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XE100XUSB-PRO

All in One HD USB3.0 Capture Box
User's Guide

Rev 1.0
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Content

1 Preface

Thank you for purchasing VC100XUSB-PRO USB3.0 capture box!

The VC100XUSB-PRO capture box has a small size and is easy to carry, superior performance and flexible characteristics. The VC100XUSB can capture one High-Definition video signal or one Standard Definition video signal and one stereo analog audio signal. Video input can connect with SDI, HDMI, DVI, Component (YPbPr), VGA, CVBS, S-VIDEO.

The user‟s guide will provide with necessary instruction for proper use of VC100XUSB-PRO capture adapter.

2 Minimum Hardware Configuration

- Intel Core Solo
- 1G of RAM
- Available USB 3.0 interface

3 Recommended Hardware Configuration

- Intel Core i5
- 2G of RAM
- Available USB 3.0 interface

4 System Requirements

System should be one of the following systems (x 86 version or x64 version):

- Microsoft Windows XP

- Microsoft Windows Server 2003

- Microsoft Windows Vista

- Microsoft Windows Server 2008

- Microsoft Windows 7

- Microsoft Windows Server 2008 R2

5 Hardware and Driver Installation

Please refer to "**VC100XUSB-PRO Installation Guide**" to install the hardware and the driver.

