VisiDoc-It™ Imaging System

Installation and User Instructions

VisiDoc-It with Stand

VisiDoc-It with Hood

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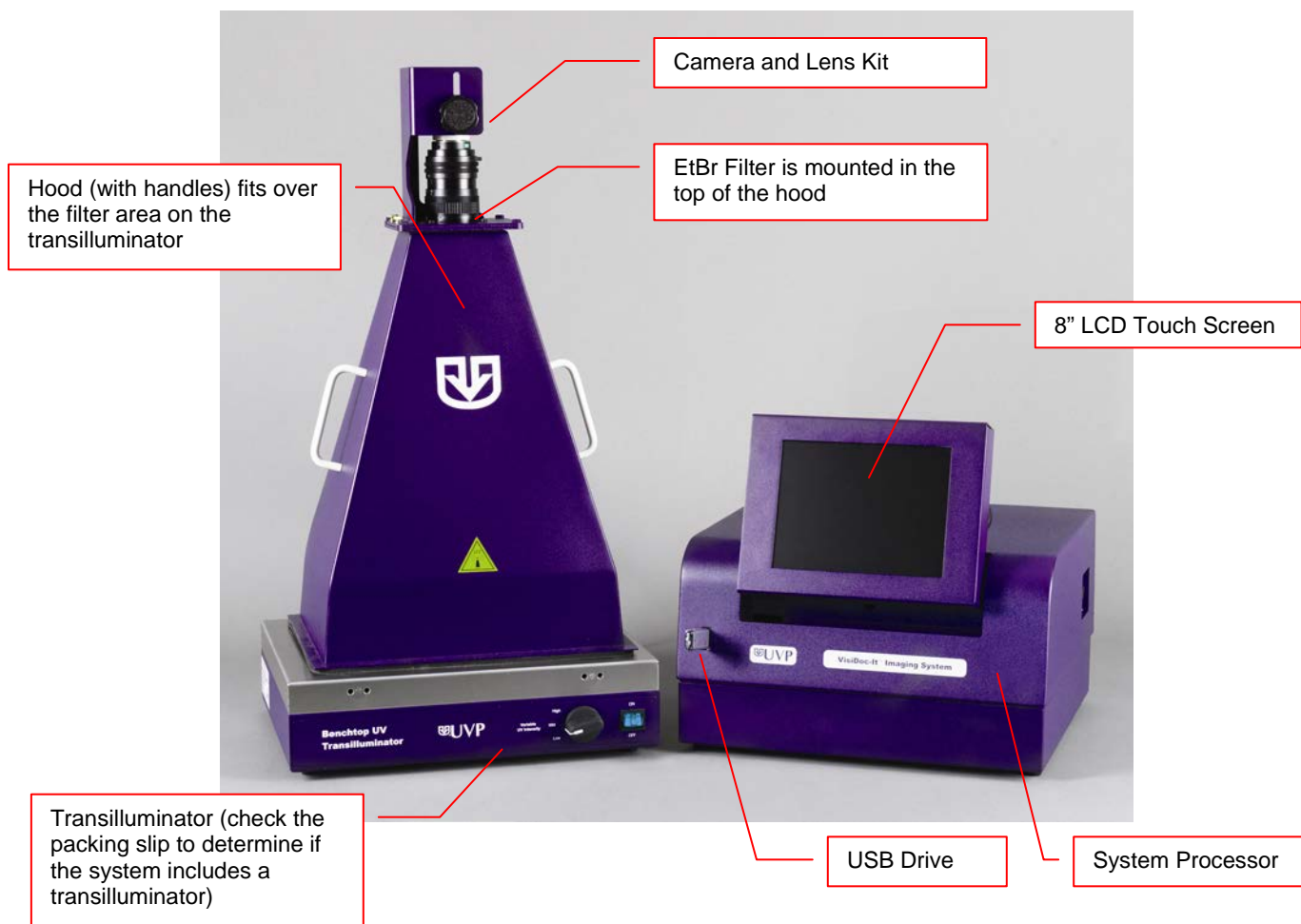Fax: +44(0)1223-420561

