CS02-500 Digital Microscope User Manual

(<u>English</u>)

(<u>中 文</u>)

Prepared by Coolingtech Digital Engineering Dept.

2010.3.25

前

首先非常感謝貴司(您)購買了CS02-500X數碼顯微鏡

言

數碼顯微鏡應用範圍非常廣泛,主要有以下方面.

1工業方面:

a 工業檢視,例如電路板、精密機械等

b 印刷檢視, SMT焊接檢查

c 紡織檢視

d IC表面檢查

.....

2美容方面

a皮膚檢視 b發根檢視 C紅外理療(特定產品)

3生物應用

a微生物觀察 b動物切片觀察

•••••

4其他

a擴視器,協助視障人士閱讀 b寶石鑒定

.

CS02-500數碼顯微鏡使用簡單,只需要同電腦USB接口連接就可以使用, 本產品還配備測量軟體,可做簡單的量測,非常的方便。爲了更詳細的介紹 本產品,敬請耐心的閱讀產下麵的產品介紹,使用方法,注意事項。

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工具欄上的各圖示說明
標定的使用方法
Dotnetfx 安裝

錄

目

部位說明規格



規格:

- 傳 感 器: 高性能感光芯片
- 主控芯片: 專用主控16Bit DSP
- 放大倍率: 50X~500X
- 拍照/錄影: 內置
- 輔助光源: 8顆白光LED燈
- 靜態解析度: 640x480,最高可達1600x1200(可按需定制)
- 數碼變焦: 5段式
- 成像距離: 手動調節0~40mm
- 影像解析度:標準640*480

固定底座 :	萬向金屬底座
光 盤:	內含驅動,測量軟體,說明書
支持系統:	WIN XP/VISTA, WIN 7 32位和64位
電 源:	USB (5V DC)
電腦界面:	USB 2.0 & USB 1.1 相容
動態幀數:	30f/s Under 600 LUX Brightness
照度範圍:	0~30000LUX線控可調
硬體需求:	奔騰 主頻700M Hz或以上; 1G硬碟 CD ROM 光碟機; 64MB 內存
支持語言:	中文(簡體),中文(繁體),英(其他語言需要定制)

產品顏色: 磨砂黑色, 其他顏色可定制

主體尺寸 112 mm (長) 33 mm (外徑)

單機包裝重量 380g

安全警告及注意事項

- 1. 勿自行拆解本產品,以避免靜電擊穿精密晶片。
- 2. 勿用酒精等有機溶劑清潔產品。
- 3. 勿用手指觸摸鏡頭,以免表面造成刮痕和贓污。
- 戶外使用時應避免高溫和高濕環境中,防電子器件短路。
 本產品不具有防水功能,請應避免淋雨和進水。
- 5. 本產品的使用和存儲溫適度範圍: 0°C~40°C,相對濕度: 45%RH~ 85%RH
- 6. 若不慎使異物或水份/液體 進入數產品內部,請先拔除USB 線。並送至維修中心檢修,切勿自行處理。
- 7 设备測量精度僅供參照,由测量误差引起的糾紛与本產品無關。

配件說明

- 1. 數碼顯微鏡主體(1台)
- 2. USB 連接線 (1.5m)
- 3. 萬向底座(1個)
- 4. 光碟(驅動程式, 測量軟體, 安裝說明書)

硬體要求

Windows 2000、XP、VISTA、WIN 7 操作系統。 奔騰 IV 1.5G, Celeron, AMD 或以上的CPU。 64MB 內存。 150MB 以上之硬盤空間(安裝驅動 程式及應用軟體) 支援16-bit的顯示卡, CD-ROM 光機, USB2.0或 USB1.1

安裝說明

CS02數碼顯微鏡為無驅動產品,如果不需要一些特殊操作的話,在 windows2000以上版本可直接運行。



2雙擊紅色標示內的設備圖標就可以正常使用。

如需要特殊的操作,請參考本產品附送光碟,安裝步驟(以Win XP為例) 將安裝光盤放入光驅後,安裝程式將自動執行,出現如下畫面(如果無法 自動執行,可點擊光驅圖標手動操作)



1驅動安裝



幾秒鐘后



COOLINGTECH SOFTWARE R&D CENTER - InstallShield Wizard



×

CoolingTech



COOLINGTECH SOFTWARE R	&D CENTER - InstallShield Wizard
	InstallShield Tizard 完成 InstallShield Wizard 已成功安装 COOLINGTECH SOFTWARE R&D CENTER,在使用 该程序之前,必须重新启动计算机。 ● 是,立即重新启动计算机。 ● 否,稍后再重新启动计算机。
InstallShield	从驱动器中取出所有磁盘,然后单击"完成"以完成安装。 (《上一步 (B) 完成 取消

