Recordex USA

iMMCam LB-350

INTERACTIVE MULTIMEDIA DIGITAL DOCUMENT CAMERA

ENGLISH

Thank you for choosing a Recordex iMMCam LB camera for your presentation needs. Our iMM line of products are developed specifically to enhance the interactive multimedia experience of any presentation.

Copyright
© 2010 by Recordex USA, Inc. All rights reserved. Reproduction or adaptation without prior written permission is prohibited, except as allowed under copyright laws.

Disclaimer
The information contained in this document may change without notice.

The product warranty is defined on page 16. No part of this document should be construed as constituting an additional warranty. Recordex shall not be liable for any errors or inaccuracies contained in the document. Under no circumstances is Recordex USA liable for direct or indirect damages arising out of the use of this product or documentation.

Trademarks
Recordex is a registered trademark of Recordex USA, Inc. iMMCam is a trademark of Recordex USA, Inc. Macintosh is a registered trademark of Apple Computer, Inc. Microsoft, and the Windows Operating System are trademarks of Microsoft Corporation. All other trademarks, product names or companies mentioned in this document are used for reference and clarification only and may be the registered marks or property of their respective owners.

FCC Notice (Class A)
This device complies with Subpart J of Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesirable operation.
Warning - This is a class A Product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

CE Class A (EMC) Notice
This product is intended for use in a commercial, industrial or educational setting and environment. It is not intended for residential home use.
Warning - This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures to correct the interference.

RECYCLE PROPERLY
This device should not be disposed of with other household waste. It should be discarded through an authorized recycling center able to accept electrical and electronic waste.

CAUTION
WARNING - TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.
CAUTION - RISK OF ELECTRIC SHOCK - Do not attempt to service unit. Do not remove cover. There are no user-serviceable parts inside the unit. Unit should be returned to the manufacturer for service.

Precautions When Using
- Do not use on unstable tray, table, or cart. Use only on stable surface.
- Do not use near water, steam, or excessive direct heat source.
- Only use the power adapter provided by the manufacturer.
- Always unplug the document camera before cleaning any part of the camera.
- Unplug the device when not in use for long periods of time and during electrical storms.

Table of Contents

PACKAGE CONTENTS
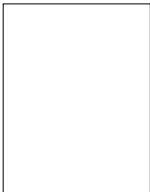
Take a moment to confirm that you received all the items listed below:

Instruction Manual   Anti-Glare Sheet   Driver/Software Discs
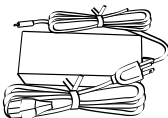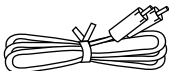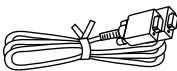
Recordex iMMCam LB-350   Power Adapter & Cord   Remote   Lens Cover

