BrIlliantTech™
Inspiring Brilliant Minds

INSTRUCTION MANUAL

Please read this instruction manual carefully before using this product and keep it for future reference.

DOCUMENT CAMERA

i-2130

PRECAUTIONS

Please follow these precautions:

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To prevent electrical shock, do not open the cabinet. Refer to qualified personnel for service only.

Do not use the unit continuously for more than 24 hours with camera auto focus on. It may cause damage to the camera lens.

Be careful not to spill water or other liquids onto the unit, or allow combustible or metallic objects to get inside the cabinet.

Unplug the i-2130 from the wall outlet when it is not being used for a long period of time.

Clean the front panel with a soft cloth lightly moistened with a mild detergent solution.

Clean the lens carefully with an air spray or soft dry cloth to avoid scratching it.

When the lamps flash or become dark, they should be replaced with new LED lights.

Avoid switching arm lights and back light frequently.

CONTACT INFORMATION

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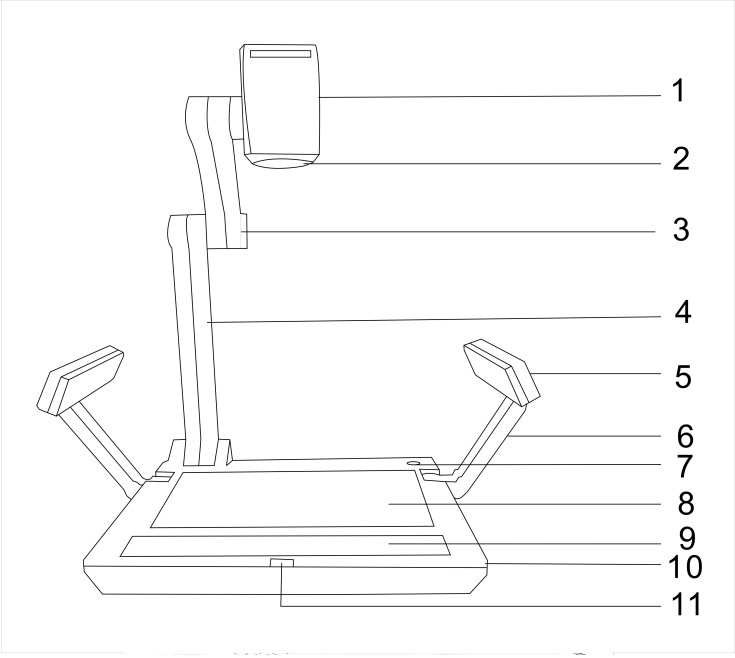
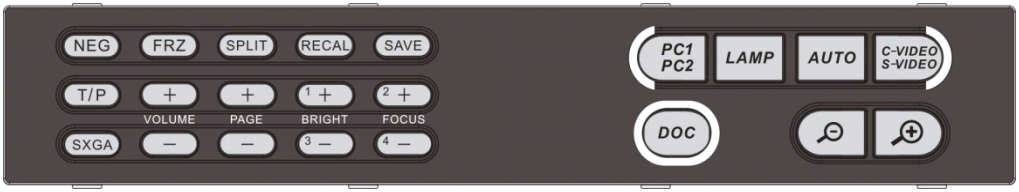
Table of Contents

PARTS IDENTIFICATION



1. camera cover
2. camera lens
3. upper mechanical arm
4. main mechanical arm
5. side lamp
6. lighting arm
7. power switch
8. base light
9. control panel
10. base unit
11. infrared receiver

CONTROL PANEL



DOC: Press for less than 3 seconds to display the current image on the platform. When the camera is in operation, press for 3 seconds, it will stop transmitting image and go to standby, press for another 3 seconds, the camera will go back to work.

C-VIDEO S-VIDEO: Switch the input between Composite Video & S-Video

PC1 PC2: Switch the input between PC1 & PC2

LAMP: Toggle arm light, back light and no light

AUTO: Carry out auto focus, color adjustment and white balance

ZOOM+, ZOOM-: Image zoom in and zoom out control

NEG: Switch the image mode between positive and negative

FRZ: Freeze and unfreeze the image

SPLIT: Split screen, enable the comparison between the frozen image and live image

RECAL: Image recall mode enabled, display the saved images

SAVE: Capture and save the current image

T/P: Switch the output image between the text mode and picture mode

SXGA: Switch the output signal between XGA (1024 x 768 @ 60Hz) and SXGA (1280 x 1024 @ 60Hz)

VOLUME+, VOLUME-: Output volume control

PAGE+, PAGE-: Saved image page up and page down when image recall mode is enabled

BRIGHT+, BRIGHT-: Image brightness control

FOCUS+, FOCUS-: Adjust focus manually, focus far and focus near.

In the image recall mode:

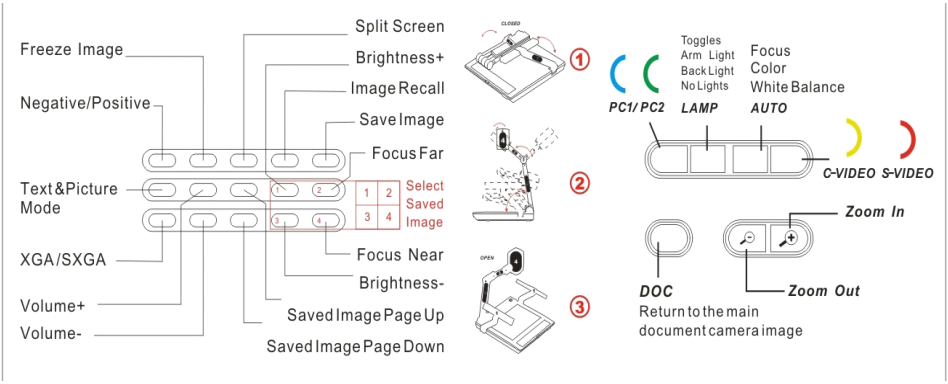
1 (BRIGHT+): Display the first image.

2 (FOCUS+): Display the second image.

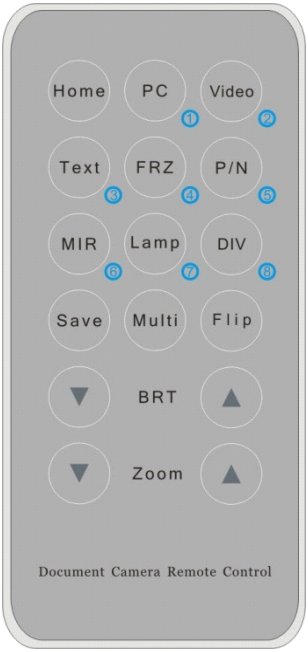
3 (BRIGHT-): Display the third image.

4 (FOCUS-): Display the fourth image.

BUTTON INSTRUCTION



REMOTE CONTROL



1. **Home:** Press for less than 3 seconds to output the current image of the camera. Press this button for 3 seconds to auto white balance.
2. **PC:** Switch the input VGA source (PC1 & PC2).
3. **Video:** Switch the input Video signal source (video1 or video2).
4. **Text:** Switch the image between the text mode and image mode. Text mode sharpens the black and white contrast to increase the readability of the text.
5. **FRZ:** Freeze and unfreeze the image
6. **P/N:** Switch the image mode between the positive and negative mode
7. **MIR:** Switch the output image between the right/left mirrored image, up/down mirrored image and original image.

8. **Lamp:** Toggle arm light, back light & no light
9. **DIV:** Split screen function to allow side by side comparison of the frozen image and live image.
10. **Save:** Capture the image in display
11. **Multi:** Multi-image mode enabled. Press again, back to the normal mode. In the multi-image mode:

    PC/①: Display the first image.