6 Connection of Video Input

6.1 SDI Signal
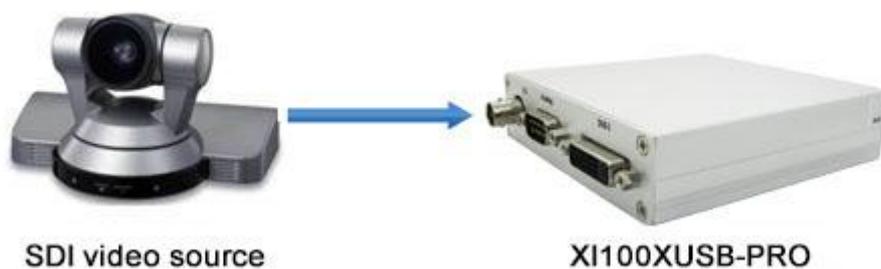
Figure 1, SDI signal connection sketch map

6.2　DVI-D/DVI-I Signal
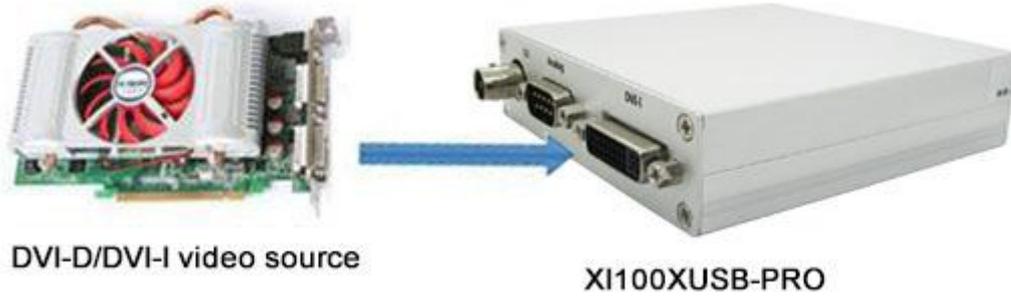
*Figure 2, 6.2　DVI-D/DVI-I signal connection sketch map*

6.3　HDMI Signal
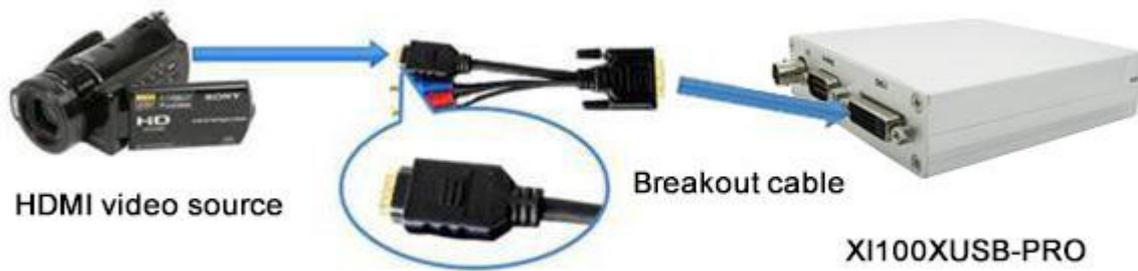
Figure 3, HDMI signal connection sketch map

6.4　VGA Signal
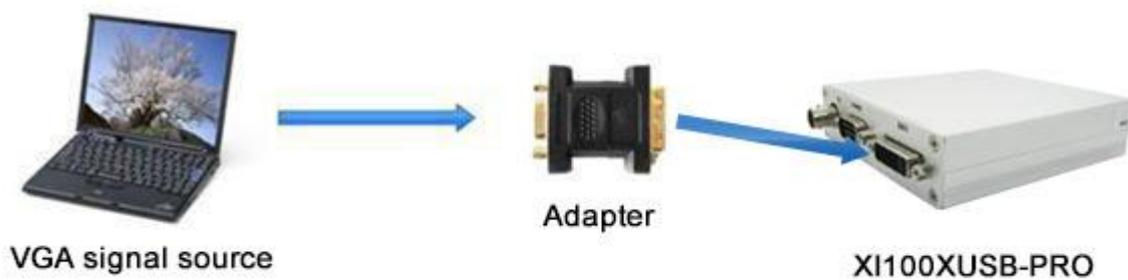
Figure 4, VGA signal connection sketch map

6.5 YpbPr Signal
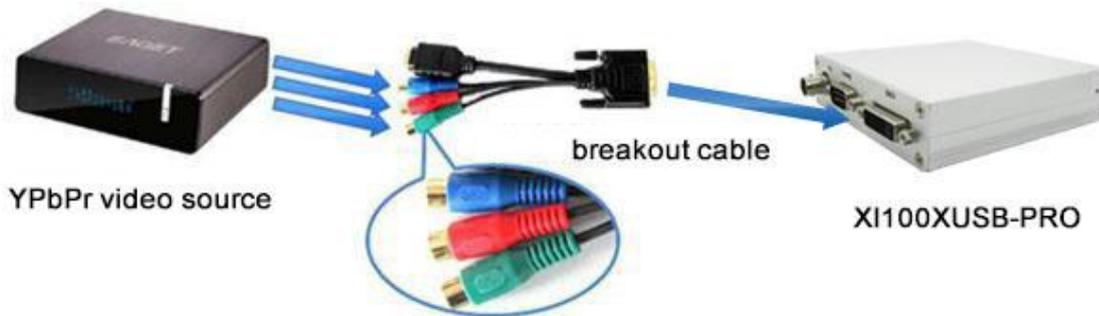
Figure5, first YpbPr signal connection sketch map
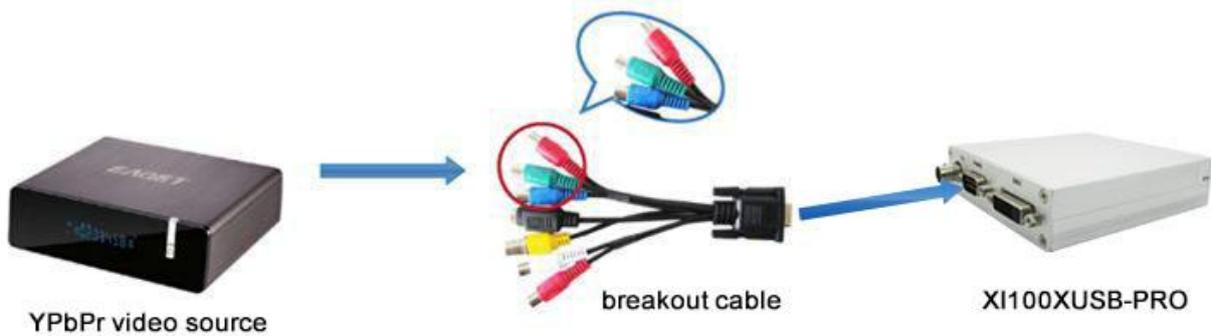
Figure6, second YpbPr signal connection sketch map

Note: Second YpbPr signal should be chosen manually.

