



Our Microscope is nominated for the industrial Prize 2009



Operation Instruction

Incident Light Digital Zoom Microscope **Di-Li 2001**



Thank you for choosing to buy our product Di-Li Digital-Zoom-Microscope. We wish you much pleasure with your new microscope. With these operating instructions you will be able to get to know all functions of the microscope.

Please read these operating instructions carefully before using it.

- As the microscope is a kind of exactitude instrument, always handle carefully avoiding abrupt movement or impact during transportation or operation.
- Avoid exposure to direct sunlight, high temperature and humidity, dust and vibration.

- Avoid leaving dirt or fingerprints on the lens surfaces, lest should reduce the definition of image.

Cleaning and Storage

- Clean all glass components by wiping gently with gauze or cotton. To remove fingerprints or oil smudges, wipe slightly with gauze moistened or cotton with a mixture of aether (70%) and alcohol (30%).
- Do not use organic solvent to wipe the surface of other components. Should be cleaned with a neutral detergent.
- Never attempt to disassemble the instrument, so that reduce the performance of instrument.
- When not in use, be sure to cover the instrument with the dust cover, and store in an area which is dry and hasn't dust.

1. Preparing

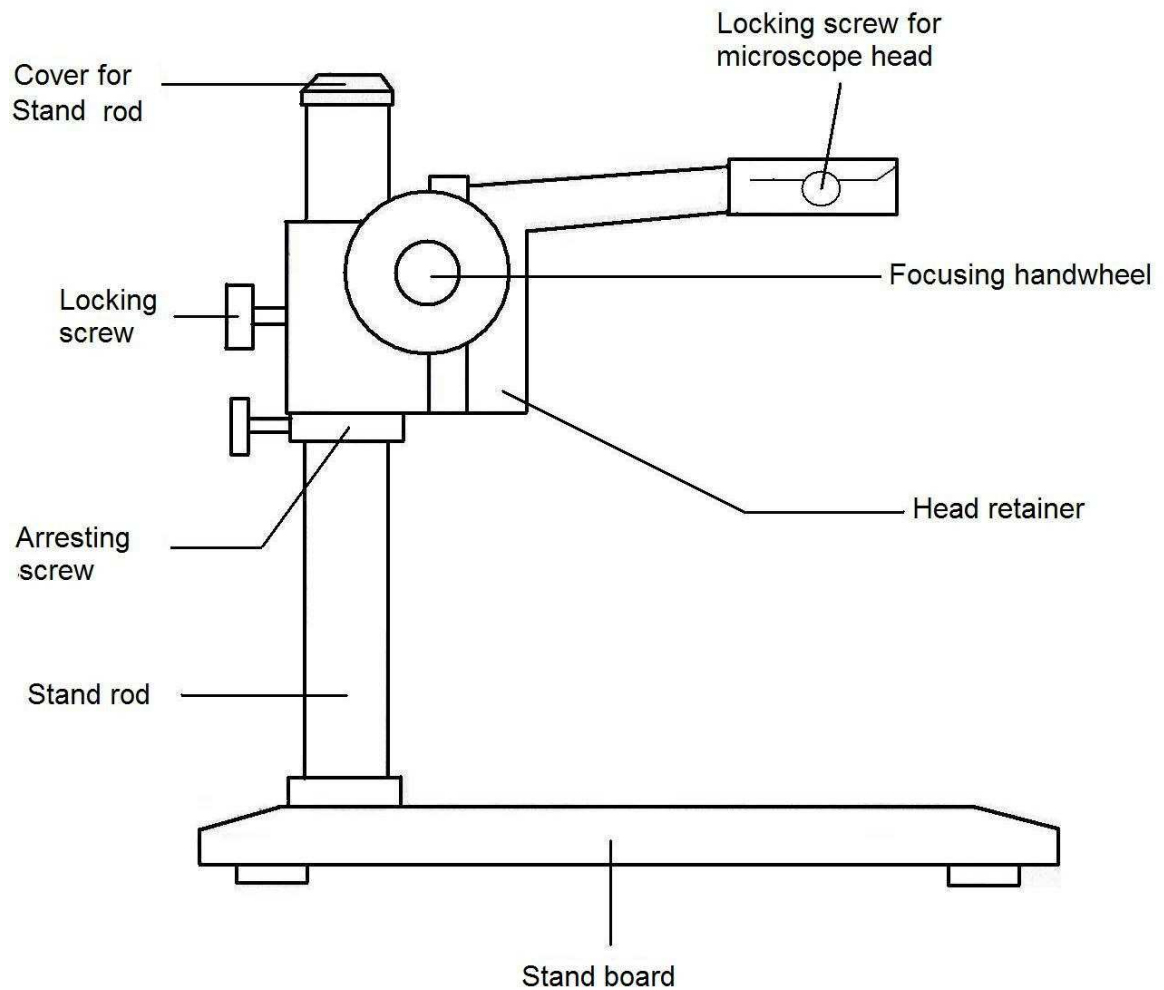
Open the case and unpack carefully the component parts.

