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# Mantis

## **User Guide**

Compact & Elite with Universal Stand



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## Health & Safety



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).

### Electrical Supply

Stand Input Voltage: 9VDC 1.7A

Power Supply Voltage (via plug top power supply) : 100-240VAC 50-60HZ 1.0A Max

### Environmental Conditions

Indoor use

Altitude up to 2000m

Operating Temperature: 0°C - +40°C

Storage Temperature: 0°C to + 50°C for 3 months without any adverse effects

Maximum relative humidity 80% for temperatures up to 31°C decreasing linearly to 50% relative humidity at 40°C.

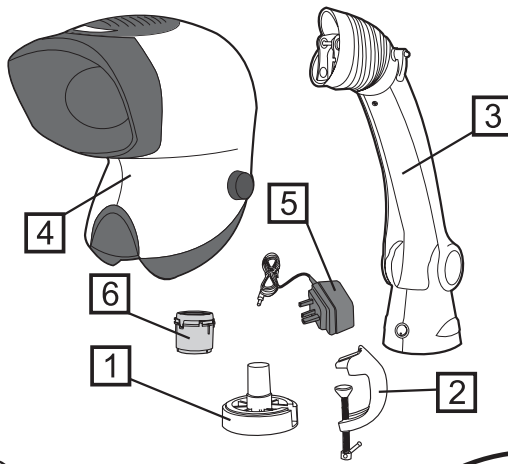
Mains voltage supply fluctuations not to exceed 10% of the nominal voltage

If equipment is not used in a manner as specified, protection provided by the equipment may be impaired.

The product should be located such that the Power Supply can be unplugged in the event of an emergency.

## Packing Contents

- ① Universal mount
- ② G-clamp
- ③ Counter balanced boom stand
- ④ Viewing head
- ⑤ Power adapter
- ⑥ Objective lens



## Assembly

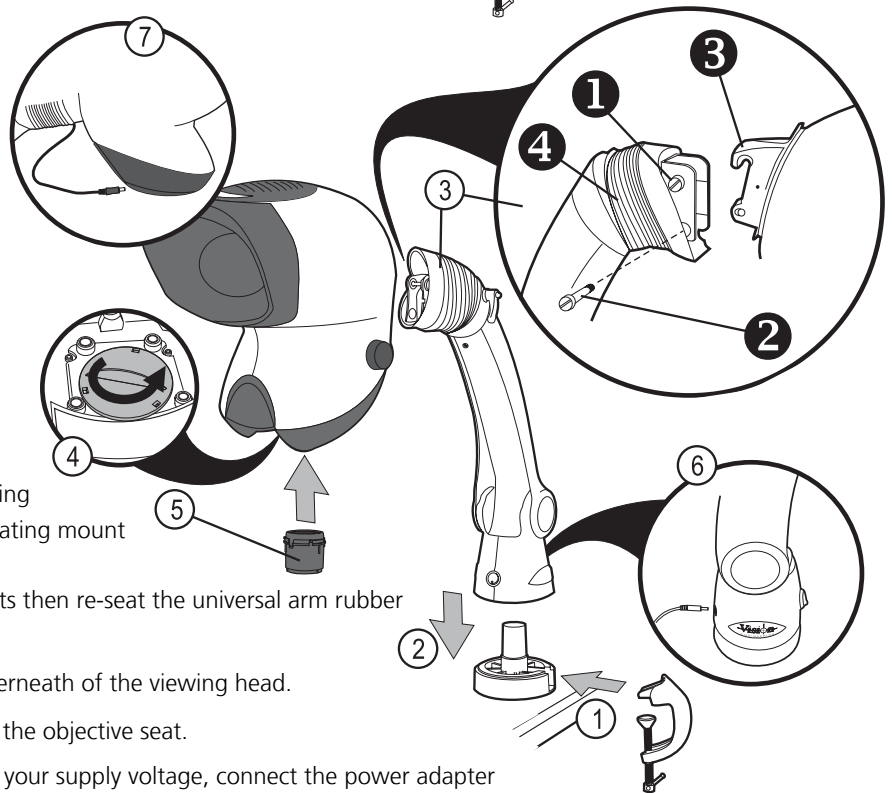
- ① Secure the universal mount to the work surface using the G-clamp provided or by using appropriate screws located in the holes of the mount.
- ② Place the universal arm on top of the universal mount and lower it on to the spigot until it is fully mounted.
- ③ Loosen the upper retaining bolt ① in the universal arm. Remove the lower retaining bolt ②. Carefully place the locating hook of the Mantis viewing head ③ over the upper retaining bolt of the universal arm.

Replace the lower retaining bolt ②, ensuring that the bolt passes through the lower locating mount of the Mantis viewing head.

Tighten the upper and lower retaining bolts then re-seat the universal arm rubber gaiter ④.