6.6 CVBS signal
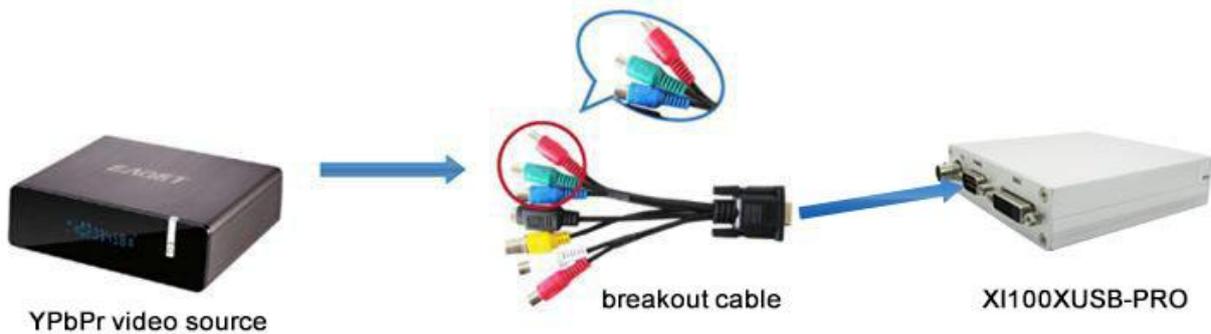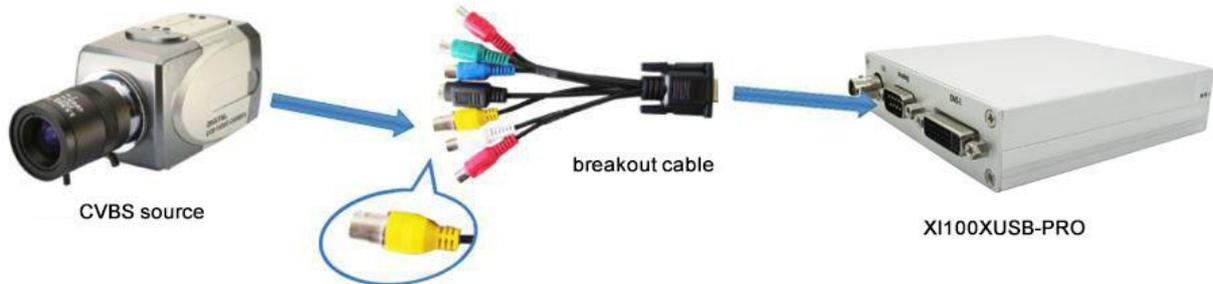
6.7 S-Video signal

Figure8, S-video signal connection sketch map

7. Connection of Audio Signal
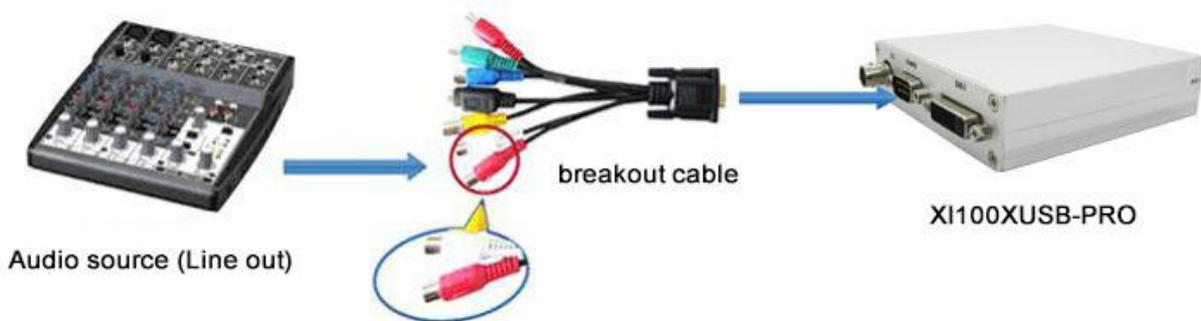
Figure 9, audio line in signal connection sketch map

Notes: The audio signal input is up to" **Line in**" level standard, if you need to connect microphone , must connect microphone with microphone input of "**microphone amplifier**" or "**mixer**" , and then "**microphone amplifier**" or " **mixer** "output is connected to the interface.

