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# KEELER STUDENTS

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EST. 1917

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Dear Optometry Students,

We are proud of our long and dedicated relationship with schools of optometry, worldwide. In schools as well as in practices, Keeler is the most recognized ophthalmic brand.

As leaders and pioneers of ophthalmic products for over a century, we continue to design and manufacture instruments in our Windsor, UK facility. We work hard to provide the best possible choice of equipment throughout your career.

I look forward to developing relationships with the next generation of eye doctors, who are critical to the well-being and health of our growing population around the world and to building upon Keeler's founding values.

I wish you all the best in your studies. We will be here for you, now and in the future as you move through your education and into practice.

Together we can foster ambassadors in our field, promote awareness and help people receive the best care and attention possible.

I look forward to meeting our future doctors.

Best Wishes,



Eva K. Kosanovic  
President



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# Why Keeler?

Your first purchase of ophthalmic instruments is important to you. You want to be confident that you are purchasing the highest quality optical instruments that will last you for many years. After all, your tools will ensure your own clinical performance is the best it can possibly be. That can only be achieved with the highest quality optics.

## You want to purchase from a company that you know you can trust

Keeler has been manufacturing precision optical instruments for over a century. Today, the Keeler name is synonymous throughout the world with the very highest quality and most reliable optical equipment.

## What sets us apart from our competitors?

Think about what you want from your instrument. What are you really buying from us? You want the very best possible view. We know that optical excellence is one of our many strengths because our customers keep telling us.

## Reliability

Keeler delivers robust, reliable products to make your day run smoothly and efficiently. All instruments are covered by the Keeler warranty for your peace of mind.

## Knowledgeable sales staff

High levels of product knowledge and advice when you need it.

## Easy online ordering

It has never been easier to order our professional tools online from the Keeler website. We provide a one-stop shopping source to comprehensively order any, or all, of our products.

Visit [www.keelerstudents.com](http://www.keelerstudents.com) to learn more!

## Tradition, innovation, leadership.

Keeler Instruments provides a family of optometric products – not only for your days in school – but for your entire career.

We have a legacy of innovation at the forefront of new product development in our industry.

Keeler popularized the use of the BIO with the development of the Fison in 1958. Our Pulsair non-contact tonometer received the Queen's Award for Design Excellence.

This tradition continues with our advanced Vantage Plus Digital.

Keeping an Eye on the Future  
Keeler technology for your professional career.



# Slit Lamps

## KSL-H series

We understand how important the slit lamp is to you. You rely on it to provide accurate diagnostic and examination results day in, day out. With Keeler, you can be assured that our exceptional attention to detail will ensure optimum performance and reliability time after time.

### Let there be LEDs

Our LED has been carefully selected for its performance, with a color temperature of 3,800k, and a truly homogeneous light patch. Typically, a Keeler LED will last the length of your entire career.

