

# UVP DigiDoc-It<sup>®</sup> Imaging System

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## *Installation and User Instructions*



# analytik jena

An Endress+Hauser Company

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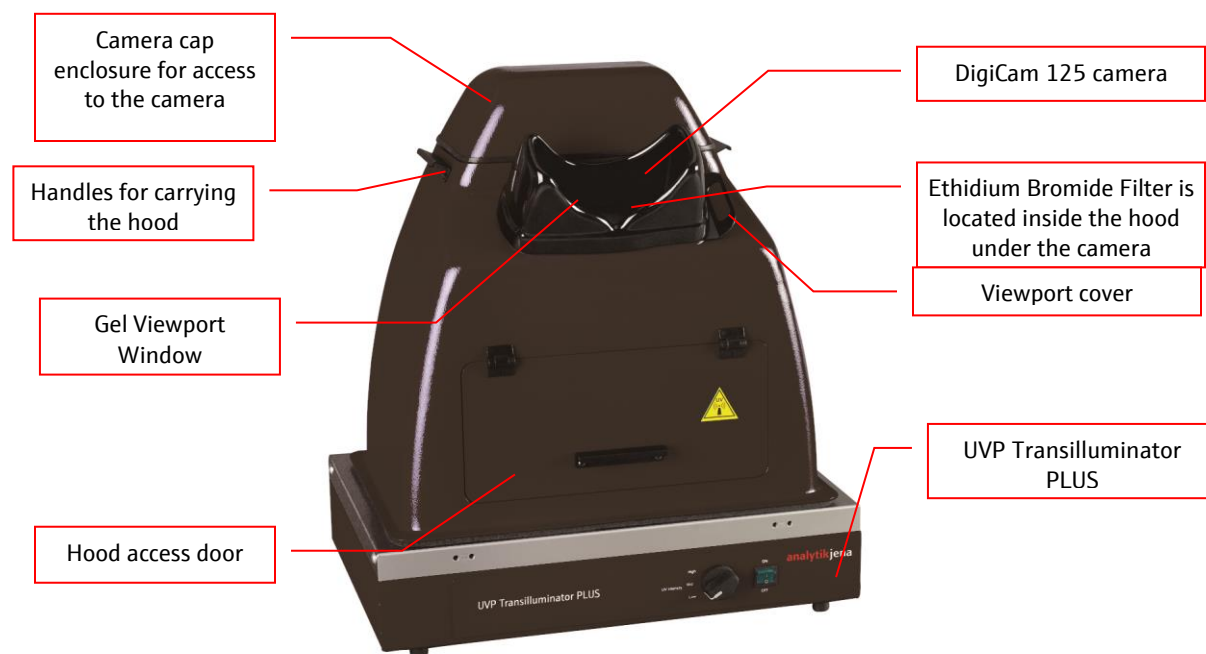
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## Introduction

The UVP DigiDoc-It Imaging System is a basic gel imaging system designed to fit over any of Analytik Jena's optional UVP Transilluminator PLUS or optional UVP Transilluminator and drawer combination. The system combines:

- Hood enclosure
- DigiCam 125 digital color camera
- Ethidium Bromide (EtBr) Filter
- VisionWorks® Acquisition and Analysis Software (refer to software manual for installation)
- UV transilluminator or drawer assembly (optional). Transilluminator instructions are provided in a separate manual.



## Hood Enclosure

The DigiDoc-It hood enclosure includes a cap to reduce ambient and reflective light when taking pictures. The soft rubber viewport window allows researchers to view samples prior to capturing images. The slide closure under the viewport minimizes ambient light when taking pictures. The lightweight door provides access to the enclosure interior for placement of samples on the transilluminator surface.

The DigiDoc-It drawer fits under the hood enclosure and accommodates a compact UV Transilluminator.



**DigiDoc-It drawer**

(Note: color scheme is different)