Instruments list:

1. Microscope case
2. Microscope head
3. Head retainer
4. Stand board
5. Stand rod
6. Arresting screw
7. LED illuminator
8. Wall power supply for LED illuminator
9. Cable for USB camera

2. Mounting

- Select a workbench, which should be so high for microscoping that you can sit comfortably to it and look into the instrument. The microscope itself must be placed on a firm and slid surface. Avoid direct sun exposure on the preparation.
- Screw the stand rod into the stand board
- Put the arresting screw on the stand rod and fix it. The distance to the stand board ca. 70mm (under edge arresting screw)
- Put the head retainer on the stand rod.
- Insert the microscope head into the head retainer, and fix it with the locking screw (knurled silver screw).
- Install the LED ring illuminator. You can adjust the lightness of the LED ring illuminator by the LED dimmer.



Connecting

- Connect the wall power supply connector to a wall outlet and then the DC output power supply to the LED ring illuminator.
- Connect the camera to the computer with the supplied cable.

3. Installation of Driver and Software

Minimum system requirements:

Personal computer with Windows 2000/XP
600 MHz CPU
128 MB RAM
1 GB free disk space
CD or DVD drive
USB 1.1/2.0 port

Suggested System:

Personal computer with Windows 2000/XP
1.2 GHz CPU
256 MB RAM
2 GB free disc space
CD or DVD drive
USB 1.1/2.0 port

At this moment, please do not connect the USB-Camera with your PC.

Software installation

1. The driver for the USB-Camera and the PC software are delivered with the bundled CD. To install both, place the CD in your PC's drive. After a moment, the following window should appear:



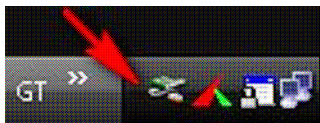
If this is not the case, please launch the setup program manually. For this, click on "Start" and „execute“. Now enter the following command line:
" D : \ A u t o R u n . E X E "
According to your individual system, the drive icon may vary from "D".

2. Now you have the choice between driver- and software installation. First, install the driver for the USB-Camera by clicking "-Di-Li 2001 USB-Camera driver-". The setup utility starts and asks for the language of your choice. After choosing, click "OK". Confirm the following window with „Next“. After the driver files have been copied to your PC, end the installation with „Finish“. The driver is now installed and the welcome window is displayed again.
3. Now, it is recommended to install the picture software. For this, click on "Arc Soft Webcam Companion". This program also asks to choose a language. Click on "OK" afterwards and confirm the welcome message with „Next“. Read the Arc Soft license agreement and confirm with "yes". The installation routine now suggests a program folder that can be confirmed with „Next“. Now the program files are copied to your hard drive; this may take a few minutes. According to your individual system configuration, you may be asked to install Microsoft DirectX. If you are not sure, confirm with „Finish“. Then, follow the on-screen instructions of the installation routine of DirectX.
4. After finishing the installation, take the CD out of the drive and reboot your system.
5. After rebooting your PC, connect the USB-Camera with a free USB port. If possible, always use this USB port in future. Your operation system will install the driver to this USB port.

Installation of Driver and Plugin



Connect the camera to the USB2.0 interface



The camera is now automatically from system detected.



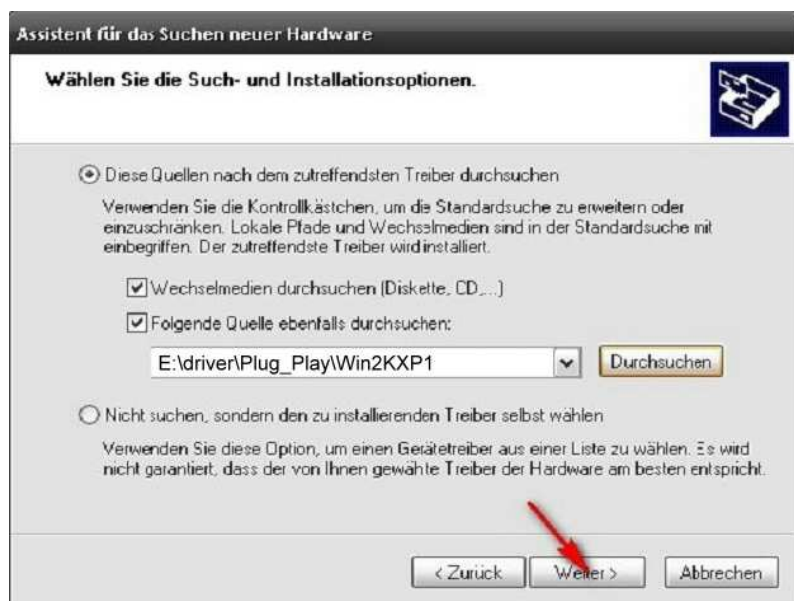
Select "From list or an assigned position", click "next". Then select the driver catalogue and continue.