Web Site: www.uvp.com

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System Introduction

The VisiDoc-It Imaging System is designed for researchers who already have a transilluminator in the lab. Configurations include a compact hood or camera stand. The compact hood fits on top of UVP's High Performance and Benchtop Transilluminators. The VisiDoc-It System provides simple documentation of fluorescent and non-fluorescent gels, membranes, blots, film plates and assays with the ability to save images to a USB storage device for later quantitative analysis.
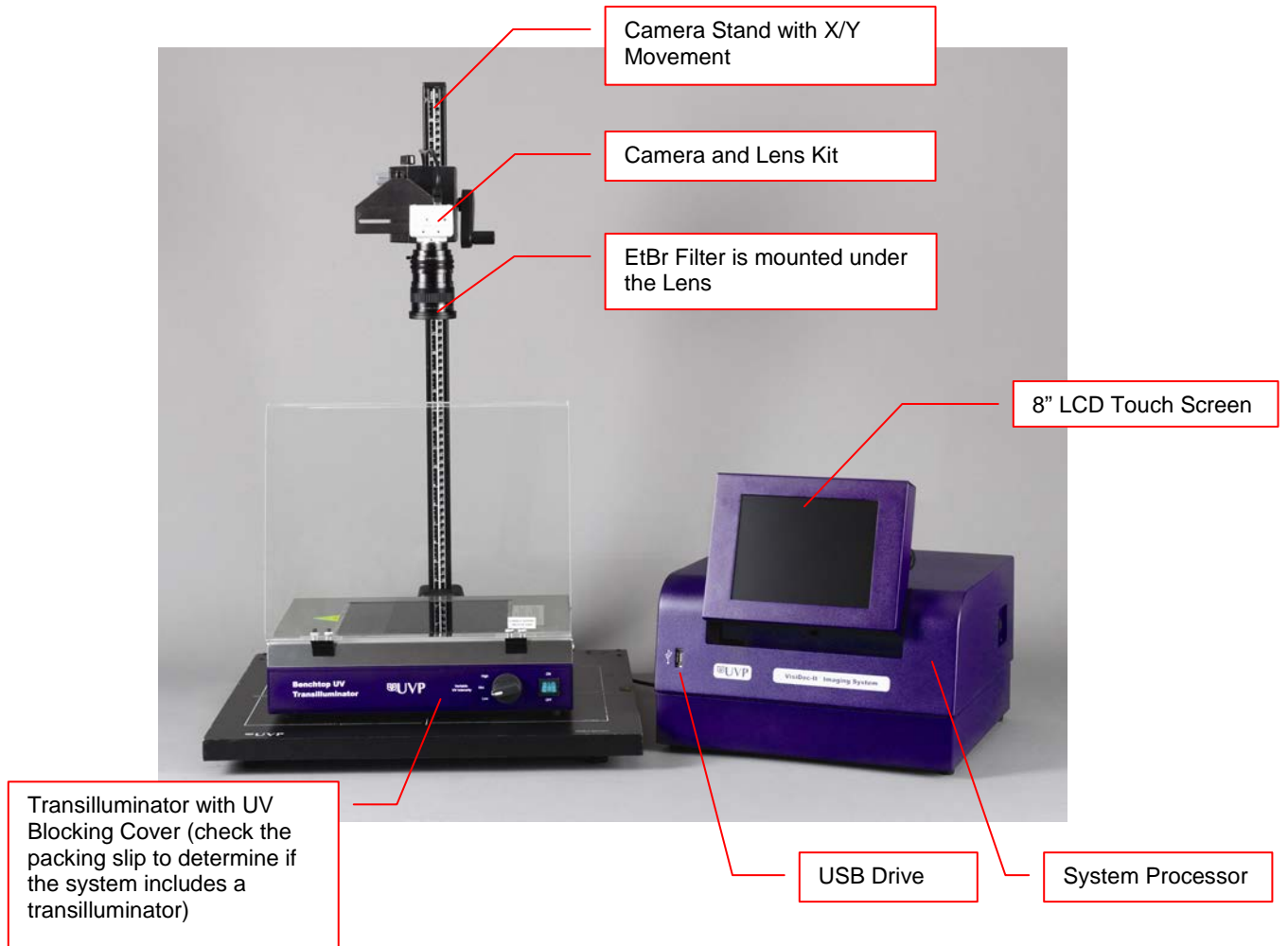
VisiDoc-It Components

Refer to the packing slip and pictured components for parts included with the system.

VisiDoc-It with Hood

Camera and Lens Kit

EtBr Filter is mounted in the top of the hood

Hood (with handles) fits over the filter area on the transilluminator

8" LCD Touch Screen

Transilluminator (check the packing slip to determine if the system includes a transilluminator)

USB Drive

System Processor

VisiDoc-It with Stand

Camera Stand with X/Y Movement

Camera and Lens Kit

EtBr Filter is mounted under the Lens

8" LCD Touch Screen

Transilluminator with UV Blocking Cover (check the packing slip to determine if the system includes a transilluminator)

USB Drive

System Processor

System Specifications

Camera

The VisiDoc-It includes the FluorCam 210 Camera with a resolution of 640 x 480 (VGA) and a USB 2.0 PC interface. All camera settings are factory pre-set for optimum performance when viewing gels, films, or membranes under low light level conditions. UVP Technical Support should be contacted before making any adjustments to the camera settings.

