MAGEWELL™

# XI104XUSB

## HD+ Quad A/V USB3.0 Capture Box

## User’s Guide

**Rev 1.0**

**2012/9/10**

# Content



 

# 1. Preface

Thank you for choosing XI104XUSB easy-to-carry USB 3.0 HD/SD video capture box!

XI104XUSB USB3.0 capture box has a small size and is easy to carry. It can simultaneously capture 1 HD video signal and quad SD video signals and dual analog stereo audio signal. The HD input can connect HDMI, DVI, YPbPr, VGA (RGB-HV) and composite (CVBS) signals.

This user guide provides you with necessary instruction when you use XI104XUSB capture box.

# 2 Minimum Hardware Configuration

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

# 3. Recommended Hardware Configuration

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

# 4. Software Requirement

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 "**XI104XUSB Installation Guide**" to install the hardware and the driver.

 

# 6. Connection of HD Input

### a) DVI-D/DVI-I signals

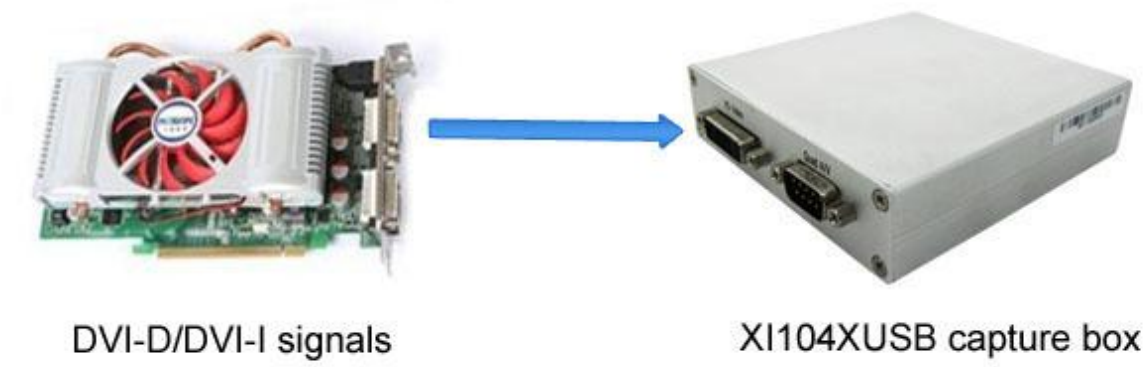


*Figure 1 DVI connection*

### b) HDMI signals

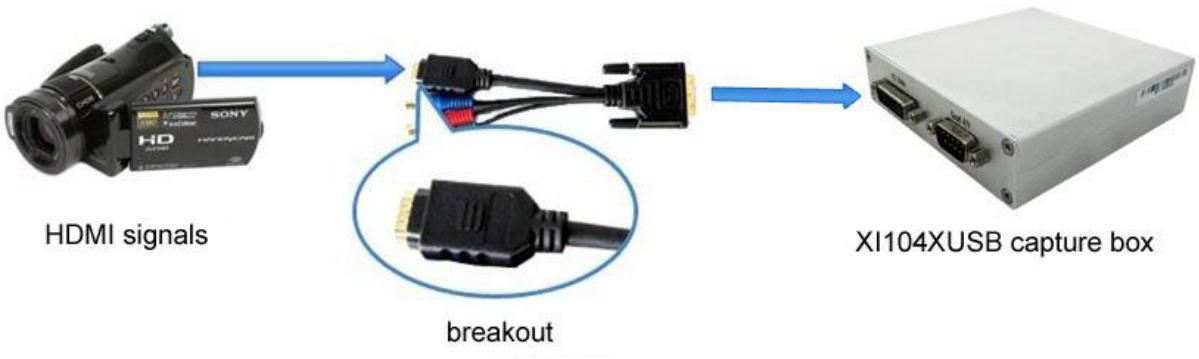


*Figure 2 HDMI connection*

 