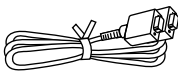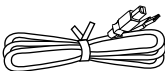RCA Cable   VGA D-Sub Cable   RS232 Cable   USB Cable
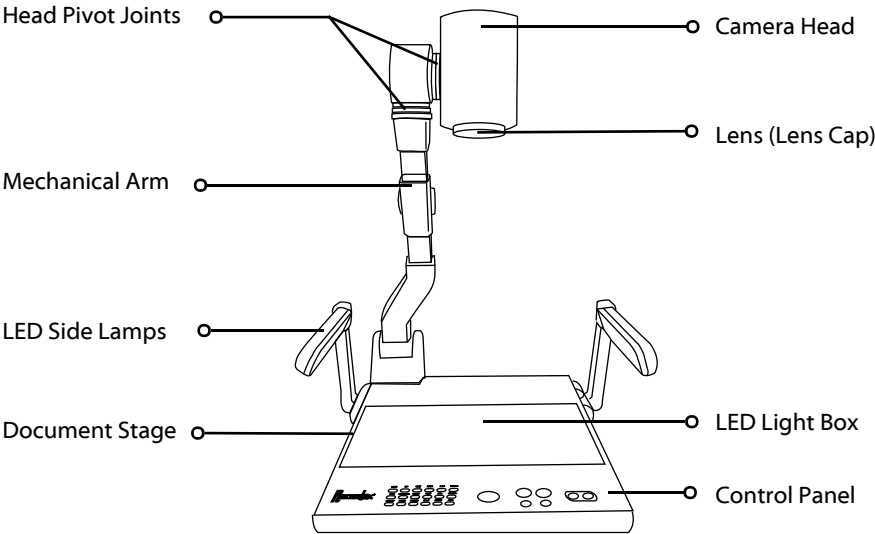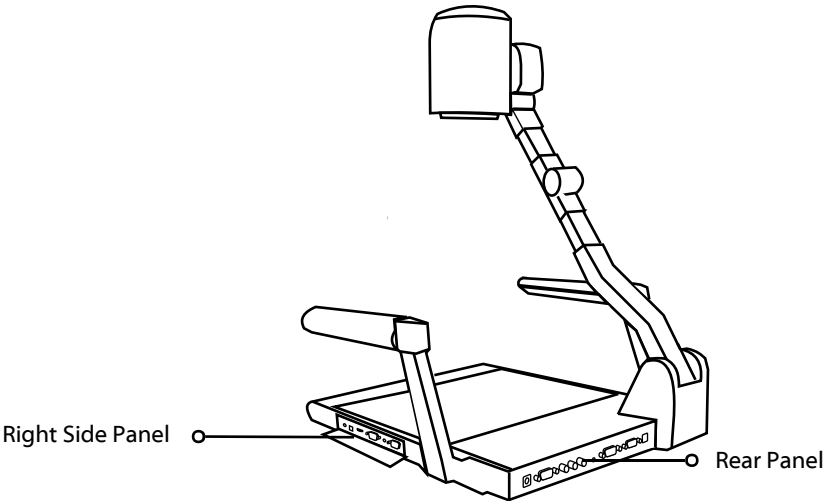
GETTING TO KNOW YOUR iMMCam LB-350

Use the illustrations below to familiarize yourself with the Recordex iMMCam LB-350.

Head Pivot Joints

Camera Head

Lens (Lens Cap)

Mechanical Arm

LED Side Lamps

Document Stage

LED Light Box

Control Panel

LB-350: Front View
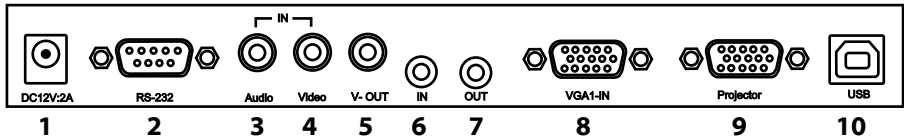
Right Side Panel

Rear Panel

LB-350: Rear Side View

THE INPUT/OUTPUT PANELS

Use the illustrations below to familiarize yourself with the various ports found on the rear and side panel of the camera.

Rear I/O Panel

#	Label	Description
1	DC12V:2A	Power Supply Port (DC 12V)
2	RS-232	RS-232 Serial Communication Port
3	Audio (In)	Composite Audio Port (INPUT)
4	Video (In)	Composite Video Port (INPUT)
5	V-OUT	Composite Video Port (OUTPUT)
6	IN	3.5 mm Stereo Audio Jack (INPUT)
7	OUT	3.5 mm Stereo Audio Jack (OUTPUT)
8	VGA 1- IN	D-Sub RGB Port (VGA INPUT)
9	Projector	D-Sub RGB Port (VGA OUTPUT)
10	USB	USB 2.0 Port (OUTPUT to Computer); Hi-Resolution Output 22x