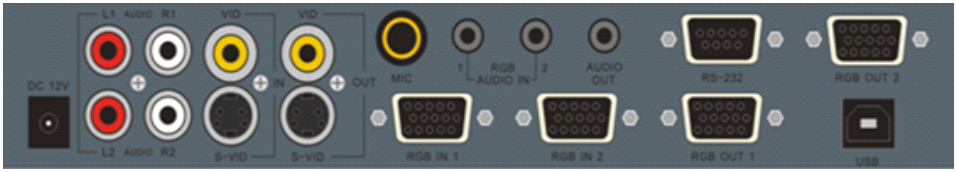
    Video/②: Display the second image.

    Text/③**:** Display the third image.

    FRZ/④**:** Display the fourth image.

12. **Flip:** Image page turning in multi-image mode.
13. **BRT:** Image brightness control.
14. **Zoom:** Image zoom in and zoom out control.

CONNECTION TERMINALS



L1, R1: Audio input of Composite video input

L2, R2: Audio input of S-Video input

VID IN: Composite video input

S-VID IN: S-Video input

VID OUT: Composite video output

S-VID OUT: S-video output

MIC：Microphone input

RGB AUDIO IN 1/2: Audio input for RGB input 1/2

AUDIO OUT: Audio output

RGB IN 1/2: RGB signal input 1/2(15 pin D-SUB)

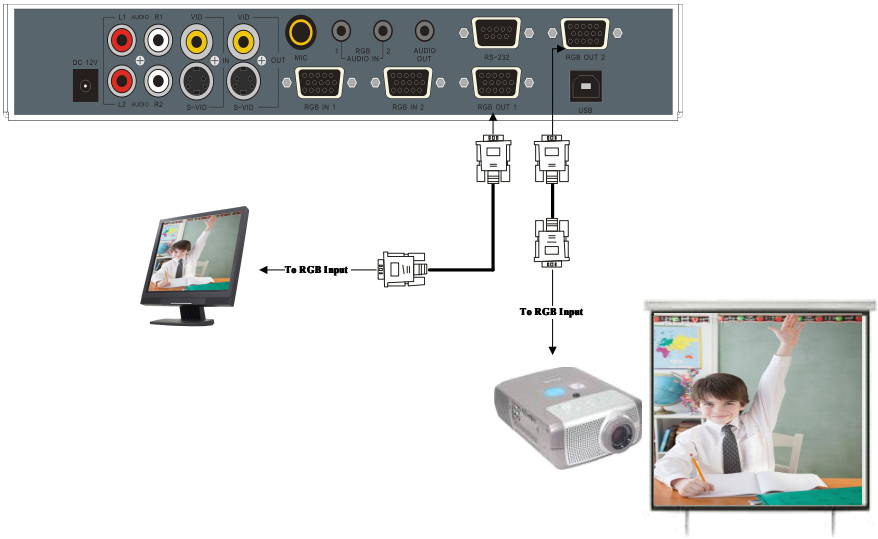
RGB OUT 1/2: RGB signal output 1/2(15 pin D-SUB)

RS-232: Serial port, to control the document camera with computer or external control system via this port.

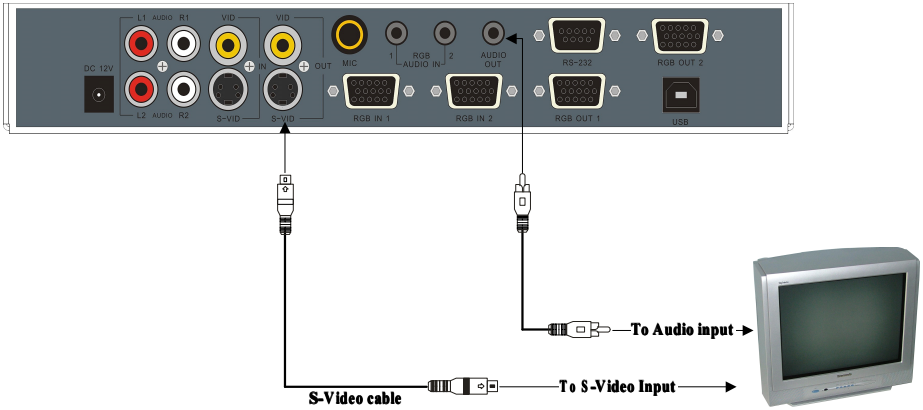
USB: Capture image into a connected computer via provided software

