

**BlueLine**

*Instruments for Electrophoresis*

## **INSTRUCTION MANUAL**

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### **DIAS-II**

**Digital Imaging and Analysis System II**

**SERVA**  
Electrophoresis

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## WARNING

The Digital Imaging and Analysis System II (DIAS-II) is designed to give long service and reproducible results in your laboratory. A few moments spent reading these instructions will ensure that your expectations are reflected in the successful use of the apparatus. Please read the entire operator's manual thoroughly before operating this unit.

First check with the help of the packing list that the system has been received complete and undamaged following shipment and check that all components and accessories are present. Any damages or missing parts must be notified to **SERVA Electrophoresis GmbH Heidelberg** resp. to the responsible distributor immediately. **SERVA Electrophoresis GmbH** cannot accept responsibility for goods returned without prior notification.

**Warranty is 12 months from the date of delivery.**

## 1. Packing list

### DIAS-II

Cat.-No.: DIAS-II

No. of items	Description	Cat.-No.
1	Cabinet incl. Power cable	DIAS-II
1	Canon PowerShot G9 12.1 MP digital camera incl. power adaptor	
1	CD Gelscan 6.0 software incl. manual	GS-V60
1	Manual for DIAS-II	

## 2. Description system components

**Note:** For operating the digital camera you need a laptop with USB connection, which is not included in the delivery.

### Digital Camera Canon PowerShot G9

- 12.1 Megapixels, 1 / 1.7" Sensor
- 6x optical zoom with optical image stabilizer
- RAW image recording
- DIGIC III and iSAPS
- Face detection AF / AE / FE
- 9 - point AiAF and FlexiZone AF / AE
- ISO 1600 and Auto ISO Shift
- 3.0" PureColor LCD II

### Darkroom cabinet

- solid design, made from steel
- small footprint (50 x 40 x 50 cm)
- large sized doors plus drawer, easy handling of gels
- UV filter and filter holder included

### GelScan 6.0 software pack for 1D analysis

- comparison of expression patterns of different gels
- quantification of bands
- determination of molecular weight
- determination of isoelectric point
- automatic band detection
- individual edition of bands
- automatic background subtraction
- gel-management-tool
- GLP-conform incl. read-out of embedded tiff-tags
- database for pictures, projects and results
- automatic backup of all data
- export into MS Word™, MS Excel™, MS PowerPoint™
- **GelScript 1.1** included for easy inscription of images

**DIAS-II system can be combined optionally with**

<b>Description</b>	<b>Cat.-No.</b>
UV/WL-top light, wave length 254 nm	14-EL-254
UV/WL-top light, wave length 365 nm	14-EL-365
WL-top light	14-EL-WL
UV transilluminator	inquire
UV/WL converter plate	inquire
PC Optiflex 330MT	inquire
Mitsubishi Videoprinter P-93 DW	inquire

### **3. Installation of DIAS-II system**

**Important note:** Responsibility will not be accepted by SERVA Electrophoresis GmbH for damage resulting from misuse and violation of the following conditions.

#### **3.1. Installation of transilluminator**



1. Place the darkroom cabinet on an even surface.
2. Plug the power plug into the mains connection on the back side of the cabinet and connect the cable with the electrical socket.

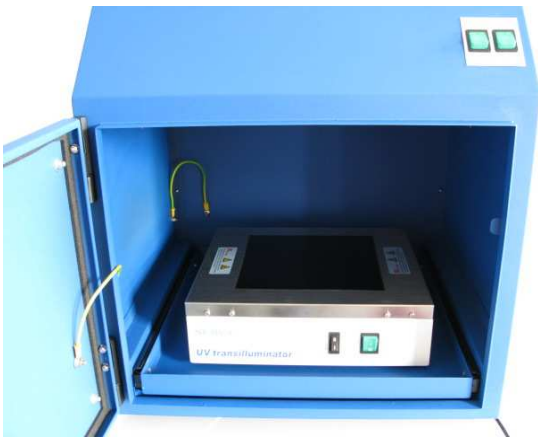


3. Open the door by pressing the black door opener.
4. Pull out the drawer and place the transilluminator on top.

5. Connect the power cable of the transilluminator with the electrical socket at the top right of the cabinet. The connectors for the UV/WL-top lights are located here as well.



6. Slide in the drawer and close the door.



7. With the door closed, you can turn on the UV transilluminator with the switch on the top right of the cabinet. Make sure that the power switch on the back side of the cabinet and the main switch at the UV transilluminator are turned on.



