

OPERATING INSTRUCTIONS



OPERATING INSTRUCTIONS

Zeon® Portable LED

Congratulations on your purchase of the Zeon Portable LED, a high-performance lighting unit using the latest LED technology.

Before operating the unit, please read these instructions carefully. Following these procedures will ensure that you will receive the maximum life and functionality from the Zeon Portable LED's components.

Table of Contents

1.	Zeon Portable LED Components	2
2.	Unit Controls	3
3.	Battery Charging Process	3
4.	Potential Battery Charging Issues	4
5.	Battery Conditioning	4
6.	Using the Zeon Portable LED	4
7.	Technical Data	5
8.	Safety Instructions	5
9.	Disposal Instructions	6
10.	Cleaning the Lamp	6
11.	Troubleshooting	7
12.	Part Numbers	7
13.	Limited Manufacturer's Warranty	8
	APPENDIX A – Zeon Portable LED Cable Guide	9

OPERATING INSTRUCTIONS

Zeon® Portable LED

1. Zeon Portable LED Components

Check that the following components have been included in the shipping package:

- **Control Unit**

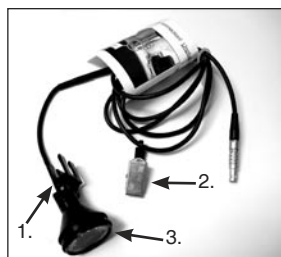
Contains an integrated high-performance battery pack and mounting clip. The image to the right shows the front of the Control Unit.



- **LED Lamp**

Mounted on a cable with a loupe clip and a Gown clip.

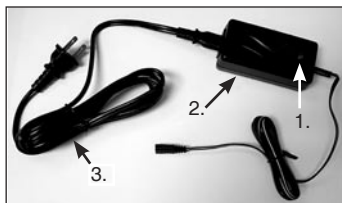
1. Loupe Clip
2. Gown Clip
3. Lamp



- **Power Supply/Battery Charger**

1. Indicator Light
2. Power Supply/Battery Charger
3. Power Cord

NOTE: Compatible power cords are available for the US/Japan, Euro, UK, and Australian electrical systems. See section 12.



- **Protective Cover**

Serves to protect the control unit.



If any of these components have been removed from the package or have been damaged in shipping, please contact your Orascoptic distributor. Part numbers for all the listed components, including the various power cords, are included in **Section 12: Part Numbers**

OPERATING INSTRUCTIONS

Zeon® Portable LED

2. Unit Controls

1. On/Off button

Press to activate. The unit is on when the button is lighted.

Note: The unit is shipped with a shipping protector over the button that must be removed before use.

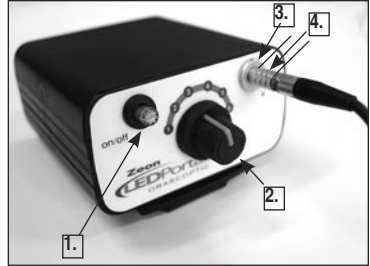
2. Brightness control switch

Controls the intensity of the LED discharge. "1" is the lowest intense and "6" is the highest intensity. The life of the battery is greatest at the lowest setting and battery life decreases as the intensity is raised.

3. LED cable connection socket

Note: The red dot on the cable connector must be lined up with the red dot on the socket.

4. To remove the LED cable from the unit, **pull on this section of the plug**. The plug is designed to lock the cable into the control unit and insure it cannot be disconnected by accident. The illustrated section of the plug is the locking actuator, **pull on only this section of the connector to remove the cable**.



5. Power Supply/Battery Charger Socket

Note 1: When the protective cover is properly installed, the battery charger socket will be visible through the grommet on the closed end of the cover.

Note 2: If the batteries are low, the unit can be powered by the Power Supply/Battery Charger.