### c) VGA signals (RGB-HV)


*Figure 3 VGA connection*

### d) Component signal (YPbPr)

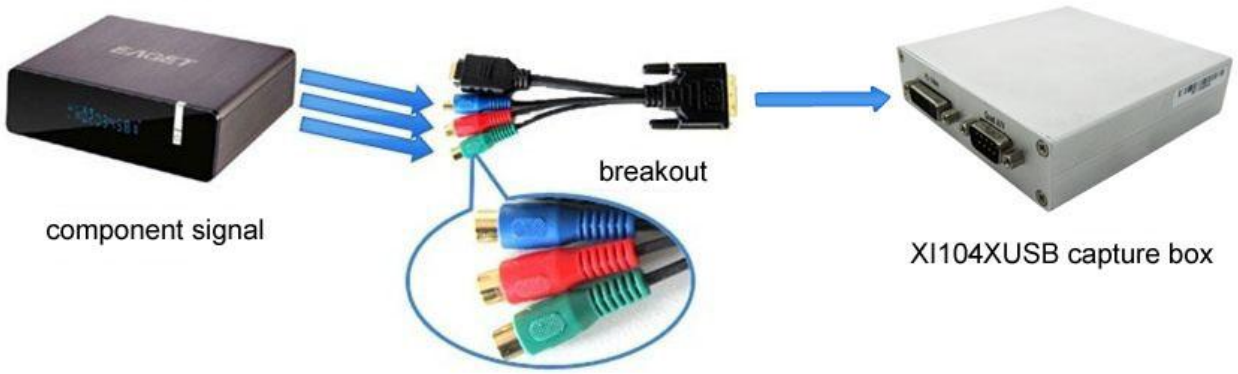


*Figure 4 Component connection*

### e) CVBS

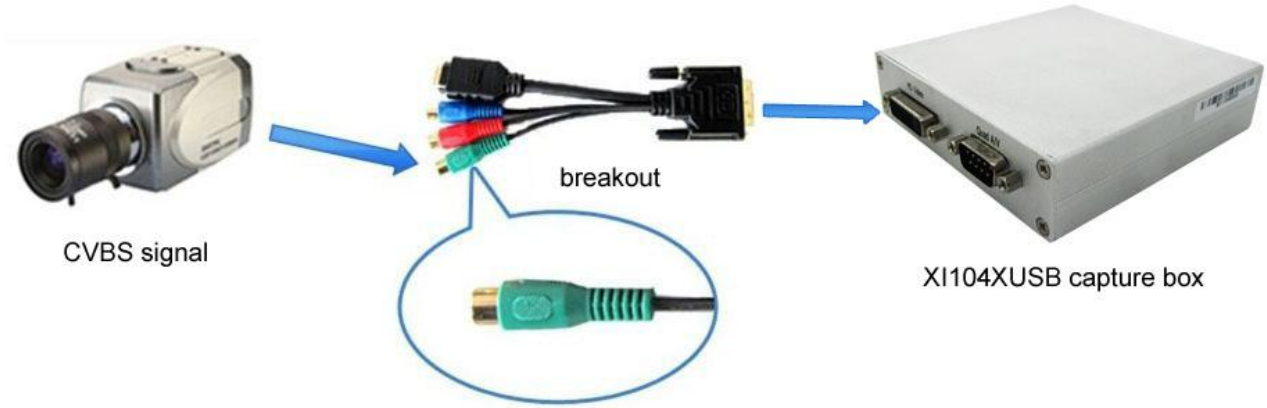


*Figure 5 CVBS connection*

 