4,驅動"完成",驅動安裝完成,如果是初次安裝,建議重啟電腦。若在驅動 安裝過程中出現警告資訊,請直接點選"仍然繼續"即可



5,驅動安裝完成後,桌面上會出現如下圖標,雙擊顯示



5. 菜單欄中的選項可根據自己的需求設定,例如點擊"選項"—"視頻捕捉篩 檢程式",出現

属性		×
视频 Proc Amp 照相机控	制 基本设置	
克度 (b) 对比度 (C) 色调 (f) 饱和度 (S) 清晰度 (P) 伽玛 (C) 白平衡 (f) 逆光对比 (b) 启用颜色 (c) □	,,,,,,	30 57 「 2 10 「 3 「 日 う 「 日 う 「 日 う 「 「 」
	确定 取消	应用(A)

顯微鏡光學參數做些簡單的設置。點擊"基本設置",出現:

属性		×
视频 Proc Amp 照相机控制 []	基本设置	
□ 镜像□ 垂直翻转	○ 黒白 ○ 怀旧 ○ 海茲	
 € 50 Hz © 60 Hz 	○ 草绿 ○ 关闭	
□ 物体跟踪 □ 网格		
		<u>ни</u>
	确定	取消 应用 (A)

根據需求,可對對圖形特效處理,如下





居性		🔓 CanApp 📃 🗖 🔀
视频 Proc Amp 照相机控制	基本设置	女件也) 表卷(2) 速项(2) 捕得(2) 帮助(2)
□ 境像 □ 垂直翻转 ○ 50 Hz ○ 50 Hz	 ○ 黒白 ○ 怀旧 ○ 海绿 ○ 关闭 	
□ 物体跟踪 □ 两格	默认	
	· · · · · · · · · · · · · · · · · · ·	
-		COOLINGTECH SOFTWARE FAD CEFTER

如需要回復到初始參數,請點擊"默認"。

2測量軟體安裝

1 點擊 Measurement 出現:



2 點擊"下一步"

🎍 安裝 - CoolingTech
选择目标位置 您想将 CoolingTech 安装在什么地方?
📁 安装程序将安装 CoolingTech 到下列文件夹中。
单击"下一步"继续。如果您想选择其它文件夹,单击"浏览"。 C:\Program Files\CoolingTech
至少需要有 16.6 MB 的可用磁盘空间。
< 上一步 (B) (下一步 (B) > 取消

3 選擇程序安裝路徑, 點擊"下一步"

🔌 安装 - CoolingTech
选择附加任务 您想要安装程序执行哪些附加任务?
选择您想要安装程序在安装 CoolingTech 时执行的附加任务,然后单击"下一步"。 附加快捷方式: ② 创建桌面快捷方式 @)
<上一步(B) 下一步(B) > 取消

4 如果需要在桌面上創建快捷方式,相應框中打'√',點擊'下一步'

🎍 安装 - CoolingTech
准备安装 安装程序现在准备开始安装 CoolingTech 到您的电脑中。
单击 "安装" 继续此安装程序。如果您想要回顾或改变设置,请单击 "上一 步"。
目标位置: C:\Program Files\CoolingTech
开始菜单文件夹: CoolingTech
附加任务: 附加快捷方式: 创建桌面快捷方式 (0)
< 上一步 (B) (安装 C) 取消

5 點擊'安裝',程序就進入安裝狀態

▲ 安装 - CoolingTech	
正在安装 安装程序正在安装 CoolingTech 到您的电脑中,请等待。	
正在解压缩文件 C:\Program Files\CoolingTech\MSO.DLL 	
	取消

6 幾秒鐘后,程序安裝過程結束

嶐 安装 - CoolingTech	
	CoolingTech 安裝向导完成 安装程序已在您的电脑中安装了 CoolingTech。此应用程 序可以通过选择安装的快捷方式运行。 单击"完成"退出安装程序。 IV 运行 CoolingTech
	完成 图

- 7 點擊完成,程序就可以使用了。
- 8 程序安裝成功后,點擊桌面圖標 🄽 ,進入如下界面



9 按照提示, 連接好設備, 程序自動運行到主界面。







選擇視頻分辨率,視頻分辨率範圍320*240~1600*1200,分辨率默認值為 640*480.