Lens

The 8-48 mm zoom lens is fitted with a close-up diopter and step-up ring. The camera can then be held in a fixed position. The diopter is for focusing on objects at the focus length of the VisiDoc-It system.

Processor

- Internal Storage: 75GB or more
- USB 2.0 ports: 1 front, 4 in the back
- USB storage device capacity: 8GB (minimum)
- Software: TS software

Ethidium Bromide Filter (EtBr)

The Ethidium Bromide (EtBr) Filter (50mm sq.) UV blocking bandpass interference filter blocks UV and IR radiation emitted from the transilluminator. The filter is placed in the filter tray below the camera assembly. The filter allows visualization of fluorophores from 580-630nm, targeting the EtBr emission which peaks at 605nm. The EtBr filter can be substituted for other specific fluorophore filters or removed when imaging non-fluorescent media (protein gels, colony plates, etc.) in order to produce brighter images.
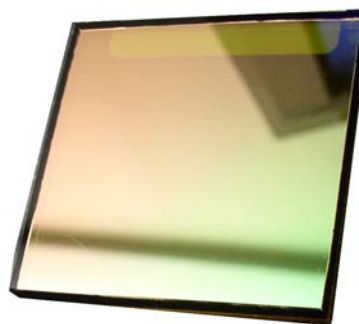
Hood Enclosure or Camera Stand for the VisiDoc-It System

The compact hood enclosure is manufactured of lightweight plastic for portability. Handles are positioned on two sides of the hood to make it easy to move the hood for access to the transilluminator surface. The camera with a zoom lens is mounted on top of the hood or camera stand.

Transilluminator

For VisiDoc-It systems, transilluminators are optional equipment. The VisiDoc-It System can accommodate UVP's Benchtop and FirstLight transilluminator models. The VisiDoc-It (with stand design) can also accommodate the High Performance UV Transilluminators (25-watt) and White/UV Transilluminators (8-watt). UVP offers a variety of transilluminators, from the benchtop models with 8-watt, single wavelength and single intensity to multiple wavelengths and high/low intensities, or the highly uniform FirstLight transilluminator.

LCD Touch Screen

The display is an 8-inch VGA color touch screen connected to the darkroom cabinet with tilt adjustment. The touch screen allows the user to preview, snap, save and print images, as well as select certain preference options, without the need of an external mouse or keyboard.

A stylus pen is included for increased pointer control for selecting software options on the touch screen.

Focus Target

The focus target fluoresces when placed on a transilluminator or when exposed to overhead UV. The Target provides sharp, fluorescent images to aid in adjusting the focus of the camera.

Removable USB Stick

The removable USB stick has 8GB memory (minimum) included with the system which connects to the system allowing transfer of images.

Optional Equipment

Refer to the ordering information section of this manual for optional equipment part numbers.

Thermal Printer

The thermal printer provides archive quality, 256 grayscale prints, and five optional cost-effective print sizes.

Printer

Converter Plates

The **UV/White Converter Plate** allows imaging of non-fluorescent stained media with an ultraviolet transilluminator. The converter plate is specially coated to convert the 302nm UV output to white light, rather than using a separate white light box.

The **Visi-Blue Converter Plate** converts UV to 460-470nm designed for use with blue excitation samples and SYBR green, SYPRO orange and GFP stains.

UV/White Converter Plate

Transilluminators

If the system does not include a transilluminator (check the packing slip), contact UVP for ordering information or go to www.uvp.com. Available transilluminators include the compact 8-watt models to the high performance FirstLight Transilluminator.

Setup Instructions

Components

- Camera with zoom lens, bracket, filter, cables
- VisiDoc-It hood or stand
- USB storage device, 8GB (minimum)
- Transilluminator (may be ordered separately)

WARNING: DO NOT ATTEMPT TO CONNECT ANY WIRING WHILE THE EQUIPMENT IS CONNECTED TO ANY POWER SUPPLY

CAUTION:

Do not install the system in places with high moisture, dust, or high temperatures. Do not use any oil or petroleum based cleaner for the cabinet. Use only mild soap or detergent solution for cleaning. Ensure that the system is turned OFF during cleaning. Keep the equipment away from motors or other large magnetic equipment.

Camera Setup

In the VisiDoc-It Hood

The camera and zoom lens are assembled at the UVP factory.