### Exceptional optics

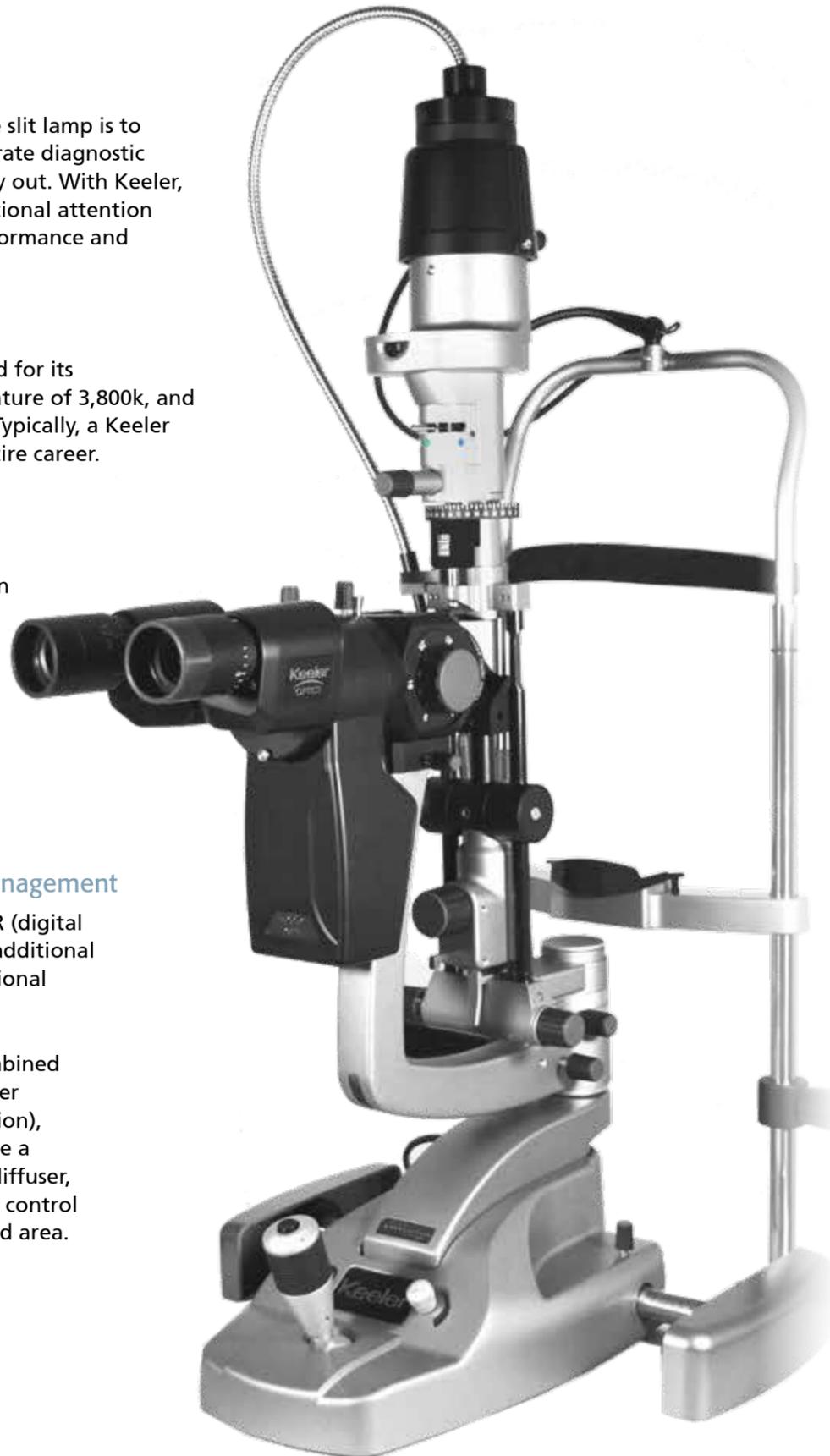
Keeler is renowned for market-leading optics and has been dedicated to optical design and manufacturing for over 100 years. Our advanced design and manufacturing techniques give the KSL-H the advantage of stunning optical performance.

## KSL-H digital series

### Digital capture and patient management

The KSL-H-D (digital) and KSL-H-DR (digital ready) slit lamp comes with many additional features over and above the traditional KSL-H slit lamp.

As well as benefiting from the combined integrated camera and beam splitter (optional for the digital ready version), additional slit lamp features include a background illuminator, auxiliary diffuser, blue filter and camera with review control buttons mounted on the dashboard area.



## PSL - Portable Slit Lamps

Versatility and portability are key benefits of our PSL One and PSL Classic slit lamps. We designed and manufactured them with the strength to withstand the daily traumas of the demanding ophthalmic environment. Both PSL models are lightweight, durable, and robust.

### Advanced optics

Choose between 10X and 16X magnification with the Classic, or 10X magnification with the One. Top quality, multi-layered glass is crafted into our multi-element and multi-layer coated optics to give maximum performance. Clarity is guaranteed.

### Controllable illumination

Illumination levels are controlled by a rheostat, giving you control of your examination parameters. From zero to maximum, you choose.

### Big slit lamp features, portable usability

Unique features such as the fixation targets, and the 1mm square light patch for assessing anterior chamber flare set the new standard for portable slit lamps.