Right Side I/O Panel
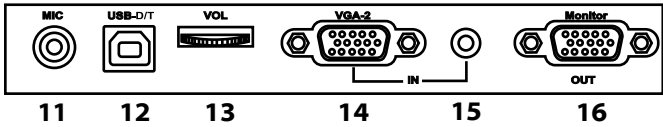
#	Label	Description
11	MIC	3.5mm Microphone Jack (INPUT)
12	USB-D/T	USB 2.0 Port (OUTPUT to Computer) TWAIN Compliant 352X
13	VOL	Microphone Volume Dial (On/Off, Volume Level Adjust)
14	VGA-2	D-Sub RGB Port (VGA INPUT)
15	N/A	3.5 mm Stereo Audio Jack (INPUT)
16	Monitor	D-Sub RGB Port (VGA OUTPUT)

CONTROL PANEL

Refer to the illustration below and the summary table for a description of the control panel function buttons.
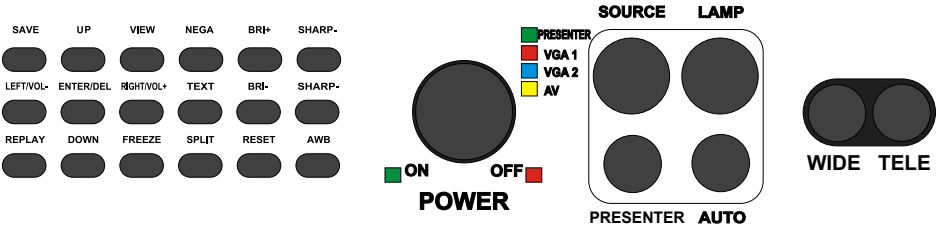

Label	Description
SAVE	Capture current view to internal memory
UP	Navigate saved images
VIEW	Access saved images
NEGA	Switch to negative image mode
BRI+	Increase brightness
SHARP+	Increase edge sharpness
LEFT/VOL-	Navigate saved images/Lower Volume Output Level
ENTER/DEL	Select saved images/Delete saved image(s)
RIGHT/VOL+	Navigate saved images/Increase Volume Ouput Level
TEXT	Switch to text mode
BRI-	Reduce brightness
SHARP-	Reduce edge sharpness
REPLAY	View slideshow of saved images
DOWN	Navigate saved images
FREEZE	Freeze active view/press again to resume
SPLIT	Vertically split screen with left side frozen/right side active
RESET	Reset settings to default/Hold for 3 seconds to switch between SXGA/XGA Mode
AWB	Resume auto white balance
POWER	Power the unit on/Place unit in standby mode
SOURCE	Source input select switch (Presenter/VGA1/VGA2/AV)
LAMP	Switch between light options (Side Lamps/Light Box/No Lighting)
PRESENTER	Switch back to presenter mode from VGA1, VGA2, or AV Input Source
AUTO	Auto focus image
WIDE	Zoom Out
TELE	Zoom In

REMOTE CONTROL

Refer to the illustration below and the summary table for a description of the remote control function buttons.

Label	Description
NOTE: most buttons are defined in the table on page 8. This table defines function buttons that only appear on the remote control.	
B.W/C	Switch between black and white or color viewing.
MIRROR	Displays mirror image of current presenter view.
NEAR	Small nudge adjustment to AutoFocus
FAR	Small nudge adjustment to AutoFocus
BLUE+	Increase blue color level (manual white balance, remote control function only)
BLUE-	Decrease blue color level (manual white balance, remote control function only)
RED+	Increase red color level (manual white balance, remote control function only)
RED-	Decrease red color level (manual white balance, remote control function only)
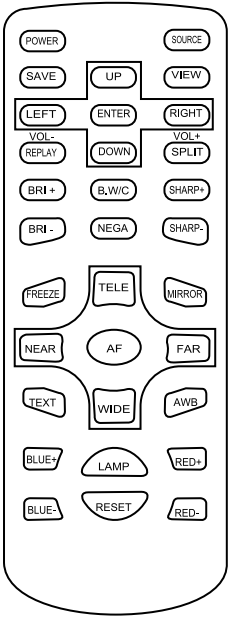
SPECIAL FUNCTIONS

Changing VGA Output Resolution. The default output resolution of the camera is SXGA (1280x1024 @60Hz). The VGA output resolution can be changed to XGA (1024x768 @60Hz) if required. To do this press the F17 button (Reset) and hold it down for three seconds. XGA60 will appear in the On Screen Display (OSD) of the camera. Press and hold F17 for three seconds to return to SXGA mode.

