# PSM-5/-10

**Struers**

便携式显微镜

使用手册

*PSM-5/-10*
*使用手册*

如果您有技术问题需要咨询或者当您需要订购配件时，请务必说明*序号*以及*电压/频率*。您可在机身的型号牌上找到该产品序号和电压。我们可能还会要求您提供手册的发布日期和编号。这些信息可以在封面页找到。

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# 目录

# **1.** 入门指南

**检查包装清单**

PSM-5

| | |
|---|---|
| 1 | PSM-5 (便携式显微镜) |
| 1 | 目镜 10x |
| 1 | 物镜 10x |
| 1 | 内六角扳手 |
| 1 | LED 灯泡 |
| 1 | 钥匙(用于移除垫圈) |
| 2 | 电池组 (3V CR2025) (内置) |
| 1 | 操作手册集 |

PSM-10

| | |
|---|---|
| 1 | PSM-10 (便携式显微镜) |
| 1 | 目镜 10x |
| 1 | 物镜 10x |
| 2 | 内六角扳手 |
| 1 | LED 灯泡 |
| 1 | 钥匙(用于移除垫圈) |
| 2 | 电池组 (3V CR2025) (内置) |
| 1 | 操作手册 |

**配置 PSM-5 和 PSM-10**

PSM-5 和 PSM-10 设计用于实地使用，并适用于建设和操作过程中的大型物体的现场检测。它可用于外表面、拐角处、孔腔内和管具上。PSM-5 and PSM-10 也可通过 Transcopy 或者 RepliSet 控制结构图像。

**运输**

该显微镜提供了一个坚固的铝制运输箱。
当产品不使用时请保持零部件的安全。
当产品不使用时请将精致的物镜保存在特制的装载箱中。
当产品不使用时请使用显微镜提供的防护盖。

**熟悉PSM-5 和 PSM-10**　　　　请花一些时间熟悉其零部件的所在位置和名称。

PSM-5



① 目镜端口上的目镜 10x
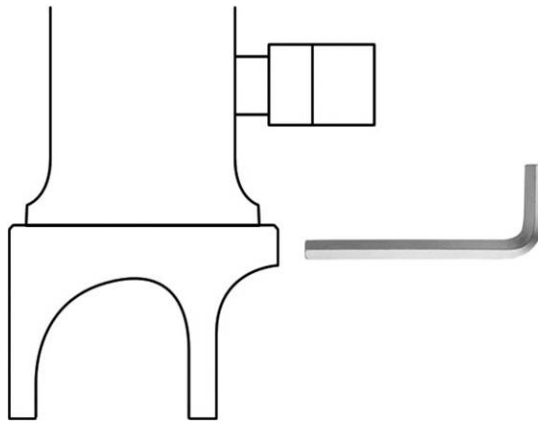② 焦距锁定环
③ 调焦手轮
④ 照射灯开关
⑤ 照射灯外壳 (LED 灯和电池)
⑥ 物镜 10x

PSM-10

① 目镜端口上的目镜 10x
② 调焦环
③ 照射灯开关
④ 照射灯外壳 (LED 灯和电池)
⑤ 三脚架-低（标准版）
⑥ 物镜 10x

**安装PSM-10 三脚底座**　　　　PSM-10 是通过一个安装好的三脚底座支撑的。

一个可放置在曲面上的三脚底座，一个用于平面的圆形底座和一个具有磁性夹具的磁性十字工作台可作为配件使用。

更换底座：

- 拧松这 3 个用于固定底座的内六角螺钉并将它移除。
- 使用内六角螺钉将新底座固定到适当位置。



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**特别注意：**
手举显微镜的过程中，若其发生倾斜请注意确保目镜不会掉落。

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**安装物镜**

- 移开物镜端口处的防护盖。
- 将物镜插入并将其牢牢拧住在适当位置。注意请勿用手指触碰镜头。

**安装目镜**

- 移开目镜端口处的防护盖。
- 将目镜插入至目镜端口处。
- 注意请勿用手指触碰镜头。
- 通过拧紧目镜锁紧螺钉固定目镜（PSM-10）。

# 2. 操作

- 将显微镜放置在目标点上方。
- 开启照射灯。
- 移动显微镜，使灯光照射在目标点上。
- 转动调焦环，聚焦在目标点上。
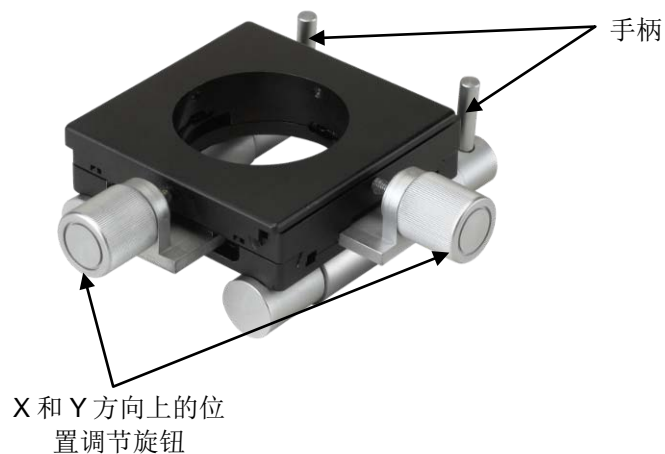  (PSM-5 – 使用 螺丝锁定聚焦环，从而避免物镜的损坏或者防止位置滑动 )。