8 Video Capture Device Instruction

VC100XUSB-PRO is based on Microsoft DirectShow interface, one HD video capture device will be increased in operating system after installation:

● HD Video (VC100XUSB-Pro Box 1)

VC100XUSB-PRO not only offers basic options, such as image brightness, contrast, hue, saturation, Gamma and so on, but also provides additional options for setting function. You can use "**Filter Properties dialog window**" in DirectShow to set these options.

8.1   Display "Filter Properties Dialog Window" In Common Software

AMCAP: Double click "**AmCap.exe**", choose HD video device "**HD Video (VC100XUSB-PRO Box 1)**" in "**Devices**" menu, then click "**Video Capture Filter ...**" in "**Settings**" menu, pop-up " **Filter Properties dialog window**".

8.2   "Device" Instruction

Figure 10, Device Properties tab

Device Number: display serial of card, the number should be accorded with the barcode on the card.

Version: display related version number; versions include hardware version, firmware version, driver version, and device serial. You may request user to provide relevant version number when you solve problems.

Firmware: if new features need to upgrade the firmware, we should first backup it and then upgrade the firmware.

Notes: The different versions of the firmware and hardware cannot be mixed together, or else it will get error when upgrade. Additionally, do not power outage in the process of firmware upgrade, otherwise it will lead to upgrade firmware fail, then

VC100XUSB will not work. You have to return back to factory for being repaired.

8.3　"Advanced Settings" Instruction
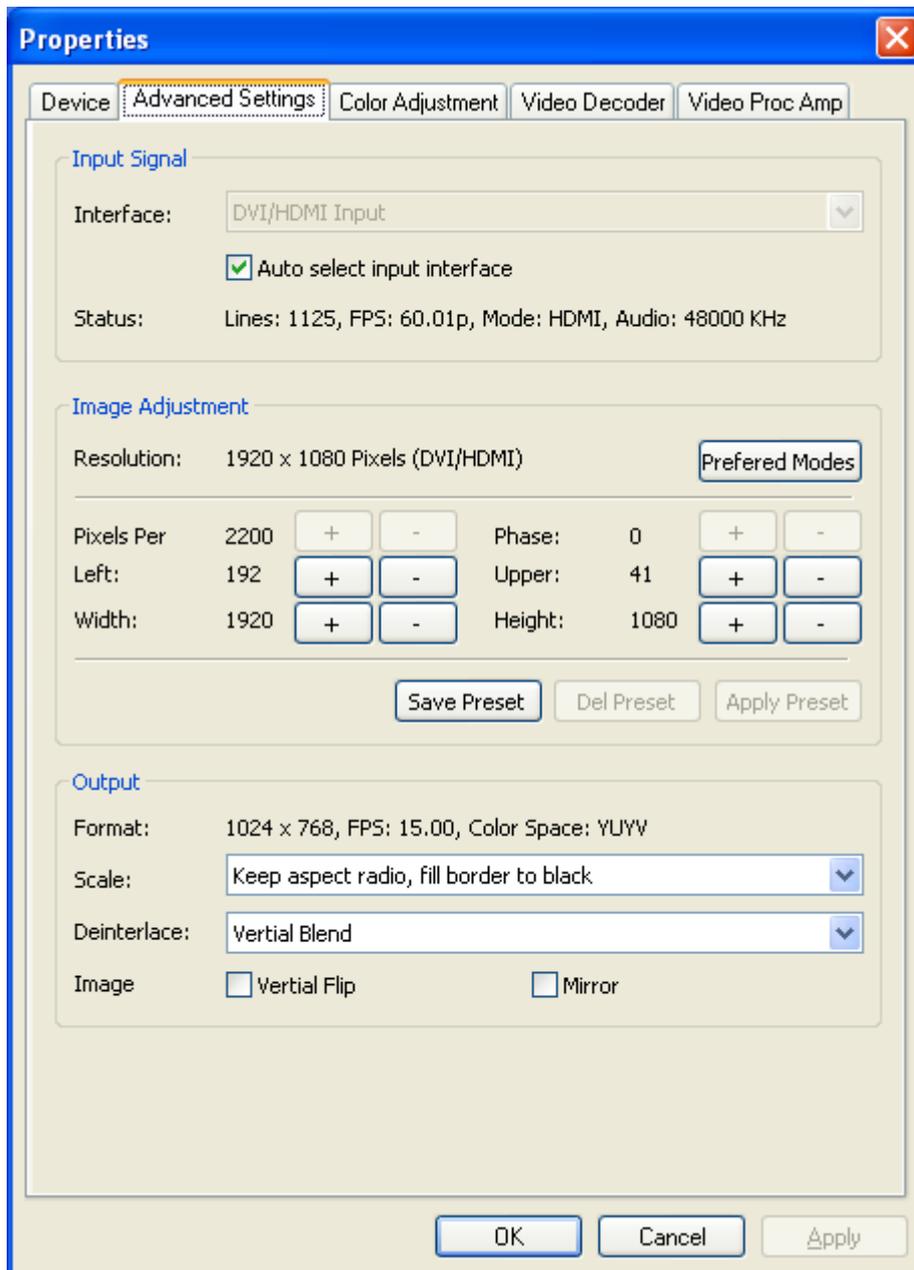
Figure 11, "Advanced Settings" page