Deleting Saved Images. To delete the images stored to the internal memory follow these steps:

- Press View (F3) and then select the image you wish to delete by using the Up (F2), Down (F14), Left (F7) and Right (F9) buttons.

- After the image is highlighted press the ENTER/DEL (F8) and hold it down for three seconds.

- NOTE: The images can only be deleted while in thumbnail view. Do not enlarge/view and then try to delete. Highlight the image in the thumbnail view and then hold down the ENTER/DEL button for three seconds.

TECHNICAL SPECIFICATIONS

Feature/Specification	LB-350 // Desktop w/Lightbox
Image Sensor	¼" CMOS
Pixels	1.3 Mega Pixel
Zoom	22x Optical, 16x Digital (352x Total)
Lens	Glass
Frame Rate	25 fps (max)
Focus	Auto Focus
Image Effect	Mirror/Freeze/B&W/Negative/Split
Head Rotation	270 d. Rotation/ 180 d. pivot
White Balance & Exposure	Auto/Manual
Flicker Level	2 levels
Horizontal Resolution	700TV
Shooting Area	9.8" x 12.8"
VGA/RGB Output	SXGA (1280x1024 @ 60Hz)/XGA (1024x768 @ 60Hz)
Video Input Switching	VGA, PC, and DVD passthrough (w/ audio and video input switch)
Video Scaler	Yes (All signals able to be output through VGA output)
USB 2.0 Output	Rear USB: Capture at SXGA 1280*1024, 22x Zoom Side USB-D/T: Capture at VGA 720x576, 352x Zoom (TWAIN)
Save Images	Unlimited capture by USB 2.0 (Video and still capture) 64 image store to internal memory
Software	Debut Video Capture for Windows XP, Vista, 7 VideoGlide Video Capture for MAC OSX RS232 CamControl Software (Windows)
Video Input	2 x VGA Passthrough 1 x Composite Video (RCA)
Audio Input	1 x RCA 2 x 1/8" Stereo Jack 1 x 1/8" Microphone Jack (with volume control)
Video Output	2 x VGA Out (SXGA 1280x1024 60Hz) 1 x Composite Video (RCA) 1 x USB 2.0 (VGA 640x480/720x576) – Std Res (w/TWAIN) 1 x USB 2.0 (SXGA 1280x1024)– Hi Res (w/out TWAIN)
Audio Output	1 x RCA 1 x 1/8" Stereo Jack
Power (brick)	DC 12V/2A (100-240v 50/60 Hz)
Light Source	2 x LED Side Lamp, 1 x LED Light Base (7.75"H x 10"W)
Remote Control	1 x InfraRed Remote, 1 x Serial RS232 Connection
Physical Dimensions/Weight	Folded: 17.5 x 13.7 x 6 (in) Open: 17.5 x 15.7 x 21.5 (in) Weight: 7.5 lbs Shipping Weight: 15 lbs

DEVICE DRIVER INSTALLATION

Your iMMCam LB350 document camera can be used as a visualizer without installing any device drivers or additional software. However, if you wish to capture video or image stills from your iMMCam then you will need to install USB drivers and USB capture software.

Your iMMCam LB-350 document camera is equipped with two hi-speed 2.0 USB Ports. This gives you maximum flexibility and quality when capturing live video or image stills from your iMMCam.   It is possible to use the camera with both USB ports connected to your computer, however, most users will find that their needs are met best by one or the other port and will typically only run the camera with a single USB cable connection. Don't worry about picking the wrong port. You can always switch ports at any time.