### 3.2. Installation of the camera

Check if camera with accessories and AC adapter kit have been received complete and undamaged. Please read and follow the manuals of camera and AC adapter kit to ensure correct operation. Strictly observe the safety information.



1. Plug the power cable into the power adaptor.
2. Connect the power adaptor to the DC IN terminal of the DC coppler.

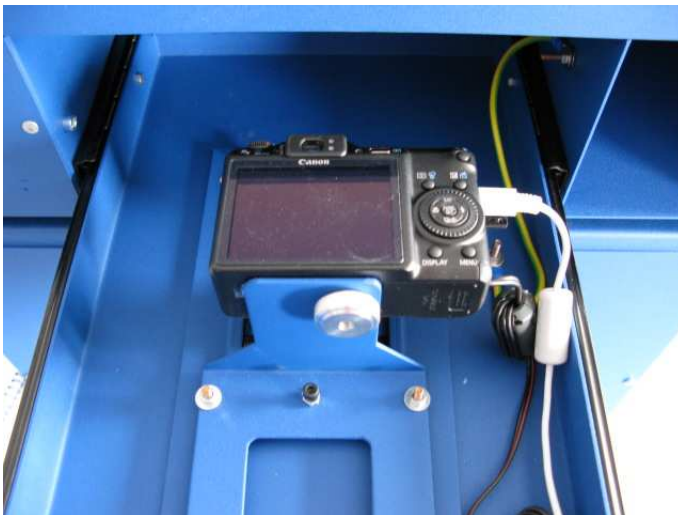
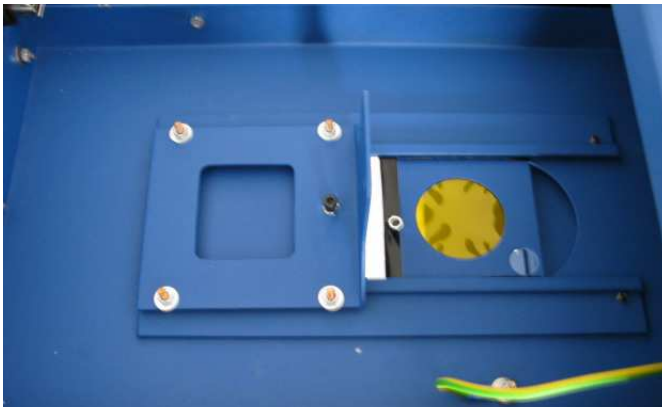


3. Open the battery compartment and insert the DC coppler.
4. You can now connect the camera with the power cable with an electrical socket and turn on. Make the basic settings of the camera like language, date, time etc. For further information about camera handling please consult the Canon manual.

5. Remove the screws on the back side of the cabinet and pull out the drawer.



6. For the installation remove once again the power cable from the power adaptor. Connect the USB cable with the camera's DIGITAL terminal (see Canon Getting started guide, page 22). Place the camera on the camera retainer over the UV filter and screw it tight.



7. Guide the power cable of the power adaptor through the opening on the back side of the cabinet and fix it with the hook.



8. Connect the power cable with the power adaptor and the USB cable with the USB connection of the cabinet. Switch on the camera. Close the drawer and screw it tight.



- 9.

### 3.3. Taking gel pictures

The camera is controlled via PC.

**Important:** Before you connect the camera with the PC, you have to install the Canon software on your PC. Please follow the installation guide in the Canon manual.

Connect now the USB cabel of the PC with the USB connection on the back side of the cabinet.

The following shows the most important settings for taking gel pictures. For a detailed description of the camera settings and handling, especially for manual mode and image editing please consult the Canon manual.

Take pictures of EtBr-, SybrGreen- etc. stained gels with UV-Filter and of protein gels etc. without UV-Filter. To remove the UV-Filter just push it back.



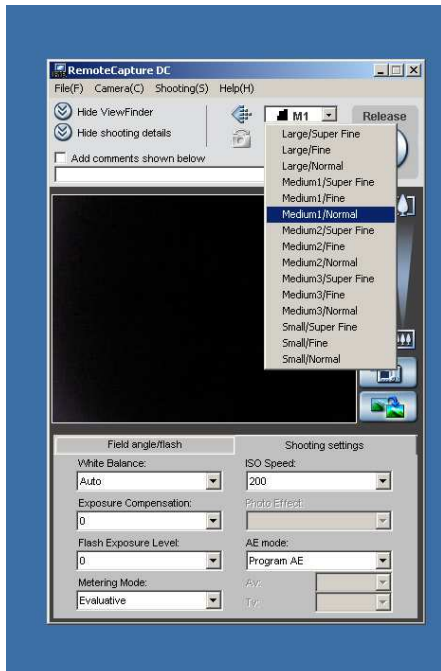
1. Under Programmes go to Canon Utilities → Camera Window → Remote Capture DC3 → Remote Capture DC.