- Remove the cap from the lens.

- Attach the step up ring and diopter to the lens. The step up ring and diopter will only fit one way.

Step up ring

Diopter

- Using the four thumb screws provided, secure the bracket to the base.

- Slide the camera and lens assembly into the camera bracket. Slide the lens through the center hole in the gasket. The gasket forms a seal around the lens.
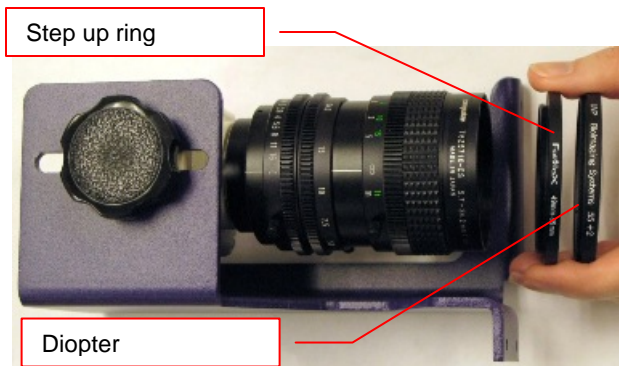
- Insert and tighten the knob/washer in the central hole in the camera to secure the camera to the bracket.

- Plug the camera cable into the top the camera and the other end into a USB port on back of the processor.

- Connect the power cord from the transilluminator to a surge protected power outlet.

- Connect the main power cord from the back of the processor to a surge protected power outlet.

Connection for the processor power

USB ports
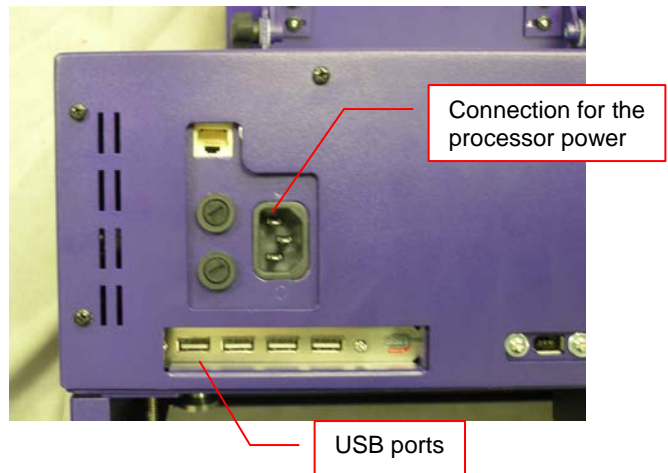
Printer Setup

The thermal printer is an optional accessory. Proceed to the next section if a printer was not included with the shipment.

Stylus and Holder

The screen is touch sensitive. If desired, use the stylus included with the system to operate the software controls. For easy access to the stylus when operating the system, remove the tape from the back of the holder and adhere it to the VisiDoc-It. Slide the stylus into the holder when not in use.

Using the System

## Powering Up the System

- Power up the system by pushing once on the **MAIN POWER** button located on the right side of the processor.

- Turn on the transilluminator.

- To power down the system, push the main power button.
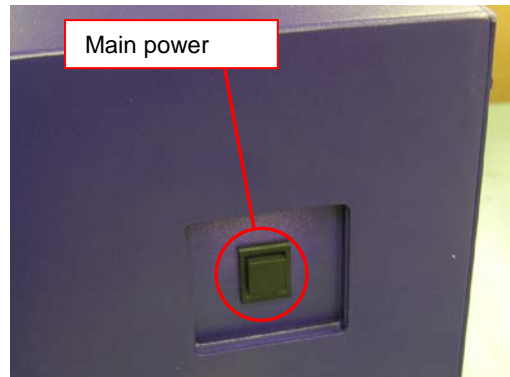
Adjusting the Screen Angle

- To adjust the angle of the screen, loosen the knobs on each side of the monitor. Twist each knob counter-clockwise.

- Tilt the screen to the desired angle.

- Turn each knob clockwise to tighten.
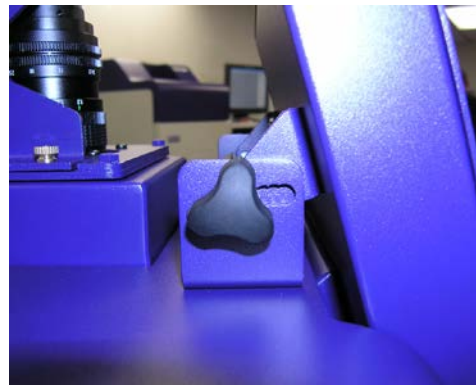
Operating the TS Software

The system will go through the boot-up process. When ready, the LCD will display the TS software screen similar to the one below:

To shut down the TS software, touch the X on the bottom left corner of the screen.