Rear USB Port (USB)

TYPICAL USE	Best used for capturing hi-resolution image stills and video using Debut (Windows) or VideoGlide (MAC)
MAX ZOOM	Up to 22x Optical Zoom
CAMERA EFFECTS	Negative image
DRIVER	Plug-n-Play, no driver installation required
TWAIN	The rear USB port does not support TWAIN image transfer.
INSTALLATION	No special driver installation required. Simply plug in device, connect the USB cable to your computer and allow the operating system to detect the hardware and install the appropriate driver. This device will appear as a USB Video Device under Windows and MAC OSX.

### Side USB Port (USB-D/T)

| TYPICAL USE	Best used when you need to capture images at maximum zoom and this port must be used when using the LB-350 as a TWAIN compliant device (I.e. Directly acquiring images from within whiteboard software by using the 'insert from scanner or camera' function.)
MAX ZOOM	Up to 352x Total Zoom (22x optical * 16x digital)
CAMERA EFFECTS	Negative, Mirror, Black White/Color, Split, Brightness, Sharpness
DRIVER	Camera driver installation is required.
TWAIN	The side USB Port DOES support TWAIN image transfer on 32-bit Windows operating systems. There is no TWAIN support for 64-bit systems.
INSTALLATION	Windows users should insert the disc labeled "iMMCam LB-350 Windows Setup Disc" and follow the on screen instructions for installing the device drivers and capture software. MAC users should insert the disc labeled "iMMCam LB-350 VideoGlide for MAC" disc and install the software package. See Page 11 for additional install steps.

VIDEOGLIDE FOR MAC OSX

If you are running MAC OSX you will use VideoGlide to capture still images and video with your LB-350.

After installing VideoGlide from the "LB-350 VideoGlide for MAC" install disc you will want to connect your LB-350 to your computer by following these steps:

1. Plug in your LB-350

2. Make sure it is powered on.

3. Connect the LB-350 to your MAC using the supplied USB cable. Use any open USB 2.0 port on you computer.   TIP: For best results use the USB port located on the rear panel of your LB-350. This will provide high-resolution image capture.

4. The MAC OS will autodetect the camera.

5. Next, launch VideoGlide and then select USB Video Device from digitizers on the main menu bar.
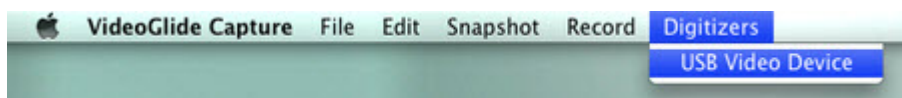
6. Use the Snapshot or Record menu to capture still images or video from the camera.
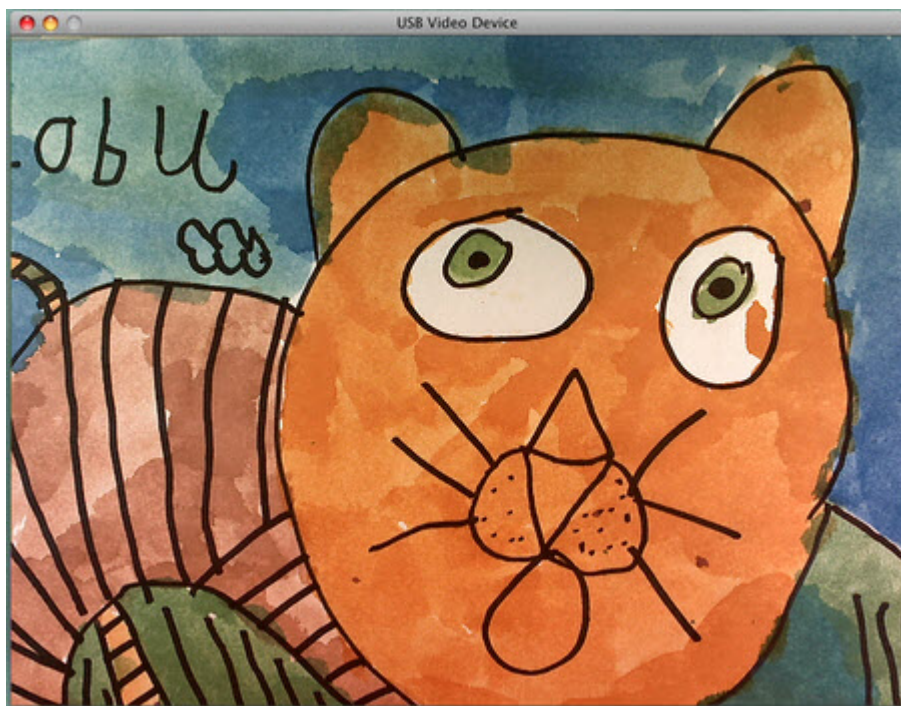
DEBUT VIDEO CAPTURE FOR WINDOWS

