



# OPTA USER GUIDE

[www.visioneng.com](http://www.visioneng.com)

OPTA is the high performance stereo microscope designed to enhance operator performance in a wide range of magnification tasks. It offers exceptional value, ensuring efficiency and effectiveness without compromising on excellence.

# CONTENTS



COPYRIGHT	3
INTRODUCTION	4
GENERAL	
Safety	5
Servicing	5
Cleaning	5
Symbols	5
HEALTH & SAFETY	
Electrical Safety	6
Illumination	6
Environmental Considerations	6
Operator Wellbeing	7
Compliance Statements	7
OPTA HEAD	
Unpacking	8
Controls	9
Fitting Lenses	10
UNIVERSAL ARM	
Unpacking	11
Assembly	12
TRACK / CRESCENT STAND	
Unpacking	13
Assembly	14
OPTA HEAD	
Mounting to a Stand	15
Operation	16
USER COMFORT	17
GENERAL CARE	18
TROUBLESHOOTING	19
SERVICE RECORD	20
WARRANTY	21
TECHNICAL SPECIFICATIONS STANDS	22
SERIAL NUMBER LOCATOR	23
SYSTEM OPTIONS	24

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We have compiled the texts and illustrations as accurately as possible. However, Vision Engineering Ltd. will not be responsible for the accuracy of the information contained in this document, which is used at your own risk and should not be relied upon. The information included in this manual may be changed without prior notice.

# INTRODUCTION



Congratulations on your OPTA purchase from Vision Engineering. Vision Engineering Ltd. prides itself in designing and manufacturing products that make a real difference to your work.

OPTA is an easy to use, ergonomic, low magnification stereo microscope to maximise your productivity.

In order to fully benefit from the significant ergonomic advantages afforded by your OPTA system, it is important to properly set-up and optimise your working environment. For more information, visit: [www.visioneng.com/ergonomics](http://www.visioneng.com/ergonomics)

# GENERAL



## SAFETY

Before using your system for the first time, please read the Health & Safety section of the user guide. Ensure that:

- Your system and accessories are operated, maintained and repaired by authorised and trained personnel only.
- All operators have read, understood and observe the user manual, in particular the safety regulations.

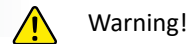
## SERVICING

Repairs may only be carried out by Vision Engineering-trained service personnel. Only original Vision Engineering spare parts may be used.

## CLEANING

- Disconnect your system from the electrical source before cleaning.
- To clean the external surfaces use a mild detergent with a lint free soft cloth.
- Never use harsh chemicals to clean coloured surfaces or accessories with rubberised parts.
- Use a specialist lens cloth to clean optical surfaces.

## SYMBOLS



Warning!

A potential risk of danger exists. Failure to comply can cause

- i) a hazard to personnel;
- ii) instrument malfunction and damage.

Please consult the operating instructions provided with the product.



Important information.

This symbol indicates important information. Please carefully follow the instructions or guidelines.

# HEALTH & SAFETY



- ! Unauthorised alterations to the instrument or non-compliant use shall invalidate all rights to any warranty claims.

## ELECTRICAL SAFETY

- Disconnect your system from the electrical source before undertaking any maintenance.
- Avoid using any form of liquid near the system.
- Do not operate your system with wet hands.
- Only use with the power supply unit provided, in case of a lost or damaged power supply, the correct replacement must be obtained from Vision Engineering.
- Electrical input to the OPTA head - 9V, 3A and Universal Stand - 5V, 3Amp.
- Power Supply Voltage (via plug top power supply) - 100-240V ~50/60Hz, 1.0A Max.

## ILLUMINATION

- Do not look directly into the illumination source. This may cause damage to eyesight. .