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**特别注意：**
注意防止物镜因接触样品而损坏。

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**请记住...**
使用完毕后请关闭照射灯开关。

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**使用磁性十字工作台**
(配件)

使用固定在 PSM-10 上的磁性十字工作台：
- 将此工作台放在表面相应位置上。
- 将磁性十字工作台上的手柄向下翻转，从而使工作台产生磁性。



手柄

X 和 Y 方向上的位置调节旋钮

- 使用 X 和 Y 方向上的位置调节旋钮将目标点调到视野中。

**松开 X/Y 向工作台**

- 将磁性十字工作台上的手柄向上翻转，从而使工作台释放磁性。

**检查复型**　　　　　　　　　如果显微镜是用来检查结构图像（例如复型是通过使用司特尔的 Transcopy 或者 RepliSet 来制备的），那么这些设备必须粘在玻片上，并将结构表面朝上放在一个桌子上。显微镜放置在复型上，复形可移动。

# 3. 使用PSM- 5/-10 进行测量

**使用测量目镜**
(配件)

测量目镜上的刻度应该针对每一个物镜使用板厚千分尺（配件）分别进行校准。

校准

■ 将目镜移开并替换上测量目镜。
■ 将板厚千分尺放在显微镜和目标位置之下，从而使板上的文字直接置于光点之下。
■ 使用调焦环来对焦到文字上。
■ 移动板厚千分尺使刻度出现在视野中心。
■ 转动测量目镜直到上面的刻度和板上的刻度对齐。
■ 测量目镜中刻度之间的距离（板厚千分尺上的刻度之间距离为0.01mm）。

测量

■ 移开板厚千分尺并将显微镜置于目标点上方。
■ 使用测量目镜上的刻度来测量目标距离。

无论何时，只要物镜被换，测量目镜刻度之间的距离就必须重新测量。

# **4.** 拍照
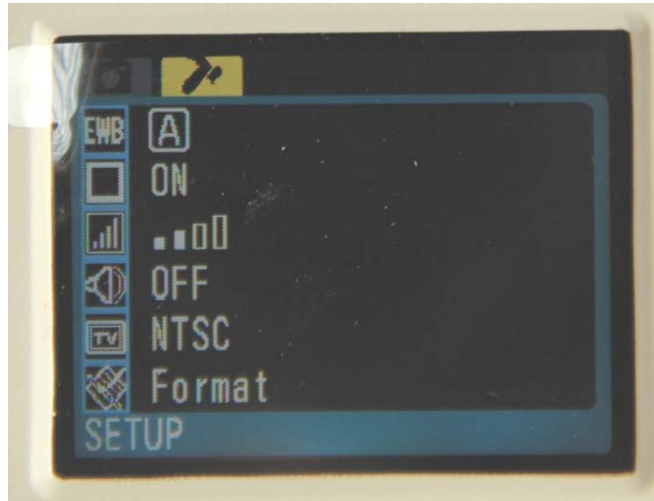
**用C-mount安装数码相机**
(附件)

请参考 ClaraVision 使用手册以熟悉相机及其操作。

*相机设置*

■ 在设置菜单里，设置曝光和白平衡 [**EWB**] 为自动 [**A**]。

拍照菜单



设置菜单

- 为相机安装适配器。
- 从显微镜上移除目镜然后把适配器插入到目镜端口。
- 锁紧螺钉固定适配器到显微镜上。

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**提示**
安装相机后，显微镜将会上重下轻。
小心操作防止翻倒或坠落。

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相机

适配器

目镜端口

显微镜

- 连接电源 (AC 电源适配器或 Movipol-5/Transpol-5 电池组) 到相机右边的 DC IN。
- 插入 SD 卡。
- 按下 POWER 按钮。
- 按下 PSM 的 On/ Off 开关打开灯。
- 使用聚焦环来聚焦想要拍照的点。
- 按下 SNAP 按钮来拍摄图像。

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**提示:**
照相时，使用随相机附送的 USB 快门线和遥控器，以消除相机震动/ PSM