MAKING CONNECTIONS

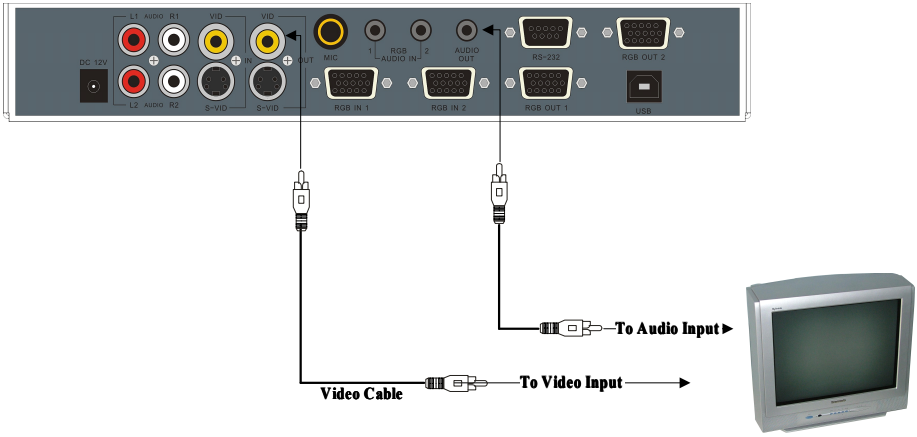
1. VGA output connection



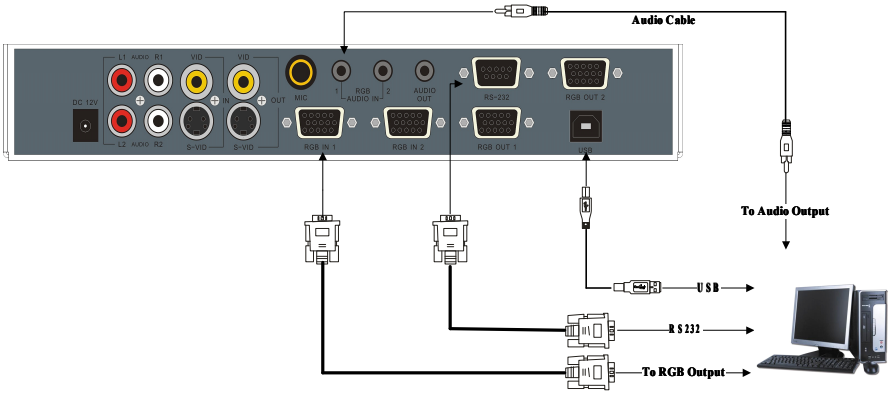
2. S-Video output connection



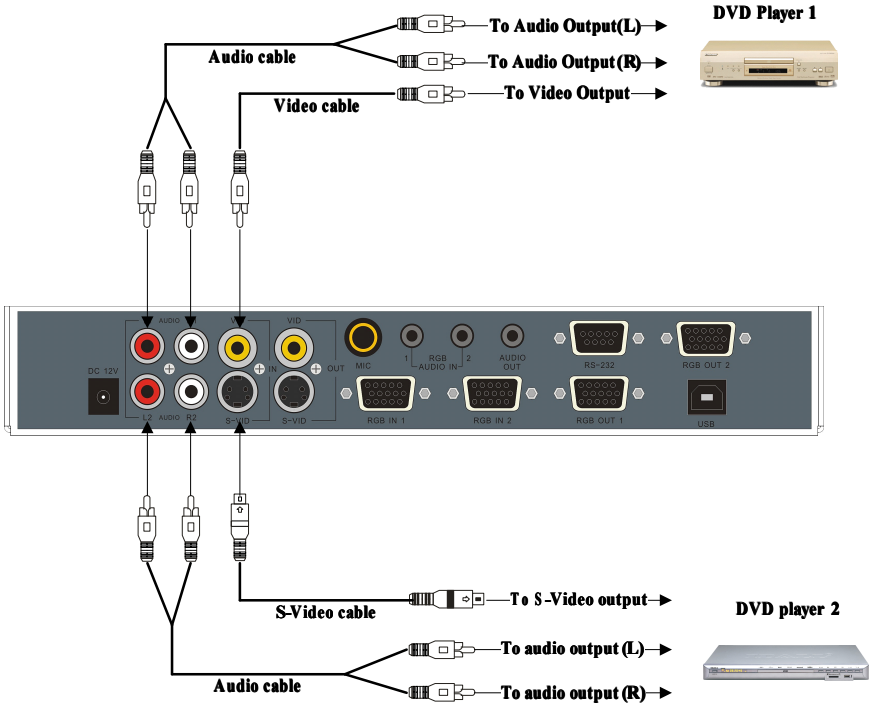
3. Video output connection



4. Computer connection



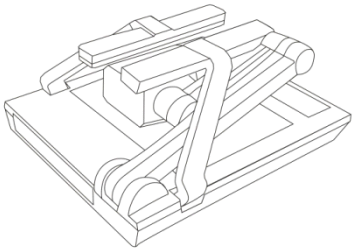
5. DVD or other video input connection



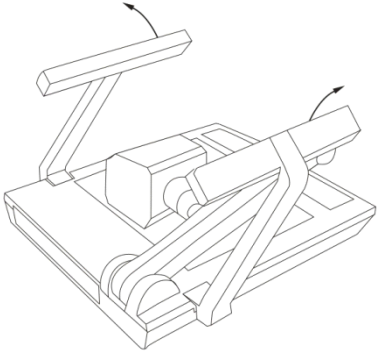
BASIC PREPARATIONS

SETTING UP:

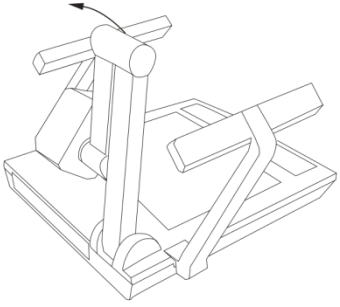
1. Unpack, put aside all packing materials. Unfold the lighting arms until reach the end position.



2. Raise the camera arm completely.



3. Rotate the camera head until the lens face the center of the base unit.



4. Connect RGB interface: Plug one end of the provided RGB cable into the RGB output terminal on the i-2130 and plug the other end into the RGB input terminal on the display device (projector, flat panel LCD, or plasma monitor).

   Because the i-2130 is equipped with a built-in video to VGA scaler, once this connection is made, all input signals including camera, computer1, computer2, VCR, and DVD can be output through this RBG cable.

5. Connect the composite video-in interface: Plug one end of the provided RCA cable into the i-2130's video input terminal and plug the other end into the video device's video output terminal.

6. Connect the S-video-in interface: Plug one end of the provided S-video cable into the i-2130's S-Video input terminal and plug the other end into the video device's S-Video output terminal.

7. Plug the power cord into the power cord receptacle of the document camera and the AC outlet.

8. Take off the lens cap.

Note: Depending on the application, step 5 and 6 are not necessary if you do not need to display any video signal from a DVD or VCR.

Access Basic Functions:

1. **General:**
   a. Turn on the power switch.
   b. Place the target object on the base unit surface.
   c. Adjust the image size according to the object size by pressing the ZOOM+, ZOOM- buttons on the control panel.
   d. Press the AUTO button for automatic focus.
   e. The FRZ button can be used to lock the image while changing displaying materials.
   f. SPLIT button can be used to compare a previous captured image with the current image side by side.

2. **Showing text image**
   For sharper image, access the text mode by pressing the T/P button.

3. **Showing the 3D objects:**
   Use the FOCUS+, FOCUS- buttons on the front panel to adjust the focus on any part of the 3D object.

4. **Showing the transparent material such as an overhead transparent sheet:**

   Press the LAMP button until the built-in base light lights are on.

OUTPUT MODE AND VERTICAL FREQUENCY (60Hz)

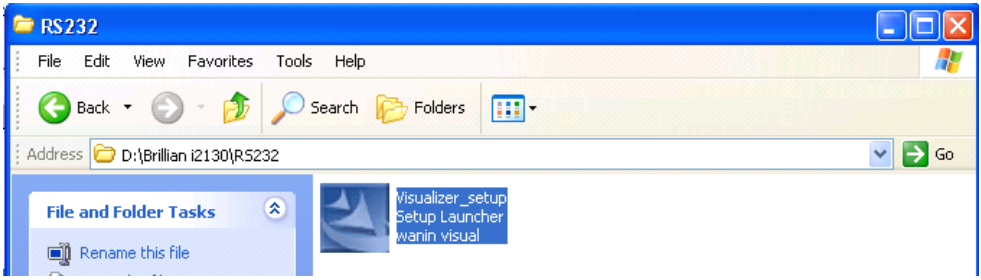
The RGB output can output a signal in the SXGA /XGA format.

In order to achieve the best picture quality you must set the outputs of the i-2130 to match the native resolution of your display unit.

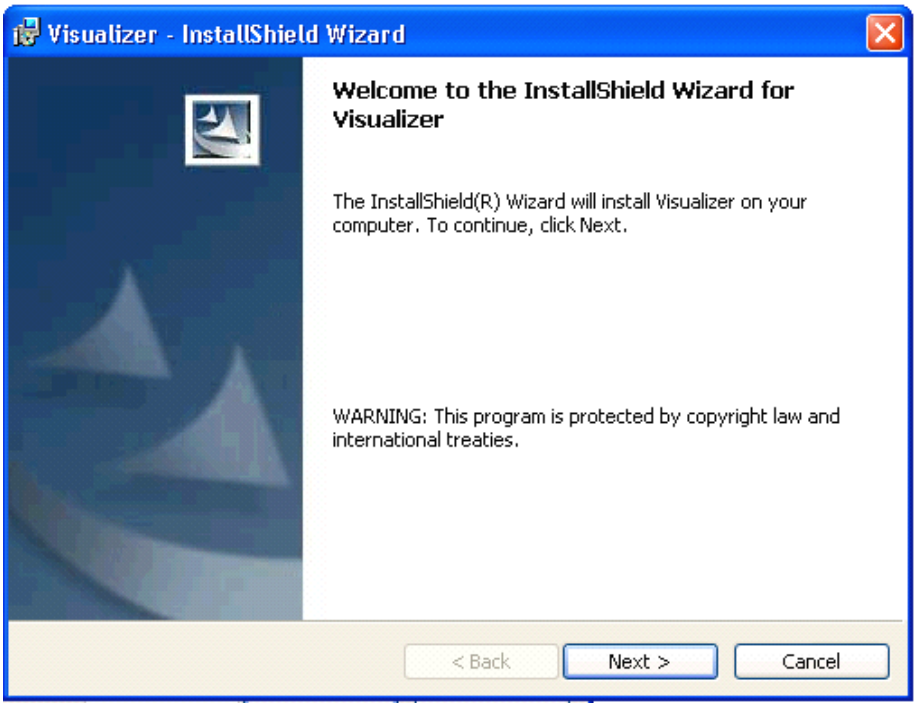
INSTALLING SOFTWARE

Insert the provided software CD-ROM into your computer.