## ENVIRONMENTAL CONSIDERATIONS

- Avoid large temperature fluctuations, direct sunlight and vibrations.
- Ensure electrical components are at least 10cm from walls and combustible materials.
- Position the system on a firm, rigid and level table.
- The equipment should be positioned so that access to the electrical input connector is always available.
- Avoid positioning your system where bright reflections may affect the image.
- Indoor use only.
- Standard operating Temperature: +10°C to +35°C (50°F to 95°F)
- Storage Temperature: 0°C to +50°C (32°F to 122°F) or 3 months without any adverse effects.
- Maximum relative humidity 80% for temperatures up to +31°C (88°F) decreasing linearly to 50% relative humidity at 40°C (104°F).
- Mains voltage supply fluctuations not to exceed 10% of the nominal voltage

# HEALTH & SAFETY



## OPERATOR WELLBEING

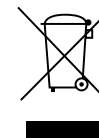
The advanced ergonomic design and construction of Vision Engineering products are intended to deliver superior ergonomic performance, reducing the exertion of the user to a minimum.

Depending on the duration of uninterrupted work, appropriate measures should be taken to sustain optimal operator performance. This could include: Optimal arrangement of workplace; Variation in task activity; Training of personnel on workplace ergonomics and general health and safety principles.

It is important to set-up and optimize your working environment correctly in order to obtain maximum benefit from the advanced ergonomic design of your system. For more information visit: [www.visioneng.com/ergonomics](http://www.visioneng.com/ergonomics).

## COMPLIANCE STATEMENTS

Vision Engineering and its products conforms to the requirements of the EC Directives on Waste Electrical and Electronic Equipment (WEEE) and Restriction of Hazardous Substances (RoHS).



RoHS

This product conforms to the UKCA and CE marks, demonstrating that it meets the requirements of the applicable directives.

# UNPACKING



1 OPTA Head

2 Objective Lens (4x or 6x,) as ordered



# CONTROLS



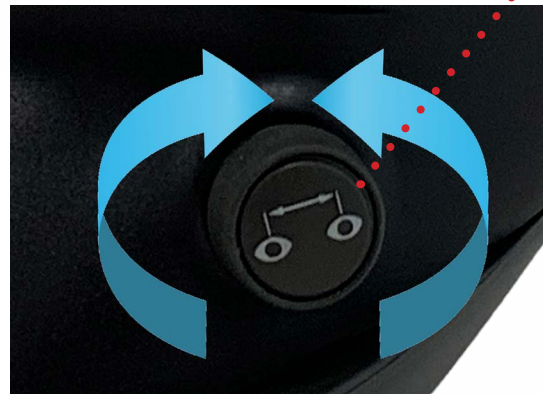
Lens Interface



Mounting Point

IPD (interpupillary distance) Adjustment

Power Input



# FITTING LENSES



**! REMOVE PROTECTOR CAP ON BOTTOM OF UNIT (IF FITTED) AND RETAIN FOR FUTURE USE**

**To fit the lens**

1. Locate 3 tabs of the objective lens into the slots on base of the unit and push upwards.
2. Rotate to the right to lock the lens in place.

**To remove lens**

1. Rotate to the left to unlock the lens.
2. Pull downwards to remove.

# UNPACKING UNIVERSAL ARM



- 1 OPTA Universal Arm
- 2 Universal Mount
- 3 G-clamp
- 4 Dust Cover
- 5 Power Supply