3. Battery Charging Process

The Nickel Metal Hydride (NiMH) battery included with the Control Unit is not fully charged, as received from the factory. Please use the following procedure to fully charge the battery before use:

1. Plug the battery charger into the wall socket.
2. Connect the battery charger to the back of the Control Unit.
3. During the first stage of charging, the battery charger light will be orange until the unit switches to fast-charge mode, at which point the light will turn red.
4. When the cells are fully charged, the battery charger light will be green with short, intermittent orange flashes, indicating that the charger is fully charged.
5. When the battery is fully charged, the battery charger light will turn green and the charger will be in trickle-charge (maintenance) mode. The battery is now ready for use (the entire charging process should take approximately 6 hours).

OPERATING INSTRUCTIONS

Zeon® Portable LED

4. Potential Battery Charging Issues

1. If power is lost to the battery charger before the charging cycle is complete, the charger will start a new charge cycle when power is restored.
2. If the safety timer, built into the charger, disconnects before charging is complete, the charger will go to the trickle-charge mode and, if the battery is close to its normal charge, the battery charger LED will turn green. If the charge on the battery is far below normal, the battery charger LED will turn red, indicating that an error has occurred. If it turns red, disconnect the charger, wait one minute, then reinitiate battery charging.

5. Battery Conditioning

To condition a new battery, a process that allows the battery to achieve its maximum capacity, allow a fully charged battery to be completely discharged and recharged 3 times during normal use before recharging a partially-discharged battery. When the battery is fully conditioned, the unit can be operated while the battery charger is connected to the unit. To increase the working life of the battery, it is also necessary to fully discharge the battery at least every three months. It may take the battery approximately 6 hours to discharge at the highest intensity to approximately 13 hours at the lowest intensity.

For optimal use, the batteries should be used and charged between ambient temperatures of 60°F and 80°F (15°C and 25°C).

6. Using The Zeon Portable LED

1. Attach the LED lamp to the loupe frame, per the instructions in **Appendix A**.
2. Install the cable into the cable guide, also per the instructions in **Appendix A**.
3. Mount the loupe on your head in its working position.
4. Using the supplied gown clip, attach the cable to a piece of clothing so that the cable will not interfere with the vision or operating procedures of the user.
5. Attach the cable to the Control Unit as previously described.
6. Remove the protective cap (if still attached) from the on/off button and press the button to turn the light on. The on/off switch will glow green when the LED is on.
7. Adjust the intensity by turning the switch to the desired intensity (1 is low and 6 is high).

Battery life varies depending on the intensity selected.

OPERATING INSTRUCTIONS

Zeon® Portable LED

7. Technical Data

Reflector Lamp weight:	Approximately 20g
Control Unit weight:	350g
Reflector Lamp diameter:	Approximately 30mm
Control Unit dimensions:	Approximately 75mm x 90mm x 50mm (W x H x D)
Voltage/capacity:	4.8V DC / 4500 mA-H
Battery type:	NiMH storage battery
Battery charge time:	Up to 6 hours
Lighting period:	Up to 6 hours at full intensity, longer at lower intensity
Lighting intensity:	Up to 2300 foot-candles (23,000 lux) measured at a distance of 30 cm (11.8 inches)

8. Safety Instructions

1. To avoid the risk of an explosion, the battery charger may only be used with the supplied storage battery.
2. To avoid the risk of permanent harm, which may include blindness, do not shine the light directly into the eyes. People that have a vision risk should wear protective lenses.
3. Do not put the control unit into a fire.
4. The control unit and battery must only be used for their intended purposes.
5. Do not short-circuit the battery (connect the two battery contacts with a conductor).
6. Only use batteries and a battery charger approved by the manufacturer.
7. Unplug the charger from the control unit when not in use.
8. Unplug the charger from the electrical wall socket when not in use.
9. Never attempt to use faulty battery chargers or control units.
10. The battery charger may only be used indoors.
11. Do not use the control unit or the battery charger if the casings or plugs are damaged.
12. Never open the case of either the battery charger or the control unit.

OPERATING INSTRUCTIONS

Zeon® Portable LED

9. Disposal Instructions

Please recycle faulty control units and batteries in the normal manner prescribed by your country.

