

PhotoDoc-It™ Imaging System

Installation and User Instructions



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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
- DigiCam 65, digital 14.1 megapixel color camera
- Ethidium Bromide 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 be easily moved.

Camera

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

Ethidium Bromide Filter

The 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 more 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 transilluminator is used with the system.

Gel Viewer Window

The Gel Viewer Window is comprised of a UV blocking material to provide 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. The 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 Installation

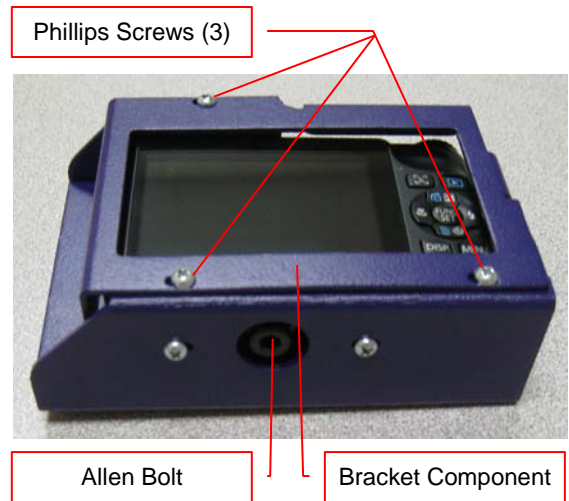
The Ethidium Bromide filter is installed inside the hood enclosure at the UVP factory. Installation or removal should not be required during normal use. However, to remove or replace the filter, turn the hood upside down, loosen the thumbscrews and remove the filter tray. To install, insert the filter 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 (1)
2. Camera Shutter Button (2)
3. Face Selector Button (3)
4. Playback Button (4)
5. Navigation Selector (up, down, left, right) (5)
6. Function Set Button (6)
7. Menu Button (7)
8. Mode Selector (8)
9. Zoom Toggle (9)



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. Ensure that the **Mode Selector (8)** is set to **P**.
2. Press the **Face Selector Button (3)** until Face Select is **On**.
3. Press the **Menu Button (7)** to check the following settings:
 - a. **AF Frame** should be set to **Face AiAF**
 - b. **Digital Zoom** should be set to **Off**
 - c. **AF-Point Zoom** should be set to **Off**
 - d. **AF-assist Beam** should be set to **Off**
 - e. **Flash Settings**: Highlight **Flash Settings** and press the **Function Set Button (6)**. Ensure that both options are set to **Off**
4. Press **Menu (7)** twice to complete setup.

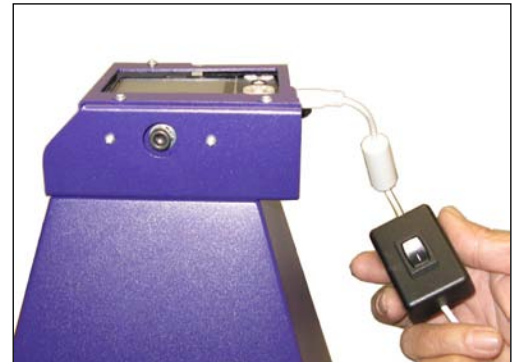
Preparing to Capture an Image

1. Turn **OFF** the UV transilluminator.
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**.

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. Press the flash indicator on the right of the **Navigation Selector (5)** until the screen shows a symbol with the flash, circle and crossbar with the word **Off**.
3. Ensure that the **Mode Selector (8)** is set to **P**.
4. Use the **Zoom Toggle (9)** to zoom in and out to obtain the appropriate image size.
5. Press and hold the **Camera Shutter Button (2)** halfway to focus. When the camera finishes focusing, it will beep. One or more green AF frames will appear where the subject is in focus.
6. Capture the image by fully pressing the **Camera Shutter Button (2)**.

If the image is too dark, use the **Function Set Button (6)** to set the **ISO** value to a higher number. Use the **Navigation Selector (5)** and press left or right to adjust the ISO higher or lower (the higher the number, the more light-sensitive the camera will be). Press the **Function Set Button (6)** to select the new value. Retake the picture.



Printer Controller Switch

Printing an Image

1. Make sure the printer is plugged in. (**Note:** The supplied printer may look different than the printer shown here.)
2. Turn the Printer Controller Switch, shown on the previous page, 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 (4)** to turn on the image preview. Use the left and right buttons on the camera's **Navigation Selector (5)** to scroll through the camera's saved images.
6. Once the correct image has been found, press the **Function Set Button (6)**.
7. Press the **Function Set Button (6)** again to print. (**Note:** Before pressing the **Function Set Button (6)** you may use the **Navigation Selector (5)** to scroll to the **Trimming** setting to crop and pan on the image and select the desired print area).



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

Downloading Images to a PC

To connect the PhotoDoc-It to the PC using Windows XP:

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. Switch the USB interface cable's Printer Controller Switch to I (on).
5. In Windows Explorer, click on **Canon PowerShot A2200**. From here, images may be opened, copied, deleted or printed as desired.

Operating the Optional LCD Screen

Once the PhotoDoc-It LCD screen is connected to the camera, press the **POW** (power) button on the LCD panel to operate the screen. See the separate **LCD Screen Installation and User Instructions** for installation instructions.



Optional LCD Screen

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 the UV to either white light (UV to White Light Plate) for Coomassie blue or silver stained gels or 460-470nm (Visi-Blue™ Converter Plate) for SYBR green 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
LCD Screen	98-0093-01
UV to White Light Converter Plate (25x26cm)	38-0191-04
Visi-Blue Converter Plate (25x26cm)	38-0200-04
UV to 365nm Converter Plate (25x26cm)	38-0325-01
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

UVP offers technical support for all of its products. If questions arise concerning the product's use, operation or repair, please call or fax UVP Customer Service or Technical Support at the following:

UVP, LLC: In the US

2066 W. 11th Street, Upland, CA 91786
 Toll free (800) 452-6788 or (909) 946-3197
 Fax: (909) 946-3597
 E-Mail: techsupport@uvp.com

Ultra-Violet Products Ltd: In Europe/UK

Tel: +44(0)1223-420022
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 Unit 1, Trinity Hall Farm Estate, Nuffield Road, Cambridge CB4 1TG UK
 E-Mail: uvp@uvp.co.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.