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*调节颜色平衡*

**提示:**
有些情况下，图像会呈现偏蓝。为了避免这个问题：

- 按下 MENU 按钮进入设置 *SETUP* 菜单，然后选择曝光和白平衡 [**EWB**]。
- 按下 RIGHT 按钮进入子菜单。
- 选择手动白平衡后按下确定 *Confirm* 按钮。
- 再次按下 MENU 按钮退出。
  4 个滑块 (绿，蓝，红，白)将显示。
- 选择蓝色滑块。使用左边 LEFT 或右边 RIGHT 按钮手动调节蓝色色彩平衡。
- 当达到所需设置，返回设置菜单 *SETUP*，设置曝光和白平衡为自动 *AUTO*。

**计算相机适配器的放大倍率**

为了确保使用司特尔相机选件的正确测量，相机适配器的放大倍率必须是已知的。它可以通过使用一个板厚千分尺和一个参考显微镜来计算得出。

- 使用 10x 物镜，获得一张板厚千分尺的图像。
- 将照片导入到 Scentis 软件（或者等效的配准软件）中，使用空间配准功能。
- 测量 1 毫米的等效像素，得到数值"A"。
- 使用一个已知放大倍率（例如为 100x）的参考显微镜来获得板厚千分尺的一张图像。
- 将第二张照片导入到准配软件中。
- 测量 1 毫米的等效像素，得到数值"B"。
- 通过放大倍率为 50x的参考显微镜得到在放大倍率为 50x的条件下 1 毫米的等效像素[1]，得到数字"C"。
- 将数值"A", "B" 和"C"插入到以下方程式中：
    A x 100 / B = D1,
    A x 50 / C = D2
- D1 和D2 的平均值就是该相机适配器的放大倍率[2]（此处该值大约为 6.5）。

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[1]放大倍率从 100x □□ 50x 未必就会使像素点的数量减半。因此，□了平衡□个偏差，需要在参考□微□上□双方的放大倍率□行校准。

[2]用 10 乘以□个□（便携式□微□上的 10x 物□）以□算出□微□和适配器□共的放大倍率。

# 5. 维护

日常维护

- 请使用柔软的干布来擦拭显微镜的机身。
- 如弄脏显微镜机身，可使用软布微微沾些温和的肥皂水进行擦拭。
- 请勿用手指触碰镜头。如镜头沾有灰尘或被弄脏，可使用镜头棉纸并配以少量酒精或丙醇进行擦拭。

更换灯泡/电池

- 移除照明灯外壳。
- 小心移除电池，拧松垫圈 (插入特制的钥匙至垫圈的槽，然后转动) 然后移除灯泡。
- 装入一个新灯泡，用一张镜头棉纸垫着手举着。
- 装回垫圈和电池（使电池上的文字朝向外部）。
- 最终装回照明灯外壳并将其拧紧到指定位置。

存储

- 将显微镜存放在运输箱，低温干燥处保存。

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**重要提示**
**请勿**擅自拆开显微镜或镜头配件。
只有合格技术人员才能对显微镜进行服务维修。

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## **6.** 技术参数

请参阅《无损制备 》手册中的详细信息。

## **7.** 附件

请参阅《无损制备 》手册中可选附件的详细信息。

# PSM-5-10

## Spare Parts and Diagrams

# 备件

| 产品描述 | 备件编号 |
|---|---|
| 目镜, 10x (用于 PSM-5/-10) | 14282910 |
| 物镜, 10x (用于 PSM-5/-10) | 14282911 |
| LED 灯外壳 (用于 PSM-5/-10) | 14282912 |
| LED 灯泡 (用于 PSM-5/-10) | 14282913 |
| 锁定旋钮 (用于 PSM-5 上的锁定环) | 14282914 |
| 摩擦圈 (PSM-5 底座上的橡胶圈) | 14282915 |