# 7. Connection of SD Input

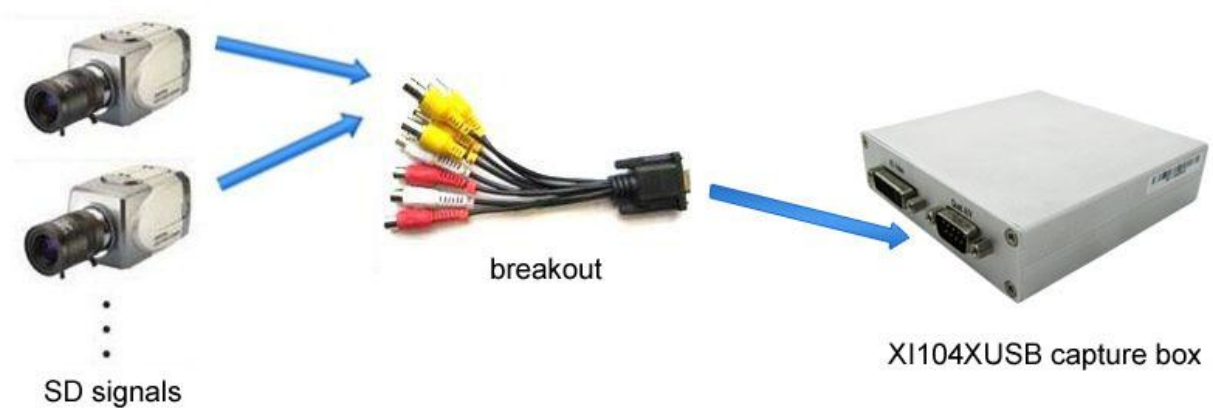


*Figure 6 SD CVBS connection*

# 8. Audio Connection

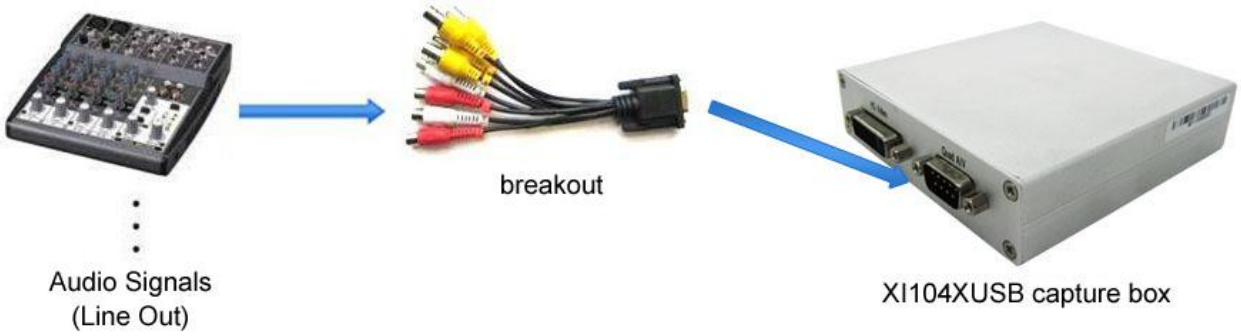


*Figure 7 , Audio Input Connection*

Note: 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.

# 9. Video Capture Devices Instruction

XI104XUSB is based on Microsoft DirectShow interface, and after the installation, 5 video

devices will be added in the operating system:

- HD Video (XI104XUSB Adapter x) HD capture device
- Video 1 (XI104XUSB Adapter x) SD capture device
- Video 2 (XI104XUSB Adapter x) SD capture device
- Video 3 (XI104XUSB Adapter x) SD capture device
- Video 4 (XI104XUSB Adapter x) SD capture device

The HD Video (XI104XUSB Adapter x) is corresponding to DVI-I input interface; Video 1 / 2 /3/4 (XI104XUSB Adapter x) is corresponding to four yellow video BNC interface in SD breakout cable. The breakout cable will connect to the "Quad A/V" interface on the capture box.

XI104XUSB not only offer basic options, such as image brightness, contrast, hue, saturation, Gamma and so on, but also provide additional options for setting function. You can use "Filter Properties dialog window" in DirectShow to set options.

**a) Display "Filter Properties Dialog Window" In Common Software**

- **AMCAP**: Double click "AmCap.exe", choose HD video device "HD Video (XI104XUSB Adapter1)" in "Devices" menu, then click "Video Capture Filter ..." in "Options" menu, pop-up "Filter Properties dialog window".

**b) Instruction of "Properties"**


*Figure 8 Properties*

- **Device Number:** display the serial number of the capture box, and the number shall be the same as the bar code on the capture box.
- **Version:** display the version number. The version includes hardware version, firmware version, driver version and device serial number. When solving your problems, you need to provide the version number.
- **Firmware:** if the firmware needs upgrades, we can first backup the firmware and then upgrade it.