# ASSEMBLY

## UNIVERSAL ARM

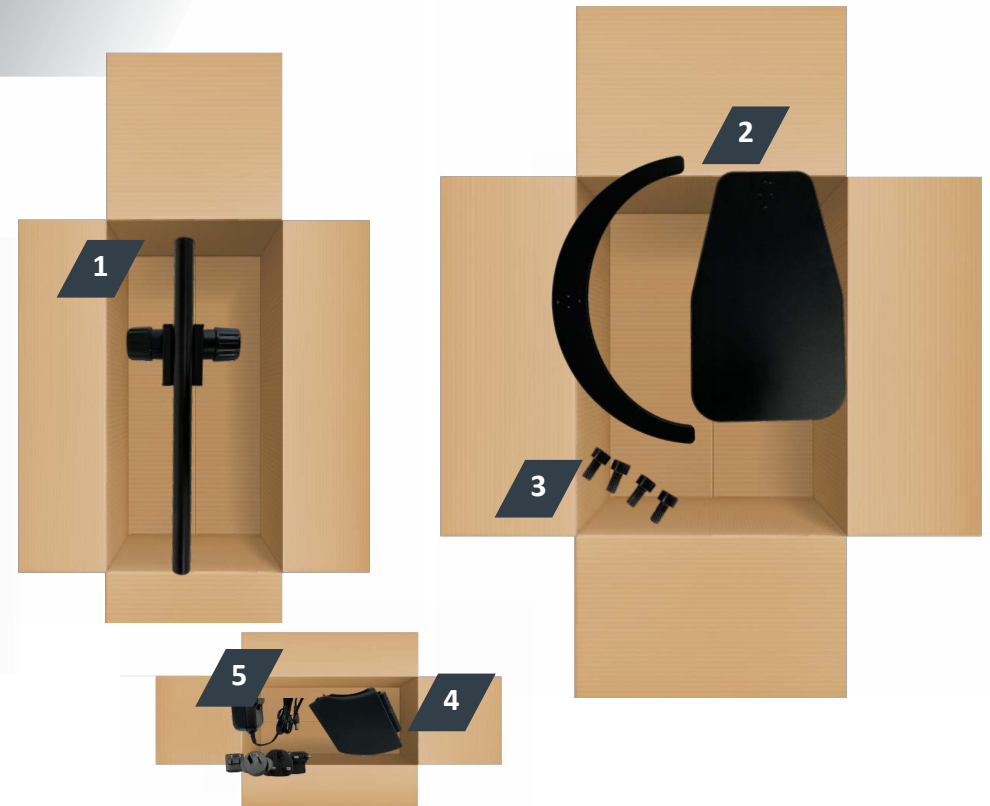
### ASSEMBLY

1. Secure the universal mount to the work surface using the G-clamp provided or by using appropriate screws located in the holes of the mount. Screws are not supplied.
2. Place the universal arm on top of the universal mount and lower it on to the spigot until it is fully mounted.



# UNPACKING

## TRACK / CRESCENT STAND



- 1 Track Stand
- 2 Crescent base or Plain base (as ordered)
- 3 Screws
- 4 Adaptor Bracket (depending on the stand model)
- 5 Power Supply