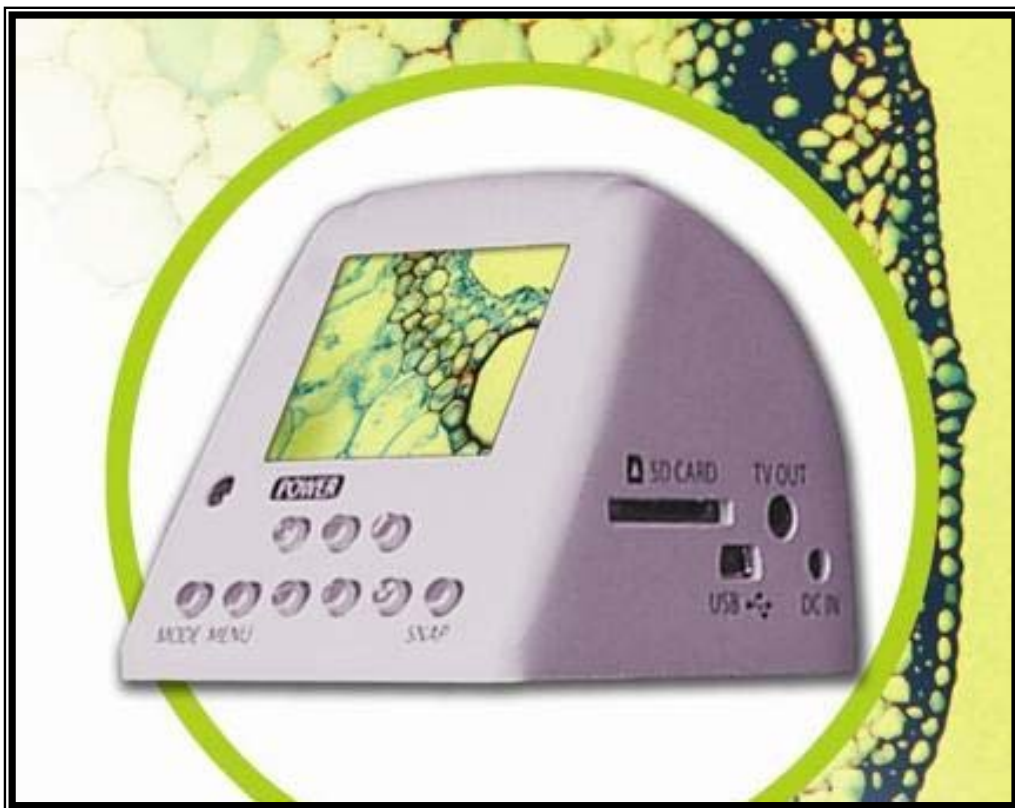# LCD Digital Microscope Camera

# Model Number: DC3

# Table of Contents

# DC3 Camera

**Appendix : Adjust white balance settings**

# Chapter 1. Safety Precautions Notice

➢ Security  Notice

◆ To maintain high quality measurement, do not drop or disassemble the camera
◆ Keep the camera away from sharp objects
◆ Do not twine the power cable or data cable around people's body
◆ Keep the small items like SD card and remote control away from children

➢ Precautions Notice

◆ Before using the camera with other equipment, make sure that the equipment are properly installed
◆ To prevent electric shocks and fire hazards, do NOT use any other power source and ONLY use the power supply accessories provided
◆ When the camera is not in use, unplug the power cable
◆ Do not use the power cable provided for other purposes
◆ The plastic bags and boxes protecting the camera need to be disposed properly if the protection is no longer required
◆ The camera has advanced technology and high levels of functionality. To operate this instrument safely users should read the instruction fully and be aware of the safety hazards.

➢ **Caution**
◆ Only operate the camera under the temperature between 0°C and 40°C
◆ Do NOT expose the camera to the following environment
  ● high temperature or moisture
  ● where it is close to heat source
  ● places not steady
  ● direct sunshine
◆ The camera on this microscope is not waterproof, please keep it away from water or rain. In cases when water is spilled on the appliance, use dry water-absorbent cloth to clean the water
◆ Saltwater or seawater may malfunction the camera

- ◆ Do NOT clean the camera with volatile fluid such as alcohol
- ◆ Only use dry soft clothes to clean the spots on camera lens or LCD.
- ◆ Do NOT tough any optical components directly with fingers.
- ◆ Rain or moisture could cause faults to the camera, only keep the camera in dry place
- ◆ Do NOT use the camera outdoor in rainy or snowing weather
- ◆ If anything that may cause danger to the camera, such as water, enters inside the camera, switch off the power source immediately and unplug all the cables connected to the camera.
- ◆ It is recommended to use a hard drive in a computer to store the recorded images other than the SD card in the camera.

- ◆ Notices when using the LCD
  - ● To avoid scratching the LCD surface, keep the camera away from sharp objects.
  - ● The LCD may display some unexpected black or red spots, this is a normal phenomenon for an LCD, even it is manufactured with advanced technologies.
  - ● The unexpected spots displayed on the LCD will not affect the quality of the image stored in the memory card.
  - ● The deformation of the surface may cause malfunction of the LCD, so do NOT press or bend the LCD.