10. Cleaning the Lamp

The lamp is a precise optical instrument that has been manufactured using high-quality components. Proper maintenance is necessary to keep the unit operating as designed.

When cleaning the lens, use a soft, clean, and dry cloth. Before wiping the lens, remove any particulate matter by using a brush designed for use with camera lenses (these may come with squeeze-bulbs that blow the particulates off of the lens), or gently brush the cloth across the lens. When free of particulate matter, moisten the cloth with glass cleaner and gently clean the lens using circular motions.

- Do not immerse the product in any liquids because the product is not waterproof.
- Never spray the lens with a lens-cleaning solution.
- Never use aggressive solvents or petroleum distillates to clean the lens.
- Use the following guidelines when using disinfectant wipes:
 - All plastic parts may be wiped with Caviwipes® following the directions on the package. DO NOT use CaviCide® on the LED lens.
 - Do not use: denatured alcohol, Lysol®, phenol, ammonia complex, or iodine complex solutions.
 - Wipe, do not spray, solution onto plastic parts. Prevent liquids from entering openings on unit.
- Never sterilize the product in either an autoclave or chemiclave process.

Direct any questions to Kerr-Middleton-Orascoptic using the following telephone and FAX numbers:

- Toll Free: 800-369-3698
- Telephone: 608-831-2555
- FAX: 608-828-5265

OPERATING INSTRUCTIONS

Zeon® Portable LED

11. Troubleshooting

Problem	Solution
1. The control unit is on, but the lamp doesn't light.	<ul style="list-style-type: none">• Check that the lamp is properly connected to the control unit.• Charge the battery.
2. The on/off switch and the lamp do not light.	<ul style="list-style-type: none">• Charge the battery.
3. The red light on the battery charger is flashing, indicating a charging error.	<ul style="list-style-type: none">• Disconnect the charger from the control unit and re-connect the charger to the control unit.• If the problem is not fixed, contact Kerr-Middleton-Orascoptic for repairs.
4. The lamp is not bright enough.	<ul style="list-style-type: none">• Turn the level switch higher.• The battery power may be weak. Charge the battery.

12. Part Numbers

Replacement parts are available from Kerr-Middleton-Orascoptic using the following telephone and FAX numbers:

- Toll Free: 800-369-3698
- Telephone: 608-831-2555
- FAX: 608-828-5265

Available parts

AL-BATTE-PTLED-001	Control Unit
AL-CHARG-PTLED-002	Power Supply/Battery Charger
AL-CCORD-PTLED-001	Charger cord 110VAC U.S./Canada/Japan
AL-CCORD-PTLED-EU1	Charger cord 230VAC Euro
AL-CCORD-PTLED-UK1	Charger cord 230VAC U.K.
AL-CCORD-PTLED-002	Charger cord 230V Australia
AL-BATCP-PTLED-001	Replacement Battery Clip with screws

OPERATING INSTRUCTIONS

Zeon® Portable LED

13. Limited Manufacturer's Warranty

Kerr Corporation, warrants the Orascoptic Zeon LED Portable Source, when new, to be free of defects in material and workmanship, as a limited warranty, and to perform in accordance with manufacturer's specifications, when subject to normal use and service from Kerr Corporation or its authorized agent for a period of one year from the date of purchase (the "Warranty Period"). The Warranty Period begins on the original date of purchase.

At its sole discretion, Kerr Corporation will either repair or replace the complete product with either a new or refurbished equivalent product, or repair or replace any components found to be defective, excluding the lamp and fuses, FOB at the Kerr Corporation facility in Middleton, Wisconsin, USA. It shall be the purchaser's responsibility to return the product, in appropriate packing materials, so as to prevent accident breakage in transit, and sufficiently cleaned and disinfected, directly to Kerr Corporation. Kerr Corporation reserves the right, at its sole discretion, to refuse to repair or replace the product if the product is deemed to be unsanitary. It will be the responsibility of the purchaser to arrange for the product to be returned to the purchaser for appropriate cleaning and sanitation, and the purchaser shall be responsible for all shipping charges.