### Carrying case

Protect your investment with a rugged aluminum carrying case - perfect when your slit lamp is not in use or when you are travelling.

# Tonometry - Let's Fight Glaucoma

For more than 100 years, we have continued to innovate, design, and manufacture world-class ophthalmic instruments in our Windsor factory. In 1986, the Pulsair tonometer revolutionized non-contact tonometry with its unique handheld and portable system, bringing a new dimension to patient care and the management of space and time.

## TonoCare

Leaders in the field of tonometry, we are delighted to present our most advanced handheld tonometer to date.

The TonoCare is set to revolutionize the handheld market. Designed and built with patient comfort in mind, the TonoCare is truly simple to use and gives consistently fast, accurate and reliable readings. Whatever the mobility of the patient and wherever it's being used, the TonoCare offers exceptional performance time and time again.

### Excellence in manufacturing experience and quality

We are a world leader in the design, development and manufacturing of ophthalmic equipment. For over 100 years, we have invested heavily in R&D, to bring innovative, highly reliable products to the market, all built to precise specifications in our factory in Windsor, UK.



### Using air saves you money

Rebound tonometry can get expensive! In addition to the base cost of a rebound tonometer, disposable pins have to be purchased on a regular basis.

Each patient requires two pins, one per eye, to prevent cross contamination. If a practice sees one patient a day they are purchasing 624 pins a year. A practice that sees 40 patients a day purchases at least 24,960 pins per year. The cost for that many pins is exorbitant.

Why spend that much money when you don't have to? The Keeler TonoCare uses air puff technology eliminating any reoccurring costs. Not only is the air free, but there is no risk of cross contamination between eyes.



### EASE OF USE

Easy to follow instructions and intuitive controls ensure users can be fully trained in a matter of minutes. The lightweight, yet robust, handheld form means it quickly and easily adapts to be used in many different environments.



### USAGE COST

Unlike rebound tonometers, air puff technology does not require sterile pins, keeping ongoing costs to a minimum.



### ACCURACY

The TonoCare uses advanced optical and sensor technology for positional detection and puff control. Clear user controls and a colored internal display combine to provide exceptional usability.



### PATIENT COMFORT

The highly portable unit allows measurements to be taken wherever the patient is most comfortable; whatever environment they are in. The sleek product profile means the clinician can maintain visual contact with the patient at all times, enabling them to reassure the patient throughout the measurement process.



### SPEED OF USE

Thanks to our significant investment in the development of the product, the TonoCare is ready to use in less than 10 seconds after being switched on; readings for both eyes can be achieved in 30 seconds.



### PATIENT SAFETY

Safety is always a concern for us here at Keeler. The non-contact TonoCare ensures a minimal risk of eye damage or cross contamination.





## Pulsair IntelliPuff

In 1986 the Pulsair tonometer revolutionized non-contact tonometry with its unique handheld and portable system, bringing a new dimension to patient care and the management of space and time.

Pulsair and tonometry are synonymous – the fifth generation IntelliPuff handheld model combines contemporary styling together with technologies, and the Pulsair Desktop brings the Pulsair name to those requiring a chin-rest desktop device.

Bringing versatility to tonometry, wall-mounted or desk-mounted, the lightweight, handheld, optical mainframe allows the clinician to measure all patients with equal comfort. The flexibility of use and space-saving design make this instrument virtually unbeatable for performance and value.

### Handheld

Being handheld, Pulsair IntelliPuff avoids the need to position the patient in a chinrest – fast and easy to use while the patient is already seated in an examination chair.

## Pulsair Desktop

A small and space-saving footprint combined with the elegant, slim, optical mainframe allows it to blend seamlessly into the clinical environment. The openness of the design increases the confidence of both patient and clinician.

### Comfort and speed

Less is more. Pulsair Desktop is uncomplicated and therefore quick to use for the novice and professional alike. Taking control of tonometry has never been easier or faster. Clear user controls and a color video alignment screen combine to set a new standard in usability.



## KAT - Keeler Applanation Tonometers

Applanation tonometry is a widely practiced and a respected technique. The Keeler Applanation Tonometer (KAT) will match that level of respect with our exceptional build quality and manufacturing consistency.

