

ChromaDoc-It™ Imaging System

Installation and User Instructions



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Introduction

The ChromaDoc-It Imaging System is designed for capturing brilliant Thin Layer Chromatography (TLC) images. The system combines:

- Viewing Cabinet with built-in epi white light and UV: 254nm (shortwave) and 365nm (longwave) UV
- DigiCam 125 digital color camera
- Ethidium Bromide (EtBr) Filter
- Doc-It[®]LS Acquisition Software (refer to software manual for installation)



Viewing Cabinet

The ChromaDoc-It Imaging System components include a Chromato-Vue viewing cabinet with epi 254nm and 365nm UV to fluoresce various stained gels. The cabinet provides white light for illuminating the cabinet interior. For additional information about the cabinet, refer to the separate Chromato-Vue Cabinet manual.

UV Filter

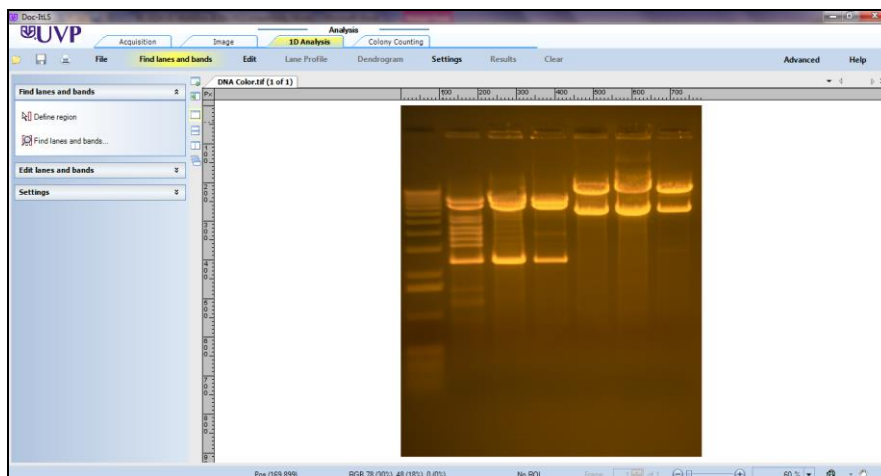
The TLC, orange-colored UV blocking band pass filter, is installed inside the cabinet at the UVP factory. The filter is used to absorb UV and IR radiation from the transilluminator and to enhance the orange/pink bands generated by EtBr stained gels. The filter can be removed when imaging non-fluorescent media in order to produce brighter images.

Camera and Diopter

The digital color camera includes a zoom lens. A close-up diopter is connected to the lens at UVP's factory.

Doc-ItLS Software

The Doc-ItLS software loads onto the user's existing computer. The software controls the camera acquisition functions as well as enhancement and reporting features. For information on installation and use of the software, refer to the Doc-ItLS Software Manual (pdf file on the software CD).



Doc-ItLS Acquisition Software

Operating System Requirements

- Windows 7, Vista or XP SP2 or later
- Internet Explorer 6.0 or higher [To locate the version of Internet Explorer, open Internet Explorer and click on **Help->About Internet Explorer**]
- Intel Pentium Processor or equivalent, 1.6 GHz or higher
- 1 GB of RAM or greater
- 200 MB of available hard disk space for the program, more for data
- CD-ROM drive
- One Universal Serial Bus (USB) for connecting the camera
- Color monitor, supporting at least 1024 x 768 resolution and 16-bit or better colors; 24-bit or 32-bit color is strongly recommended

NOTE: For 21 CFR Part 11 support functionality, the computer partition must be formatted with NTFS. Refer to the Doc-ItLS software manual for instructions.

System Setup

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 temperature. 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 apparatus.

Position the Cabinet

Place the cabinet on a level surface with the curtain facing forward. Plug the cabinet into a power outlet.

Camera bracket
and mount



Camera Assembly

1. The camera will be installed in the ChromaDoc-It hood at the UVP factory.
2. Connect the power cable to the camera.
3. Connect the USB cable to the camera. Leave the other end unplugged until ready to load the software.
4. Plug the camera's power supply into a wall outlet or surge-protector receptacle.

NOTE: The filter is installed at the UVP factory.

Install the Doc-ItLS Software

NOTE: The following provides a brief instruction for installing the software. For additional instruction on using the software, refer to the Doc-ItLS help files.

1. Insert the CD into the CD-ROM drive. The installation program should automatically start. If the installation program fails to start, navigate to the CD-ROM drive and double-click **setup.exe** to launch Doc-It.
2. Follow instructions from the Wizard screens as they appear, clicking **Next**, **Accept** or **Finish** as appropriate.
3. If prompted to restart the computer, click **No**.
4. Restart the computer by choosing **Restart** from the Windows Start menu.
5. Double click onto the UVP icon on the desktop.
6. Activate the software by choosing **On the fly activation** if connected to the internet. Complete all the required information on the form and fill in the Serial Number (located on the CD). Click onto **Get Activation No.** and then click onto **Activate** when the Activation Number appears in the box.
7. Close the software.