To turn the system off, press the MAIN POWER button or power down from the Windows icon on the bottom right corner of the screen.

Refer to **Touch Screen Interface** in this manual for detailed instructions on using the software.

Using the Transilluminator

To use the transilluminator, turn on the transilluminator power on the front of the unit.

NOTE: When the transilluminator is illuminated, ensure that the UV blocking cover is in position to prevent any exposure to UV.

Image Focusing

Prior to capturing images, prepare the image focus capabilities of the system:

- Turn on the transilluminator and place the *Fluorescent Focus Target* on the transilluminator surface.

- While watching the LCD screen, rotate the lens f-stop adjustment so that the image is bright enough to see on the screen.

- Rotate the lens focus adjustment on the lens. Adjust this so that the image appears in clear focus on the LCD monitor. **Note:** Once the proper zoom range is set, the lens will have to be refocused when zoomed in completely.

- Rotate the zoom lens adjustment so that the image is as large as possible. Readjust the focus ring on the lens, making the image clear. Adjust the zoom so that the object of interest is within the frame on the LCD monitor.

Touch Screen Interface

Setting User Preferences on the TS Software
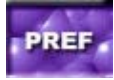
Before capturing images, set up the user preferences by touching the **PREF (preferences)** button on the main screen. Select from the following tabs:

- Capture
- Postprocessing
- Saving

Capture Tab

Active Camera: The name of the attached camera will be shown.

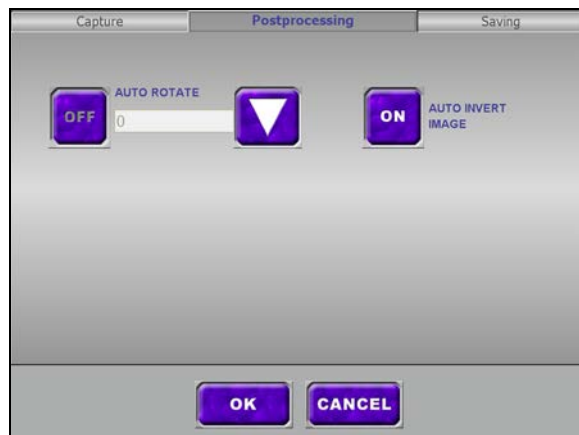**Bit Depth:** Select the bit depth. 16 bpp (bits per pixel) is shown for the Gel HR Camera.

Display Time Stamp: Turn the time stamp on or off.

Postprocessing Tab

Auto Rotate: To rotate the image, click the OFF button and then the down arrow. Rotate options are: 0, 90, 180 or 270 degrees.

Auto Invert Image: Click ON to automatically invert the colors within the image.

Saving Tab

NOTE: If the auto save function is enabled, the image will automatically save when the **SNAP** button is pressed. If the auto save function is not enabled, press the **SAVE** button to save an image. A pop up screen will allow the user to save to the USB Drive or a different location with Prompt for Location function.

Save Images To: Select the location where images are to be saved. White highlight indicates which button is activated. The **USB DRIVE** will save the file to the USB drive if one is plugged in. If one is not plugged in, the user will be prompted to select a different location. **PROMPT FOR LOCATION** will ask the user to select a location when the **SAVE** button is pressed.

Save Format: Click the down arrow to select the file format. Save images as TIFF (16-bit), JPEG (8-bit) or GIF (8-bit) file formats.

Auto Save To: Click the white box to active the auto save function. To change the folder to a different location, click in the folder field and a "Browse for Folder" window will pop up. Select a folder or make a new folder. Click **OK** to close the window. The selected folder will display in the auto save to box.