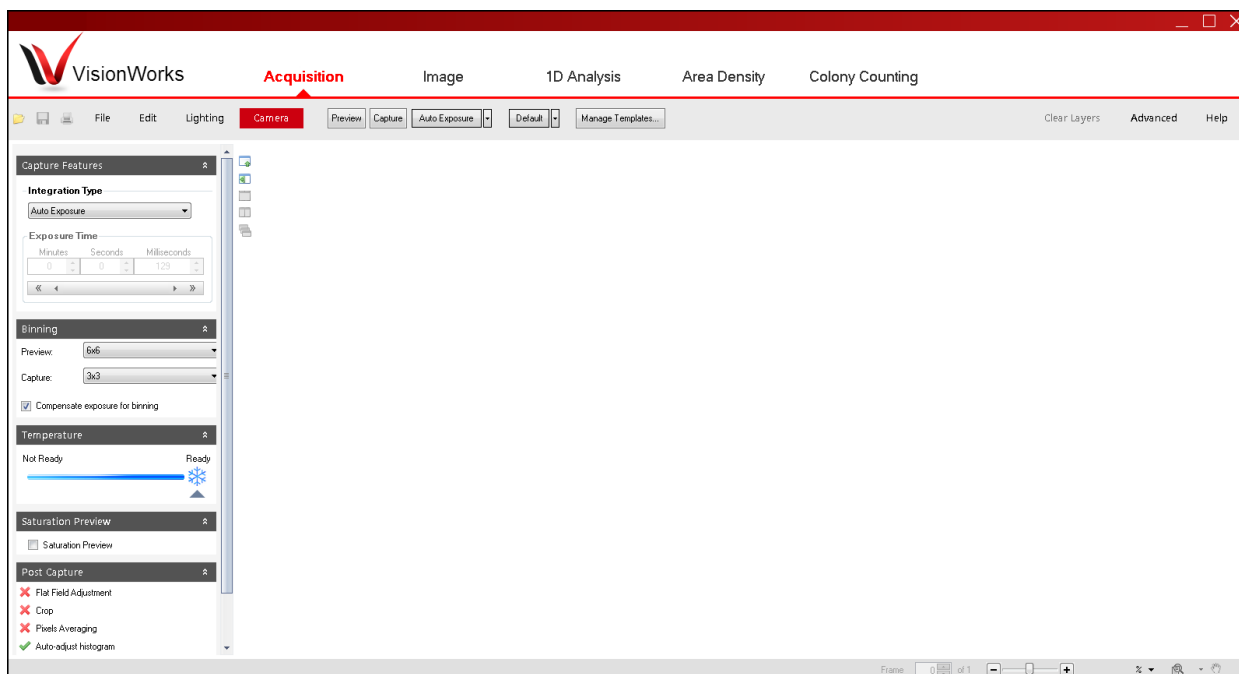
## Camera & UV Filter

The digital color camera includes a zoom lens.

The EtBr filter, orange-colored UV blocking band pass filter, is installed inside the hood at the Analytik Jena factory. The filter is used to absorb UV and IR radiation from the transilluminator and to enhance the orange/pink bands generated by Ethidium Bromide stained gels. The filter can be removed when imaging non-fluorescent media (protein gels, colony plates, etc.) in order to produce brighter images.

## VisionWorks® Software

The VisionWorks® 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 VisionWorks Software help files.



## UV Transilluminator

A UV transilluminator may be shipped with the system. The transilluminator includes an ultraviolet blocking cover and the cover should be removed when the transilluminator is used with the system. Refer to the Transilluminator manual for separate instructions.

## Operating System Requirements

- Windows 7, 8, 10
- 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
- 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 VisionWorks® 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.

### Place the Hood on top of the Transilluminator

The Hood Enclosure can be used with a UVP Transilluminator PLUS. When using a UVP Transilluminator, the optional drawer is required.

**CAUTION:** All Analytik Jena Transilluminators are powerful sources of UV radiation that will cause damage to unprotected eyes and skin. Before operating any unit, be sure all personnel in the area are properly protected. UV Blocking Eyewear is highly recommended and should be worn. Refer to the Accessories section of this manual for UV Blocking Eyewear.

#### ***UVP Transilluminator PLUS***

1. Remove the UV blocking clear cover from the Transilluminator.
2. Position the transilluminator so the switch is facing the user.
3. Connect the power cord to the back of the transilluminator and connect the plug to a power source.
4. Place the Hood Enclosure on top of the Transilluminator surface so that the filter glass is covered.



**UVP Transilluminator PLUS**  
(shown with UV blocking cover)

#### ***UVP Transilluminator and Drawer***

1. Remove the UV blocking clear cover from the Transilluminator.
2. Place the Transilluminator into the drawer.
3. Connect the power cord to the back of the transilluminator and push the plug through the access hole in the back of the drawer.
4. Connect the plug to the power source.
5. Access to the transilluminator switch is via the access port on the front of the drawer.
6. Place the DigiDoc-it hood over the drawer.