### D-KAT - Digital applanation tonometer

- LED display for ease of use in darkened environments
- T-type, R-type, and Z-type available
- Display reading up to 1 decimal point

### KAT - Keeler applanation tonometer

- Reliable and repeatable applanation tonometry
- Goldmann applanation principle
- T-type and R-type available
- Designed to withstand the test of time and deliver reliable results year after year





## AccuPen – Handheld tonometer

The AccuPen handheld tonometer is ideal for screening IOP measurements in patients. Our gravity offset technology provides accurate IOP measurements with less calibration in any testing position. The AccuPen is accurate, easy to use, portable, and versatile, making it a must-have for any facility.

### Accurate

The AccuPen's gravity offset technology provides precise IOP measurements with less calibration compared to other handheld tonometers. Micro-strain gauge technology, combined with proprietary algorithm, provides reproducible results.

### Easy-to-use

An ergonomic design combined with sighting lines allows for easy visualization of the cornea, facilitating both centralization and perpendicularity. Contoured molding with large, visible LCD allows the AccuPen to be used ambidextrously and fit comfortably in any size hand.

### Ready-to-use

Eliminates the constant need for "up, down, and around" calibration. Long-lasting lithium battery lasts for four to six months.

### Portability

The AccuPen only weighs three ounces and comes with a custom, heavy-duty traveling case and lanyard for safe transportation.

### Versatility

The gravity offset technology allows for fast measurements with patients in any position. Frees up valuable office space.

### Smarter software

The AccuPen stores and averages nine measurements. The built-in IOP correction calculator adjusts IOP based on corneal thickness.

# Pachymetry

## PachPen – Handheld pachymeter

The PachPen is the perfect tool for testing a patient's corneal thickness with accuracy, portability, and comfort. The superior ergonomic design fits comfortably in any hand, offering a major advantage from other handheld models.

### Accurate

The PachPen's 65MHz sampling probe ensures precise measurements and uses digital signal analysis to analyze wave patterns and to eliminate non-perpendicular measurements.

### Easy-to-use

An ergonomic design, combined with sighting lines, allows for easy visualization of the cornea, facilitating both centralization and perpendicularity. The contoured molding with a large, visible LCD screen allows the PachPen to be used ambidextrously and fit comfortably in any size hand.

### Ready-to-use

Digital ultrasound analysis eliminates the need for calibration. The long-lasting battery will last for four to six months.

### Portability

The PachPen only weighs three ounces and comes with a custom heavy-duty traveling case and lanyard for safe transportation.

### Versatility

The ergonomic design allows you to take fast measurements with your patient in any position. This frees up valuable office space.

### Smarter software

The PachPen stores and averages nine measurements. It contains a built-in IOP correction calculator, which adjusts the IOP based on corneal thickness.



# Diagnostic Imaging

## UBM – Anterior segment imaging

The UBM Plus probe has a guarded tip to prevent damage to both the patient and the probe. The unit is used for anterior segment imaging. This unit is an incredibly portable device because the 48MHz probe plugs directly into any Microsoft Windows laptop or desktop computer. The UBM features an all-in-one probe design to eliminate signal loss and provide the sharpest images possible.

### Features

- High Definition Imaging - Detailed structure definition including cornea, iris, ciliary body, zonules, crystalline and intraocular lens, as well as pathologies
- State-of-the-art probe design - Sharper, more focused images due to the elimination of signal loss
- Unsurpassed data analysis - Contains tools for measuring sulcus-to-sulcus, anterior chamber depth, positioning of intraocular lenses, and filtration angle of the eye
- Easy-to-set-up defaults, smooth customer interface, and automatic EMR exports that decrease examination time, increase patient throughput, and increase profit
- Adjustable video loop
- Fully upgradeable software
- EMR compatible
- DICOM ready
- Multiple measuring velocities for ACD
- PDF reporting
- Fully adjustable gain-control before, during, or after scan
- Data archive – Network or external hard drive



## B-Scan Plus – Posterior segment imaging

The B-Scan Plus proprietary software combined with unique probe electronics make it the premier portable high-definition B-Scan. While developing the B-Scan Plus software, we visited many of the top facilities around the world. The results are a reliable and easy-to-use unit, which can quickly scan patients and transfer information.

