

PhotoDoc-It™ Imaging System

Installation and User Instructions



UVP, LLC

2066 W 11th Street, Upland, CA 91786
Tel: (800) 452-6788 / (909) 946-3197
Fax: (909) 946-3597

Ultra-Violet Products Ltd.

Unit 1, Trinity Hall Farm Estate,
Nuffield Road Cambridge CB4 1TG UK
Tel: +44(0)1223-420022 / Fax: +44(0)1223-420561

Web site: www.uvp.com

Components

The PhotoDoc-It Imaging System is a simple, stand-alone gel documentation system with no computer required. The PhotoDoc-It is designed to fit over any UVP Benchtop UV Transilluminator and combines the equipment listed below. Refer to the inventory list/photo below for components.

- Hood Enclosure
- Digital Color Camera
- Ethidium Bromide (EtBr) Filter
- UV Transilluminator
- View Port
- Color Printer with paper and ink for 108 prints
- USB Interface Cable
- Combination Lock



Hood Enclosure

The PhotoDoc-It hood enclosure provides a darkroom environment to reduce ambient and reflective light when taking pictures. Two handles allow the hood to easily be moved.

Camera

The high resolution digital color camera includes a built-in optical zoom lens.

Ethidium Bromide Filter

The Ethidium Bromide (EtBr) emission filter is installed inside the hood at the UVP factory. The filter is used to absorb UV and IR radiation from the transilluminator and to enhance the band image signal generated by ethidium bromide-stained gels. The filter can be removed when imaging non-fluorescent media (protein gels, colony plates, etc.) to produce brighter images. Additional filters are available. Contact UVP for information.

Transilluminator

An ultraviolet transilluminator may be shipped with the system (included components can be verified according to the system packing slip). The transilluminator includes an ultraviolet blocking cover; however, the cover should be removed when the hood is used with the transilluminator.

Gel Viewer Window

The Gel Viewer Window is comprised of a UV blocking material to provide UV-safe sample viewing without removing the hood. Opening the Gel Viewer Window allows users to view the actual gel without exposure to UV and without having to turn off the UV transilluminator.

Color Printer

Print 4x6" lab quality color prints on the compact color printer supplied with the system. A supply of 108 sheets is included with the printer. (Note: Printer received may look different than printer pictured in this manual)

Combination Lock

A three-digit combination lock is supplied for securing the camera to the hood. The combination can be reset as required. The cable is 30" long, providing flexibility when moving equipment.

System Set-Up

The PhotoDoc-It System is designed to be simple to both set up and use. System components include:

- Hood Enclosure
- Digital Color Camera
- Ethidium Bromide Filter
- Transilluminator
- Color Printer
- USB Interface Cable
- Combination Lock

CAUTION: Do not install the system in places with high moisture, dust or high temperature. Do not use any oil or petroleum-based cleaners on the cabinet. Use only a mild soap or detergent solution for cleaning. Ensure that the system is unplugged during cleaning.

NOTE: Keep the equipment away from motors or other large magnetic equipment.

Placing the Hood on the Transilluminator

The hood enclosure is used with a Benchtop UV transilluminator. Additional instructions for the transilluminator are supplied in a separate manual.

CAUTION: All UVP transilluminators are powerful sources of UV radiation that can cause damage to unprotected eyes and skin. Before operating any unit, be sure all personnel in the area are properly protected, including wearing UV-blocking eyewear. Refer to Replacement Parts/Accessories for UV-blocking eyewear ordering information.

1. Remove the UV blocking clear cover from the transilluminator if it has been previously assembled. (The UV blocking cover is recommended for use when operating the transilluminator without the hood enclosure installed.)
2. Connect the power cord to the back of the transilluminator and to a power source. The transilluminator switch is on the front of the unit.
3. Place the PhotoDoc-It hood on top of the transilluminator.