Auto Print: Select from Never, Always, or After Save
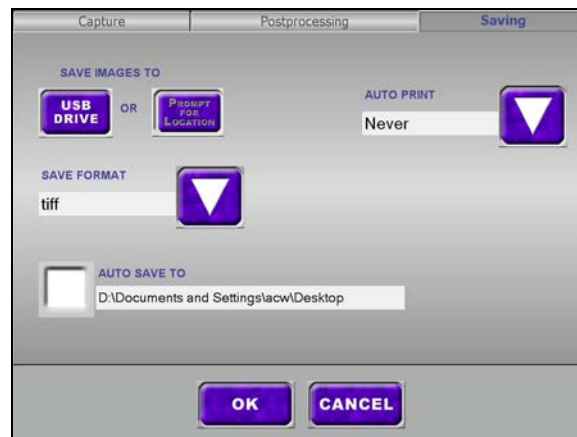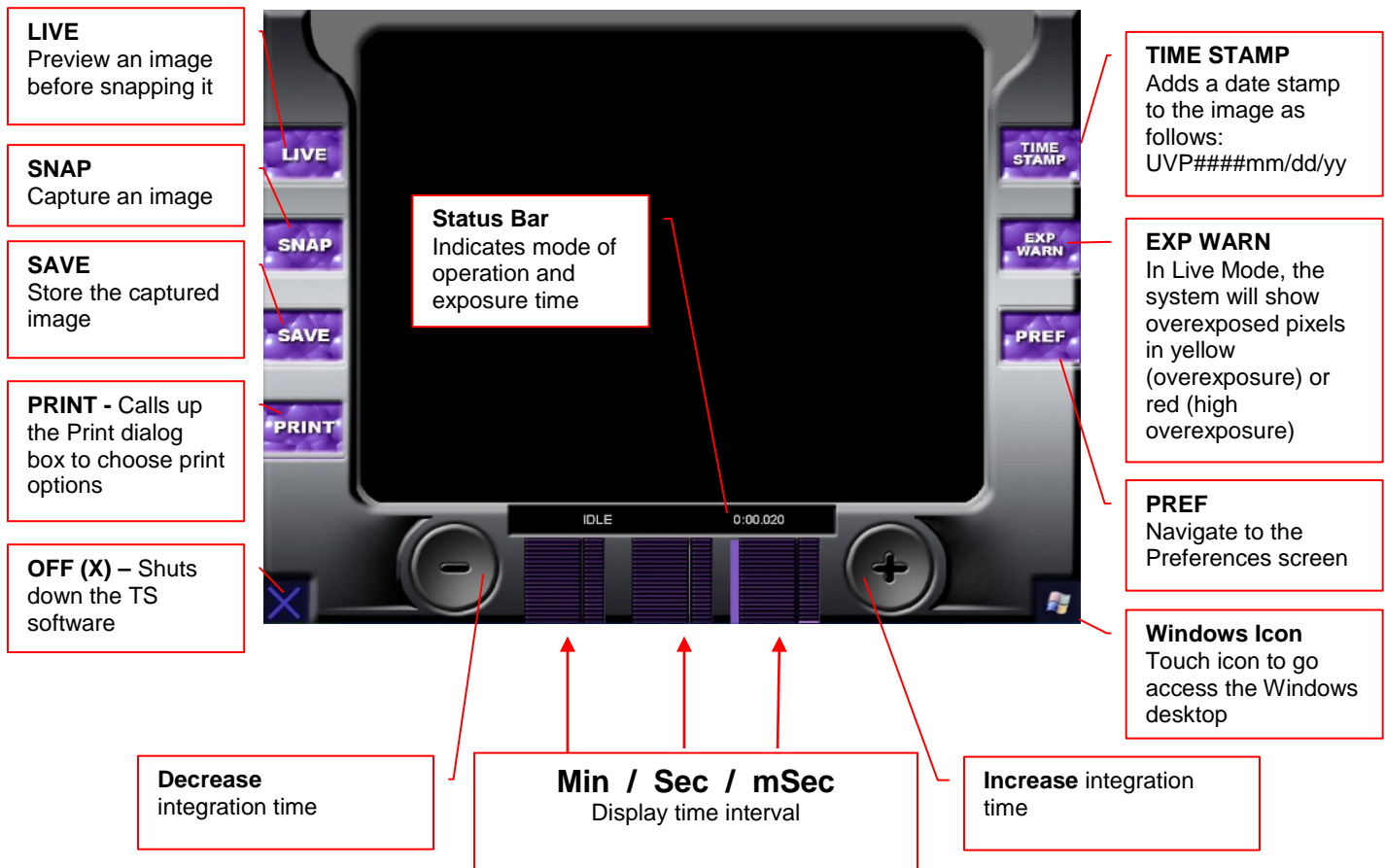

NOTE: These options will be reflected after capturing an image with the **SNAP** button, and not in **LIVE** mode.

Touch the **OK** button to save all preferences and go back to the main screen, or the Cancel button to go back to the main screen without saving changes.
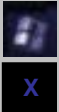
Identifying the Touch Screen Functions and Tools

Using the software touch screen allows convenient selection of image capture, save, print and other functions of the system. Callouts are provided below to briefly describe the buttons.