# ASSEMBLY

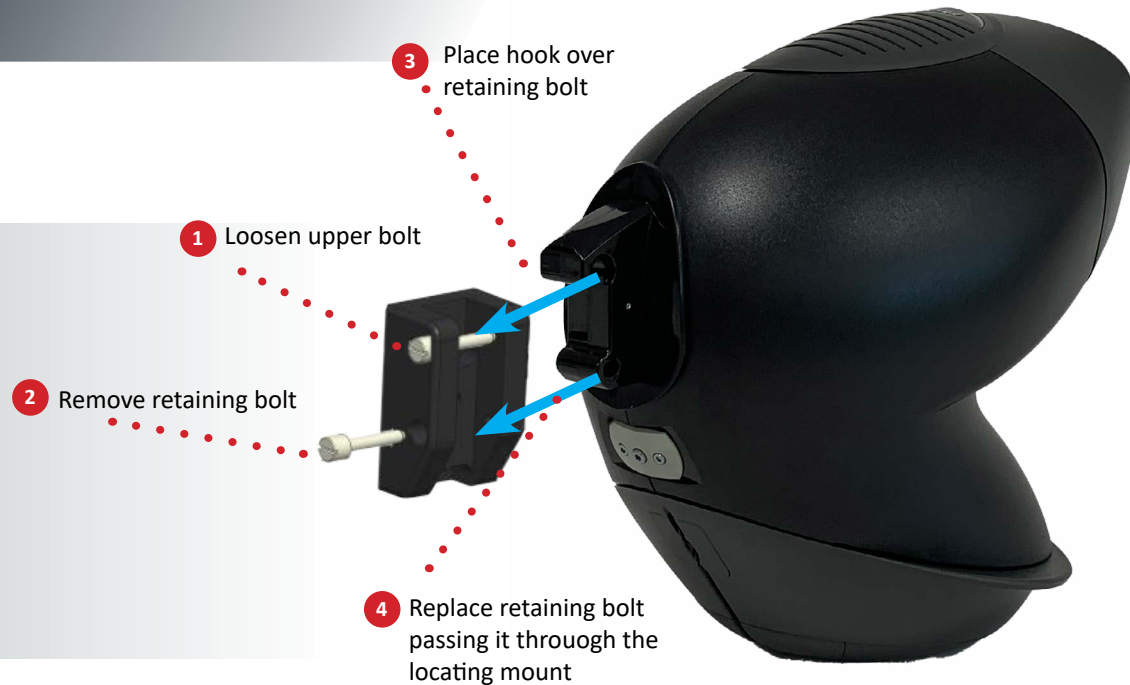
## TRACK / CRESCENT STAND



### ATTACHING COLUMN TO BASE

1. Screw base plate to column using 4 screws provided
2. Fit adaptor bracket to focus block using 3 screws provided
3. Mount the head onto the stand (see mounting instructions)

# MOUNTING OPTA TO A STAND



## MOUNT OPTA HEAD TO A STAND

1. Loosen the upper retaining bolt in the universal arm.
2. Remove the lower retaining bolt.
3. Carefully place the locating hook of the viewing head over the upper retaining bolt of the universal arm.
4. Replace the lower retaining bolt, ensuring that the bolt passes through the lower locating mount of the viewing head.
5. Tighten the upper and lower retaining bolts.
6. Ensuring the power adapter is suitable for your supply voltage, connect the power adapter plug to a suitable power outlet and its output connector to the base of the universal arm.
7. Connect the output lead at the top of the universal arm to the rear of the viewing head.

 **Do not attempt to connect the 9V Universal Standpower adapter directly to the viewing head.**

# OPERATION

## OVERVIEW

Turn on the power switch and place the subject beneath the viewing head.

## FOCUS

The aim of the Universal Arm is that the height of the instrument is set to a comfortable viewing position and the subject is then lifted (normally by hand) into focus. Thus maintaining optimum ergonomics.

To set the height of the instrument, ensure the friction clamp is loosened then move the viewing head up or down until the required viewing position is obtained and tighten the friction clamp.

For the Track Stand adjust the focus by turning the focus knob on the side of the stand. Left handed or right handed operation.

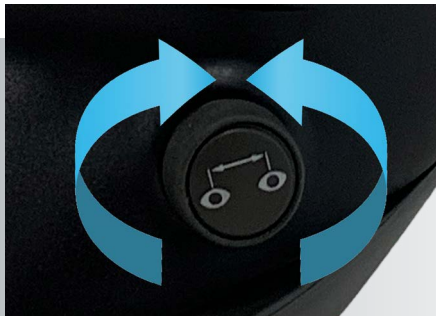
## CHANGING LENSES

To change the objective lens, twist and remove lens. Store the lens in the supplied container.

Fit and lock the chosen objective lens into the objective seat.



# USER COMFORT



## ADJUSTING THE HEAD EYE SPACING

Adjust the IPD (Interpupillary distance) knob on the side of the head to obtain a comfortable stereo view. Slowly turn the knob until the subject being viewed can be seen comfortably in both eyes.

Adjusting the eye spacing is very important for viewing comfort and must be adjusted for each user.

## ERGONOMIC VIEWING

An ergonomic posture will ensure that users fully benefit from the advantages provided by the optical technology.

When setting up your , firstly arrange your workspace, paying attention to the heights of the seat and worktop.

Adjust the height of the system so that you can look directly into it with a straight back and shoulders.



# GENERAL CARE

## CARING FOR YOUR OPTA

### CLEANING

- When not in use, cover your with the dust cover provided.
- Remove dust with a soft brush or cleaning cloth.
- The lenses should be cleaned with a lens cleaning cloth.
- Keep accessories in a dust-free environment when not in use.

