

INSTRUCTION MANUAL MANUALE D'ISTRUZIONI LIBRETO INSTRUCCIONES BEDIENUNGSANLEITUNG MODE D'EMPLOI

Dino-Lite
Digital Microscope



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WARNING! THE USERS SHOULD READ THIS MANUAL VERY CAREFULLY BEFORE USING THE DEVICE

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For further information about the device, please contact:

MANUFACTURER:



ANMO ELECTRONICS CORPORATION

5F-1, No.76, Sec. 2, Dung-Da Road, Hsinchu 300, Taiwan

Tel:+886-3-5357868

Fax:+886-3-5358098

<http://www.anmo.com.tw>

OFFICIAL AND AUTHORISED DISTRIBUTOR:



ITALECO SRL

Via Giulio Pastore 8, 10024, Moncalieri (To), Italy

Tel: +39-011-5690297

Fax: +39-011-5690298

<http://www.dinolite.it>

Manufactured in: 2009

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1. UNPACKING

Please handle with care, to avoid risk of injury.

It is the owners responsibility to ensure that all the necessary components are present.

2. PACKAGE CONTENTS

A Dino-Lite digital microscope

DinoCapture software on CD

A protective soft case

An Instruction Manual

Depending on the intended use of the digital microscope the package will also contain:

- A stand on which you can put the device after its use
- A rack with P/N "Amita" or AM35B

3. SYMBOLS

The symbols shown in the following pages can be found on DINO-LITE DIGITAL MICROSCOPE packaging, or in this book

WARNING SYMBOLS

SYMBOLS FOR STORAGE, TRANSPORT, THE ENVIRONMENT



High

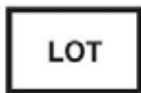


Fragile

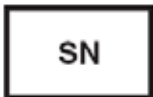


Keep dry

IDENTIFICATION SYMBOLS



Followed by an alphanumeric code is the lot code



Followed by an alphanumeric code and a date indicates the serial number and year of manufacture

FURTHER SYMBOLS



Indicates that the product complies with Directive 2002/95/EC on the reduction of hazardous substances in electrical and electronic equipment



Indicates that the product at the end of its useful life must be collected separately from other waste
It must be disposed of in accordance with local WEEE regulations



Federal Telecommunications Commission (FCC, Federal Communications Commission)
An U.S. Commission, indicates that the product does not cause interference with other devices commonly found in the office or at home

4. WARNINGS

Read these instructions carefully before using the Digital Microscope Dino-Lite. The following warnings are related to the use of generic Digital Microscope Dino-Lite. The warnings for specific procedures, such as measurement, calibration, connecting accessories are included in the relevant sections of the manual. A different use of the Dino-Lite than as described in this manual, can endanger the health of the patient and the person using the microscope.



The device is suitable for external use only and non-invasive measurements



Do not put your fingers or other objects in the cavity containing the LED light



Keep out of reach of children



Do not direct the beam of light toward the eyes (not for AMH-RUT)



Not to be used to capture images of or to video the eye (not for AMH-RUT)



Do not use the device in close proximity to high heat, magnetic fields

5. INTRODUCTION

Thank you for purchasing a DINO-LITE DIGITAL MICROSCOPE.

The Dino-Lite microscope is capable of attaching to the visual image (magnification, photos, video) a detailed metrology verification.

6. DESTINATION OF USE

The DINO-LITE DIGITAL MICROSCOPE allows you to make measurements through the analysis of digital images captured using the software DinoCapture.

The technology also allows the device to display in real time on a PC monitor video captured during the operation.

The LED lights are switchable (ON/OFF) by software (except the model AM311H and AM211 series).

A PC is required for the DinoCapture software to run (please see minimum requirements).

The device is powered by the USB connection to the PC (unless AM412xxx series)

The image can be captured by using the mouse or Microtouch placed on the handle of the microscope.

7. GENERAL GUIDELINES FOR HANDLING



Do not use the microscope with wet hands



Do not use the microscope if damaged or if it does not work correctly



Always ensure that the device is properly connected to the hardware on which you installed the software supplied



Do not twist the usb cable when using the device



Do not subject the microscope to sudden shocks

8. GENERAL MAINTENANCE

The product is made of materials resistant to corrosion and environmental conditions provided for normal use, and does not require specific attention, but it must be kept in a closed environment, clean and dry, avoiding exposure to light and protecting it from dust in order to ensure the hygiene conditions.