### Features

- Superior Image – 0.015mm image resolution is among the highest in the medical industry
- Improved probe providing sharper, more focused images due to the elimination of signal loss
- Unsurpassed data analysis contains 12 useful measuring calipers
- “Smooth Zoom” technology allows for 2x full-image zoom without distortion of real-time or captured scan
- The portable probe can plug into any Windows-based laptop or PC
- Adjustable film loops that range from 2 to 17 seconds
- Fully adjustable gain control before, during, or after scan
- Easy to set up defaults, smooth customer interface, and automatic EMR exports to decrease examination time, increase patient throughput, and increase profit
- Unsurpassed compact file storage
- EMR compatible
- DICOM ready
- Multiple measuring velocities for ACD/VCD
- PDF reporting
- Archive data on a network or external hard drive

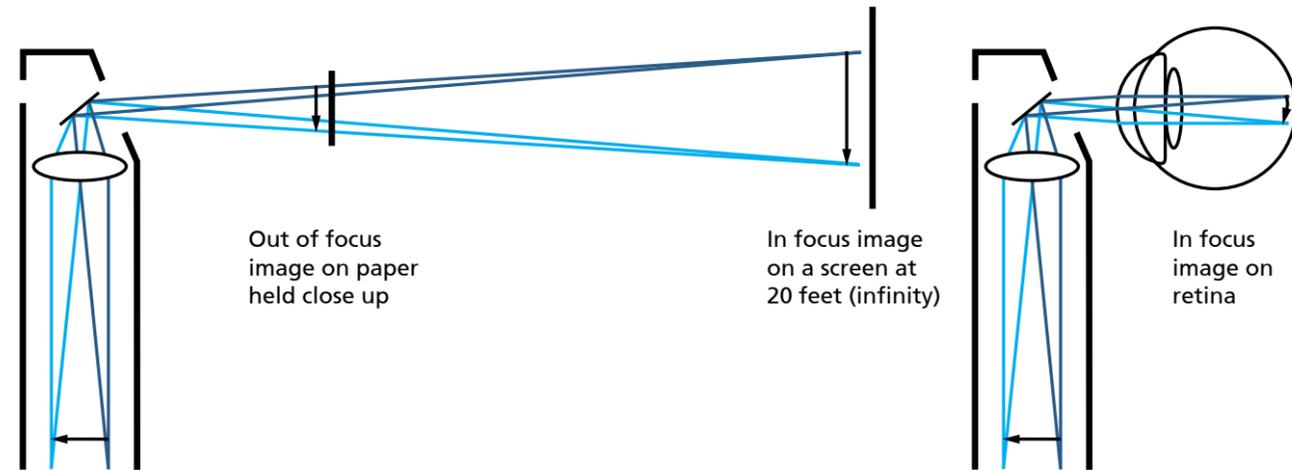




Quality Tools for Your Studies  
Keeler technology for your student career.

# Choosing Your Ophthalmoscope

The Keeler direct ophthalmoscope has been the choice of the ophthalmic profession for decades and continues to be. Our collimated lens system is designed to focus the light on a curved surface via the patient's optical pathway. A superior ophthalmoscope is designed to focus at infinity to match the optical properties of a patient's eye. Therefore the spot appears out of focus when viewed on paper. In other words, the out of focus image on paper will become a razor sharp image in a patient's fundus. In line with this thinking, if the image is clear on paper it will not be clear in the eye.



## Comfort and fit

With curved surfaces and subtle patient side marking, each ophthalmoscope has been designed to fit snugly into the orbital bone. Unlike other straight-sided brands, the contoured, curved ophthalmoscope head guarantees an optimal viewing angle, larger field of view – while the smooth line surfaces provide a non-threatening aesthetic.

## Light, tough, and built to last

Keeler ophthalmoscopes are built from resilient, lightweight materials to give you many years of service trouble-free. High-impact resistant covers combined with a strong metal chassis protect the carefully aligned optics and allow Keeler ophthalmoscopes to withstand the rigors of everyday use for years to come.