This Warranty does not cover the LED Lamp, or breakage or failure due to tampering, misuse, neglect, accidents, improper installation, modification, shipping, or to improper maintenance, service or cleaning procedures. This Warranty is also void if the Zeon LED Portable Source is not used in accordance with manufacturer's recommendations or instructions, if serviced by other than Kerr Corporation or its authorized agent, or if the serial number has been removed or altered in any way.

In no event shall Kerr Corporation's liability be greater than the original purchase price of the product. Nor shall Kerr Corporation be held liable for consequential or special damages, or for transportation, installation, adjustment or other expenses, which may arise in connection with such products or parts. This product warranty applies only to customers in the United States of America (USA), Canada or to units sold to and by authorized and approved international dealers. The Warranty is non-transferable and shall only apply to the original purchaser of the product, as exclusively contained in Kerr Corporation's records. THIS WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ALL OTHER STATEMENTS, WARRANTIES OR GUARANTEES, EXPRESS OR IMPLIED, BY Kerr Corporation OR ITS AUTHORIZED REPRESENTATIVE, INCLUDING WARRANTIES WITH RESPECT TO DESCRIPTION, QUALITY, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. The limits and exclusions contained herein shall apply unless otherwise prohibited by applicable law.

Kerr Corporation continuously improves its products as a result of customer feedback. At time of shipment, products may reflect improvements in appearance and function.

OPERATING INSTRUCTIONS

Zeon® Portable LED – APPENDIX A

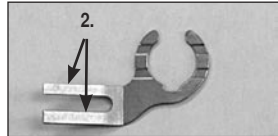
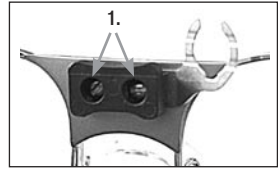
APPENDIX A – Zeon® Portable LED Cable Guide

1. Zeon Cable Assembly

A. Cable Guide

For use on titanium frame

1. Slightly loosen the two screws (1.) in the hinge for flip-up telescopes, or the two screws in the mounting block for through-the-lens (TTL).
2. Slide the two prongs (2.) between the frame and the hinge or block.
3. Tighten both screws (1.) equally to the frame making sure the hinge or block is level.



HiRes™ Flip-Up



TTL's



Dimension-3® Flip-Up
HiRes™ Plus Flip-Up
(Before 1/27/2004)



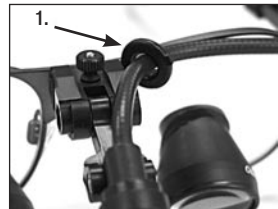
HiRes™ Plus Flip-Up
(Before 1/27/2004)

B. Cable Guide Insertion

Comes attached to the cable

With the cable guide installed, the grommet will need to be secured. Attach Zeon to telescopes (see section 2) then install the grommet into the guide. The grommet is the small circular ring that slides freely around the fiber optic cable.

1. Insert cable grommet into guide by aligning the pins on the grommet with the slots on the cable guide.
2. When aligned, press grommet into the guide.
3. Turn clockwise (90-degree turn) to lock in place.
4. To release cable, turn counter-clockwise and lift grommet out of guide.



OPERATING INSTRUCTIONS

Zeon® Portable LED – APPENDIX A

C. Headband Guide - Comes attached to the headband

- Use on:
- Orasoptic Rigid Headband.
 - Orasoptic Cloth Headband.

Snap the cable into the side (1.) or upper (2.) guides on the headband.



Headband Guides

D. Gown Clips - Comes attached to the cable

Use on: All Mounts.

Attach gown clips (1.) so the cable does not interfere with operating procedures.



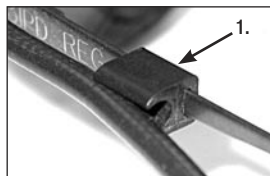
Gown Clip

E. Temple Clips

a. Standard Temple Clip

- Use on:
- Orasoptic Stainless Steel Frame.
 - Orasoptic Titanium Frame.
 - Orasoptic Gargoyle Frame.