- ④ Remove the red transit plug from the underneath of the viewing head.
- ⑤ Fit and lock the chosen objective lens into the objective seat.
- 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 power adapter directly to the viewing head.**



## Routine Maintenance

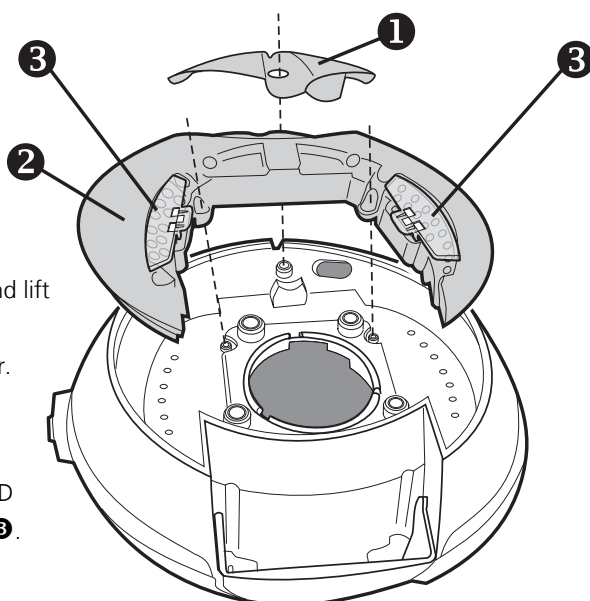
### Desiccant Replacement

The desiccant removes excess moisture from the optical head.

- ▶ Disconnect the power supply from the bottom of the head.
- ▶ Remove the screw securing the desiccant cover ① and lift the cover off.
- ▶ Insert the new desiccant and replace the desiccant cover.

### LED Arrays

- ▶ Remove the desiccant cover ①.
- ▶ Remove the two crosshead screws that secure the LED array ② and remove the array complete with filters ③.
- ▶ Reassembly is the reverse of this procedure.



## Operation

### Overview

Turn on the power switch **1** and place the subject beneath the Mantis viewing head.

### Focus

The aim of the universal stand products 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 **2** is loosened then move the viewing head up or down until the required viewing position is obtained and tighten the friction clamp.

### Eye Spacing

Adjust the eye spacing control **3** to obtain a comfortable stereo view.

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

### Changing Lenses

To change the objective lens, twist and remove lens **4**. Store the lens in the supplied container.

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

### Head Counterbalance

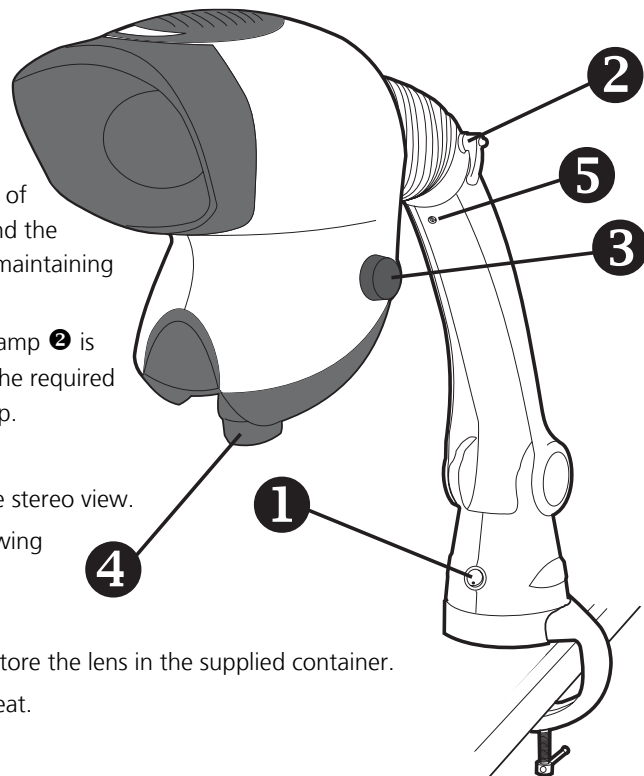
When a lens has been changed, it may be necessary to adjust the head counterbalance. Adjust the counterbalance screw **5** (clockwise for lighter lenses or counter-clockwise for heavier ones) until the viewing head does not drift up or down when unsupported.

### Ergonomic Viewing

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

In setting up your Mantis, firstly arrange your workspace, paying attention to the heights of the chair and table.

When seated with a straight back, your eyes should be comfortably lined up with the Mantis viewing head. Forearms should be supported by the work surface.



## General Care

- ▶ When not in use, cover your Mantis with the dust cover provided.
- ▶ Remove dust with a soft brush or cleaning cloth.
- ▶ The Mantis 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 authorised by Vision Engineering.