## Slimline handles

Keeler handheld instruments are supplied on a slimline, lightweight handle.

## Controllable light for bright, clear images

The bright white LED illumination is fully adjustable from zero. This ensures the comfort of your patients and the best possible diagnosis.

## Reflex-free images

Individually controlled optics reduce the effect of corneal reflex while minimizing shadows and providing clearer retinal visualization.

## Section icon guide



**Large aperture** - Ideal when examining fully dilated pupils.



**Intermediate** - Permits easier access through an undilated pupil and in peripheral examination. Particularly useful in paediatric examination.



**Small aperture** - Ideal for undilated pupils.



**Semi circle** - Provides a combination of depth perception and field of view.



**Red free** - Used to examine blood vessels in fine detail. By filtering out the red light, blood vessels are silhouetted black against a dark green background.



**Glaucoma** - Projects a graticule onto the retina to assess the optic cup/disc ratio as an aid to glaucoma diagnosis.



**Slit** - Used primarily to determine retinal elevations and depressions but may also be used to assess anterior chamber depth.



**Cobalt blue** - Used with fluorescein dye for angiography.



**Fixation cross** - Projects a graticule onto the retina for assessment of the degree and direction of eccentric fixation.



**Diopter range** - Single step diopter changes to compensate for patient and examiner refractive error.



**Diffuser** - Softer light patch to be used with patients uncomfortable with a concentrated light. Perfect for pediatrics.



**LED** - Long lasting white illumination that is bright and provides better details.



**Adjustable aperture** - Ideal for all pupil sizes.



**Red free fixation** - Red free filter to filter out red light with a fixation cross.



**Pupillary distance** - Distance between user's pupils.



**Bright** - 25% brighter than standard bulbs.



**Long lasting** - LED and lithium polymer battery can provide up to 6 hours of use on a single charge.



**Lightweight** - Stronger and lighter materials allow for comfort without sacrificing quality.

## Keeler Professional ophthalmoscope

### Total control at your fingertips

The Keeler Professional ophthalmoscope has been designed to ensure ultimate control. Lenses, graticules, and filters can all be introduced at the touch of a finger. No need to pull away from the patient – this ophthalmoscope makes routine examinations far easier.

### LED illumination

We recognize that illumination is of fundamental importance to good diagnoses. That's why we have selected LED illumination for our ophthalmoscopes. This brighter, whiter, and longer lasting light will meet any diagnostic challenge! With LED you have the power to diagnose even through cloudy media. LED technology will last throughout your career.

### Positive action maywheel

The positive-action, easy-access maywheel not only allows you to dial up the required lenses quickly, but it also allows you to know where you are without the need to pull away from the patient.

### Swing-over filter

The red-free filter for enhanced vessel examination can be used in conjunction with any of the six diagnostic beams.

### Brow rest

The integral soft brow rest allows for easy positioning and protects your lenses, if you wear glasses.



## Keeler Specialist ophthalmoscope

The Keeler Specialist offers precision optics, versatile features, and practical ergonomics, making it the number one choice for ophthalmic practitioners.

### Exceptional quality

The Specialist ophthalmoscope is perfectly balanced for precise ocular examination. The comprehensive lens range ensures clear and accurate diagnosis, even in the most difficult eyes. The lens range is made up of tiny, individual ground glass lenses. The fine gearing of the Morton Track lens system allows you to dial up any lens quickly and easily.

### Versatility

The graticule range offers a total of six diagnostic beams for comprehensive ocular examinations. In addition to a choice of three viewing beam sizes, the Specialist includes a red-free filter for vessel examination, a fixation cross for assessment of eccentric fixation, and a slit to determine changes in retinal elevation. A snug, orbital fit optimizes the field of view and guarantees increased comfort for both practitioner and patient.

### Pupillometer

The pupillometer comparison disc allows quick assessment of pupil size.



## Jazz ophthalmoscope set

### Jazz otoscope

- Fiber-optic otoscope
- Brilliant LED illumination gives the best possible view and a longer battery life for a greener product
- 3X magnifying lens



Three interchangeable color ring options



### Jazz ophthalmoscope

- Brilliant LED illumination
- Renowned high-performance Keeler optics with aspherical lens

### Jazz diagnostic set

The set consists of one handy package with two handles.



