

### 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 is 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 or transit damage.
- 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.



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## LED Illumination

- High efficiency LED (Light Emitting Diodes) are rated at 50,000 hours operating life.
- 5,700 Degrees Kelvin Colour Temperature (Daylight).
- Colour Rendering Index: CRI 75.
- 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 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



## 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.
- 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 Interpupillary Distance (IPD) Adjustment – Loupes

The IPD can be adjusted by slightly loosening the screw caps so that the loupe pods can slide left and right in the slots of the bracket.

- Slide loupe pods to suit your IPD.
- Once adjusted, tighten the screw caps finger tight so that the loupe pods have zero movement.

## Tilt Adjustment - HeadBand Model

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

## Tilt Adjustment - SpecFrame Model

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

## Height Adjustment - HeadBand Model

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

## Height Adjustment - SpecFrame Model

The height of the converged binocular / 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.

## Illumination Adjustment

If the light spot seems too high, the height adjustment will be too low. (i.e. the user is looking down through the loupes and below the light spot) The loupes will need to be positioned higher to correct.

If the light seems too low the reverse will apply. See 'Height Adjustment'.

## HeadBand Bracket Adjustment

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

- The loupes must be positioned as close to the eyes as possible i.e. almost touching the nose or spectacles.
- If the loupes are not in use (rotated up) then the illumination can be angled further downwards.

## 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 L Scope by an Optometrist.

- There is no need to unscrew the illumination system or dismantle the L 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, the working distance becomes closer.

## Bifocal Lenses

- Can be fitted effectively, so long as the loupes 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 loupes 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.

## 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.**