NOTE: If not connected to the Internet, call technical services at (800) 452-6788 or (909) 946-3197 to complete the activation process.

Connect the Camera to the Computer

NOTE: It is recommended to only connect the camera to the computer while the camera is off.

1. Connect the USB cable from the camera to the computer.
2. Turn the camera on and select **M** on the camera dial.

NOTE: Do not use the Doc-ItLS software while the camera dial is set to movie mode as doing so may result in an error.



Camera set to M

Connect to Doc-ItLS Software

1. Open the Doc-ItLS software. The software should automatically identify the camera. The camera control window should be active and ready to capture images.

NOTE: Additional instruction on using the software, refer to the Doc-ItLS Software help files.

Using the System

Camera Operation

NOTE: Do not use the Doc-It software while the camera dial is set to movie mode as doing so may result in an error.

1. To use the camera, remove the camera cap from the cabinet.
2. Ensure that the camera is turned on.
3. Set the camera mode dial button to **A-DEP**. (Automatic mode is recommended for a quick image capture)
4. Close and secure the camera cap on the cabinet.
5. If the camera is off when starting Doc-It software, a message stating that the application cannot find a camera will appear. To remedy this, turn the camera on and click Retry.

Loading Gels into the Cabinet

1. Gels are loaded into the cabinet via the curtain in the front of the cabinet. Place the sample to be imaged in the center of the cabinet floor.
2. Ensure that the digital camera is on.
3. Turn the camera mode dials to **A-DEP**.
4. Place the camera cap over the camera to eliminate ambient light.
5. Turn on the appropriate UV light source on the top of the cabinet.

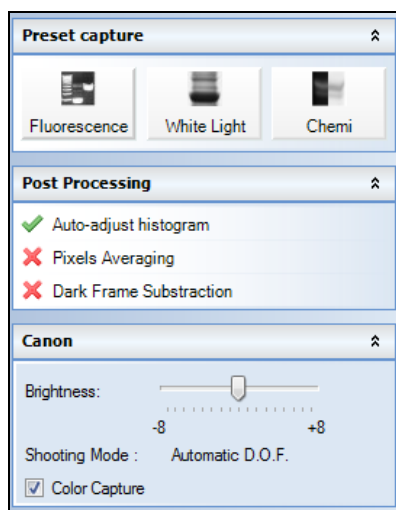
NOTE: It is important to turn off the light source as soon as the image is captured to prevent photonicking or damage to the gel.

NOTE: Refer to the help files for additional capture and enhancement instructions.

Software Operation

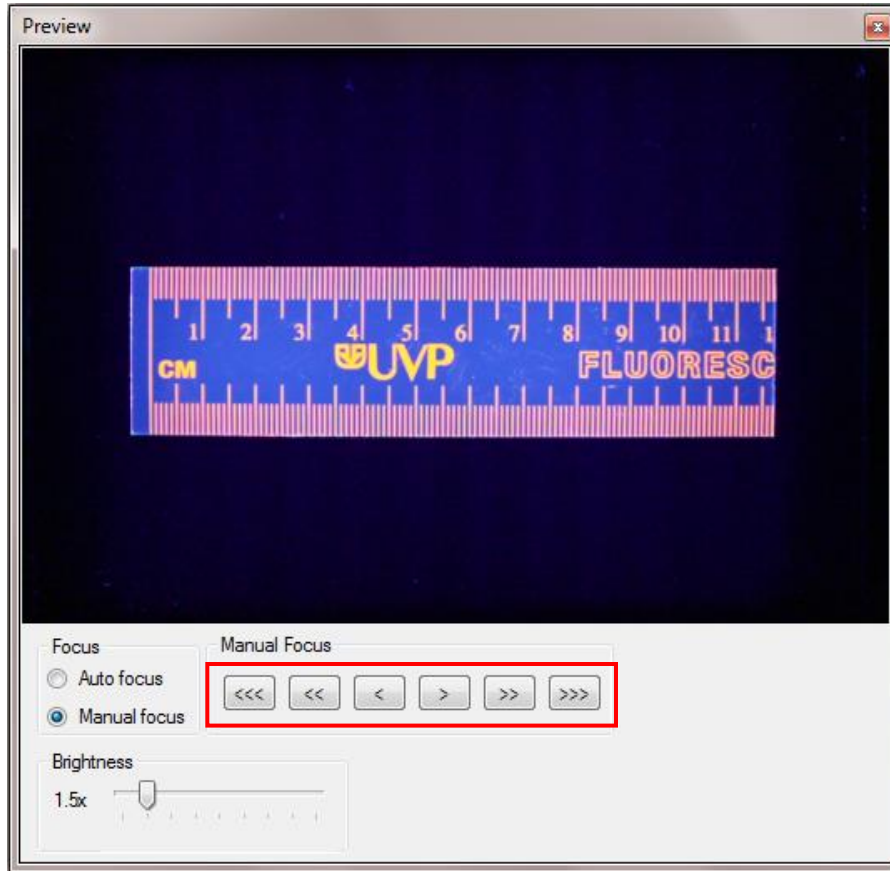
NOTE: Do not use the Doc-It software while the camera dial is set to movie mode, as doing so may result in an error.

