

### Troubleshooting

#### LED illumination cuts out and resets repeatedly

- The LED illumination does not fade, but the protective circuit breaker keeps switching off (and resetting) when the Power Pack requires recharging. See section on 'Charger'.
- LED's rarely need replacing, but if this is necessary it must be done by VorOtek.

#### Power Pack will not charge

- See section on 'Charger'.

#### SpecFrame damage

- Most problems can be dealt with by an optometrist e.g. missing screws, new nose pads and bent frames
- For SpecFrame replacement contact VorOtek.

#### For all other questions contact VorOtek.

### Cleaning

- Unplug the VorOtek Scope or Light from power source prior to cleaning.
- Visually inspect the VorOtek Scope or Light for soiling.
- Remove all visible soiling by first wiping external surfaces & cables with a soft cloth slightly dampened with mild detergent and water (mixed to the manufacturer's instructions).
- Wipe all external surfaces\*, including Headband model leather covers & velcro straps using a soft cloth slightly dampened with 70% isopropyl Alcohol (IPA).  
\*SpecFrame model cables should be wiped with a hospital approved disinfectant wipe.
- Allow all surfaces to air dry for at least 60 seconds.
- Re-wipe all surfaces with a lint free soft cloth to remove any residue from cleaning products.
- Ensure all surfaces & cables are dry before operating the VorOtek Scope or Light.
- Caution: Do not immerse or saturate any component of the VorOtek Scope or Light in a cleaning solution.
- Caution: Do not autoclave any component of the VorOtek Scope or Light.

### Maintenance

- Caution: No modification of this device allowed.
- Before every procedure, carefully inspect the VorOtek Scope or Light to ensure it is fully functional. DO NOT use if inspection reveals any damage.
- The VorOtek Scope & Light Range does not require any other routine maintenance.
- For repair or warranty, refer to the support & repair page on VorOtek's website.

### Environmental Conditions

- Operation: 10-35°C; 30-75% Humidity; 700-1060 hPa
- Storage: 5-45°C; 45-80% Humidity; 500-1060 hPa
- Transport: -20-50°C; 45-80% Humidity; 500-1060 hPa

### Warranty

- **Scopes & Lights** - 3 years for any component defect or manufacturing failure.
- **Power Pack** - 18 months for any component defect or manufacturing failure.
- Warranty does not cover abuse, misuse, transit damage or normal wear and tear.
- Please contact VorOtek prior to sending for repair.

### Disposal

- VorOtek Scopes and Lights must be recycled or disposed of as separated electrical and electronic devices. Please observe the relevant country or state-specific disposal regulations

### Notices & Precautions

- Should a serious incident occur while using the device please report the incident to the manufacturer (VorOtek) and the competent authority of the Member State in which the user and /or patient is established.
- Only to be used by qualified health professionals.
- Do not use in the presence of flammable anaesthetics.
- Do not expose electrical equipment to liquids or excessive moisture.



## VOROTEK

23 Point Henry Road  
MOOLAP VIC 3224, Australia  
T +61 3 5248 5809  
E [office@VorOtek.com.au](mailto:office@VorOtek.com.au)  
[www.VorOtek.com](http://www.VorOtek.com)



EMERGO EUROPE  
Prinsessegracht 20  
2514 AP The Hague  
The Netherlands

IFU-003-M Scope TechMan-R8

# MSCOPE

INTEGRATED MAGNIFIERS AND LED ILLUMINATION

## Technical Manual

### LED Illumination

- High efficiency LED (Light Emitting Diodes) rated at 50,000 hours operating life.
- 5,700 Degrees Kelvin Colour Temperature(Daylight).
- Caution: Hot surface. Avoid direct skin contact with aluminium heat sink during extended periods of use.
- Caution: Do not look directly into the LED Light.


### Dimmable Illumination

The dimmer switch is located on the cable near the Power Pack Plug. (Refer to Figure 1)  
The dimmer function provides 8 levels of illumination with "H" being the highest .

**Dimming:** Press the "+" or "-" button on the dimmer switch to select the preferred level of illumination.

**ON/OFF function:** Click & hold either button on the dimmer switch for 2 seconds to turn illumination "on" or "off" at the selected level.