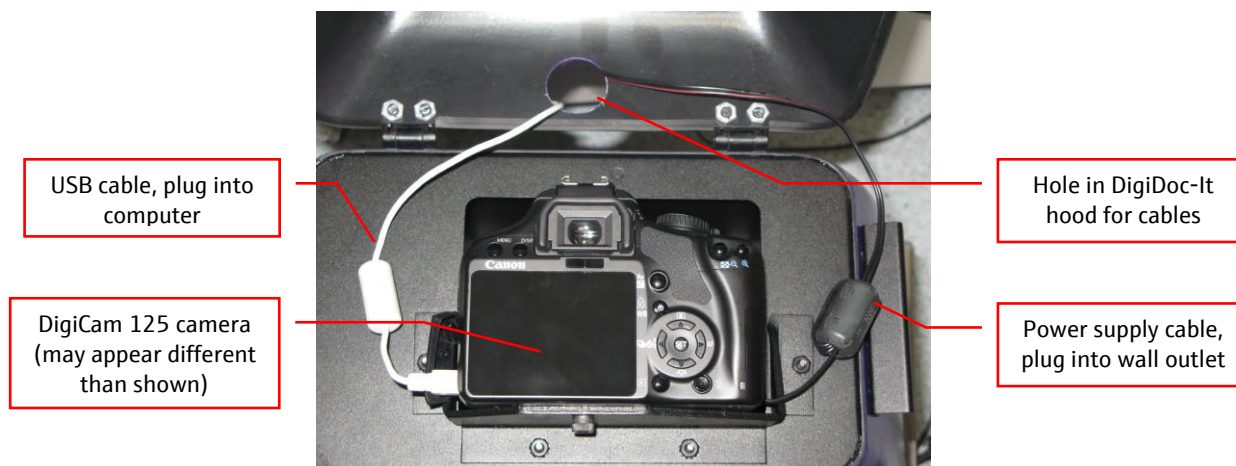


**DigiDoc-It Drawer**  
(Note: different color scheme and style)

### Camera Assembly

1. The camera will be installed in the DigiDoc-It hood at the Analytik Jena factory.
2. To connect the power cable to the camera, thread the camera's power cable through the round notched hole from the back of the camera cap and plug it into the camera as shown.
3. To connect the USB cable to the camera, thread the camera's USB cable through the round notched hole from the back of the camera cap and plug into 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 Ethidium Bromide filter is installed inside the hood enclosure at the Analytik Jena factory. If the filter needs to be replaced, turn the hood upside down. Loosen screws and slide the filter into the filter tray. Retighten screws and place the hood upright.



## Install the VisionWorks® Software

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

1. Insert the VisionWorks flash drive into the computer.
2. Navigate to the flash drive folder and open the folder.
3. Open the first folder found in the drive and then open the **Installation** folder.
4. Scroll to find the **SetupVisionWorks.exe** file and double click to run installation.
5. The first window will be a welcome to prerequisites screen. Click **OK**, **Next**. Leave all options in their default settings and click **Next**. Proceed through the prerequisite driver installations. Once complete, VisionWorks® installer will open, where the user can click **INSTALL** and proceed until complete.

## 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 VisionWorks® software while the camera dial is set to movie mode as doing so may result in an error.



Set camera to M

### Connect to VisionWorks® Software

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

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## System Operation

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### Loading Gels into the Darkroom Hood

1. Turn **Off** the UV Transilluminator.
2. Open the darkroom door.
3. Place the sample to be imaged in the center of the transilluminator filter glass.
4. Close the darkroom door.
5. Turn **On** the transilluminator.

**Note:** It is important to minimize the light source exposure to the sample. Turn off the light source as soon as the image is captured.

### View a Sample Prior to Capture

1. Open the Viewport Window on the hood by sliding the cover to the right.
2. After visually checking that the sample is loaded correctly, close the Viewport Window. Otherwise, light from the viewport will interfere with the capturing process.

### Camera Operation

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

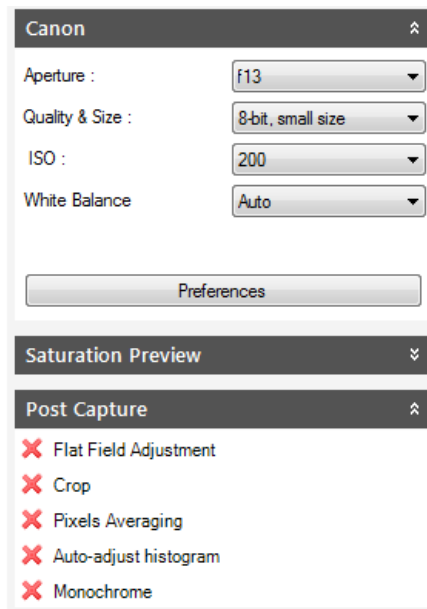
1. To use the camera, open the camera cap on top of the hood.
2. To capture in automatic mode, set the camera mode dial button to **A-DEP**. (Automatic mode is recommended for a quick image capture)
3. Close and secure the camera cap on the hood.

**Note:** If the camera is off when starting VisionWorks® software, a message stating that the application cannot find a camera will appear. To remedy this, turn the camera on and click **Retry**.