If you are running Windows you will use Debut to capture still images and video with your LB-350.

To install Debut insert the LB-350 Installation Disc for Windows and follow the on-screen directions for installing Debut.

After Debut has been installed you may need to configure the camera settings. If the debut capture window looks like the image to the right then the device settings need to be adjusted.

If the video is scrambled you need to adjust the video input settings under **Options**.

Debut may initially detect the video source incorrectly as a Video Tuner In which will result in a scrambled video feed.

Changing the input setting from Video Tuner to Video Composite In will fix the problem.

Follow these steps:

- Click on Options

- Click on Device Inputs under Video Capture Device

- Click on the drop down box under input and select 1: Video Composite In

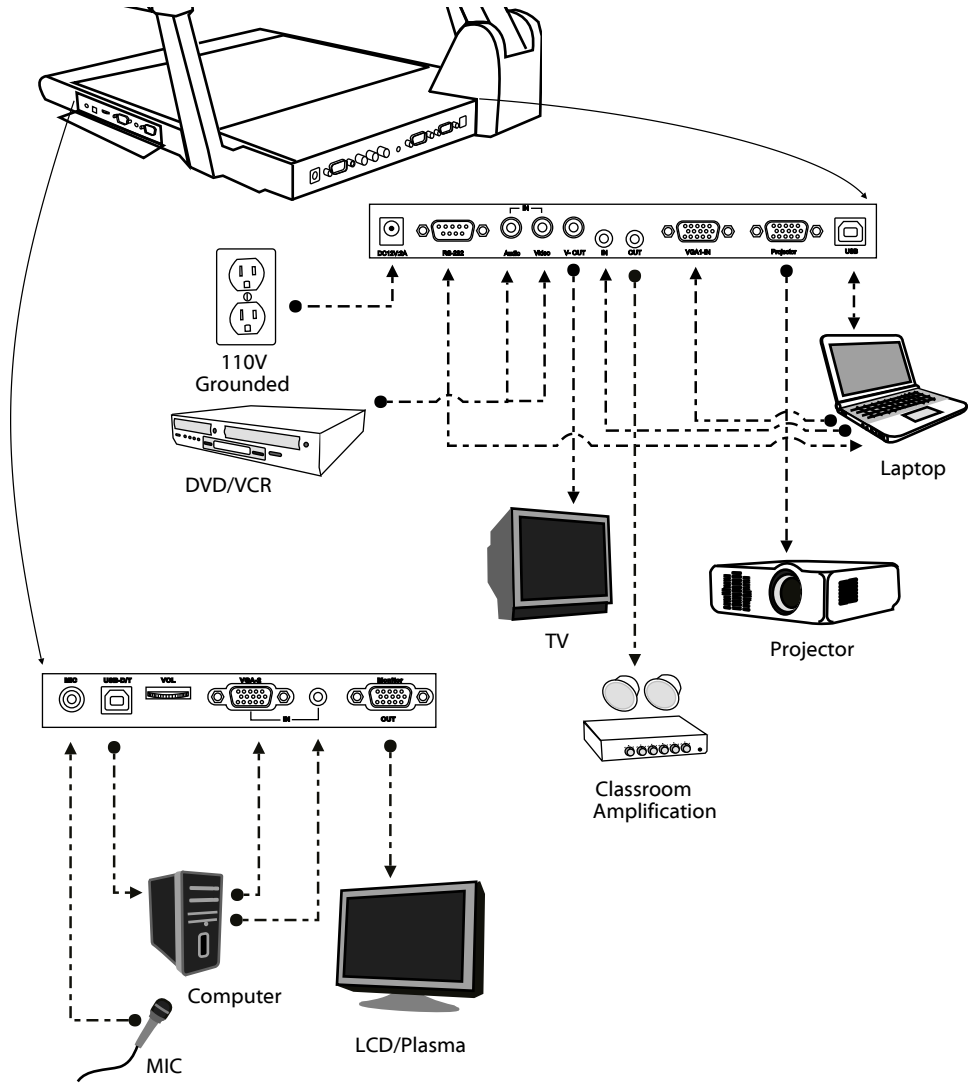- Click OK to close the properties window
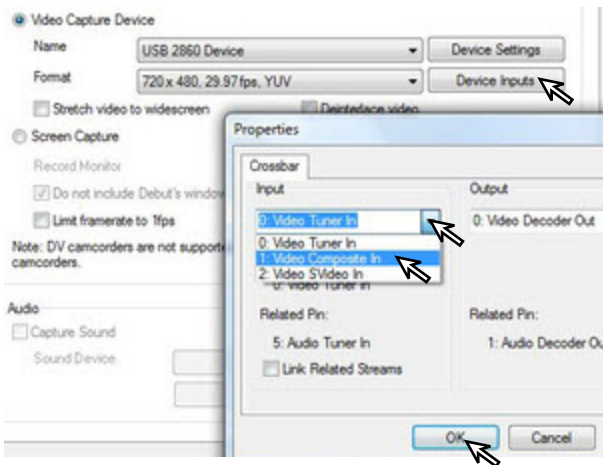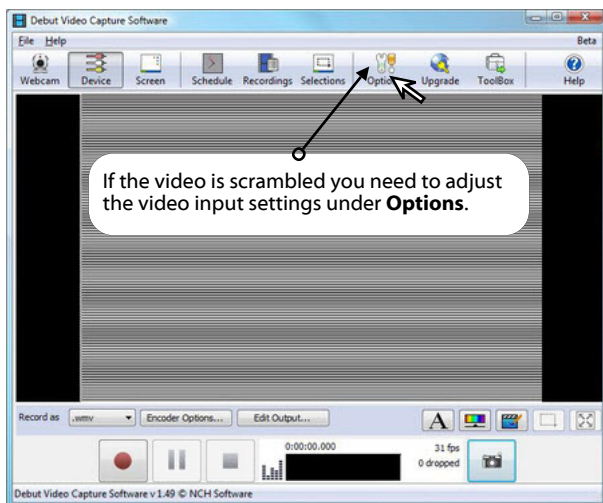
- Click OK to close the options window

- Debut will now properly display the video feed.
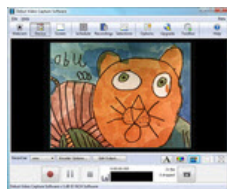
MAKING THE CONNECTIONS

The diagram below demonstrates the many AV input and output connections the LB-350 supports.