8.3.1 Input Signal

8.3.1.1   Input Interface

By default, check "**Auto Select Input Interface**", supporting input interface includes: DVI / HDMI input, YPbPr input, CVBS input, S-Video input.

Notes: when "**Auto Select Input Interface**" is selected, if SDI, HDMI and YPbPr input interfaces all have signal access, then SDI input is preferred. You must select CVBS and S-Video input manually, otherwise it will be identified with YPbPr input.

8.3.1.2   Signal Status

The relevant parameters of signal are shown, such as total number of rows, frame rate (p is progressive scan, i is interlaced), mode, audio frequency.

8.3.2 Image Adjustment

By default, image is auto, but auto cannot achieve desired effect, such as black border, unclear image, picture which needs clipping, it must be adjusted manually. After adjustment, you can save the preset. Then you can apply preset values without adjustment when the same signal accesses.

For example as VGA signal adjustment:

- **Black border adjustment**: Through adjust left margin and top margin to eliminate black border. Every time you can adjust 1 pixel.

- **Image clipping**: Through adjust image width, height, left margin and top margin to achieve desired requirement. Increasing/reducing width of image starts from right, increasing/reducing height of image starts from below.

- **Select the correct resolution**: For the resolution with same number of row, the capture boxes may not recognize the correct resolution, like 1024x768、1280x768、1360x768, 1368x768, the number of rows are all 768，automatic adjustment may all recognition into 1024x768, then click automatic adjustment will pop up as shown in the following figure list, the user

can select the correct resolution.

```
Resolution Ratio: 1024 x 768 Pixels (GTF Standard)
Resolution Ratio: 1280 x 768 Pixels (GTF Standard)
Resolution Ratio: 1360 x 768 Pixels (GTF Standard)
Resolution Ratio: 1368 x 768 Pixels (GTF Standard)
```

- **Image clipping**: Through adjust image width, height, left margin and top margin to achieve desired requirement. Increasing/reducing width of image starts from right; increasing/reducing height of image starts from below.

  Skills of image clipping as follows:

  1. Set scale full output image to confirm whether clipping adjustment is appropriate.
  2. Cut off left margin of image: firstly increase left margin, then reduce image width.
  3. Cut off right margin of image: reduce image width.
  4. Cut off top margin of image: firstly reduce image height, and then increase top margin.
  5. Cut off lower margin of image: reduce image height.

After image adjustment completes, click "**Save Preset**" to save current adjustment; click "**Del preset**" to delete preset you saved; click "**Apply Preset**" to apply the saved preset to current settings.