### SERVICE

Service and repair work must only be carried out by service engineers authorized by Vision Engineering.

### ROUTINE MAINTENANCE

#### DESICCANT- REPLACEMENT PART NUMBER: M006

The desiccant removes excess moisture from the optical head.

- Disconnect the power supply from the bottom of the head or stand.
- Remove the screw securing the desiccant cover and lift the cover off.
- **Insert the new desiccant and replace the desiccant cover.**

#### LED ARRAYS - REPLACEMENT PART NUMBER: MCLED001B

- Remove the desiccant cover.
- Remove the two crosshead screws that secure the LED array and remove the array complete with filters.
- **Reassembly is the reverse of this procedure.**

# TROUBLESHOOTING

## **NO POWER**

Check that jack plug is fully home in the socket.

## **IMAGE LOOKS BLURRED**

- The lens could be dirty. The lens can be cleaned gently with a soft, dry cloth. A damp or course cloth can damage the coating and polished surface on the lens.
- Ensure the objective lens is properly housed in the head.

## **IMAGE CAN ONLY BE SEEN IN ONE EYE**

- Adjust your head so you are looking directly into the viewing area of the unit .
- Use the IPD adjuster on the side of the unit to optimize for the user's eye spacing

## **REFLECTIONS CAN BE SEEN WITHIN THE HEAD**

- Position the system to reduce strong sources of light from behind the user.

**ADDITIONAL SUPPORT CAN BE FOUND AT: [www.visioneng.com/support](http://www.visioneng.com/support)**

# SERVICE RECORD

SERVICE	COMMENTS	DATE OF SERVICE	NEXT SERVICE DATE	COMPANY	SIGNATURE

# WARRANTY

This product is warranted to be free from defects in material and workmanship for a period of 12 months from the date of invoice to the original purchaser.

If during the warranty period the product is found to be defective, it will be repaired or replaced at facilities of Vision Engineering or elsewhere, all at the option of Vision Engineering. However, Vision Engineering reserves the right to refund the purchase price if it is unable to provide replacement, and repair is not commercially practicable or cannot be timely made. Parts not of Vision Engineering manufacture carry only the warranty of their manufacturer. Expendable components such as fuses carry no warranty.

This warranty does not cover damage in transit, damage caused by misuse, neglect, or carelessness, or damage resulting from either improper servicing or modification by other than Vision Engineering approved service personnel. Further, this warranty does not cover any routine maintenance work on the product described in the user guide or any minor maintenance work which is reasonably expected to be performed by the purchaser.

No responsibility is assumed for unsatisfactory operating performance due to environmental conditions such as humidity, dust, corrosive chemicals, deposition of oil or other foreign matter, spillage, or other conditions beyond the control of Vision Engineering.

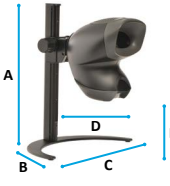
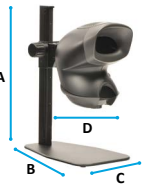
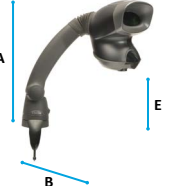
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# SPECIFICATIONS