11 點擊,採集圖片,可執行數據量測功能。由於動態影像不是很穩定,本 軟件將採用靜態模式下進行量測,測量精度會相應的提高



12 點擊 2 可以打開之前存儲的圖片;點擊 3 可以保存圖片到電腦指定文檔





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放大倍率改變,必須重新校正。

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從左到右:

直線測量,圓測量。矩形測量,多邊形測量,折綫測量,橢圓測量 圓弧測量,點對點測量,點到線測量,平行線測量,角度測量。 如下圖:



範例1: 平行線測量





範例2: 矩形測量



範例3,圓測量





3在安裝驅動時如提示需要安裝Net Framework 2.0,請點

擊 Dotnetfx 按照提示,繼續下去就可以了

Thank you for Purchasing our CS02-500 Digital Microscope, it is a slim type tool and can be easily used in different fields including

- 1. Textile industrial for textile inspection
- 2. Printing inspection
- 3. Industrial inspection: PCB, Precision machinery...
- 4. Educational purpose
- 5. Hair examination
- 6. Skin examination
- 7. Microbiological observation
- 8. Jewelry & coin (Collections) inspection
- 9. Visual Assistance
- 10. Others

Currently we have two models of Digital Microscope: USB port and TV port formats.

The USB microscope must be connected to the computer and TV microscope be connected to visual device (N/P). User interface is very friendly and you can do the Measure work easily.

You can find more information of the product on this manual.

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Ratio LED Light Ketal Fixed Snap

Parts of Microscope

Specification

Image CMOS Sensor

Controller High Speed DSP (Driver Free available)

Focus Range 0mm ~ 40mm

Snap Shot Software and Hardware

Video Capture Resolution 0.3M.

Built-in 8 White-light LED and adjustable illumination ensure the magnified images are clear and bright

Still Image Capture Resolution 640*480

Frame Rate 30 f/s under 600 LUX Brightness

Digital Zoom 5X Sequence Mode

Brightness Control Manual adjustment

Magnification Range 50X ~ 500X (Manually)

Power Supply USB Port (5V DC)

USB 2.0 & USB 1.1 Compatible

Operation System Windows XP, Vista, Win 7 32 bit and 64 bit.

Language: English, Chinese and other language by selection

System Requirement: Pentium Computer with 700M Hz & above, 20M HD Space CD ROM Driver, 64MB RAM, Direct X VGA Card

CD disk Driver and Micro-Measurement Tool

Product dimension 112 mm (L) X 33 mm (R) Product net weight: 380g Available color: Matting black, UV black; and other colors.

Notes before use

- 1. Don't dissemble the digital Microscope or change the interior parts, it can cause damage.
- 2. Don't clean the Microscope with alcohol organic solvents
- 3. Don't touch the lens with your fingers.
- 4. Avoid outdoor use if possible.
- 5. Storage temperature , $0^{\circ}C \sim 40^{\circ}C$, Humidity: 45%RH ~ 85RH%.
- 6. In case the product gets wet, leave PC connection immediately. And do not dissemble or dry by hair dryer. Send to repair center if the digit microscope was effected by liquid or other elements.
- 7. Measurement Data only for reference.

Product Outlook & Standard parts

1. Digital Microscope (1pcs)

- 2. USB 2.0 cable
- 3. Metal fixed Stand (1pcs)
- 4. CD ROM (Driver, Measurement software, User Manual)

Hardware system requirements

Windows 2000、XP、VISTA、WIN7 Pentium 1G, Celeron, AMD 1G & above, 128MB Memory, 150MB Hard Disc memory space, 16-bit & above VGA ,CD-ROM, USB2.0 or USB1.1.

How to install the Driver

CS02-500 Digital Microscope is a free Driver Product, it can be worked immediately after connected to the computer with operation system above win2000 version.

1. Connect the Portable digital microscope by USB2.0 cable to your computer, double click 'my computer' icon on your computer desktop, below interface will be shown up.



2. Double click the **Video device icon** as above red marked in your computer. Now it is ready to use.

If you can't find the Video device, or if your computer can't recognize it, please follow below steps to install the driver.

Insert the attached CD, system will auto run to the interface as below and follow the steps to complete the installation: (NOTE: If the computer can't auto run the disc, you need to operate manually by click "My Computer" \rightarrow "DVD/CD Driver" \rightarrow



1. Driver installation

 1Click
 Driver
 to continue, the screen will show the installation progress.

 COOLINGTECH SOFTVARE RAD CENTER - InstallSh...