Do not place the device and accessories in direct sunlight, high temperatures or in humid or dusty places



Do not immerse the microscope in liquids



DO NOT EVER DISASSEMBLE the microscope

9. INSTRUCTION FOR USE

- Put the part to be observed below and in the center of the illuminated area of your Dino-Lite microscope
- It is advisable to start working at minimum magnification (turn the wheel of the microscope until the arrow matches 20x). Place the microscope at a distance greater than 3cm from the subject to enlarge
- Slide under the cover/optic the subject you wish to see in order to visualise the area
- Turn the wheel of focus to maximise viewing and have a sharper image
- To use the microscope at a magnification between 20x and 50x, move progressively the cover closer to the surface of the subject and proceed to enlarge the focus as in the preceding paragraph
- To use the microscope at a magnification of 200x it is necessary to bring the cover of the microscope in contact with the subject, then using the wheel to focus on the object
- Always use the procedures described above, being careful that the lenses are not in direct contact with the part to be observed
- Click on "capture" and then on "image" or "video" from DinoCapture software to take the picture that interests you or to start recording video

N.B. For optimal use of the microscope without support grip the device between thumb and index accommodating it in the palm of the hand and using your thumb to rotate the wheel of focus. The tool can be rotated on its axis in order to achieve the rotation of the image on the screen.



Figura 1

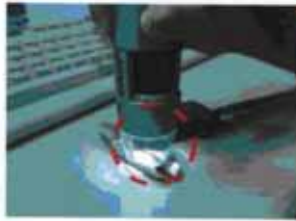


Figura 2



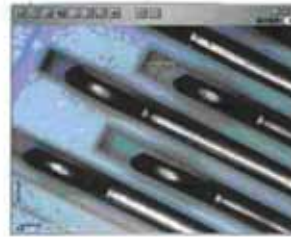
Figura 3

10 MEASUREMENT FUNCTION



Step 1:

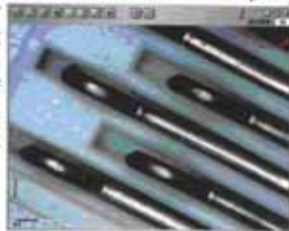
Bring image into focus by adjusting the dial on the side of unit. Once in focus at desired magnification then take picture by clicking "capture". The captured image will then be displayed in the left hand column



LINE - allows measurement from one point to next. simply click and drag to desired length then click again to lock in

Step 2:

Enter "515" as the magnification power by "right clicking" your mouse on the captured image in the left hand column and go "set magnification" then enter the magnification value. This set value will now be displayed in the upper right hand corner of the image and will be used as a standard for measurement purposes




CONTINUOUS LINE - allows measurements of multiple connecting lines. simply click and drag to desired points then click to lock in and then continue

RADIUS CIRCLE - allows measurement of the radius, circumference and area of circle. simply click and extend out to desired radius



Step 3:

To utilize the measurement features simply double click on the desired image in the left hand column and refer to the feature icons in top row. Click on the "measure" icon  and choose from selections offered



DIAMETER CIRCLE - allows measurement of the diameter, circumference and area of circle. simply click and extend out to desired diameter

ANGLE — allows measurement of the angle, simply click and drag to extend out to the desired angle



THREE POINT CIRCLE - allows measurement of the radius, circumference and area of circle by simply defining any three points and clicking



The uncertainty of the measurements following the procedures and conditions of operation outlined in this manual is $\pm 3\%$

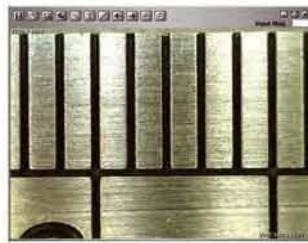


During the measurement is essential to keep the microscope perpendicular to the surface to be examined