# Chapter 2. Components
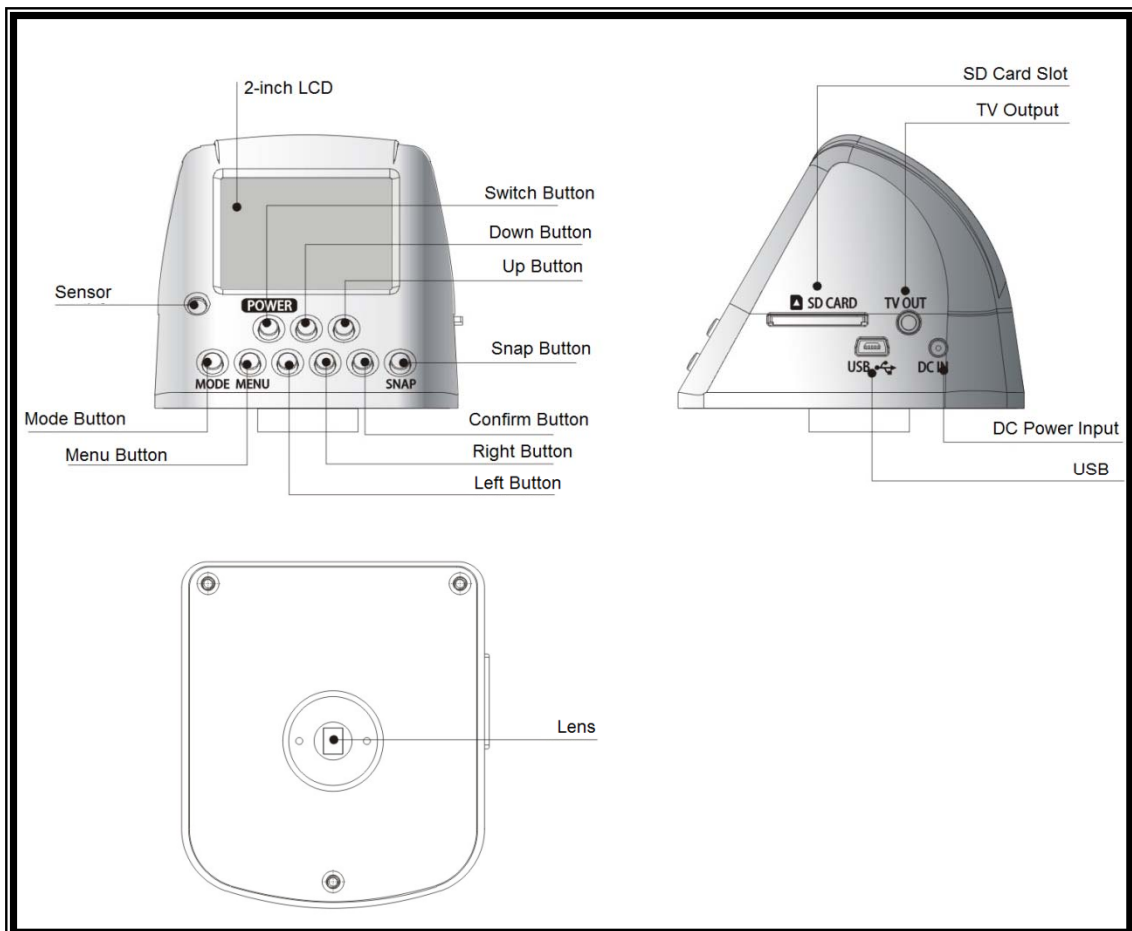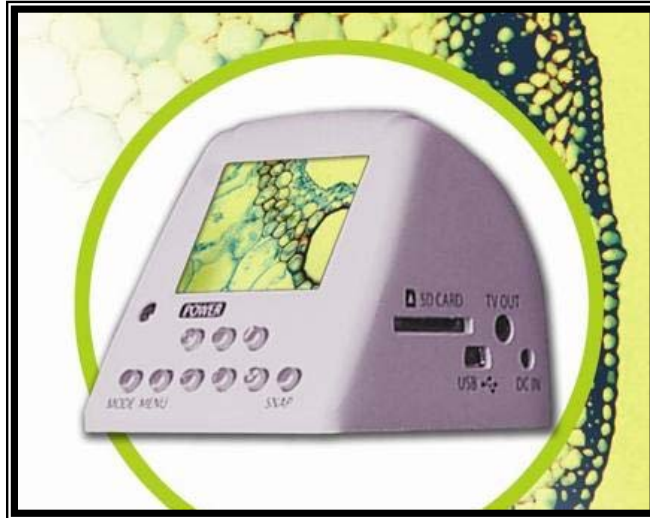
# Chapter 3. Operation

**Precautions Notice**

✶ To avoid falling down, the DC3 camera must be placed in safe and steady place such as desk.

✶ Check that the DC3 camera is properly connected to the C-mount port of microscope and the connecting screws are installed properly.

**The User of the microscope with DC3 camera can take a snapshot image or video images by following the operation procedures below**

➢ **Starting procedures**

◆ Place the microscope on a stable table; attach the lens onto the microscope stand if they are not already fitted to it.

◆ Attach the DC3 camera to the C-mount port of the microscope. Tighten the screws to avoid dropping.

◆ Place the target onto the stage.

◆ **Set light dimmer control to lowest intensity and switch on the power, increasing slowly to desired level**.