## Finoff transilluminator

For use when the presence of intraocular tumors in patients with cloudy media is suspected. The Finoff transilluminator illuminates the fundus via the sclera and any tumors present in the light path will dim the normally bright red fundal reflex as seen through the pupil.



## Lithium handle grips

### Color-coded grips available

Available in four colors, these lithium handle grips are not only fun but functional too! The rubber grips are washable to reduce or eliminate cross contamination over long periods of use. Each diagnostic set comes standard with a black grip on the lithium handle. Then simply choose from pink, green, or blue as your extra.



## Professional LED retinoscope

### Lifetime warranty

Our patent-pending LED retinoscope will last a lifetime, and comes with a warranty to match.

### BCS technology

Easiest and most accurate refraction from the brightest illumination, increased contrast, and sharpness in your hands.

### Longest battery life

Practice makes perfect, and our LED technology will increase your on time up to 300%, as compared to non-LED technology.

### Double neutralization check

The Professional combi (bulb) retinoscope allows for the user to switch from spot to streak with the facility to double-check neutralisation in both modes.

### Easy access control

The Professional LED retinoscope uses rare Earth magnet technology to provide optical precision refraction. A single control is used for rotation, convergence, and divergence.

A choice of apertures is included to optimize brightness or resolution of the retinal reflex in 4mm or 1.7mm.

The Professional LED retinoscope comes with easily interchangeable soft brow rest for glasses wearers.

### Light output

With up to 600 lux of brilliant illumination, the Professional LED retinoscope guarantees you more than enough light to refract even the most difficult eyes.

### Near point cards

Fixation cards for dynamic retinoscopy included. Simply clip on and off for easy use.



“ This is easier to use...I see the reflex right away.

*Professor*

The Keeler is much better, the light is more condensed, and you can see the edges easier than the others.

*Professor*

We are always concerned with practicals...if you are off by 5° you lose points... I wouldn't lose any points with this Keeler.

*3rd Year Optometry Student*



## Choose your Keeler ophthalmoscope set

All sets come with one case to fit all the instruments and accessories. Additional handles and mini charger sleeves are available, and your choice of bulb or LED modules in your instruments.

	Standard Set	Professional Set	Premier Set
Illumination	LED or bulb	LED or bulb	LED or bulb
Direct ophthalmoscope	Professional or Specialist	Professional or Specialist	Professional or Specialist
Professional retinoscope	•	•	•
Transilluminator head	•	•	•
Lithium handle	x2	x2	x2
Lithium handle stand adaptor	x2	x2	x2
Black rubber grips	x2	x2	x2
Near point card set	•	•	•
Mini charger	•	x2	•
Duo charger			•



## Handles and chargers



### Slimline lithium handle

The lightweight, perfectly balanced, smooth handle is made from high-quality chrome, eliminating cross-infection. Using a Keeler Duo or Mini charger battery will charge within an hour.

### Lithium handle stand adaptor

The small, sleek adaptor converts your Keeler lithium handle to charge in any standard refraction stand.



### Duo charger

Small footprint, compact charger takes two handles and fits neatly into your immediate testing environment allowing easy access to your handheld instruments. It can be desktop or wall-mounted.



### Mini charger

Perfect choice for domiciliary visits or practitioners on the move. Similar to your cell phone, the diagnostic instrument can still be used whilst the battery is charging.



# Choosing Your Binocular Indirect

Since 1958, when we introduced the Fison, our first binocular indirect ophthalmoscope, we have developed a reputation as the innovator in the development and manufacturing of indirect ophthalmoscopes. In 2003, we introduced the first Keeler "wireless" indirect ophthalmoscopes available on our All Pupil or Vantage models. Wireless gives you the freedom to move from room to room without any constraints – no more wires, cords, or tangles. Just a lightweight, balanced, and comfortable indirect ophthalmoscope. When you choose a Keeler indirect ophthalmoscope, you are guaranteed the following standard benefits in all of our instruments.