TROUBLESHOOTING

Problem/Observation	Solution
No image is displayed or image is totally black or totally white.	• Check that the lens cap is removed. • Check that the unit is plugged in and powered on. Press the lamp button to cycle through the lighting options to confirm the unit is on. • Check that the VGA cable is tightly connected to the document camera and the projector. • The camera is zoomed too far in and is displaying only a blank portion of the document or object. Zoom out or move object.
USB capture is not working	• Make sure the USB cable is plugged into the camera and the computer. • Use a rear USB Port on your computer. Some front USB ports do not have adequate bandwidth and power to allow for quality image capture. • Make sure you have installed the drivers according to the manual. • Try using the capture software provided with the camera to rule out any issues with third party software.
Debut Video Capture image is scrambled	• See page 12
Image is out of focus	• Press the AutoFocus button. • Press the reset button • Try zooming in or out a little (press Tele / Wide)
Image is dark or washed out	• Press the Auto White Balance button (AWB) • Try changing the lighting • Manually change the brightness (BRI+/BRI-) • Power off camera and try again.
Image is stuck	• Press the Freeze button to resume normal viewing • Power off the unit. Power on and try again.
VGA passthrough is not working	• If using a laptop/notebook make sure to switch the display settings to use an external monitor.
Video projector is unable to project image from camera.	• Some projectors may not be able to handle a SXGA 1280x1024 image. If this is the case you can lower the resolution to XGA 1024x768 by holding the F17 button for 3 seconds.
The microphone port is not working properly	• Make sure a mic is connected. • Make sure volume dial is switched on and volume is not on level zero. • Make sure the connection is made from the audio out port to a classroom amplification system. • Make sure you are using a low-impedence microphone.

RECORD PRODUCT INFORMATION

We strongly recommend you fill out the information below:

MODEL NUMBER: _____

SERIAL NUMBER: _____

SOFTWARE KEY: _____

PURCHASED FROM: _____

PURCHASE DATE: _____

(staple copy of invoice to this manual)

SUPPORT CONTACTS

PHONE: 478-237-5501

EMAIL: service@recordexusa.com

WARRANTY

Limited 5-year Warranty on iMMcam Document Camera ("Product")

What is my warranty? Recordex warrants to the original purchaser only that the Product will be free from defects in material and workmanship under normal use for a period of five (5) years from the date of original purchase. Recordex's warranty shall not apply: (i) to any Product subjected to accident, misuse, neglect, alteration, acts of God, improper handling, improper transport, improper storage, improper use or application, improper installation, industrial or commercial use, improper testing or unauthorized repair; or (ii) to cosmetic problems or defects that result from normal wear and tear under ordinary use, and do not affect the performance or use of the product. If the Product develops a covered defect within the warranty period, Recordex will, at its option, either repair or replace the Product at no charge, provided that the Product is returned during the warranty period and this is your exclusive remedy and the entire liability of Recordex under this warranty. No warranty is made or implied as to the effectiveness or suitability of this product for your purposes.

How long does this warranty last? Five (5) years from the date of the original purchase.

Who is responsible for Shipping? You are responsible for shipping the Product to our Warranty Service Depot. Recordex will pay for return shipment of the repaired Product under warranty. Return shipment will be by ground service to the 48 contiguous US states. You are responsible for shipping to Alaska, Hawaii and any address outside of the United States. If the Product is repaired out of warranty then you are responsible for shipping both ways. Recordex is not responsible for any shipping damage that may occur in transit to the service depot. Damaged units will not be covered under warranty.

What must I do to obtain warranty service? To obtain warranty service please contact Recordex's Customer Service Center at 1-478-237-5501 or contact your authorized Recordex Dealer for assistance in filing a warranty claim. You will receive instructions on how to properly return your product for authorized warranty repair. In order to receive warranty service you must be able to provide an original receipt or invoice for the purchase of your Product.

THE ABOVE STATED WARRANTY IS EXCLUSIVE AND REPLACES ALL OTHER WARRANTIES EXPRESSED OR IMPLIED INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. RECORDEX WILL NOT BE HELD LIABLE FOR ANY OTHER DAMAGES OR LOSS INCLUDING INCIDENTAL OR CONSEQUENTIAL DAMAGES AND LOSS OF PROFITS OR REVENUES FROM WHATEVER CAUSE, INCLUDING BREACH OF WARRANTY OR NEGLIGENCE.

Recordex® USA