11 CALIBRATION FUNCTION



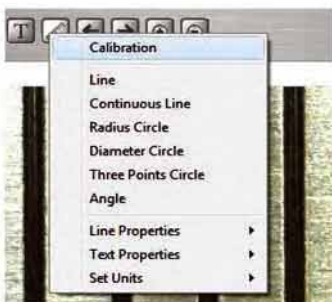
1. Select a known measurement standard, such as a ruler, to be used for calibration. Take a picture of the selected measurement calibration standard



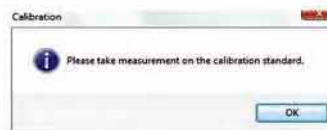
2. Now open the picture of the measurement calibration standard



3. Determine the magnification value by reading from the DinoLite adjustment dial. Enter this value in the "Input Mag" box located in upper right hand corner of the screen



4. Now click on the measurement icon at top of page and Select "Calibration"



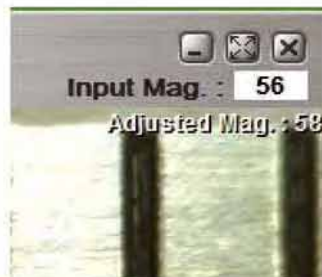
The software will then prompt for taking a measurement on the selected calibration standard



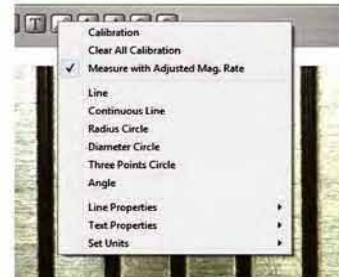
5. Take a sample measurement of the selected calibration standard by clicking beginning and ending points across a known measurement value (such as 5mm's, half inch, etc). A measurement value before calibration will be displayed (5.179mm in the example below)



6. Enter the exact known value of the measurement sample (5.0mm in this example) in the "Adjusted Mag." window and then click "OK"



7. The software will automatically calibrate the magnification rate and will show the adjusted magnification rate at the upper-right corner of the picture



8. Now the software is ready to take calibrated measurements with adjusted magnification rate. To verify calibration simply take another measurement sample of a known measurement value

The calibration can be done through a small or large value of magnification, the most accurate calibration will be achieved when the zoom value is closer to that used for the measure

The calibration can be removed by selecting "Clear Calibration" menu "ruler"
The measures to be addressed without deleting the calibration disabling "Measure with Adjusted Mag."

