AK5374)".

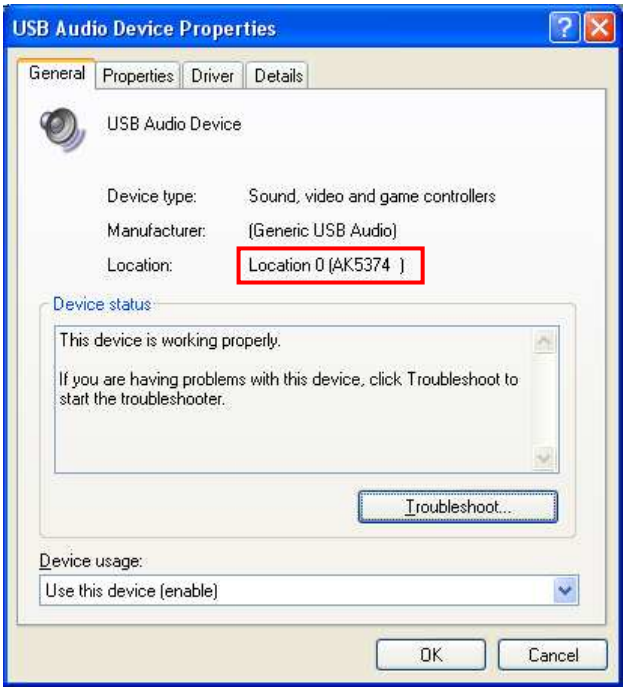


Figure 4. USB Audio Device Properties

■ Evaluation mode

Internal ADC Streaming Mode

Evaluation of using internal ADC of AK5374
USB1 (USB Connector) is used. Nothing should be connected to USB2 (USB Connector) and PORT6 (DSP).

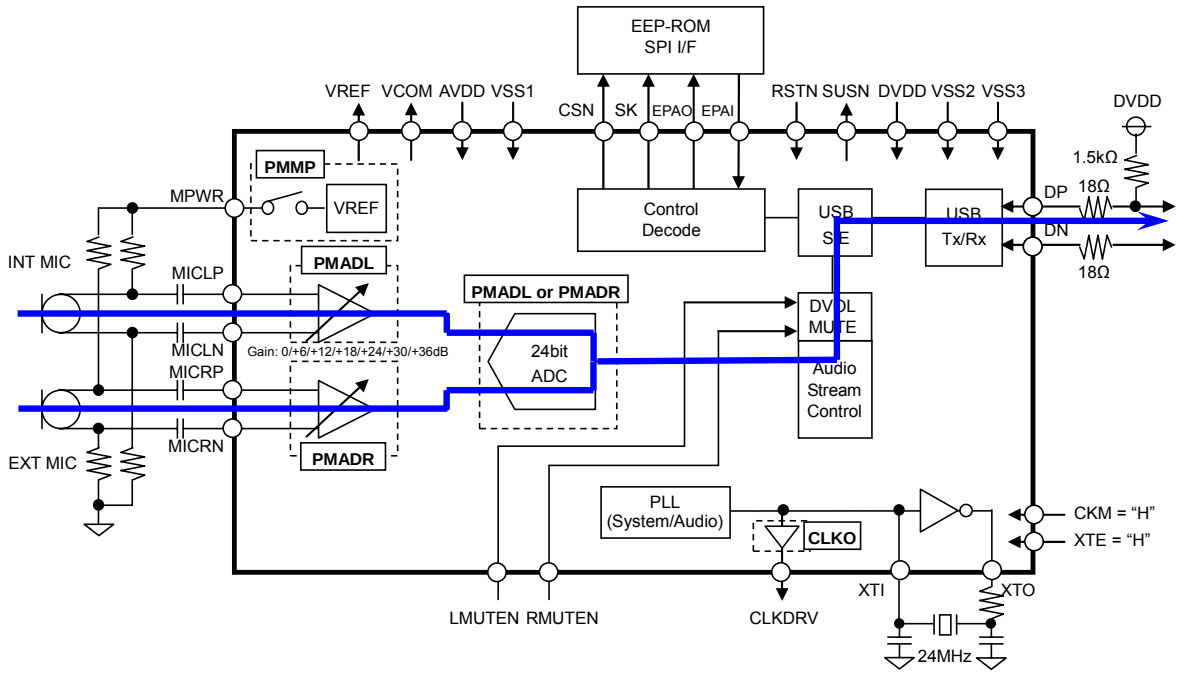


Figure 5. Internal ADC Streaming Mode

■ Evaluation

1) Runs “sound recorder” program in ‘accessory -> Entertainment’