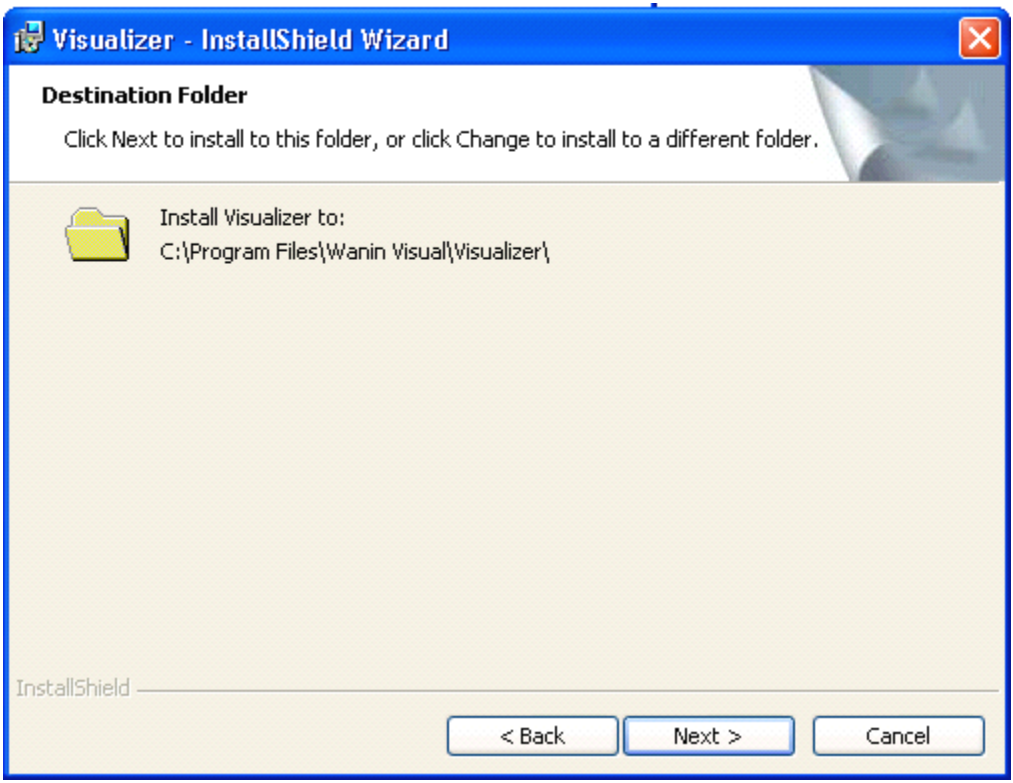
Open the RS232 folder and double click the i-2130_setup to run the install shield wizard.



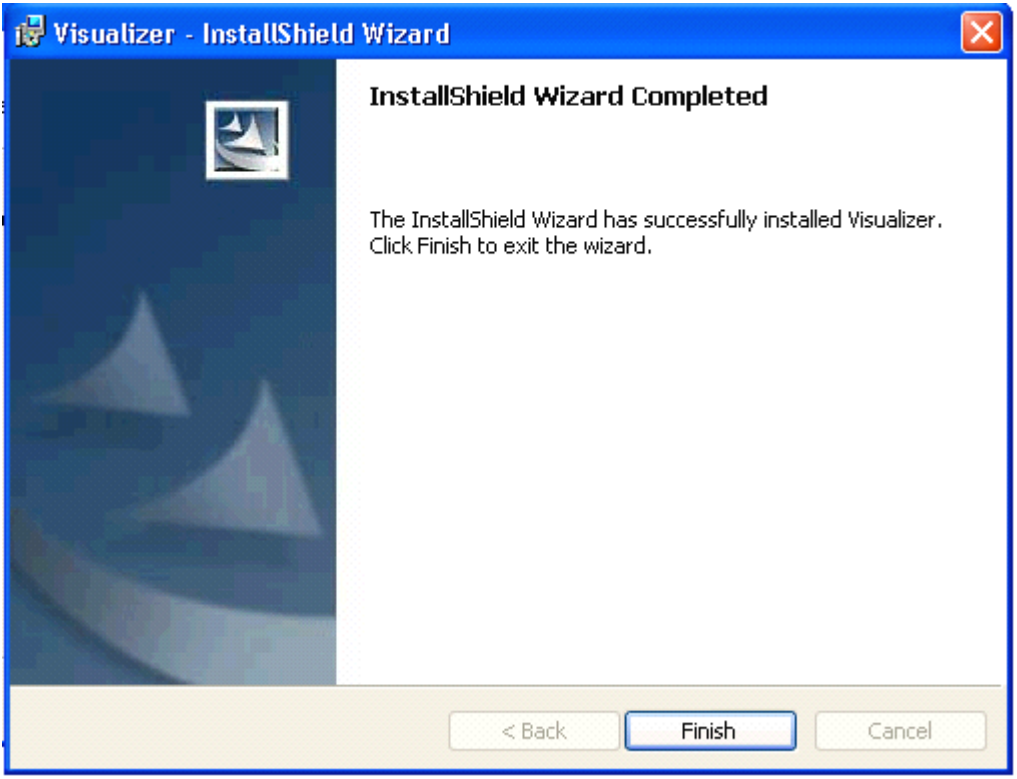
Then you will see the software setup window:



Click *Next>*, you will see:



Click *Next>*, you will see:



Click Finish to finish the setup.

Please pay attention to the following:

1. Computer hardware requirement: CPU: 2.4GHz, RAM: 256M or above, Graphic card 64M, USB 2.0 port, Hard disk 40G or more, Monitor display resolution higher than XGA (1024 x 768).
2. Operating system: Windows XP SP2 (Service Pack 2), Windows Vista.
3. Must use the high-speed USB cable provided with the i-2130.
4. When connecting the i-2130 to a desktop computer with the high-speed USB cable provided, it is recommend to use the USB port

on the rear of the mainframe as the USB port on the front of the computer might have interference.

WORKING ON THE PLATFORM

1. Place your material on the working surface.
2. Select the enlargement required with the "**ZOOM+**" and "**ZOOM-**" keys.
3. Adjust the focus with the "**FOCUS+**" and "**FOCUS**-" keys or **"AUTO"** key.

WORKING OUTSIDE THE PLATFORM

For showing 3-dimensional objects with the i-2130, just place them on the working surface and adjust the "**FOCUS+**" or "**FOCUS**-" and **"AUTO"** keys. If the object is too big for the stage or you want to show it from the side, just place it behind or in front of the unit and tilt the camera by hand (please take off the close-up lens first).

LIGHT

Press **"LAMP"** to toggle arm light, back light & no light

ZOOM IN AND ZOOM OUT

Press "**ZOOM+"or "ZOOM-"**

POSITIVE/NEGATIVE CONVERSION

The i-2130 is automatically set to display normal materials on the screen

when the power is on. To display negatives, simply laying any film negative on the platform and press the N/P button, the negative image is converted to a positive picture instantly.