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Click"next"to continue, as followings:



Click"next"to continue, as followings:



Click "continue Anyway", as followings:



Click"Finish"to continue, as followings



Select 'Yes, I want to restart my computer now', and click "finish".

After restart your computer, Plug-in the USB port of Digital Microscope into Computer USB port. Following the user guide by steps and complete by click "Next" -> "Continue anyway" -> "Finish".



Hardwa	re Installation
	The software you are installing for this hardware: Digital Microscope has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.) Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
Found Nev	<section-header> Continue Anyway StoP Installation Atardware Wizard Stoppleting the Found New Landware Wizard Distant Installation the software for Distant Installation the software for Distant Installation the software for Distant Installation the software for</section-header>

2 Measurement installations:

1 Click Measurement to continue, as followings



2 Click "next" to continue, as followings

🛓 Setup - CoolingTech
Select Destination Location Where should CoolingTech be installed?
Setup will install CoolingTech into the following folder.
To continue, click Next. If you would like to select a different folder, click Browse.
C:\Program Files\CoolingTech Browse
At least 16.6 MB of free disk space is required.
< <u>B</u> ack <u>N</u> ext > Cancel

3. Click "next" to continue, as followings

🛓 Setup - CoolingTech
Select Start Menu Folder Where should Setup place the program's shortcuts?
Setup will create the program's shortcuts in the following Start Menu folder.
To continue, click Next. If you would like to select a different folder, click Browse.
CoolingTech Browse
Don't create a Start Menu folder
< <u>B</u> ack <u>N</u> ext > Cancel

4. Click "next" to continue, as followings

🛓 Setup - CoolingTech
Select Additional Tasks Which additional tasks should be performed?
Select the additional tasks you would like Setup to perform while installing CoolingTech, then click Next. Additional icons: Create a desktop icon Create a Quick Launch icon
< <u>B</u> ack <u>N</u> ext > Cancel

5. Click "next" to continue, as followings

🛓 Setup - CoolingTech	
Ready to Install Setup is now ready to begin installing CoolingTech on your computer.	
Click Install to continue with the installation, or click Back if you want to review or change any settings.	
Destination location: C:\Program Files\CoolingTech Start Menu folder: CoolingTech Additional tasks: Additional icons: Create a desktop icon	
< <u>B</u> ack Install C	ancel

6 Click "Install" to continue, as followings

🛓 Setup - CoolingTech	
Installing Please wait while Setup installs CoolingTech on your computer.	
Extracting files C:\Program Files\CoolingTech\MSO.DLL	
	Cancel

Wait a few seconds while the installation taking place.



7.Click "Finish" and the installation completes.

8.After the installation completes, double click start using the software.



Plug-in the devices, Display in operation window





Choose the Image resolution from 320*240 to 1600*1200, default at VGA Mode640*480

10 Click to use measurement function.



🛓 CoolingTech	
Files Operation Settings Windows Help	
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💀 50x. bap	Libraries
	Picture Results Calibration C:\Program Files Provs Open 0407_10407-20407-3 0408_1 Double click and open file
	×

11 Click to open pictures, and click to save pictures



Video PLAY(Pause) ,STOP

13 Image Parameter including Image setting and special effects

Zoom Special Effect Vide	eo Proc Amp Camera Control	
Brightness Contrast Hue Saturation Sharpness Gamma White Balance Backlight Comp	j	- 17 - 100 - 0 - 9 - 22 - 1 -
ColorEnable Г	Default	Auto
	OK Cap	al L Annia

15 Magnifier







1

17 Click, start calibration make sure certain accuracy.

Our experience told us that measurement could be controlled at 99% high precision. Measure tolerance could be caused from human eye distortion and defocus. More practice is helpful to measurements.



18 Key in the Measure data(Pixel),Unit, and Click' OK'

🔜 Add Calil	oration	
Setup steps: 1. Shooting ca 2. Measured s calculate the a (Example: Ca [calibration 1]	ilibration ruler, p several times, ge average value, er librate 1 mm, to I (1.00], (mm), (67	ress the pause button, calibrate the ruler. It several sets of measured data, nter into the following input box. be the average of 67 pixels, then fill in 7.00])
Name 25X	Value 1	Unit mm = 118
	OK	Cancel

Warning:

Please do calibration again once Magnification Ratio changed.



Color setting of display character



20 Click 20 Click

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Example: Measure data under word file





For example 1

Line measurement:

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For example 2



Rectangular measurements:



For example 4 Arc measurements:

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