**Note:** Firmware cannot be mixed for different hardware. If the firmware is wrong, the update will have errors. Meanwhile, please ensure the power during the upgrade or it will lead to failed upgrade and USB 3.0 capture box may not be able to work and have to be

 

returned to repair.

### c) Instructions for Advanced Settings of HD capture device

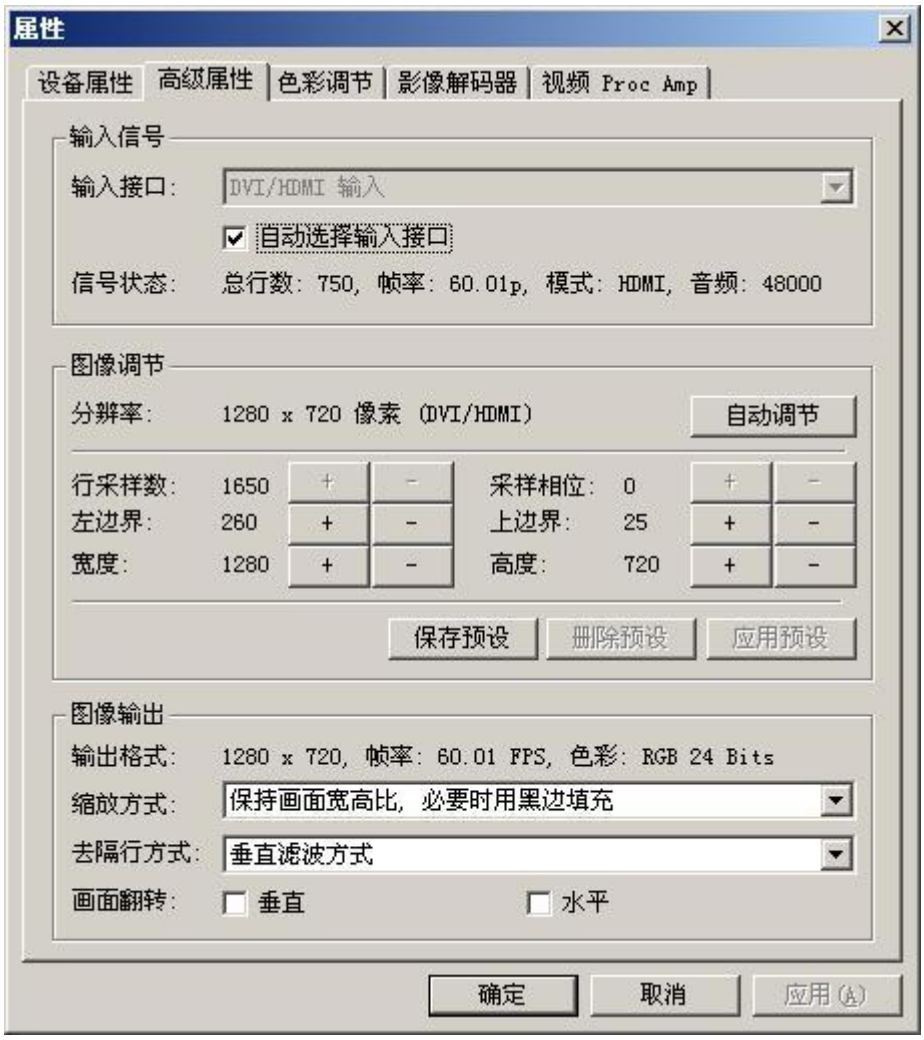


*Figure 9 Advanced Settings*

#### i. Input Signals

##### 1. Input Interface

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

Notes: when "Auto Select Input Interface" is selected, if HDMI and YPbPr input interfaces both have signal access, then HDMI input is preferred. You must select CVBS

 

manually, otherwise it will be identified with YPbPr input. Signal must access Y interface (green RCA interface). In fact, the capture card can capture 5 SD signals together with other 4 composite video inputs which XI104XUSB offers.