2. The following window will open. Set Macro to ON, AF-assist light and Flash to OFF, AF operation to „AF unlock“.

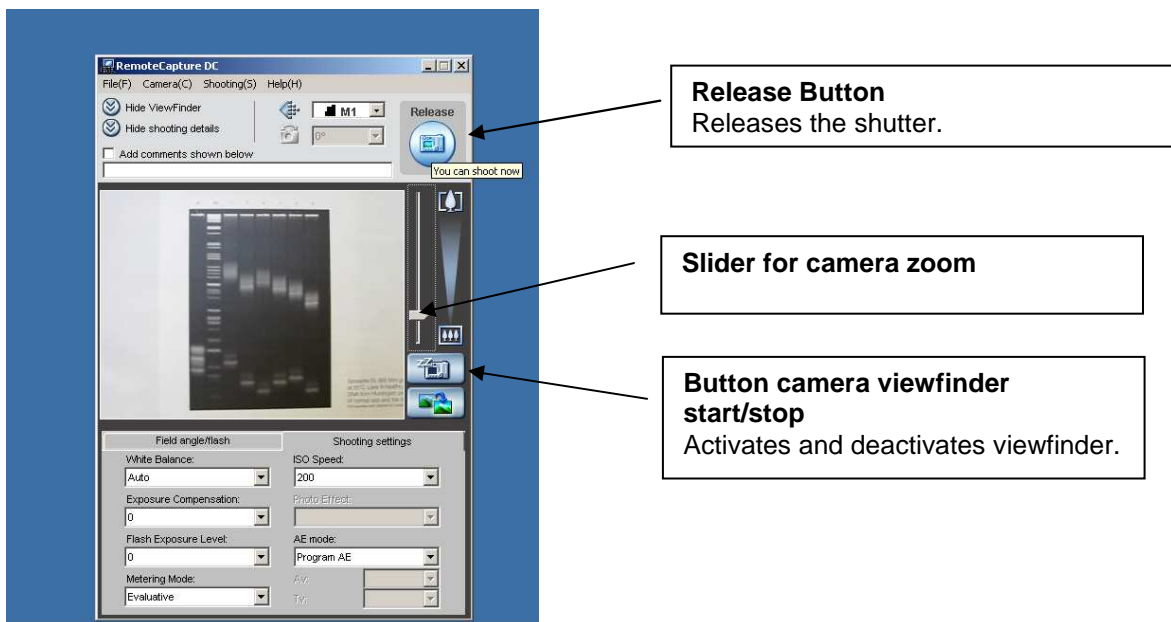


You can add comments by typing a text into the field below.

- Under „Shooting Settings“ choose Metering Mode „evaluative“, Iso Speed „200“ und AE mode „Program AE“. Set size and resolution of the pictures to Medium/Normal „M1“.