◆ Plug in the power cable into the DC IN on DC3 camera

◆ Switch on the DC3 camera by pressing the「POWER」button for 1 second, and the LCD will display the starting interface.

◆ Insert the SD card into the camera (the images taken must be stored on the SD card)

➢ **Adjustment of Exposure and Colour**

The LCD will display four lines, representing the brightness of the colors G, B, R and W respectively after just switching on the camera. Use LEFT of RIGHT buttons to adjust their brightness. Press OK button to choose different color lines and turn off the control line displaying. In this way, the observation can be adjusted to the optimum status.

When the microscope is changed to a different magnification, the observation setting will be changed and should be readjusted to optimum.

The number in the rectangle located in the centre of the LCD is the focusing parameter; the bigger value of this parameter represents a better focusing quality.

➢ **Snapshot**

Now the microscope is ready to take microscopic images. However, the focus point and the brightness setting need to be adjusted according to the sample under observation. When everything is ready, press「**SNAP**」to record an image, and it will be stored on the SD card. To avoid vibrations during recording, it is highly recommended to use the remote control or USB control to take snapshot.

➢ **Camera Modes**

DC3 camera has three different operation modes, which are '**Camera**', '**Video**' **and** '**Play**' mode respectively. The initial mode when the camera is just switched on is '**Camera**', and it can be changed to other modes by the following steps:

◆ First of all, make sure that no menu function is selected
◆ Press「**MODE**」button once and the LCD will display three mode options. You can change to other modes by continuing to press「**MODE**」. Press「**OK**」button to select the mode or wait for 2 seconds to select the mode automatically.
◆ Press「**UP**」to change to「**Camera**」mode, and「**OK**」to select, or wait for 2 seconds.
◆ Press「**LEFT**」to change to「**VIDEO**」mode, and「**OK**」to select, or wait for 2 seconds.
◆ Press「**RIGHT**」to change to「**PLAYBACK**」mode, and「**OK**」to select, or wait for 2 seconds.

➢ **Snapshot and Video**

In「**VIDEO**」mode, video images can be recorded on the SD card, but it is recommended to use a big memory SD card.

➢ **Play back images and video**

In「**PLAY**」mode, the recorded images and video can be displayed on the LCD.

➢ **Switch off the camera**

To switch off the camera, press the 「**POWER**」 button for 1second, and the illumination of microscope should also be switched off.

➢ **Install and remove the SD card**
◆ **Install the SD card**
● Insert the SD card into the slot along the arrow and 'click' into position.
● The camera will sounds and displays an SD card picture, showing that the SD card is installed properly**.**
◆ **Remove the SD card**
● Press the SD card into the slot until you hear a 'click' and release, the SD card can now be removed from the camera.
● The camera will sounds a warning and the SD card shown on the LCD will disappears.

**Notice:** SD card must be installed before recording. If no SD card installed, the camera can still display live image, but cannot record images or video.

# Chapter 4. Camera Mode Setting and Menu Options

**DC3 camera can work in three modes, 'Camera', 'Video', and 'Play'**

➢ **Taking snapshot image in 'Camera' mode**

◆ In 'Camera' mode the image can be recorded with different resolutions. The lowest resolution is 0.35M-pixel VGA (640 x 480), the highest resolution is 3M-pixel. After the digital processing, the highest output resolution is 8M-pixel (3264x2448).

➢ **Recording video in 'Video' mode**

◆ In 'Video' mode the video can be recorded in MPEG4 format with the resolutions of 640x48-pixel or 320x240-pixel optional.

➢ **Playing back the recorded data: Play mode**

◆ You can play back the recorded images or video, or delete the recorded data.

◆ The TV OUT cable included can be connected to TV, and play back the recorded images or video on TV. You can also play back the recorded data on a PC.

**DC3 camera setting and menu operations**

➢ **Options in 「CAMERA」 mode**

◆ **Snapshot options**

● Delay shutter ==== setting the delayed shutter release time

■ Press **MENU** button to activate the snapshot option

■ Press **DOWN** button once, it will display 'Time delay'

■ Press **RIGHT** button to go to the sub-menu

■ Use **UP / DOWN** buttons to set the time and press **OK** to confirm

■ Press **MENU** button again to go back to 「**CAMERA**」 mode

● Auxiliary cable ==== Enable/Disable the screen auxiliary cable

■ Press **MENU** button to activate the snapshot option

■ Press **DOWN** button twice, it will display 'Auxiliary cable'