### 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.

## ii. Image Adjustment

By default, image is auto, but it cannot achieve desired effect, such as black border, unclear image, picture which needs clipping, you must adjust 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:** by adjusting left margin and top margin to eliminate black border. Every time you can adjust 1 pixel.
- **Text definition adjustment:** adjust line number of samples and sampling phase to achieve desired definition of text.
- **Select correct resolution quickly:** the capture card cannot identify correct resolution with the same number of rows, such as 1024x768, 1280x768, 1360x768, 1368x768, lines are all 768, auto may be all identified as 1024x768, then click "auto", a list will pop up as shown below, user can select the correct resolution.


*Figure 10 auto pop-out menu*

- **Image Clipping:** by adjusting 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 bottom.

  **Skills of image clipping as follows:**

  1. Set scale "fill output image" to confirm whether clipping adjustment is appropriate.

 

2. Cut off image left: firstly increase left margin, then reduce image width.
3. Cut off image right: reduce image width.
4. Cut off image top: firstly reduce image height, and then increase top margin.
5. Cut off image bottom: 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.

### iii. Image Output

Display output format of current image, set image zoom scale, de-interlace and image flipping.

- **Output Format:** display output image size, frame rate, color format.
- **Scale Method:** 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-interlacing:** vertical blend, motion adaptive. Motion adaptive is better, but it takes up high CPU usage, also you can select “disabled”.
- **Image Flip:** Provides two kinds of flip methods, vertical and horizontal.

 

### d) SD Capture Device" Advanced Video Settings" Instruction


*Figure 11，SD Capture Device" Advanced Video Settings" page*

The SD capture device "Advanced Video Settings" page is the same as the HD capture device, only that the "input interface" have the CVBS input.

 

**e) Instruction of "Color Adjustment"**


*Page 12 , " Color Adjustment" of HD capture device*

You can set the brightness, contrast of R, G, B separately at this page. Click "Default Settings", the settings can be recovered.

Note: the adjustment is only valid for HD capture device and you cannot set for SD capture device.

## 10. Settings for Video Format

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.

a) The Display "Filter Output Pin" In Common Software

 

- **AMCAP**：Double click "AmCap.exe", choose HD video device "HD Video (XI104XUSB Adapter1)" in "Devices" menu, then click "Video Capture Pin ..."in "Options" menu, pop-up "Filter Output Pin".

**b) Instruction of "Video Formats"**


*Figure 13 Filter Output Pin*

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

## 11. Audio Capture Device Instruction

XI104XUSB is based on Microsoft DirectShow interface. After installation, the relevant audio device will be added in the operating system. Any software which is compatible with DirectSound, DirectShow can use the recording device for capturing sound.

**a) Windows XP, Windows 2003**

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

 

- HDMI In (XI104XUSB Adapter x)
- Line In 1 (XI104XUSB Adapter x)
- Line In 2 (XI104XUSB Adapter x)

Through system "Volume Control" to adjust 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 "Audio (XI104XUSB Adapter x)", click "OK" button.
4. Corresponding volume control project will be displayed, this time you can operate volume and "mute" according to your requirement.


*Figure 14，Windows XP/2003 "Volume Control" - "Properties" dialogue*

**b) Windows Vista, Windows 7, Windows 2008, Windows 2008 R2**

In such operating systems, each USB 3.0 capture box will display three audio capture device:

- HDMI In (XI104XUSB Adapter x)
- Line In 1 (XI104XUSB Adapter x)
- Line In 2 (XI104XUSB Adapter x)

 

Through system "Volume Control" to adjust the 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 "Levels" property page, then you can operate volume control and "Mute" according to your requirement.


*Figure 15 , Windows Vista/7 Recording Device Properties Dialogue*

## 12. Software Compatibility

XI104XUSB is compatible with any software that is based on DirectShow interface and DirectSound interface, such as:

 

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

## 13. Important Notice

If your USB 3.0 interface is "Intel USB 3.0 Extensible host controller", when you use the capture box for some while, the XI104XUSB capture box may disappear and recover again, which may lead to the pause of capture. In order to solve the problem, you can run the application or you can download from the website to disable the USB 3.0 power management. The steps go like below:

1. Double click "nusb3utl.exe" in the directory. Pop out the setting interface as below:


*Figure 16，USB3.0 power management setting dialogue*

2. Click "disable USB 3.0 power management" and click "OK".