8.3.3 Image Output

Display output format of current image, set image zoom scale, deinterlace and image flipping.

- **Format:** display output image size, frame rate, color format.

- **Scale:** if image size is not unified with user setting, we provide three ways, full output image and keep aspect ratio, fill border to black and keep aspect ratio, clip border. Full output image and keep aspect ratio is default.
- **De-interlace:** vertical blend, motion adaptive. Motion adaptive is better, but it takes up high CPU usage, also you can choose "disabled".
- **Image:** offer two ways, vertical flip and mirror.

8.4 "Color Adjustment" Instruction

Figure13，"Color Adjustment" properties page

Here can be adjusted R, G, B brightness and contrast separately, click **"Default"** to

restore default values.

9 Video Formats Setting

Driver is redefined "**Filter Output Pin**" interface and unified standard for SD and HD. Output resolution can be any size, even special resolution which is cut.

9.1 Display "Filter Output Pin" In Common Software

● **AMCAP:** Double click "**AmCap.exe**", choose HD video device " **HD Video (VC100XUSB-PRO Box 1)**" in "**Devices**" menu, then click "**Video Capture Pin ...**"in "**Settings**" menu, pop-up " **Filter Output Pin** ".

9.2 "Out Format" Instruction
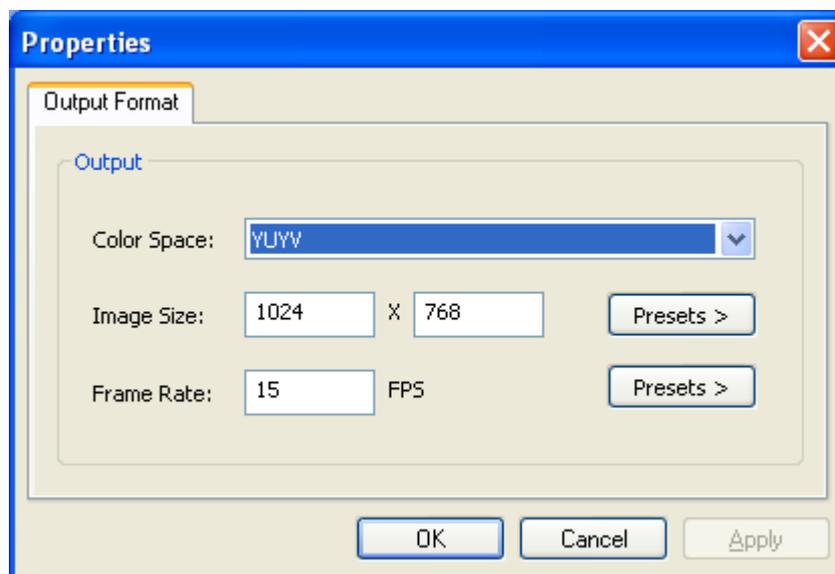
Figure 14," properties page"

Color Space: offer five color formats, YUYV, UYVY, I420, RGB 24 Bits, and RGB 32 Bits.

Image Size: set image size of output, it can be written manually, or select output resolution from "**Presets**", the bold font resolution at the top is the same as capture

image, it is the best resolution.

Frame Rate: set output frame rate, it can be written manually, or select from "**Presets**". If application software is set output frame rate, now setting is no effect, when you open again, it will return frame rate in application software.

10 Audio Capture Device Instruction

VC100XUSB-PRO support embedded HDMI and SDI in LPCM audio, based on the Microsoft DirectShow interface. After installation in operating system, the relevant audio devices will be added on. Any software which is compatible with DirectSound, DirectShow can use the recording device for capturing sound.

10.1 Windows XP, Windows 2003

The name of audio capture device under Windows XP, Windows 2003:

- HDMI In (VC100XUSB-PRO Box 1) , digital audio devices, embedded SDI or HDMI audio signal.
- Line In (VC100XUSB-PRO Box 1 , analog audio equipment

Through system "**Volume Control**" to adjust the recording volume, specific steps as follows:

1. In system notification icon area on right corner double-click " " button to pop-up "**Open Volume Control**" window.

2. Open "**Options**" menu, select "**Properties**" menu item.

3. In "**Mixer**", select "**Digital In (VC100XE-PRO Box 1)**" or „**Line In (VC100XUSB-PRO Box 1)**", click "**OK**" button.