"The Adjusted Mag.", will not be shown if the calibration is off

12 INSTALLATION

12.1 MINIMUM SYSTEM REQUIREMENTS

Windows Os

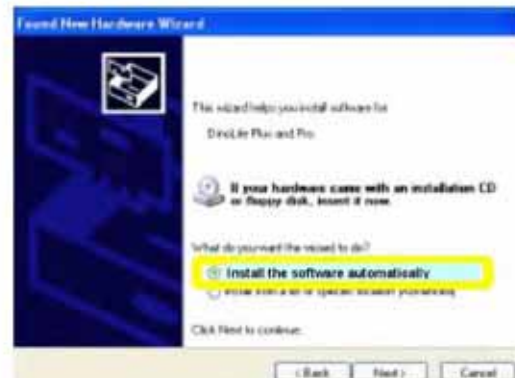
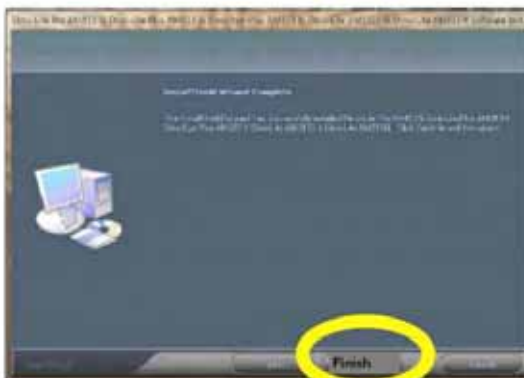
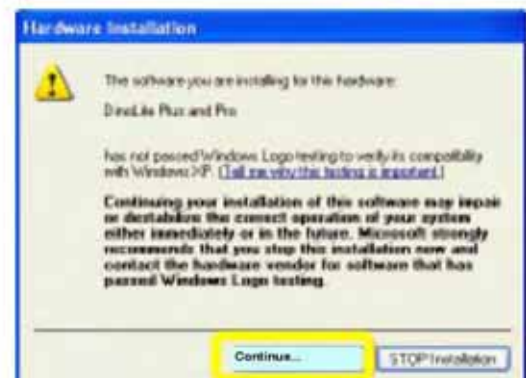
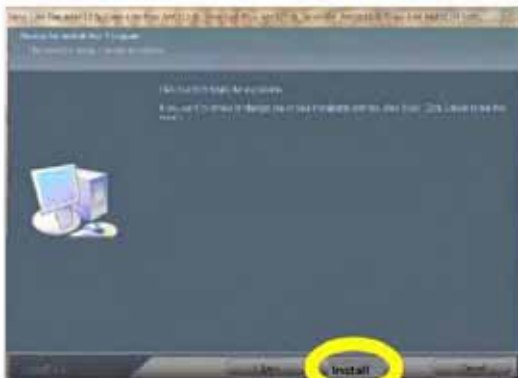
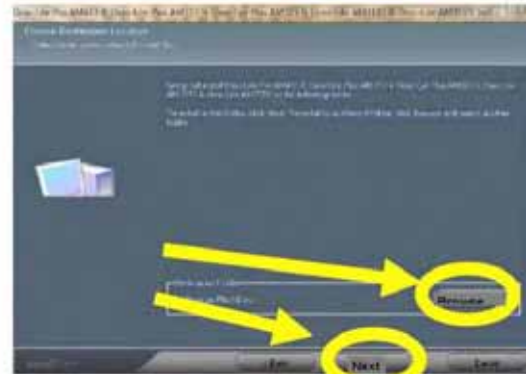
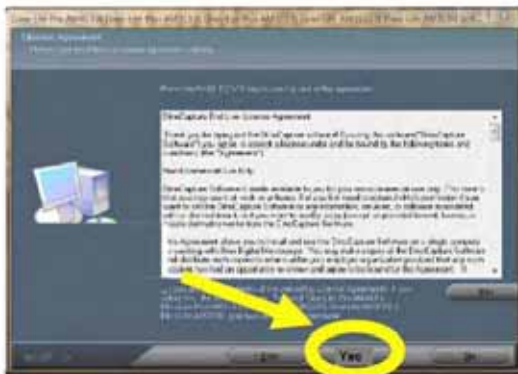
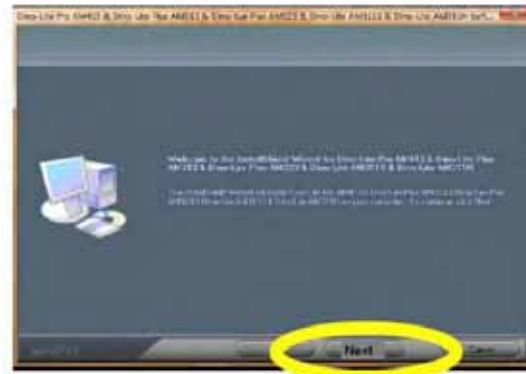
1. Windows 98SE, ME, 2000, XP, Vista
2. CPU Pentium 1.5GHZ, Celeron, AMD Athlon or equivalent
3. RAM of 128MB (256MB recommended)
4. At least 150 MB HD free
5. VGA card: 16bit
6. CD-ROM drive
7. USB 2.0 recommended, free port

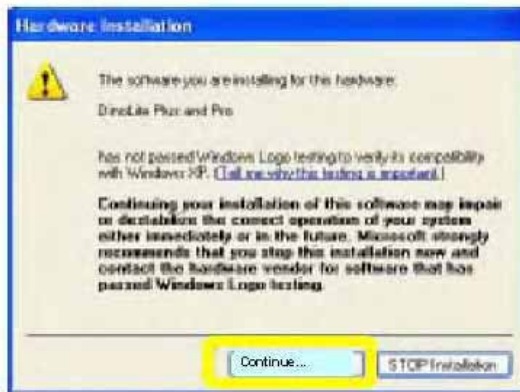
Mac Os X

10.4 or later

12.2 DINO CAPTURE SOFTWARE INSTALLATION

1. Turn on your PC and insert the “CD-Driver”.
2. Do not connect the USB plug of the microscope to the USB port on your PC before you install the driver.
3. After inserting the CD-Driver automatically the installation starts.