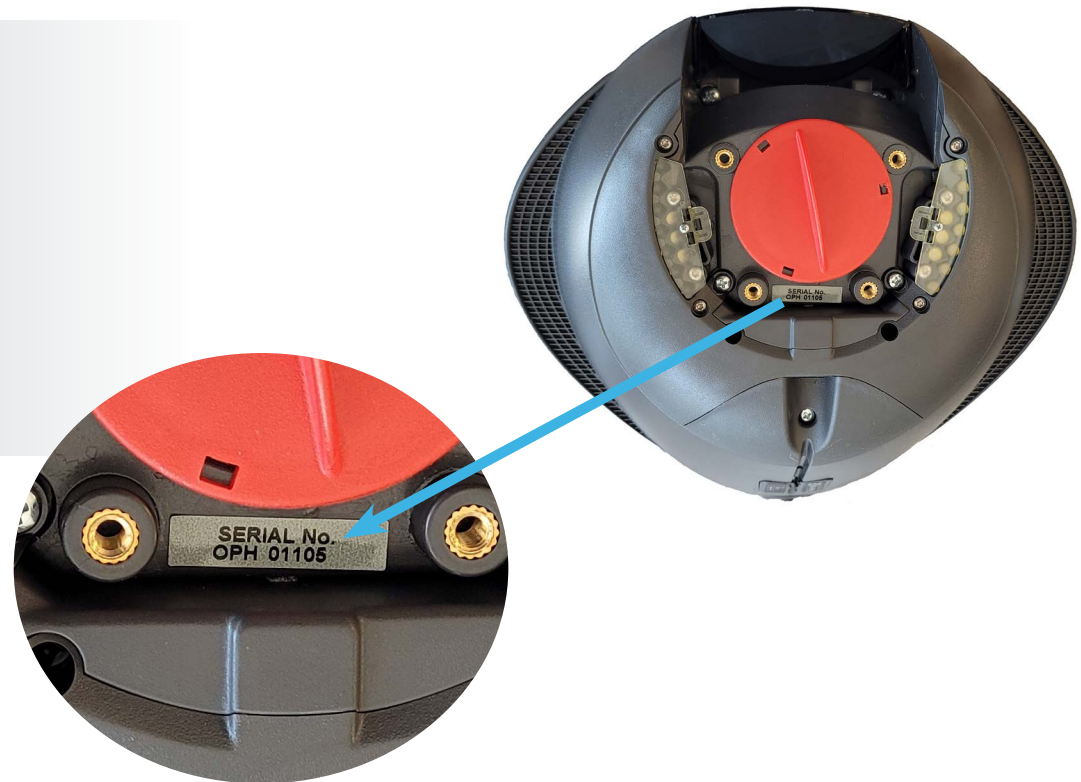


Objective Lenses			
Objective Lenses	Working Distance	Field of View	
x4	96mm	27.5mm	
x6	73mm	19.2mm	
Power Supply			
9V DC external plug transformer (Universal Stand)			
5V DC external plug transformer (Direct Head connection for Track Stands)			
Illumination Data			
LUX intensity measured at subject plane with colour correction filters.			
Source	Brightness	Colour Temperature	Life
20 LEDs	9.400	~7000k	up to 10,000 hours

Stand Options			
	Crescent Stand	Track Stand	Universal Arm
Maximum Dimensions			
	<b>A</b> Workbench to top of head	533mm	533mm
<b>B</b> Length	250mm	406mm	454mm
<b>C</b> Width	500mm	250mm	-
<b>D</b> Throat, optical axis to column	240mm	240mm	-
<b>E</b> Work surface to bottom of head	297mm	285mm	320mm
Base Height	-	12mm	-

# SERIAL NUMBER

The images below indicate where you can find the serial number on each OPTA head.



# SYSTEM OPTIONS



MOS001  
MOS002



MOS003  
MOS004



MOS005  
MOS006

## Part Numbers

MOS001	OPTA + X4 obj	crescent base track stand kit
MOS002	OPTA + X6 obj	crescent base track stand kit
MOS003	OPTA + X4 obj	plain base track stand kit
MOS004	OPTA + X6 obj	plain base track stand kit
MOS005	OPTA + X4 obj	universal stand kit
MOS006	OPTA + X6 obj	universal stand kit



Vision Engineering Ltd. has been designing and manufacturing high quality ergonomic microscopes, digital instruments, inspection and non-contact measuring systems for over 60 years.

Vision Engineering has a network of offices and technical distributors around the world. For more information, please contact your Vision Engineering branch, local authorised distributor, or visit our website.

**www.visioneng.com**

**Regional Support Websites**

- [www.visioneng.com/support](http://www.visioneng.com/support)
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