Figure 1. Dimmer Switch

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- LCD Display
  - Increase Illumination
  - Decrease Illumination

### Magnification

The VorOtek M Scope is supplied with three interchangeable plate magnifiers (2, 4 or 6 diopter)

### Power Pack

- Power Packs are Lithium Ion: 11.1 Volts, 2,900 mAh.
- The Power Pack delivers 7hrs to >20hrs "on time" depending on illumination level.

- Caution: Only use approved Power Packs supplied by VorOtek.
- The Power Pack features short circuit protection and charging control circuitry.
- Two position switch - ON/OFF.
- Designed to be worn in the breast pocket or to be clipped to a belt. It can also be clipped to the back of a surgical gown.
- Caution: Do not expose the Power Pack to heat, fire or mechanical shock
- Caution: Do not open or dismantle the Power Pack.
- Caution: Only use approved Power Packs supplied by VorOtek.

### Charger - Charging Power Pack

- Connect Power Pack to Charger.
- The Power Pack can be charged in either the ON or OFF position.
- RED INDICATORS – Charging (takes up to 5 hours).
- GREEN INDICATORS – 100% Charged.
- Charging is best done overnight, frequently and before the Power Pack runs flat.
- Caution: Use the supplied 12.6V Charger only.
- Caution: Do not attempt to operate the Charger if the cord and/or plug appear to be damaged.
- Caution: Do not use Charger in the patient vicinity.

### Set Up

#### Attaching Plate Magnifiers

- To attach a plate magnifier (2, 4 or 6 diopter), insert one end of the plate into one end of the mounting bracket. Then gently push the other end of the mounting bracket out wards and insert the other end of the plate. Ensure the curved side of the plate is facing the patient & the flat edge of the plate is facing down.

#### Removing Plate Magnifiers

- To remove a plate magnifier gently push one side of the mounting backed outwards and remove the plate.

NOTE: The flat surface of the magnifier should face the user

### Rotating Bracket Tension Adjustment

The rotating bracket can be tightened or loosened by rotating the hex screw (see fig 2) left (loosen) or right (tighten) with a hex driver.



Figure 2. Tension Adjustment

### Tilt Adjustment – HeadBand Model

If the magnifiers are tilted, adjust the HeadBand position until level.

### Tilt Adjustment –SpecFrame Model

If the magnifiers are tilted, adjust the nose pads & temple tips/arms on the SpecFrame until level.

### Height Adjustment - HeadBand Model

The height of the illumination system is adjusted by moving the HeadBand up or down on the forehead.

### Height Adjustment -SpecFrame Model

The height of the illumination system is adjusted by moving the system up or down on the SpecFrame bracket:

- Loosen the screw that connects the illumination system to the SpecFrame bracket by 1 turn and adjust the height.
- Do not leave screw loose, always re-tighten.

### HeadBand Bracket Adjustment

The HeadBand mounting bracket has 2 adjustable links allowing separate adjustment of the angle of declination and forward positioning of the magnifiers / illumination system.

### SpecFrame Toggle

The toggle on the cable lead should be used for all lengthy procedures, e.g. Operating to:

- Prevent SpecFrame sliding down the nose when head is tilted down.
- Take pressure off the nose.

### Working with Corrective Lenses

Corrective Lenses can be fitted to the SpecFrame of the M Scope by an Optometrist.

- There is no need to unscrew the illumination system or dismantle the M Scope in any way, other than the frame screws for the lenses.

### Reading Lenses (used for close work)

- Should be fitted to the SpecFrame Model.
- The HeadBand model should be used over the individuals own corrective spectacles.
- When reading lenses are installed and used, the working distance becomes closer.

### Bifocal Lenses

- Can be fitted effectively, so long as the plate magnifiers sit in front of the reading section and below the distance section.
- To achieve this, the reading section must be larger (i.e. lower two thirds) and the distance section must be smaller (i.e. upper one third only).
- The height of the nose bridge may need to be adjusted to sit the SpecFrame higher on the face. This extra frame height allows lower positioning of the plate magnifiers so that they are in front of the reading section.
- Alternative nose bridges are available from most optometrists

### Multifocal Lenses

- Are best avoided because it is difficult to achieve sharp focus.

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