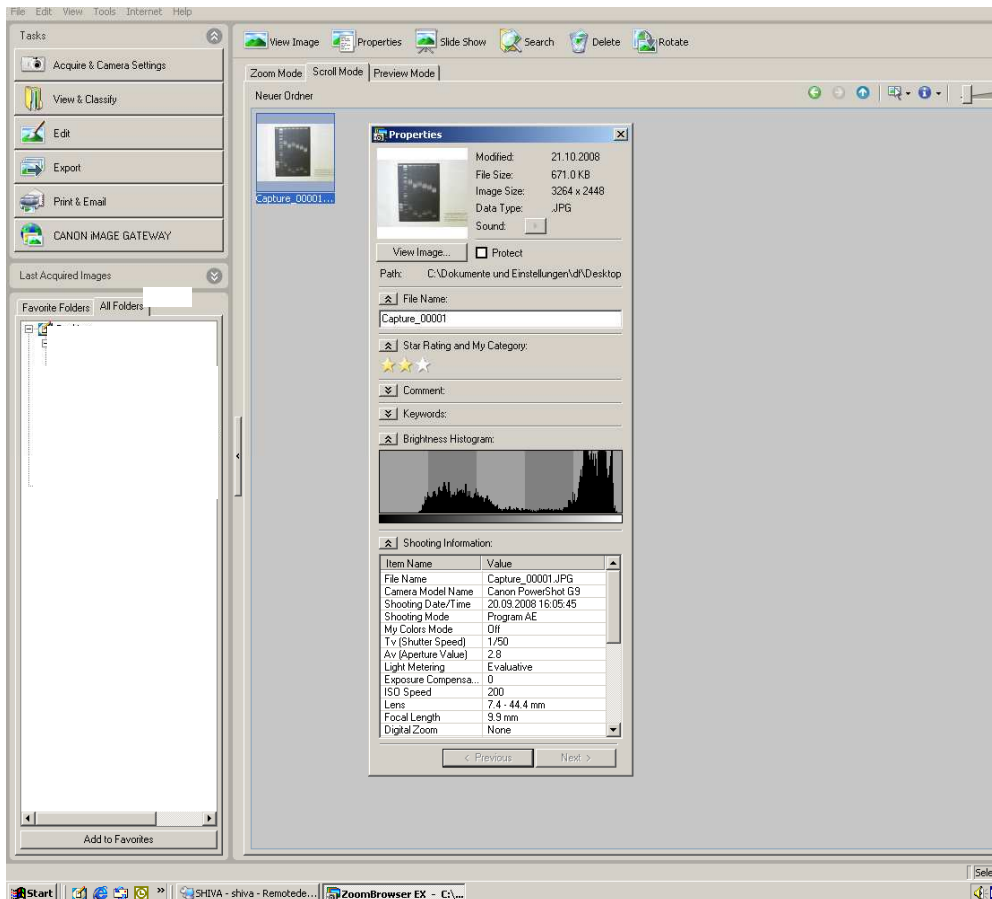
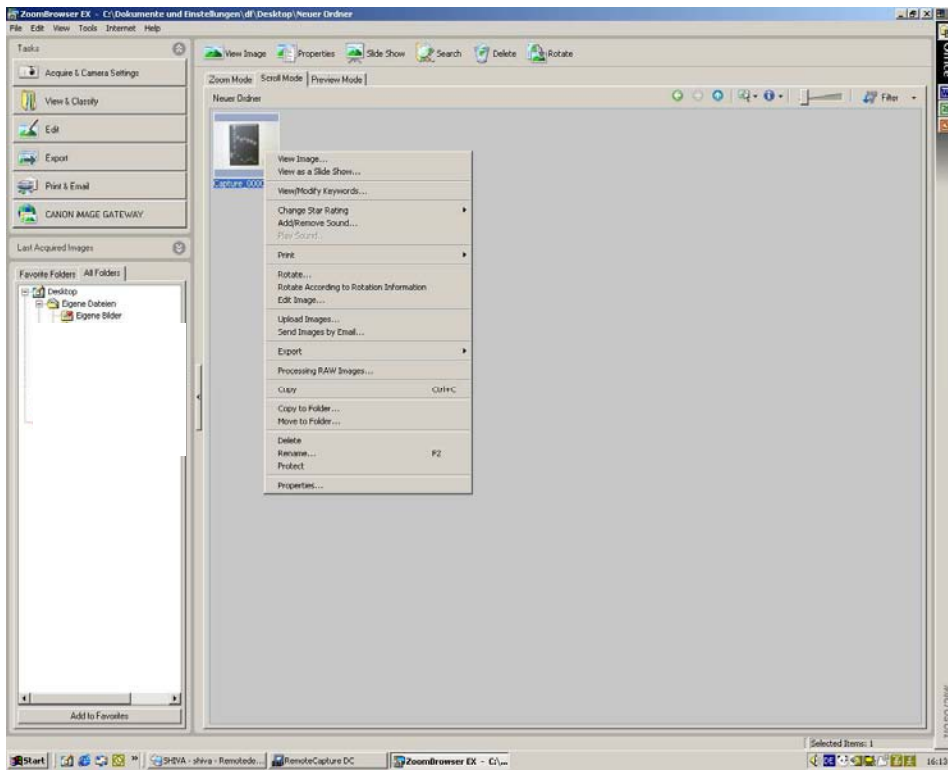


- You can now adjust the picture with camera zoom and viewfinder and take a picture by clicking on the release button.



- Pictures are saved in folder „Pictures“ or „Own Pictures“ by default. To change the folder, open in the remote capture window the menu „File“ and choose „Default Settings“. Go to program „Canon Utilities“ to open the Zoombrowser Ex program.

Following picture appears:  
 By pressing the right mouse button you can call up the properties of the picture and edit them.



For detailed information about image processing, export functions etc. please refer to the Canon handbook.

The pictures can be imported easily into the Gelscan software 6.0.