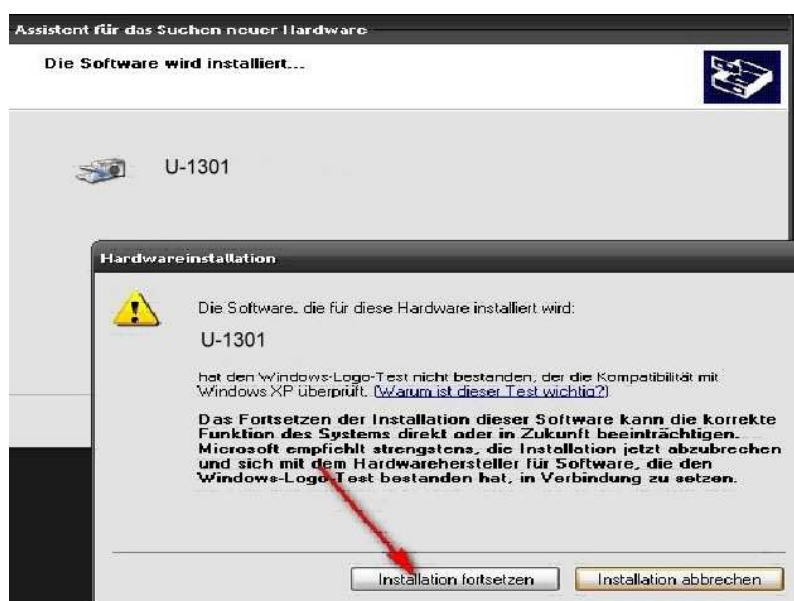
Select „Search“



Select the folder for the camera and click “OK”
:\driver\Plug_Play\Win2KXP1



Click „Next“



System informs that the program hasn't passed the Windows test, click “continue”. (Whether it passes the Windows test or not do not affect the use of the camera)



After installation, click "Finish". Then the apparatuses can work properly.

4. Software

If you only want to save the pictures, ArcSoft WebCam Companion is the easy resolution.

In order to edit the pictures, please use MICAM or MikroCamLab

Program Installation

Now install the program **MICAM**, **Tsview** and **AMCap**

We advise MICAM und Tsview oder MikroCamLab

You can find it in the CD in the folder: MICAMP

Tsview - MikroCamLab in the folder Tsview -

AMCAP-Install

MICAM is a english software, which provides many possibilities for edit and save of microscope pictures.

With Tsview + MikroCamLab, you can edit the microscope pictures and saved pictures.

AMCAP is a program to transfer pictures from the camera to the computer.

Usage of the Camera

Indication

There is always a small delay in the displayed pictures by the connection of a camera to a USB port. It should be taken into account by the positioning of the sharpness.

Attention!

It is impossible to run more than one program with the camera together.

ArcSoft WebCam Companion

Attaching / Operating

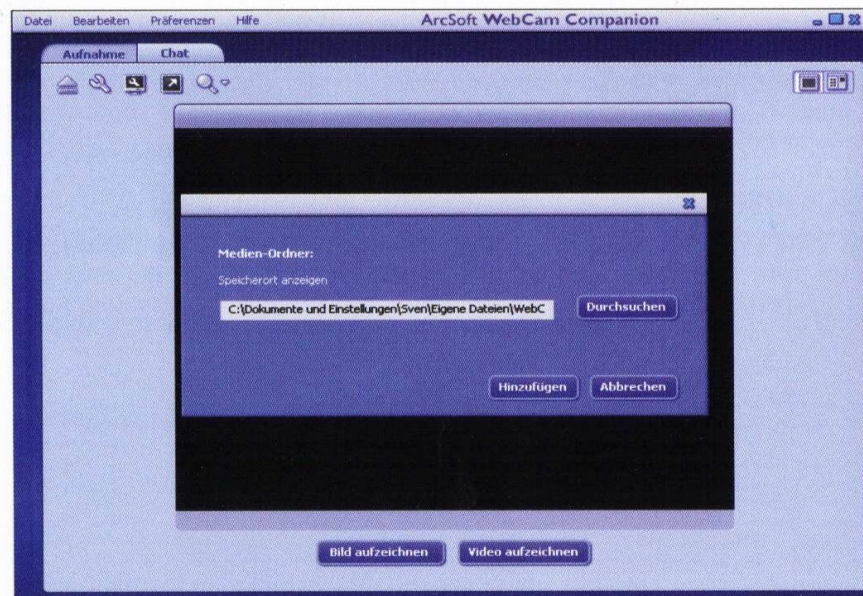
Before attaching the USB-Camera, be sure to remove the dust cover!