FOCUS ADJUSTMENT

When the i-2130 is turned on the focus automatically adjusts to the stage, it is not necessary to re-adjust the focus if you are only working with flat materials (text, photos, etc.). Only 3D objects require a focus adjustment.
Press the **"AUTO"** button to auto focus.
Press the "**FOCUS+",** or **"FOCUS-"** button to focus manually.

BRIGHTNESS ADJUSTMENT

If the image effect is not satisfactory, you can adjust the brightness to get a better image effect. Use the **"BRIGHT+"** or **"BRIGHT-"** button to adjust the brightness. To increase the brightness, press the **"BRIGHT +"** button. To decrease it, press the **"BRIGHT-"** button. To go back to the initial brightness press the **"AUTO"** button.

WHITE BALANCE ADJUSTMENT

Each time the lighting condition changes, the user should adjust the white balance of the CMOS.
Press the **"AUTO"** button to adjust the white balance automatically.

TEXT/IMAGE MODE

The Text enhancement feature provides the option to improve the readability of the text by improving the contrast of the text image via pressing the “T/P” button.

COLOR AND B&W MODE SWITCH

Press **"AUTO"** to automatically adjust white balance. Press the "**Home**" button for 3 seconds to auto white balance (On the remote control).

IMAGE FREEZE

The freeze function allows you to discretely prepare the next image without interrupting current presentation. Press "**FRZ"** to freeze and unfreeze the image.

IMAGE MIRROR

Press **“MIR”** to vertically reverse the image.

SPLIT SCREEN

Press **“Split”** to compare two images or compare two different views of one object side by side.

IMAGE SAVE

The i-2130 offers the opportunity of storing 12 images on board. You can recall them by just pressing one of the numerical buttons on the front panel or remote control. Press "**Save"** to capture the current displaying

image.

IMAGE RECALL

By pressing **"Recall", ** all saved images are displayed in the thumbnail index mode for easy selection.

RGB Input Switch

Press the **"PC1" and "PC2"** to toggle between the two VGA input signals.

Video Input Switch

Use **"C-VIDEO" and "S-VIDEO"** to switch between Composite video & S-Video signals.

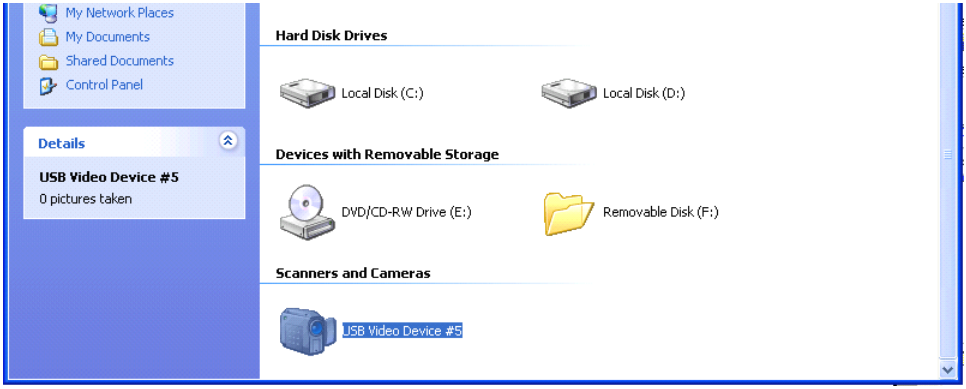
USB 2.0 PORT

The USB port can be used to capture still images from the i-2130 into a computer. In this way, the i-2130 can be used as a 3-D scanner for your computer.

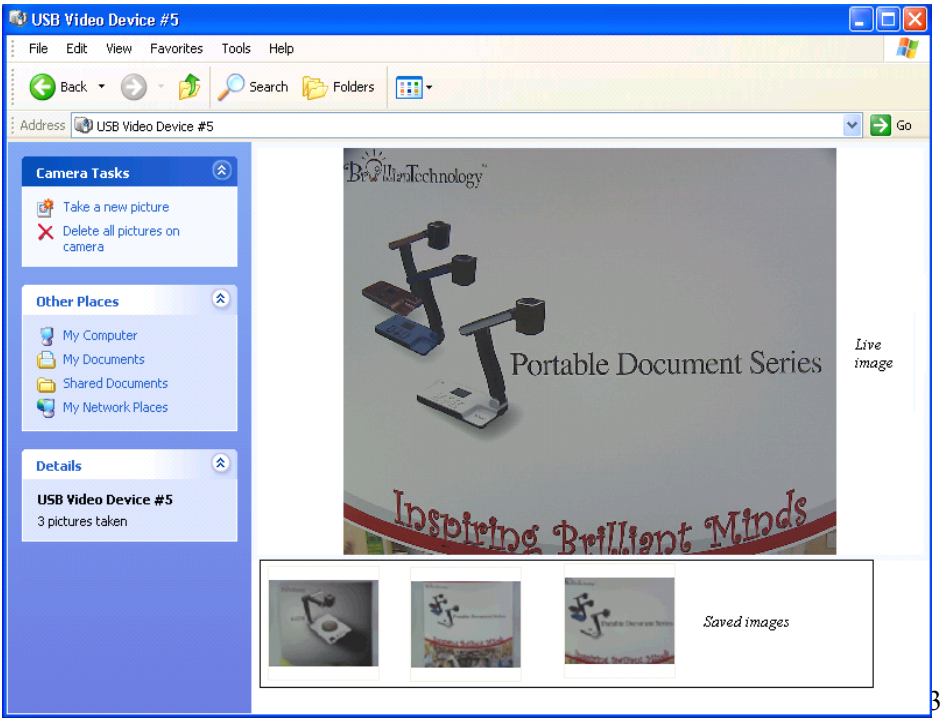
Connect the i-2130 to your computer with the supplied USB cable. The capture software is available on the supplied CD-ROM.

USB IMAGE CAPTURE AND VIDEO RECORDING

1. Connect the computer and the i-2130 with a USB cable and power on the i-2130.
2. Open *My Computer*, you will see a USB Video Device:



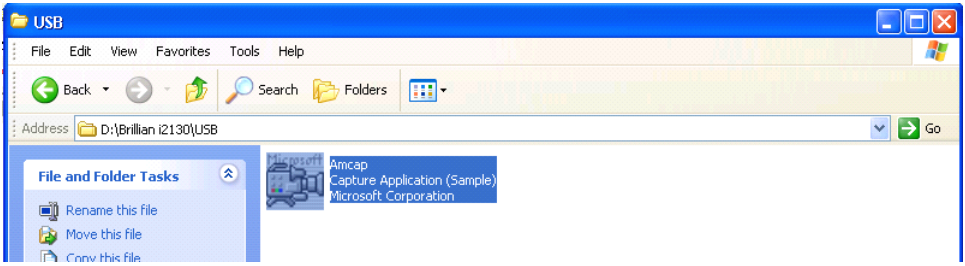
3. Double click USB Video Device, you will see the following image capture window:



To capture the video, please follow the steps below:

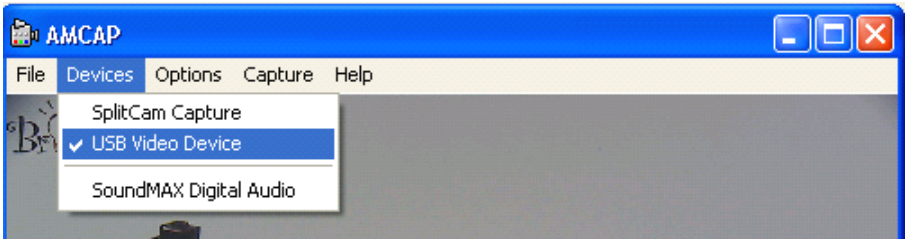
Insert the provided CD-ROM into the computer. Create a folder on the hard driver and name it Brillian i-2130. Then copy the RS232 and USB application on the provided CD into this folder.