## Warranty

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

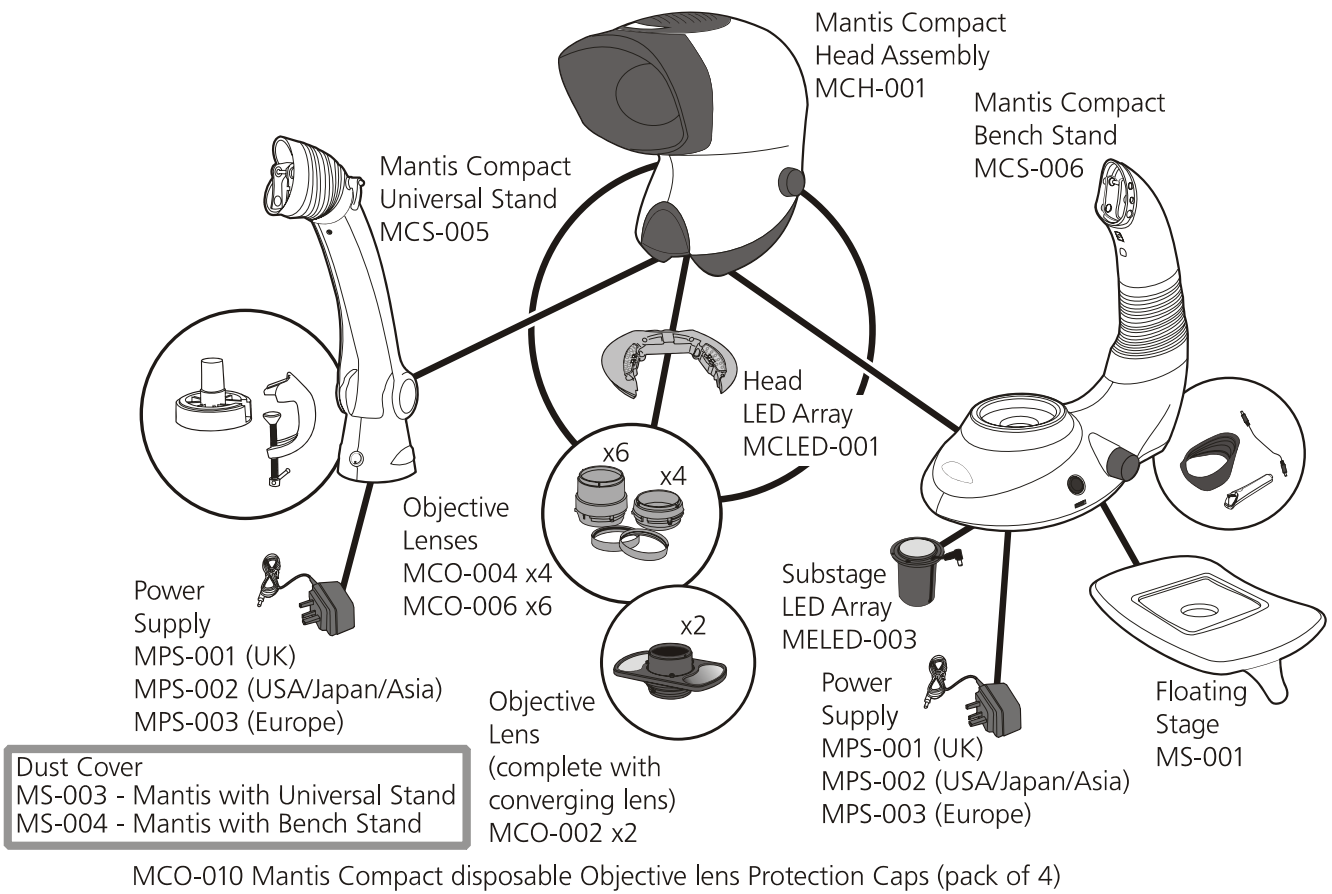
If during the warranty period the product is found to be defective, it will be repaired or replaced at facilities of Vision Engineering or elsewhere, all at the option of Vision Engineering. However, Vision Engineering reserves the right to refund the purchase price if it is unable to provide replacement, 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.

Except as stated herein, Vision Engineering makes no other warranties, express or implied by law, whether for resale, fitness for a particular purpose or otherwise. Further, Vision Engineering shall not under any circumstances be liable for incidental, consequential or other damages.

# Mantis Compact Product Family



## Specification

Objective Lenses		
Objective Lenses	Working Distance	Field of View
x2	167mm	45.0mm
x4	96mm	27.5mm
x6	73mm	19.2mm

Lighting Data		
LUX intensity measured at subject plane with colour correction filters.		
20 LEDs	9,400 LUX	10,000 hours

Power Supply
9V DC external plug transformer

Accessories
Lens protection caps Floating Stage (for bench stand) Dust Cover Replacement LED Array