■ Press **RIGHT** button to go to the sub-menu

■ Use **UP / DOWN** buttons to set the type of auxiliary cable

and press **OK** to confirm
- Press **MENU** button again to go back to 「**CAMERA**」 mode
- Image size ==== Setting the image size
  - Press **MENU** button to activate the snapshot option
  - Press **DOWN** button three times, it will display 'Size'
  - Press **RIGHT** button to go to the sub-menu
  - Use **UP / DOWN** buttons to change the size and press **OK** to confirm
  - Press **MENU** button again to go back to 「**CAMERA**」 mode
- Quality ==== Setting the image quality
  - Press **MENU** button to activate the snapshot option
  - Press **DOWN** button four times, it will display 'Quality'
  - Press **RIGHT** button to go to the sub-menu
  - Use **UP / DOWN** buttons to change the quality and press **OK** to confirm
  - Press **MENU** button again to go back to 「**CAMERA**」 mode
- Sharpness ==== Setting the image sharpness
  - Press **MENU** button to activate the snapshot option
  - Press **DOWN** button five times, it will display 'Sharpness'
  - Press **RIGHT** button to go to the sub-menu
  - Use**UP / DOWN** buttons to set the sharpness and press **OK** to confirm
  - Press **MENU** button again to go back to 「**CAMERA**」 mode

◆ **Setting options**
- Exposure and balance ==== Setting auto or manual exposure and white balance
  - Press **MENU** button and then **RIGHT** button once to activate the setting option
  - Press **DOWN** button once, it will display 'Exposure and white balance'
  - Press **RIGHT** button to go to the sub-menu
  - Use **UP / DOWN** buttons to change to use auto or manual mode and press **OK** to confirm
  - Press **MENU** button again to go back to 「**CAMERA**」

mode

- Text display ==== Setting the text display on and off
  - Press **MENU** button and then **RIGHT** button once to activate the setting option
  - Press **DOWN** button twice, it will display 'Text display'
  - Press **RIGHT** button to go to the sub-menu
  - Use **UP / DOWN** buttons to set the text display on or off and press **OK** to confirm
  - Press **MENU** button again to go back to 「**CAMERA**」 mode
- Brightness ==== Setting the LCD brightness
  - Press **MENU** button and then **RIGHT** button once to activate the setting option
  - Press **DOWN** button three times, it will display 'Brightness'
  - Press **RIGHT** button to go to the sub-menu
  - Use **UP / DOWN** buttons to change the brightness and press **OK** to confirm
  - Press **MENU** button again to go back to 「**CAMERA**」 mode
- Camera voice ==== Setting the camera voice
  - Press **MENU** button and then **RIGHT** button once to activate the setting option
  - Press **DOWN** button four times, it will display 'Voice'
  - Press **RIGHT** button to go to the sub-menu
  - Use **UP / DOWN** buttons to set the voice on or off and press **OK** to confirm
  - Press **MENU** button again to go back to 「**CAMERA**」 mode
- Video output ==== Setting the type of video output
  - Press **MENU** button and then **RIGHT** button once to activate the setting option
  - Press **DOWN** button five times, it will display 'Video output'
  - Press **RIGHT** button to go to the sub-menu
  - Use **UP / DOWN** buttons to choose the type of video output and press **OK** to confirm
  - Press **MENU** button again to go back to 「**CAMERA**」 mode

- Formatting ==== Format the SD memory card
  - Press **MENU** button and then **RIGHT** button once to activate the setting option
  - Press **DOWN** button six times, it will display 'Formatting'
  - Press **RIGHT** button to go to the sub-menu, the memory card must be inserted into the slot
  - Use **UP / DOWN** buttons to choose to format or not and press **OK** to confirm
  - Press **MENU** button again to go back to 「**CAMERA**」 mode
- Reset ==== Reset the camera to the factory setting
  - Press **MENU** button and then **RIGHT** button once to activate the setting option
  - Press **DOWN** button seven times, it will display 'Reset'
  - Press **RIGHT** button to go to the sub-menu
  - Use **UP / DOWN** buttons to choose to reset or not and press **OK** to confirm
  - Press **MENU** button again to go back to 「**CAMERA**」 mode
- Language ==== Setting the interface language
  - Press **MENU** button and then **RIGHT** button once to activate the setting option
  - Press **DOWN** button eight times, it will display 'Language'
  - Press **RIGHT** button to go to the sub-menu
  - Use **UP / DOWN** buttons to choose to choose the language and press **OK** to confirm, there are seven languages to choose
  - Press **MENU** button again to go back to 「**CAMERA**」 mode
- Reset number ==== Resetting the image number
  - Press **MENU** button and then **RIGHT** button once to activate the setting option
  - Press **DOWN** button nine times, it will display 'Numbering'
  - Press **RIGHT** button to go to the sub-menu
  - Use **UP / DOWN** buttons to choose to reset the image number or not and press **OK** to confirm
  - Press **MENU** button again to go back to 「**CAMERA**」 mode