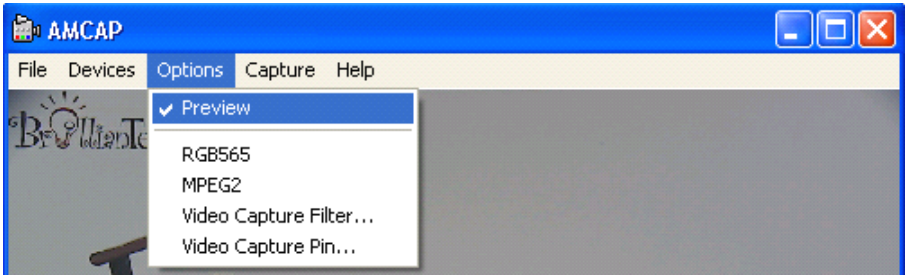
1. Open the i-2130 folder you just created on the hard drive and click to open the USB folder, then double click the provided software to run the USB capture application:



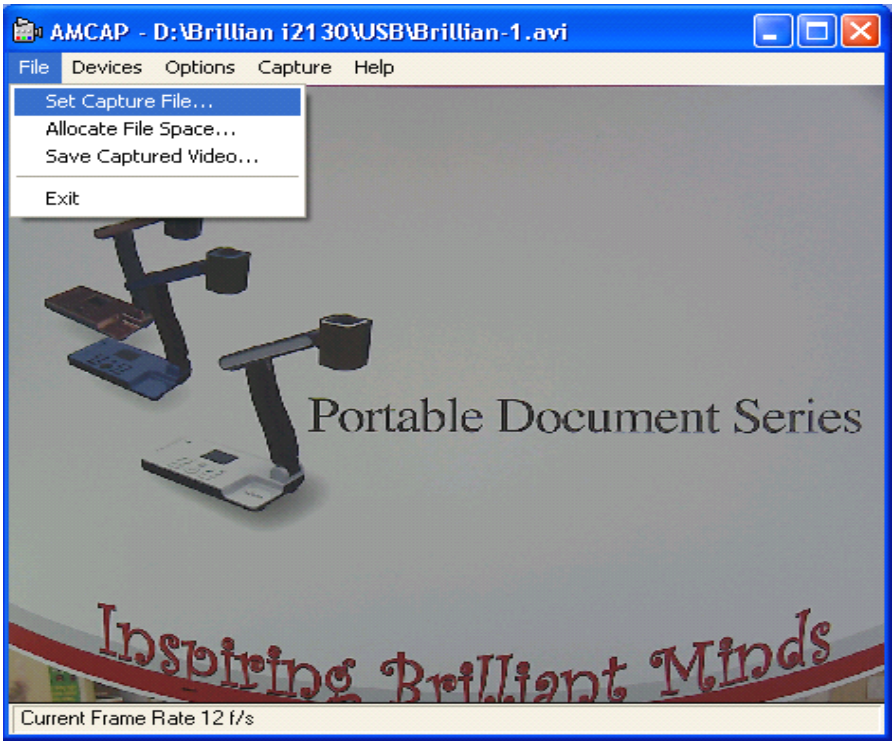
You will see the following window:

2. Please make sure the software is in the proper setting.
   Make sure to click *Devices->USB video device* and *Options->Preview.*

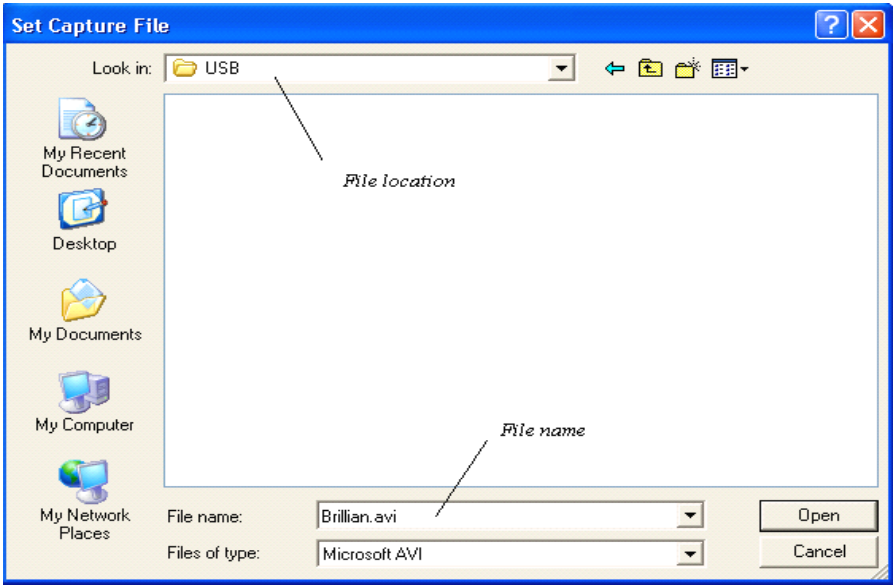




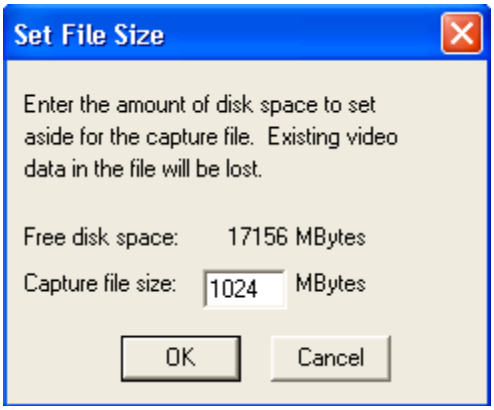
3. Click *File->Set Capture File*, to set the capture file.



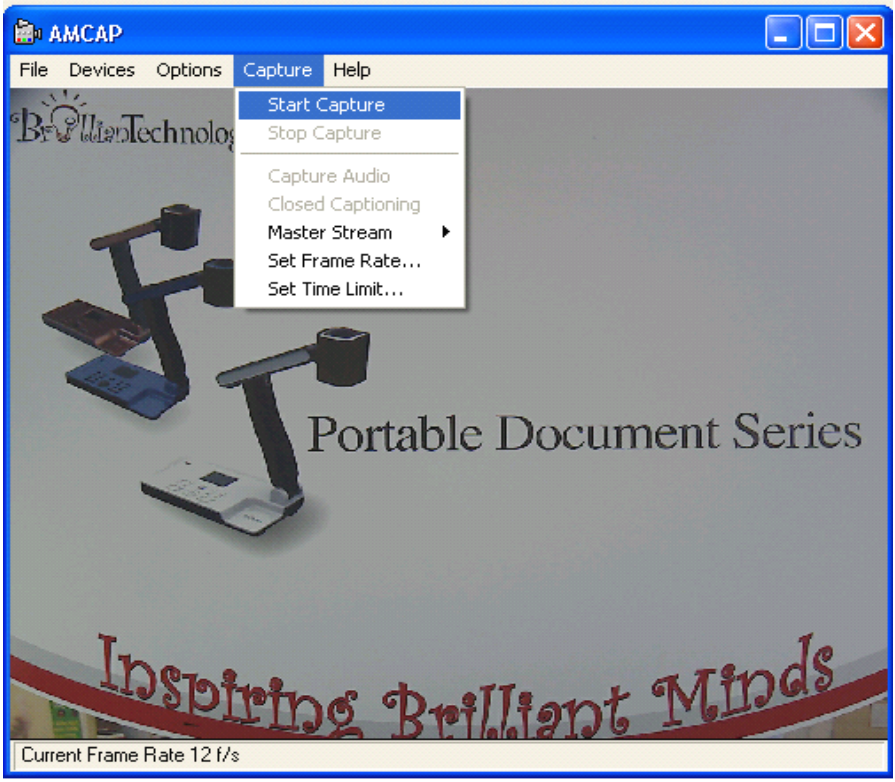
a. Set the location where the file is to be saved to and file name.