LIVE
Preview an image before snapping it

SNAP
Capture an image

SAVE
Store the captured image

PRINT - Calls up the Print dialog box to choose print options

OFF (X) – Shuts down the TS software

Status Bar
Indicates mode of operation and exposure time

IDLE 0:00.020

TIME STAMP
Adds a date stamp to the image as follows: UVP####mm/dd/yy

EXP WARN
In Live Mode, the system will show overexposed pixels in yellow (overexposure) or red (high overexposure)

PREF
Navigate to the Preferences screen

Windows Icon
Touch icon to go access the Windows desktop

Decrease integration time

Min / Sec / mSec
Display time interval

Increase integration time

Using the Functions and Tools

Tool/Function	Procedure
LIVE	1. To see a preview of the image before snapping it, touch the LIVE button. LIVE mode will be indicated in the status bar.
Adjust exposure time	2. Adjust the exposure time by first selecting the time interval. Touch on the corresponding bars, **Minutes, Seconds, milliSeconds**, from left to right, respectively. These bars will be animated in **LIVE/SNAP** mode to show progress as time elapses. Decrease or increase the time by touching the minus or plus button respectively.
EXP WARN	3. To view overexposed pixels, touch the **EXP WARN** button. Overexposed pixels will be identified with a yellow or red color, depending on the how saturated they are.
TIME STAMP	4. To add a date stamp to the image, touch the **TIME STAMP** button. This will add **UVP####mm/dd/yy** at the bottom right corner of the image. This information is **NOT** burned into the image until the image is saved.

SNAP	5. To snap (capture) the image, touch the **SNAP** button. NOTE: When using the SNAP button, if the Auto Save function is enabled, the image will automatically be saved.
SAVE	6. Touch the **SAVE** button to save the image to the location specified in the Preferences. The file name is assigned automatically by the software as **UVP#####mmddyyyy.*** **NOTE**: Once an image is saved, the user cannot open the image with the software. TIFF images can be opened by VisionWorks or comparable software (contact UVP Tech Support for recommendations). JPEG and GIF files can be opened with many Microsoft or comparable programs.
PRINT	7. Print the image (if a printer is installed) by touching the **PRINT** button and clicking OK at the print dialog box.
Status bar modes	8. Status bar indicates the modes of operation: **IDLE, LIVE** or **CAPTURE**. **Minutes, seconds, milliseconds** bars display time progress. Each field (Min, Sec, Msec) displays the current exposure time and the start of the current exposure being taken. The large portion of each field indicates the current exposure status. The smaller portion to the right indicates the current exposure setting. Idle 0:0:250 **Min.** **Sec.** **MSec**
X	9. To go Microsoft Windows®, touch the WINDOWS ICON located at the bottom right corner of the screen. To turn off the system, shut down from Windows or push the MAIN POWER button. To close the software, click the **X** in the bottom left corner of the screen.

Find and View Images

Managing Files	The TS System allows the user to save images in several locations. The location is selected in the PREF screen. The system has a built-in hard drive with at least 25 GB of storage space that can be used. To save images in the USB drive, make sure a USB drive is plugged in. If one is not plugged in, the TS software will automatically prompt the user for a location.
Viewing Images	It is not possible to view saved images on the software screen. To view images captured and saved from the TS system, different software is required. To view **8-bit JPEG or GIF** images, exit to Windows and open Windows Image Viewer or other comparable software program. To exit the TS software interface and go to Microsoft Windows, touch the WINDOW ICON located at the bottom right corner. To view **16-bit TIFF** images, open VisionWorksLS or comparable program (contact UVP Tech Support for recommendations). VisionWorksLS may be included with the system. To check, go to **Start > All Programs > UVP > VisionWorks** or look for the VisionWorks icon on the desktop.

Connecting to a Network

Network Connectivity

The TS System has built-in networkability. While it is fairly simple to connect the device to the network, it is highly recommend to obtain assistance from your network administrator.

Follow the Microsoft or local standard network protocols for network configuration. To exit the TS software interface and go to Microsoft Windows, touch the WINDOWS ICON located at the bottom right corner of the main screen.

Install Drivers or Additional Software

Installing Drivers or Additional Software

In the event that additional drivers or VisionWorksLS software need to be installed on the system, exit the TS software interface and go to Microsoft Windows by pressing the WINDOWS ICON button located at the bottom right corner of the main screen.

To install drivers or additional software, copy to a USB storage device, open Windows Explorer in TS and run the desired program. The system can accept USB as a method of software installation.

Service Procedures

Return Procedure

A **Returned Goods Authorization (RGA)** number must be obtained from UVP Customer Service before returning any product.

Replacement Parts and Accessories

To order accessories or replacement parts for the VisiDoc-It System, contact UVP's offices.