1. Ensure that the camera mode is set to A-DEP for automated capture.
2. Open the Doc-ItLS software.
3. A window displaying the camera options should appear as pictured below. If not, click on the Acquisition Action tab and then on the Camera menu button.



Camera Control Window

4. To take images in color, ensure that the **Color Capture** box is checked.
5. Select **Preview** at the top of the software to preview the image.
6. While in preview mode, the **Brightness** slider can be adjusted to brighten dark images.
7. The user may adjust the focus manually to enhance the appearance of the previewed image. Click the **Manual focus** radio button on the Preview window, then use the left and right arrows (shown in the red box, below) to adjust the focus settings.



Preview Window with Manual Focus

8. When satisfied with the previewed image, select **Capture** at the top of the software.

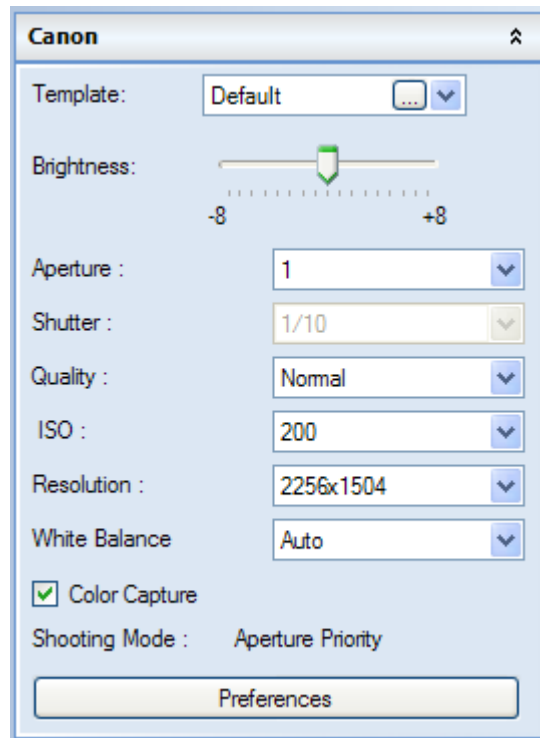
Optional Camera Setup (Image Acquisition)

If operating the camera in automatic mode is not sufficient for the application, try utilizing the manual mode to gain additional camera control.

1. Access the camera and turn the camera dial to **M**, the next position on the dial. (The dial is preset to **A-DEP** and will only turn in one direction.)



2. A new camera window appears with additional options:



Camera Control in Manual Mode

3. Select the desired options for an enhanced image. See the camera manual for detailed descriptions of options.
4. Select **Capture** at the top of the software.

Replacement Parts and Accessories

The following replacement parts and accessories are available for use with the ChromaDoc-It Imaging System:

Description	Part Numbers
Replacement Tube, 15 watt, 254nm UV	34-0008-01 – 2 required
Replacement Tube, 15 watt, 365nm UV	34-0009-02 – 2 required
Replacement Tube, 4 watt, white light	34-0066-01 – 2 required
Doc-ItLS Analysis Software	97-0185-02
Thermal Printer, Digital (115/230V)	89-0069-06
Thermal Printer, Digital (230V)	89-0069-07
Thermal Printer, Digital (230V for Europe)	98-0069-15
Thermal Paper, 4 rolls (800 images)	89-0038-01
Thermal paper, 16 rolls (3200 images)	89-0038-04
Thermal Paper, 40 rolls (8000 images)	89-0038-05
Filter, 50mm, sq., SYBR Green and EGFP	38-0219-01
Filter, 50mm, sq., Ethidium Bromide	38-0220-01

Service Procedures

Return Procedure

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

Technical Assistance

UVP offers technical support on all of its products. If there are 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 > Biolmaging Systems.

If residing in North America, South America, East Asia or Australia:	If residing in Europe, Africa, the Middle East or 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. 11 th 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 one (1) year 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.