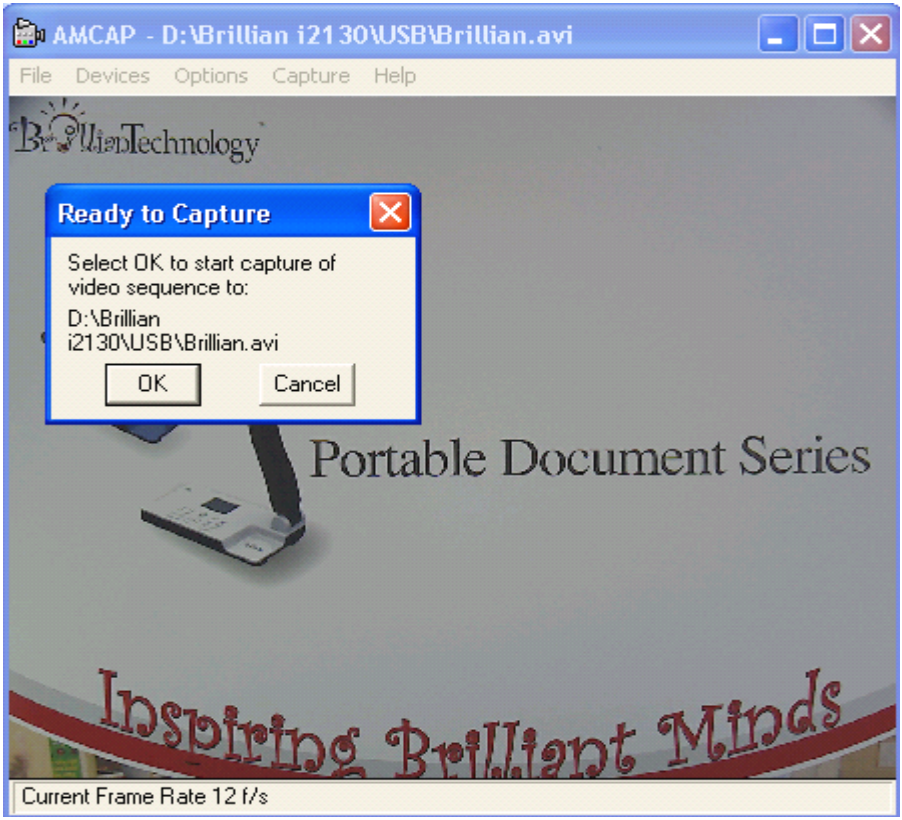
b. Set the file size.



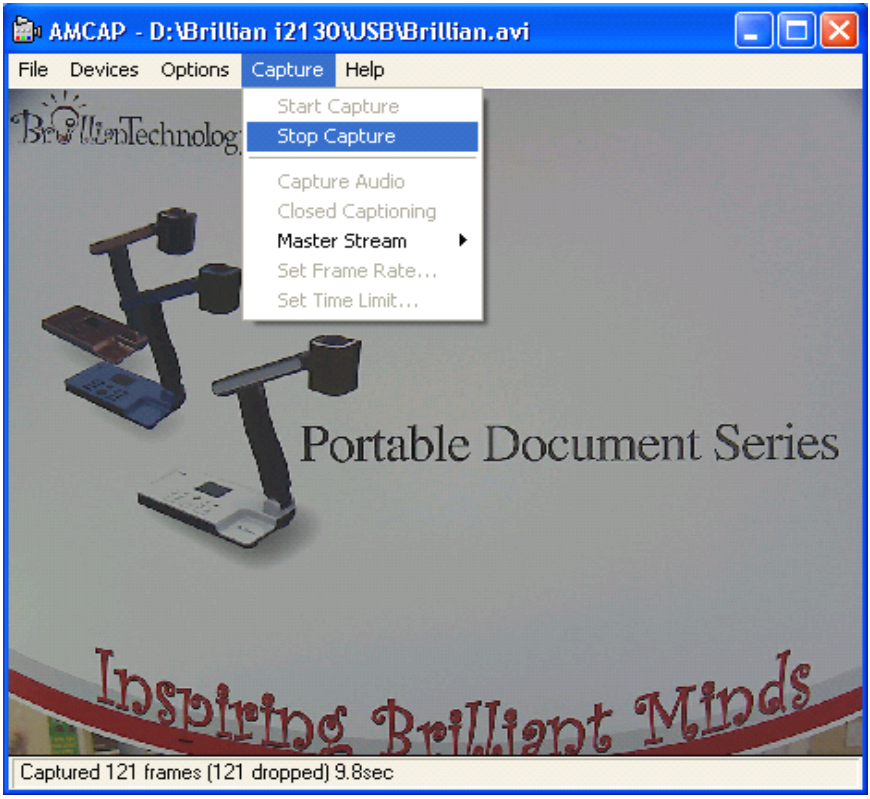
c. Click OK to finish the setup and click *Capture->Start capture* to capture video.



d. You will see the following window, Click OK to start capture.



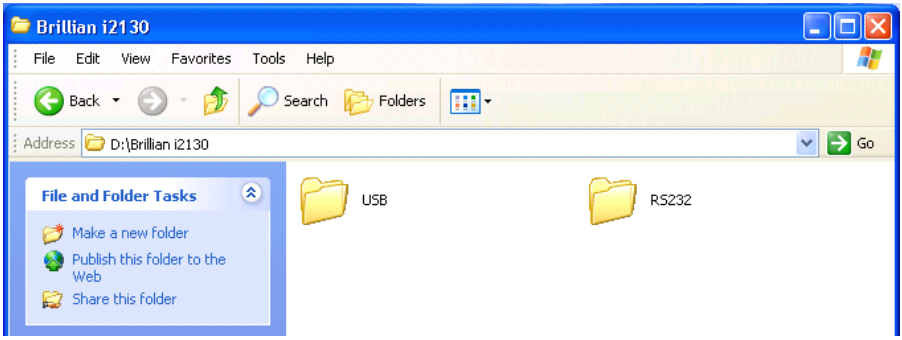
e. Click *Capture->Stop Capture* to stop



RS232 CONTROL

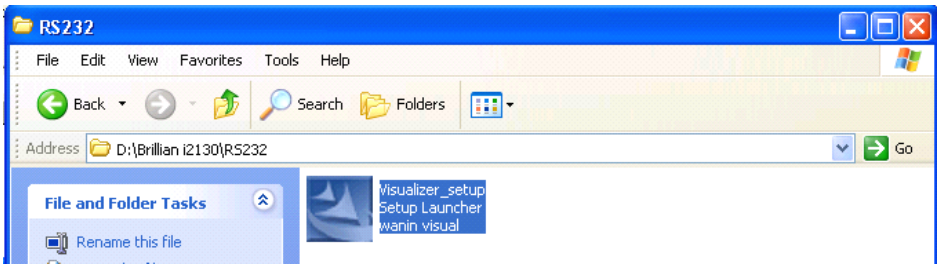
The i-2130 can be controlled from a computer via the RS232 port.