Part Description	Part Number
Filter, Ethidium Bromide, 50mm Square	38-0220-01
Filter, SYBR Green, 50mm Square	38-0219-01
Filter, SYBR Gold, 50mm Square	38-0221-01
White Light Converter Plate, 21x26cm	38-0191-01
White Light Converter Plate, 25x26cm	38-0191-04
Visi-Blue Converter Plate, 21x26cm	38-0200-01
Visi-Blue Converter Plate, 25x26cm	38-0200-04
Gel-Cutter	85-0002-01
Gel-Ruler	85-0003-01
Gel-Scooper	85-0006-01
Gel-Tray, small	85-0007-01
Gel-Sentry DNA Preparation Plate	97-0076-01
Fluorescent Standard Step Tablet	33-0014-02
Doc-It®LS Analysis Software	97-0185-02
Spectacles, UV Blocking (UVC-303)	98-0002-01
Goggles, UV Blocking (UVC-503)	98-0002-02
Faceshield, UV Blocking (UVC-803)	98-0002-04

Troubleshooting

No Power to the Darkroom

Recheck main power cord connections to the darkroom.

Check fuses, located at the back of the unit, near the power port. You will need a flat-head screwdriver. Turn the cap and the fuse holder will "pop-out". Inspect the thin wire within the glass fuse to see if there is a break in the wire. If so, replace fuse(s). If fuses are blown repeatedly, contact UVP Technical Support Department for additional troubleshooting.

No Image on the LCD Screen

To power up the system, push **once** on the button located on the left side of the unit.

Touch Screen not Accurate

If touching or clicking on the buttons becomes inaccurate, you may need to recalibrate your touch screen. Please follow all instructions in the touch screen calibration instructions included in your TS software CD.

Error Messages Pop Up on the Screen

Messages appear on the screen that might be related to the TS software interface, or Microsoft Windows. If the message is related to Microsoft Windows, such as a reminder to activate or update your copy of Windows, please contact your system administrator for assistance.

If an error message appears repetitively, and your system administrator does not recognize it as a Microsoft Windows error, contact UVP Technical Support for further assistance.

Technical Support

UVP offers technical support on all of its products. If you have any questions about the product's use, operation or repair, please contact our offices at the locations below. Or go to UVP's web site and click the Tech Support > BioImaging Systems.

If you are in North America, South America, East Asia or Australia:	If you are in Europe, Africa, the Middle East of Western Asia:
Call (800) 452-6788 or (909) 946-3197, and ask for **Customer Service** during regular business days, between 7:00 am and 5:00 pm, PST.	**Call +44(0) 1223-42002**, and ask for **Customer Service** during regular business days between 9:00 am and 5:30 pm.
E-mail your message to: techsupport@uvp.com	**E-mail** your message to: uvp@uvp.co.uk
Fax Customer Service, and send it to **(909) 946-3597**	**Fax** Customer Service, and send it to: **+44(0) 1223-420561**
Write to: UVP, LLC 2066 W. 11th Street, Upland, CA 91786 USA	**Write to**: **Ultra-Violet Products Ltd** Unit 1, Trinity Hall Farm Estate, Nuffield Road, Cambridge CB4 1TG UK

Warranty

UVP's products are guaranteed to be free of defects in materials, workmanship and manufacture for two (2) years from date of purchase. Consumable and disposable parts including, but not limited to tubes and filters, are guaranteed to be free from defects in manufacture and materials for ninety (90) days from date of purchase. Transilluminators carry a two (2) year warranty from date of purchase. If equipment failure or malfunction occurs during the warranty period, UVP shall examine the inoperative equipment and have the option of repairing or replacing any part(s) which, in the judgment of UVP, were originally defective or became so under conditions of normal usage and service.

No warranty shall apply to this instrument, or part thereof, that has been subject to accident, negligence, alteration, abuse or misuse by the end-user. Moreover, UVP makes no warranties whatsoever with respect to parts not supplied by UVP or that have been installed, used and/or serviced other than in strict compliance with instructions appearing in this manual.

In no event shall UVP be responsible to the end-user for any incidental or consequential damages, whether foreseeable or not, including but not limited to property damage, inability to use equipment, lost business, lost profits, or inconvenience arising out of or connected with the use of instruments produced by UVP. Nor is UVP liable or responsible for any personal injuries occurring as a result of the use, installation and/or servicing of equipment.

This warranty does not supersede any statutory rights that may be available in certain countries.

VisiDoc-It is a trademark of UVP, LLC. Doc-It is a registered trademark of UVP, LLC.