1. Place opening on clip at top edge of frames temple arm.
2. Rotate the clip down onto the temple arm until it snaps into place.
3. Push the clip forward until it is snug on the temple.



Standard Temple Clip
Titanium Frame

b. Elastic Temple Clip

- Use on:
- Surgitel Frames.
 - Keeler Frames.
 - Zeiss Frames.
 - Other Frames.
 - DVI Designer Frames.

Insert temple into sleeve on clip. Snap the clip around the cable.



Elastic Temple Clip

OPERATING INSTRUCTIONS

Zeon® Portable LED - APPENDIX A

2. Attaching Cable to Telescopes

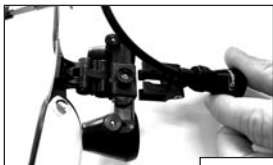
Make sure the cable is on the top of the Clip when attaching to telescopes.

A. U-Clips

Slide the clip over the center of the hinge.

Use on:

- Dimension-3® Flip-Up.
- HiRes™ Plus Flip-Up.
- Surgitel Flip-Up.
- HiRes™ Flip-Up.



B. C-Clip

Use on: HiRes Plus Flip-Up (Before 1/27/2004).

Attach to top center of hinge snapping into place over the two slide screw pins.

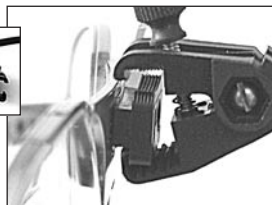


C. J-Clip

Use on:

- All Orascoptic TTL's.
- DVI TTL.
- Keeler Flip-Up.
- Other Frames.

1. Loosen the thumb screw and place the jaws over the mounting block on Orascoptic TTL's.
2. On DVI, Keeler, and other frames, place the jaws over the doublebridge or edge of the hinge.
3. Tighten the thumb screws until secure.



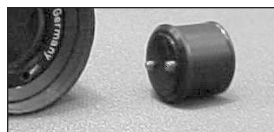
OPERATING INSTRUCTIONS

Zeon® Portable LED - APPENDIX A

D. Z-Clip

Use on: Zeiss Flip-Up

1. Place the supplied machine screws in the larger holes of the Zeiss Mounting Button so that they protrude out the bottom.
2. Locate the two small holes in the front central pivot plate on the Zeiss hinge. Use a small standard screwdriver to screw each machine screw into the small holes in the front central pivot plate. Tighten screws.
3. Loosen, but do not remove, the thumb screw on the mounting ring attached to the Zeon® fiber-optic cable. Slide the Zeiss Mounting Ring onto the Zeiss Mounting Button until it 'snaps' into place.
4. Rotate the fiber-optic light lens and assembly until both the thumbscrews and cable are on the topside of the ocular-mounting hinge. Tighten thumb screw until ring is secure and does not rotate.

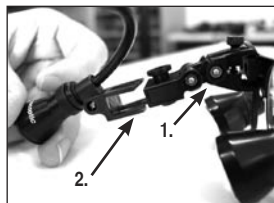


E. Multi-Hinge

Cable must have the U-Clip.

Use: Enables transfer of cable between Dimension-3® Flip-Ups or HiRes™ Plus Flip-Ups, and any Orascoptic TTL or DVI TTL.

Attach the multi-hinge to the TTL telescopes per the J-Clip instructions. Then attach the cable to the opposite end following the U-Clip instructions.



U.S. Technical Support: 800-369-3698

Outside the U.S. Call Your Local Distributor

U.S. Technical Support: 800-369-3698

Outside the U.S. Call Your Local Distributor



Kerr Corporation
3225 Deming Way, Suite 190 • Middleton, WI 53562 USA
Phone: 608-831-2555 • Fax: 608-828-5265

www.orasoptic.com

In Canada: Synca • 800-667-9622

© 2006 Kerr Corporation

Representation for the EU:
Sigma Dental Systems-Emasdi GmbH
Heideland 22
D-24941 Jarplund-Weding
Germany



C 169378 US