When using the DinoCapture software, make sure there are no cameras or other related webcam that could go in conflict with the Dino-Lite.

IMPORTANT NOTE FOR WINDOWS VISTA USERS

The first time you launch the DinoCapture software with Windows Vista, right after the installation, click on DinoCapture with the right key of the mouse and select "Run as Administrator" from the menu. Subsequently, click "OK" when asked to appear at the pop up window in Microsoft Vista.

13 INSTRUCTIONS OF INSTALLATION AM412NP-AM412TP



Plug the AC adaptor into an electrical outlet (110V - 240v)



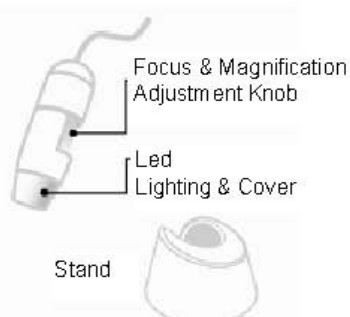
Plug the DC power plug into DC jack on the microscope



Plug the AV connector of the microscope (yellow one) to the video socket of the TV monitor



Power on TV and select the channel for input AV signal



PACKAGE CONTENTS

- Dino-lite Digital Microscope (with AV cable)
- Stand
- AC Adapter(100 - 240V)

SYSTEM REQUIREMENT

- TV with AV input (NTSC o PAL)

PRODUCT SPECIFICATIONS

- Resolution: 640*480 VGA
- Adjustable magnification: 10x~50X; 200x
- Built-In white LED lighting
- Interface: TV (NTSC o PAL)
- Dimension: 10,5(H)x 3,2(R)cm

APPLICATION

- Science
- Engineering work Study and Educational use
- Detailed repair
- Assembly & quality control
- Electronic industry
- Mechanical industry
- Hobbies & collecting (coin, stamp, watch, jewelry, etc)
- On line chatting
- Antiques
- Enforcement

WARNINGS:

- Avoid touching the lens with finger
- Protect the product from electrostatic damage

14 CLEANING THE MICROSCOPE

It is very important to avoid touching the lens of the microscope because it is very delicate. The lenses should be cleaned regularly, as particles of dust on them could have a negative impact on image quality.

For this reason, it is recommended to protect the microscope with its protective casing when not in use.

Avoid using any other objects or liquids that could easily scratch or damage the surface of the lens or the sensor.

To clean the body of the microscope use a slightly dampened soft cloth.

The product is designed to last a lifetime, and is resistant to most chemicals products except ketones MEK, solvents and substances used to remove the smalt.



Do not use abrasive materials to clean the lens, it could cause permanent damage to it

15 DISPOSAL



The crossed waste bin indicates that the product at the end of its useful life must be collected separately from other waste.

It must be disposed of in accordance with local WEEE regulations.

16 WARRANTY

Congratulations for purchasing our product. This product HAS BEEN MANUFACTURED TO THE HIGHEST QUALITY AND STANDARDS. Italeco guarantees this product against any defects due to materials or workmanship for a period of 2 years from the date of original purchase. To take advantage of the guarantee, you must retain your purchase invoice.

If the product is found to be defective within the warranty period it should be returned to the selling agent with proof of purchase.

The warranty is null and void if the damage is resulting from carelessness or misuse.

No compensation will be given by Italeco and its distributors if the product is returned during the warranty period.

In addition, any replacement or repair carried out during the warranty period, will not prolong the duration of the guarantee.

The warranty lapses in the following cases:

- The product has been tampered with or the label placed on the usb cable bearing the serial number has been removed, damaged or rendered unreadable
- The product has been damaged or has been misused
- The product has been opened or repaired by unauthorised personnel
- The product has been damaged due to non compliance with the instructions in the booklet

Products considered to be defective should be returned only to the dealer from which it was purchased accompanied by the invoice.

The product will be repaired or replaced, under our sole discretion.

ITALECO SRL

Via Giulio Pastore 8, 10024, Moncalieri (To), Italy

Tel: +39-011-5690297

Fax: +39-011-5690298

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