### Software Operation

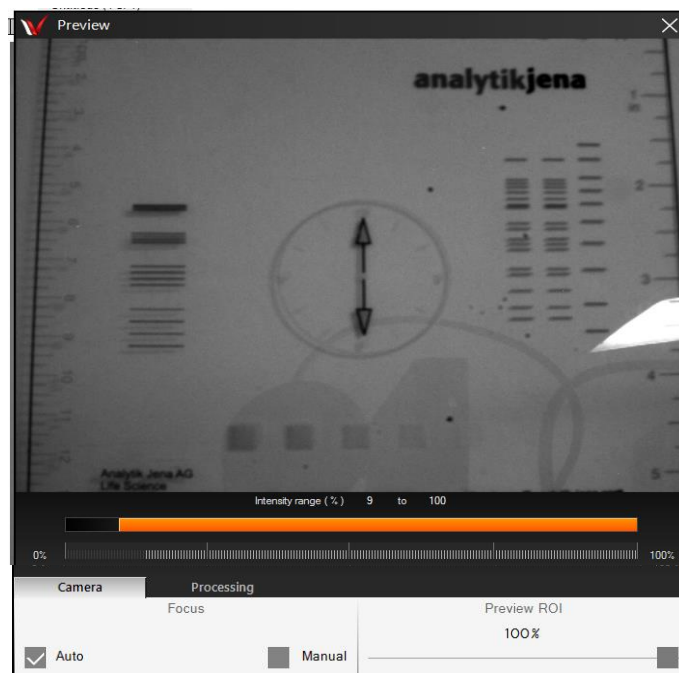
**NOTE:** Do not use the VisionWorks® software while the camera dial is set to movie mode, as doing so may result in an error.

1. Ensure that the camera mode is set to A-DEP for automated capture.
2. Open the VisionWorks® 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. Select **Preview** at the top of the software to preview the image.
5. While in preview mode, the **Brightness** slider can be adjusted to brighten dark images.
6. The user may adjust the focus manually to enhance the appearance of the previewed image. Click the **Manual box** on the Preview window, then adjust the focus settings.



**Preview Window with Auto Focus**

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



## Optional Camera Setup (Image Acquisition)

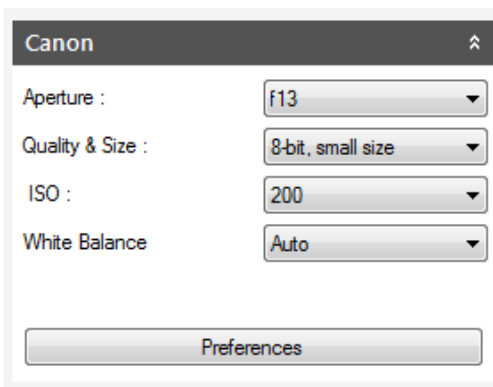
If operating the camera in automatic mode is not sufficient for the application, try utilizing the manual mode to gain additional camera control.

1. Access the camera and turn the camera dial to **M**, the next position on the dial.



Set camera to M

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.

## Service Procedures

### Return Procedure

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

### Replacement Parts and Accessories

Accessories are available for use with the DigiDoc-It Imaging Systems. Contact Analytik Jena's offices at the telephone numbers below for replacement parts for DigiDoc-It equipment. For transilluminator replacement parts, refer to the separate manual for the transilluminators included with your shipment.

Description	Part Numbers
UVP Digidoc-it Drawer (for UVP Transilluminators)	98-0068-01
VisionWorks® Acquisition and Analysis Software	81-0266-01
UVP Thermal Printer, Digital (115/230V)	89-0069-06
UVP Thermal Printer, Digital (230V)	89-0069-07
Thermal Printer, Digital (230V for Europe)	98-0069-15
UVP 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
UVP Visi-White™ Converter Plate (21x26cm)	38-0191-01
UVP Visi-White™ Converter Plate (20x40cm)	38-0191-02
UVP Visi-Blue™ Converter Plate (21x26cm)	38-0200-01
UVP Visi-Blue™ Converter Plate (20x40cm)	38-0200-02
UVP Filter, 50mm, sq., SYBR Green and EGFP	38-0219-01
UVP Filter, 50mm, sq., Ethidium Bromide	38-0220-01

### Technical Assistance

Analytik Jena 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 Analytik Jena's web site and click the Tech Support > Biolmaging Systems.

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

## Warranty

Analytik Jena'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, AJ shall examine the inoperative equipment and have the option of repairing or replacing any part(s) which, in the judgment of AJ, 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, AJ makes no warranties whatsoever with respect to parts not supplied by AJ or that have been installed, used and/or serviced other than in strict compliance with instructions appearing in this manual.

In no event shall AJ 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 AJ. Nor is AJ 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.