There are different methods to connect the USB-Camera to the microscope. Remove one eyepiece from the drawtube and put the USB-Camera in place instead. Eventually, the adapter delivered with the USB-Camera may be necessary.

Using the software

Before launching the software, be sure that the USB-Camera is connected to the PC and the driver is installed properly.

Start the “Web cam companion” by clicking on the desktop logo.
After launching the program, you see the following screen:



The “Media folder” popup appears at the very first time the program is started. Here you can choose the folder where the pictures of your USB-Camera are saved in future. Confirm with „Add“.

Now a picture captured by the USB-Camera should appear. Adjust the focus at the Microscope.

If the USB-Camera is attached instead of an eyepiece or the objective is changed while observation, the microscope has to be refocused!

Under “preferences” you can change the settings of the

„Capture Settings“ adjusts for the display settings and the resolution of saved pictures.



White Balance

Video Image

Put a piece of white paper under the microscope.

Click out the tickmark of Auto by the ‘Whitebalance’, waiting 2 Sec. and then click it in again.

The following parameters are advised:

Video-Proc-Amplifier

Sharpness 12 – Gamma 20

Basing on the computer and grafic card, it can also be other parameters.

Application of MICAM

In order to start the program, please click the shortcut 'Start'—'all the Program--MICAM'

Click Device

Under Select a Video Device please choose: ET USB 2750 Camera

Under Preferences you can decide the index for single picture or video.

In order to save pictures, you can click Snapshot.

You can get further information by the help of the program or the handbook under 'Start'—'All Program-MICAM-MICAM-Help'

Application of Tsview Attention!

Start the program at first and then connecting the camera

Application of AMCap

In order to use the program, click the shortcut 'Start' after installation

Click at first on Options-Preview to open the display.

File

Set capture file...

Allocate file space...

Save capture video

Exit

Devices

[Camera]—e.g. 'USB 2750 Camera'

Attention!

It is impossible to run more than one programs with the camera together.

5. Start-Up

- Connect the camera with the computer
- Turn on the illuminator
There is a storage battery in the illuminator
- Set up the zoom at minimum (0.7), the object distance is about 90 mm.
The microscope picture is visible on the monitor. If there is no pictures visible, click on Options-Preview.
With the Focusing knob you can get the sharpness. If necessary, correct the height of the head holder and protect it with a protecting ring.

6. Changing of the Magnification domain, with a extra lens (booking separatly)

- Removing LED-illuminator ring
- Screwing the extra lens
- Screwing the LED-illuminator again
- Setting the object distance to ca. 160 mm



Extra Lens

7. Technical Properties

- Magnification: Optical zoom 20x—120x
- Stand : Plain base, big microscope stage 270 x 240 mm
- Focusing: From both sides
- Support: Stable metal support, post length 300 mm
- Illuminator: Incident light, white, adjustable LED ring illuminator (48 LED), assembly objective.

USB-Kamera

1.3M resolution at 1280 x 1024

Plug and play, easy installation

Clear image, 24bit color

Support Vista

Capture image and movie

With powerful SDK

Model	Di-Li 2050
Resolution	1280X1024, 640x480, 320x240
Optical size	1/2" color CMOS sensor
Pixel size	5.2X5.2um
Frame rate	1280X1024@8fps; 640x480@30fps
Sensitivity	1. 8V/lux-SEC@550nm
Dynamic range	62dB
Scanning	Progressive scan
Exposure	ERS
White balance	Auto/manual
Auto exposure control	Auto/manual
Output	USB2.0, 480MB/S
Lens mount	C/CS mount

8. Accessories

X-Y mechanical Stage Di-Li 1050



It is useful for dissection, circuit board inspection, and other micro viewing situations where controlled and defined movement is required.

- Smooth motion for precise specimen placement
- Made of anodized black metal and glass components
- Dimensions: 180mm x 155mm
- Coaxial dial system for easy and accurate operation
- Brushed steel stage clips

Illuminator, Ring Style Di-Li 1065



The Di-Li 1065 fluorescent light ring with a long life bulb provides shadow-free cold illumination for 1000 hours. Our light system is designed to fit most brands of microscopes

Long knurled metal thumbscrews provide easy, simple and versatile mounting which meeting the need for adapters in most cases, especially for electronics, metal processing and reflective parts.