PhotoDoc-It with Color Printer

Ethidium Bromide Filter Removal/Installation

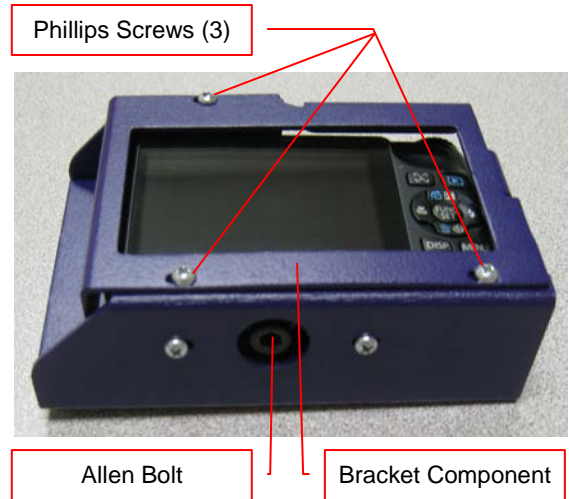
The Ethidium Bromide filter is installed inside the hood enclosure at the UVP factory. Installation or removal should not be required during normal use. However, to remove or replace the filter, turn the hood upside down, loosen the thumbscrews and remove the filter tray. To install, insert the filter into the tray, install the tray, tighten the thumbscrews and place the hood in the upright position.

Camera Setup

The PhotoDoc-It camera comes installed from the factory in its bracket and attached to the system's darkroom hood enclosure.

1. Plug the camera's pre-installed power supply into a wall outlet or surge protector.
2. Plug the supplied USB interface cable into the camera and the printer. This cable includes a controller (**Printer Controller Switch**) for switching the camera-to-printer connection on or off.

Should the camera need to be removed, use the provided Allen wrench to unscrew the black Allen bolt on the front of the bracket. Use a Phillips head screwdriver to remove the three screws from the top of the bracket and remove the bracket component for access to the camera.



PhotoDoc-It Camera and Bracket

Camera Buttons

1. Power On/Off Button
2. Camera Shutter Button
3. Navigation Selector (up, down, left, right)
4. Function Set Button
5. Menu Button
6. Playback Button
7. Zoom Toggle



Printer Installation

1. **Install the ink cartridge:** Open the panel on the right side of the printer. Insert the ink cassette into the printer until it clicks firmly into place. Close the cover.
2. **Insert the paper cassette:** Open the panel on the front of the printer. Slide the lid off of the paper cassette. Place paper in the cassette with the shiny side up. Try not to touch the shiny side of the paper. Close the lid. A portion of the paper should be seen through the opening. Insert the cassette into the slot on the printer.
3. Attach the **power cord** to the printer and plug into a wall outlet or surge protector.
4. Attach the **USB interface cable** under the terminal cover on the side of the camera to the USB port on the left side of the printer.

Connecting the Combination Lock

Attach the cable lock through the key ring on the camera and through the white handle on the hood.

System Operation

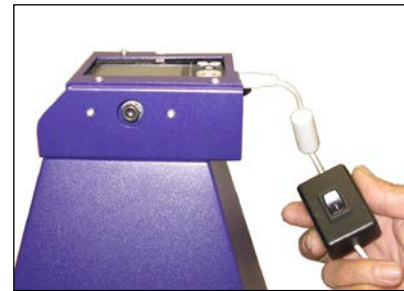
Ensure Correct Camera Settings

The following camera settings are preset at the UVP factory before the system is shipped. Check to ensure that these camera settings are preset correctly.

1. Press the **Power On/Off Button (1)** to turn the camera on.
2. Press the **Menu Button (5)** and ensure that the “Lamp Setting” is **Off**. Press the **Menu Button (5)** again to return to the main menu.
3. Press the flash icon on the right side of the **Navigation Selector (3)** until the screen shows a symbol with the flash symbol, circle and crossbar with the words **Flash will not fire**. The flash selection menu will disappear within a few seconds.
4. Press the **Power On/Off Button (1)** again to turn the camera off.