1. Open the i-2130 folder you just created and open the RS232 folder.



2. Connect the computer and the i-2130 with a RS232 cable and turn on the power of the i-2130. If your computer does not have a RS232 port, you need to get a USB to RS232 (serial) cable as a converter. The US customers can purchase this converter from Radio Shack, Best Buy or any computer stores. You might need to install the driver of the USB-RS232 converter, which comes with the converter.

3. Open the RS232 folder and double click the RS232 software to run the install shield wizard.



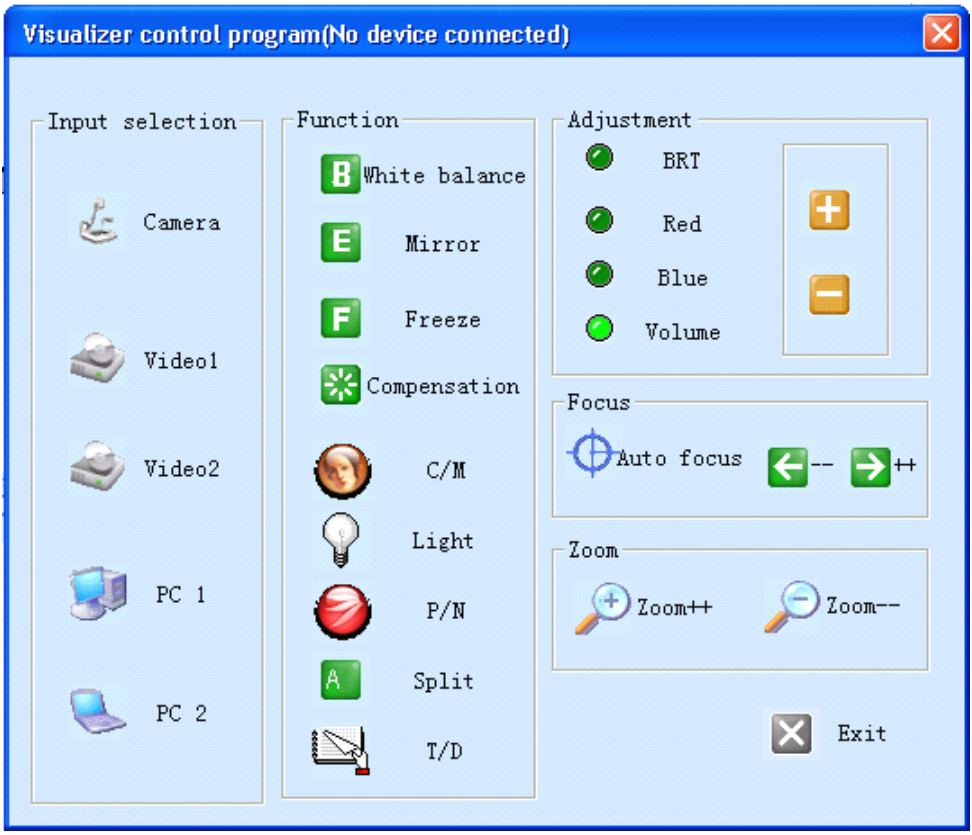
Then you will see the software setup window (Described on Page 15-17)

4. Double click 

or click *start->All Programs-> The i-2130 Control Program-> The i-2130* to run the RS232 software, you will see a tool bar:

The definition of each button is **Zoom in, Zoom out, Auto focus, Functions, minimize.**

Click Functions, you will see the following control panel.

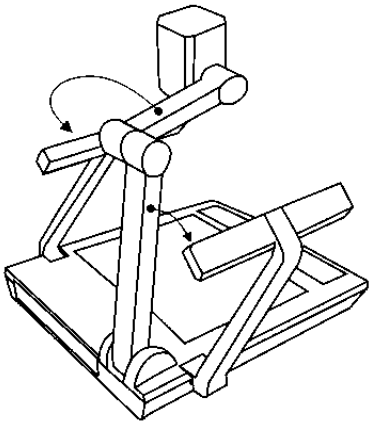


FOLDING THE UNIT

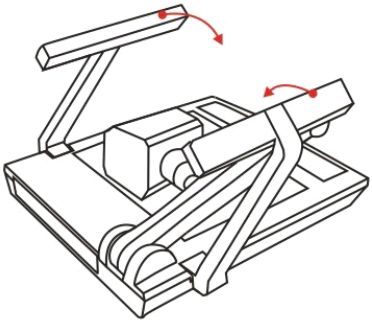
1. **Fold** the right arm light down first onto the base, then the left arm down. **Rotate** the camera head clockwise until the camera head is parallel to the camera stand.

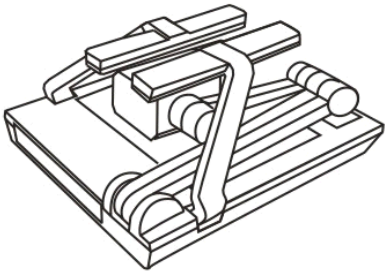
2. **Rotate** the camera head clockwise until the camera head is

parallel to the camera stand. Carefully **fold** the camera stand down to the front panel.



3. **Fold** the right arm light down first onto the base, then the left arm down.





Cautions:

a. Don't lay the unit down flat.

b. Don’t try to stand it on its rear or sides.

c. Don’t try to pick up this unit by pulling the camera stand.

SPECIFICATIONS

Model No.	i-2130
Sensor	1/3" CMOS
Total pixel	3 Megapixel
Zoom	9x optical, 12x digital
Frame rate	24
Shooting area	Max: 13.5" x 10.6" Min: 0.1" x 0.1"
Focus	Auto/manual
Native output signal	SXGA (1280 x 1024 @ 60Hz)
Converted output signal	XGA (1024 x 768 @ 60Hz)
Resolution (Horizontal)	More than 750 TV lines
Image mirror	Yes
Image capture	Yes (image: 12 picture)
OSD	Yes
White balance	Yes
Image split	Yes
Color adjustment	Yes
Brightness adjustment	Yes
Black and white/color conversion	Yes
Positive/negative conversion	Yes
Image freeze	Yes
Video scaler	Yes

INPUT TERMINALS	
VGA	x 2
VIDEO	x 1
S-VIDEO	x 1
AUDIO	x 4
MICROPHONE	x 1
OUTPUT TERMINALS	
VGA	x 2
VIDEO	x 1
AUDIO	x 1
S-VIDEO	x 1
OTHER TERMINALS	
USB2.0	x 1（USB camera）
RS232 (computer controllable)	x 1
Remote control	Yes
Light source	Arm light × 2 (LED) A4 size lightbox (LED)
Operating temperature	32° F to 104° F 0° C to 40° C
Dimensions	Folded: 15.9" x 16.7" x 6.1" 40.4 cm x 42.4 cm x 15.5 cm Setup: 18.7" x16.7" x 22.3" 47.5 cm x 42.4 cm x 56.6 cm
Power supply	12V DC power adapter
Power consumption (Max)	20W
Weight(net)	11lbs/5 kg
Compliance	FCC, CE, RoHS

* Design and specifications are subject to change without notice.

TECHNICAL SUPPORT

Brillian Technology is committed to providing highest possible stand of customer service. We can be reached:

By Phone

Call us at 1-877-98-Brillian/1-877-982-7455. Our technical support staff provides technical assistance from 9:00AM through 5:00PM Eastern Standard Time, Monday through Friday. Please gather the following information before calling:

- Product model name(s) and numbers
- Product serial number(s)
- Detailed and specific questions

Online

Technical support is also available online at Brillian's web site at www.brilliantechnology.com. You can enter your questions and concerns through our online form. Or you can email us at support@brilliantechnology.com.

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