4. Corresponding volume control project will be displayed, this time you can operate volume and "**quiet**" according to your requirement.

Figure 15, Windows XP/2003"VolumeControl"-"Properties" dialogue

10.2 Windows Vista, Windows 7, Windows 2008, Windows 2008 R2

- HDMI In (VC100XUSB-PRO Box 1) , digital audio devices, embedded SDI or HDMI audio signal.

- Line In (VC100XUSB-PRO Box 1 , analog audio equipment

Through system **"Volume Control"** to adjust recording volume, specific steps as follows:

1. In system notification icon area on right corner right-click " "button, select **"Recording devices"** in pop-up menu.

2. In pop-up list which displays recording device, select **"HDMI In"** or **"Line In"**,

click "**Properties**" button, system will pop up device properties dialog window.

3. In Properties dialog box, select "**Level**s" property page, then you can operate volume control and "**Quiet**" according to your requirement.
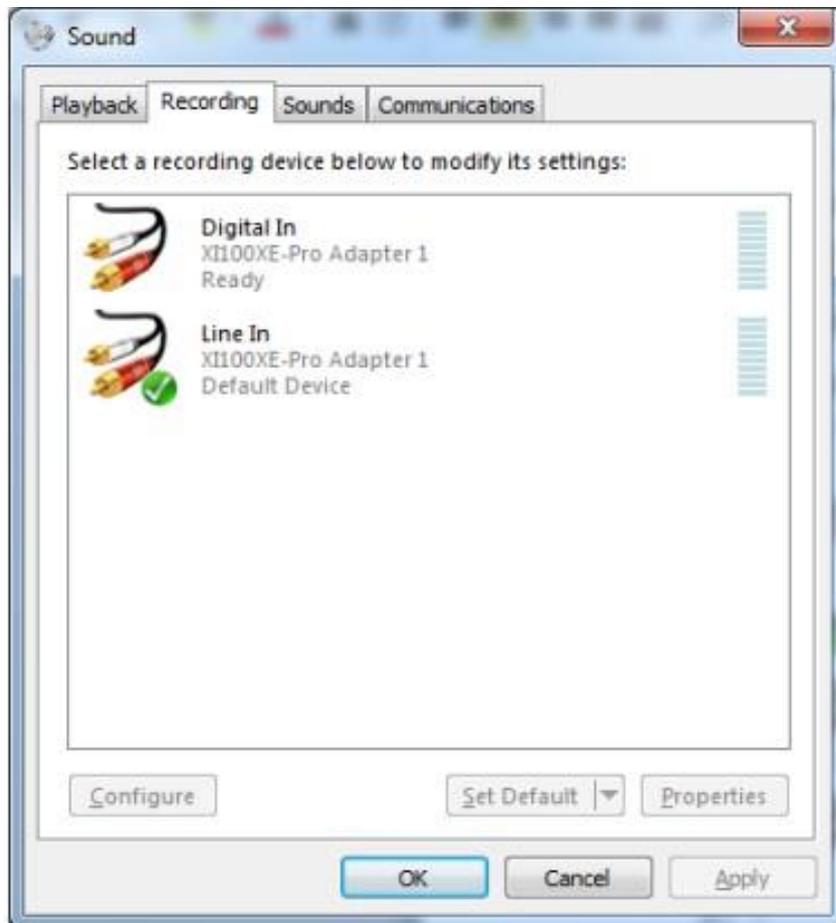

Figure16，Windows Vista/7 dialogue

11 Compatible Software Instruction

VC100XUSB-PRO can be compatible with variety of audio and video capture software which is based DirectShow interface, and audio capture software which is based DirectSound interface, such as:

- Windows Media Encoder
- Adobe Flash Media Live Encoder
- Real Producer Plus

- VideoLAN for Windows

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