Preparing to Capture an Image

1. Turn the UV transilluminator **OFF**.
2. Remove the hood from the top of the transilluminator.
3. Place the sample to be imaged in the center of the filter glass.
4. Place the hood on top of the transilluminator.
5. Turn the transilluminator **ON**.



Printer Controller Switch

Capturing an Image

1. Press the **Power On/Off Button (1)** to turn the camera on.
NOTE: Prior to taking a picture, ensure that the Printer Controller Switch is set to **O** (off).
2. Ensure that the flash is deactivated prior to taking pictures (see “Ensure Correct Camera Settings” above for instructions on deactivating the flash).
3. Use the **Zoom Toggle (7)** to zoom in and out to obtain the appropriate image size.
4. Press and hold the **Camera Shutter Button (2)** halfway down to focus. When the camera finishes focusing, it will beep. One or more green AF frames will appear where the subject is in focus.
5. Capture the image by fully pressing the **Camera Shutter Button (2)**.

Printing an Image

1. Make sure the printer is plugged in. (**Note:** The supplied printer may look different than the printer shown.)
2. Set the Printer Controller Switch, shown above, to the **I** (On) position.
3. Press the **Printer On Button**.
4. Make sure the printer is connected to the camera.
5. On the camera, press the **Playback Button (6)** to turn on the image preview. Use the left and right buttons on the camera’s **Navigation Selector (3)** to scroll through the camera’s saved images.
6. Once the desired image has been found, press the **Function Set Button (4)**.
7. Press the **Function Set Button (4)** again to print.



For additional printer instructions, refer to the Canon printer manual.

Downloading Images to a PC

To connect the PhotoDoc-It to a PC:

1. Turn off the UV transilluminator.
2. Disconnect the USB interface cable from the printer.
3. Connect the USB interface cable between the camera and the PC.
4. Set the USB interface cable's Printer Controller Switch to **I** (on).
5. In Windows Explorer, click on **Canon PowerShot Camera**. From here, images may be opened, copied, deleted or printed as desired.

Service Procedures

Return Service Procedure

A **Returned Goods Authorization (RGA) number** must be obtained from UVP's Customer Service Department prior to returning any product to UVP.

Replacement Parts/Accessories

Replacement paper/ink is available for the printer. Contact UVP's offices at the telephone numbers below for replacement parts for PhotoDoc-It equipment.

For transilluminator replacement parts, refer to the separate manual for the transilluminator included with shipment.

Accessories (optional) are available for use with the PhotoDoc-It Imaging System.

Doc-It[®]LS Analysis Software can be loaded on to a computer for image enhancement, analysis, reporting and documentation.

Converter Plates convert UV to either white light (UV to White Light Plate) for Coomassie blue or silver stained gels, or to 460-470nm blue (Visi-Blue[™] Converter Plate) for SYBR green and similarly stained gels. An Amber Emission Filter will be included for use with the Visi-Blue Converter Plate.

Ordering Information

Description	Part Numbers
Paper and Ink (KP-108IP) for 108 shots	96-0164-01
Combination Lock with Cable	89-0387-01
Doc-It LS Analysis Software	97-0185-02
UV to White Light Converter Plate	38-0191-11
Visi-Blue Converter Plate	38-0200-06
Filter, 50mm, sq., SYBR Green and EGFP	38-0219-01
Filter, 50mm, sq., Ethidium Bromide	38-0220-01
Spectacles, UV Blocking (UVC-303)	98-0002-01
Goggles, UV Blocking (UVC-503)	98-0002-02
Faceshield, UV Blocking (UVC-803)	98-0002-04

Technical Assistance

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

UVP offers free lifetime technical support on all of its products. Should you have any questions regarding the product's use, operation or repair, contact UVP's offices at the locations below, or visit www.uvp.com.

If you are in North America, South America, East Asia or Australia:	If you are 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) 1223-420022 , and ask for Customer Service during regular business days between 9:00 am and 5:30 pm.
E-mail your message to: info@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.