➢ **Options in 「Video」mode**
◆ **Video options**
● Auxiliary cable ==== Enable/Disable the screen auxiliary cable
  ■ Press **MENU** button to activate the snapshot option
  ■ Press **DOWN** button once, it will display 'Auxiliary cable'
  ■ Press **RIGHT** button to go to the sub-menu
  ■ Use **UP / DOWN** buttons to set the type of auxiliary cable and press **OK** to confirm
  ■ Press **MENU** button again to go back to 「**CAMERA**」mode

● Video mode ==== choose the output format of the video
  ■ Press **MENU** button to activate the menu
  ■ Press **DOWN** button twice, it will display 'Video mode'
  ■ Press **RIGHT** button to go to the sub-menu
  ■ Use **UP / DOWN** buttons to choose the output video format and press **OK** to confirm
  ■ Press **MENU** button again to go back to 「**CAMERA**」mode

● Resolution ==== Choose the video resolution
  ■ Press **MENU** button to activate the menu
  ■ Press **DOWN** button three times, it will display 'Resolution'
  ■ Press **RIGHT** button to go to the sub-menu
  ■ Use **UP / DOWN** buttons to choose the output video resolution and press **OK** to confirm
  ■ Press **MENU** button again to go back to 「**CAMERA**」mode

● Quality ==== Setting the recorded video quality
  ■ Press **MENU** button to activate the menu
  ■ Press **DOWN** button four times, it will display 'Quality'
  ■ Press **RIGHT** button to go to the sub-menu
  ■ Use **UP / DOWN** buttons to choose the video quality and press **OK** to confirm
  ■ Press **MENU** button again to go back to 「**CAMERA**」mode

➢ 「**PLAYBACK**」**mode**
**In「PLAYBACK」mode you can play one recorded video or maximum nine videos continuously by pressing OK buttons. Use the UP / DOWN buttons you can zoom in or out the video images**
◆ **Play options**
  - Delete ==== Deleting one or more video
    - Press **MENU** button to activate the menu
    - Press **DOWN** button once, it will display 'Delete'
    - Press **RIGHT** button to go to the sub-menu
    - Use **UP / DOWN** buttons to choose to delete one or more or all videos and press **OK** to confirm
      - ✓ Delete one video ---- the screen displays the image and confirmation options, you can confirm to delete or cancel
      - ✓ Delete several videos ---- the screen displays the images in smaller size and highlights the selected video, you can choose the video and press **OK** to confirm
      - ✓ Delete all ---- the screen displays confirmation options, you can choose to confirm or cancel
    - Press **MENU** button again to go back to 「**CAMERA**」mode
  - Auto playback ==== Setting the time interval between two images during auto playback
    - Press **MENU** button to activate the menu
    - Press **DOWN** button twice, it will display 'Auto playback'
    - Press **RIGHT** button to go to the sub-menu
    - Use **UP / DOWN** buttons to choose the time interval and press **OK** to confirm, the camera will play back the recorded images automatically
    - During play back, press **OK** button to stop at the current image
    - Press **MENU** button again to go back to 「**CAMERA**」mode
  - Rotation ==== Setting the rotational orientation of the image
    - Press **MENU** button to activate the menu
    - Press **DOWN** button three times, it will display 'Rotation'

- Press **RIGHT** button to go to the sub-menu, there are three rotational angles to choose: 90°, 180°, and 270°
- Use **UP / DOWN** buttons to choose the orientation and press **OK** to confirm, and it will display the confirmation options asking whether to keep the rotated image or not, choose the right option and press OK to confirm
- Press **MENU** button again to go back to 「**CAMERA**」 mode
● Printing ==== Choose to print the recorded images, this camera supports DPOF format
- Press **MENU** button to activate the menu
- Press **DOWN** button four times, it will display 'Print'
- Press **RIGHT** button to go to the sub-menu, you can choose to print a single or all the images
- Use **UP / DOWN** buttons to choose the image and press **OK** to confirm
- Press **MENU** button again to go back to 「**CAMERA**」 mode

# ADJUST WHITE BALANCE SETTINGS

By default the camera white balance is set to automatic.

With some microscopes, you could get a bluish image.

To avoid this problem :

► Press **MENU** button and then **RIGHT** button once to activate the setup option.

► Press **DOWN** button once to activate "Exposure and white balance".

► Press **RIGHT** to go to the sub-menu (auto / manual).

► Use **DOWN** to select MANUAL white balance and press **OK** to confirm.

► Press **MENU** button to exit it.

► You can now adjust manually the blue level of the image

► 4 sliders (green, blue, red, white) are now displayed on the camera screen (if not press OK button to display it)

►Press **OK** several time in order to select the blue slider.

► Press **LEFT** or **RIGHT** to increase or decrease the blue level

► When the snapped image is correct, you can turn the white balance / Exposure settings to AUTO

**Struers**