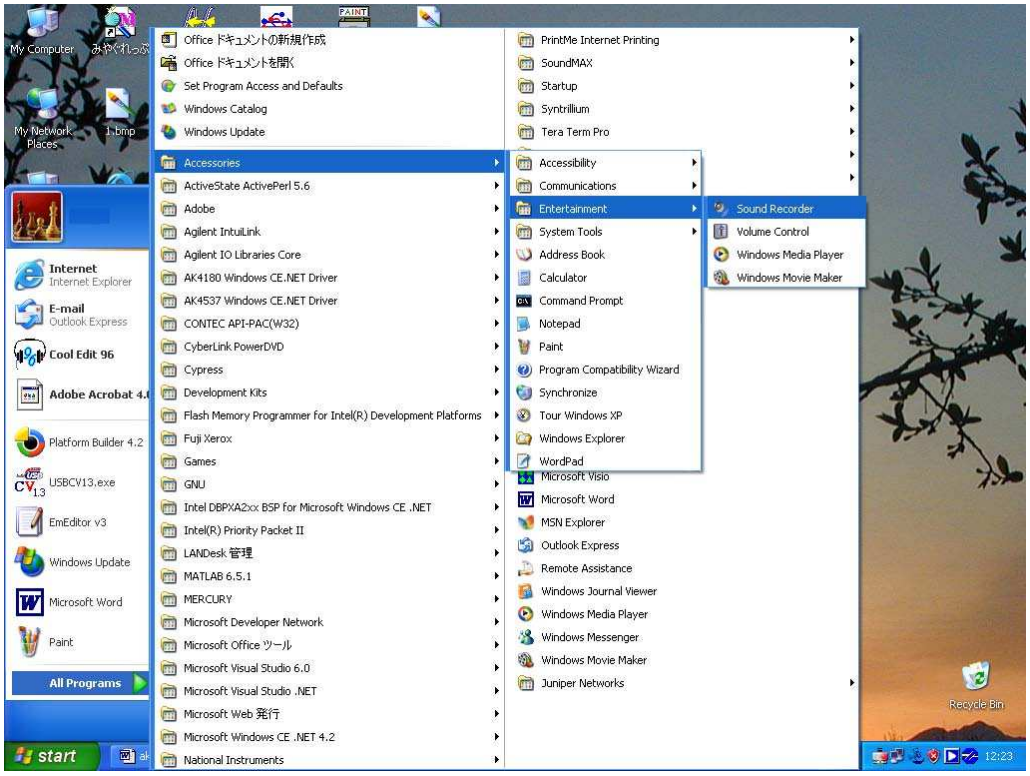


Figure 6. Sound Recorder

2) Select “Edit” -> “Property”, and then select “USB Audio Device (1)” as “Preferred Device”.

Figure 7. Audio Properties

3) When the icon or Volume in the Sound Recording block is clicked, the volume slider window appears. The top points value means the maximum value of the AK5374 under Windows. The Mute all check box is displayed.

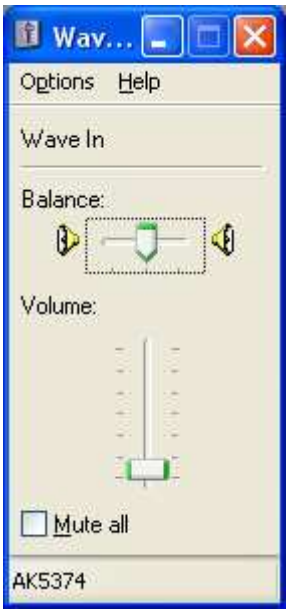


Figure 8. Volume Control

4) Select “File” -> “Property”, and then click “convert now.” button in the Property window. Then select “44100Hz 16bit Mono” or “44100Hz 16bit Stereo” as attribute on the Sound Recorder

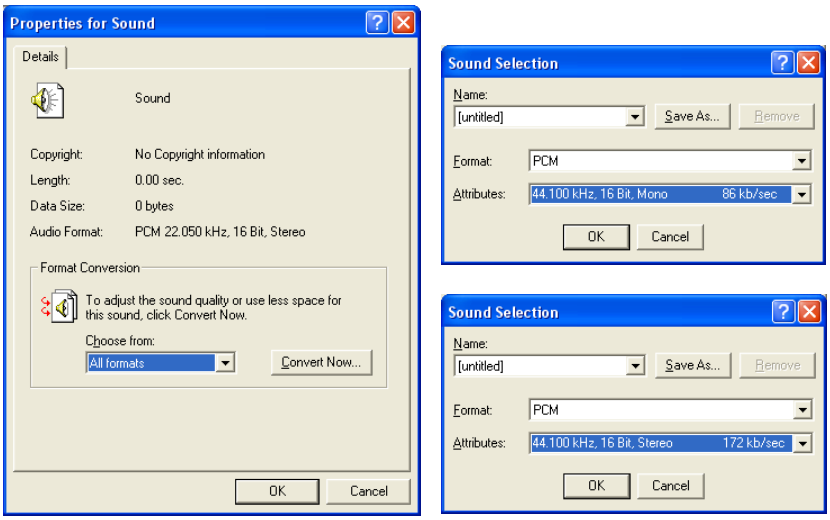


Figure 9. Sound Selecion

5) Check the microphone being plugged and volume control adjustment then you can start recording by pressing “Rec” button.