## Keeler optics

All Keeler indirect optics are specially coated and individually laser aligned to provide the sharpest, clearest images every time you use your indirect.

## Comfort and balance

Lightweight materials are used throughout the design of each unit; combined with soft cushioning and a non-slip headband to maximize comfort and balance. These features will be particularly important during long examinations.

## Easy-fit illumination

Keeler indirects have been designed to ensure optimal performance. LED modules and bulbs are easily accessible and quick to change.

## Adjustable brilliant illumination

Why have all of the controls on the wall when the instrument is on your head? On the All Pupil II and Vantage, the illumination rheostat is located on the headband providing easily accessible, fully controllable light. Keeler indirects have the brightest illumination but can be turned down to as low as 2% of maximum required.

## IR/UV filters

Supplies protection 100% of the time. IR/UV filters are built into the optics of the Vantage Plus and All Pupil II. LED products emit no harmful UV or IR wavelengths.

## Wide angle diffuser

The Keeler wide-angle diffuser eliminates shadows on the edge of the condensing lens, expanding the field of view significantly. This is particularly useful during difficult and peripheral examinations. There is also less discomfort for the patient, because the light is softer.



# Vantage Plus LED Digital

Perfect for your clinical skills lab, mock board room, or future office.

As the world leader in binocular indirect technology, we lead the way with the first digital binocular indirect system, by moving away from analog video with true digital imaging. Utilize the Vantage Plus LED Digital in your office, operating room, teaching facility, or anywhere you want to capture digital images.

The Vantage Plus LED Digital fits perfectly into the curriculum of any school. Whether you are practicing in a group, or one-on-one with your professor, this BIO provides the ability for both user and examiner to have a pristine view.

The intuitive and powerful Keeler software allows you to use your laptop or any USB interface to optimize the examination, by providing still or dynamic images that aid in the documentation and diagnosis of your patient.

Increase your practice profile by educating your patients and their families with digital dynamic imaging in your office.



View it in action!



## Vantage Plus

When you purchase the Vantage Plus you will automatically receive a xenon bulb and LED module so you can decide which illumination you prefer without any extra cost.



### LED illumination

The natural LED cooler color provides brighter, whiter illumination, longer battery life, and freedom from purchasing bulbs. Clinically, the superior optics combined with the LED illumination provides greater detail, allowing you to find retinal pathologies that are not visible with the xenon bulb.

### Slimline lithium polymer battery

The slimline lithium polymer battery weighs only 53 grams, making it comfortable and perfectly balanced. Wireless technology allows you to move from room to room and lasts up to six hours because of its combined LED illumination and lithium polymer battery.

### Convertible technology

Vantage Plus convertible technology offers you the choice between a neutral 4,000K LED for longer life, better contrast, and a white light or a traditional 3,800K xenon bulb in the same product.

### Quality and efficiency

The high-contrast optics combined with the neutral LED or xenon light source offer brighter high definition retinal images.

### 15% lighter

Advanced textured engineering materials provide a lighter, smaller, and more-compact instrument without compromising the renowned Keeler reputation for robustness, reliability, and quality.

### Filters and apertures

IR/UV filters are built into the optics of the Vantage Plus with optional filters and a choice of three apertures, plus a soft light diffuser.



Interchangeable LED module and xenon bulb

“ I chose my Keeler B.I.O. for the optics and value. I found that with using other brands, I had difficulty focusing up close during my dilated fundus exams. The oculars on Keeler’s Vantage made my eyes feel more relaxed and I felt like my view was better. ”

*Optometry Student*

### Teaching mirror

The teaching mirror easily slides on and off, allowing two observers to view the retina at the same time.



## Intelligent Optical System (IOS)

US Patent Number 8,132,915

When you change the aperture, the optics and mirrors automatically adjust for you without the need to flip another lever! We have designed this unique single-step movement to make your examinations easier and faster. When you select the small, medium, or large aperture, the optics automatically adjust through the IOS mechanism. This provides three-dimensional stereoscopic views of the retina through all pupil sizes.

### Large pupil

When looking through a large, fully-dilated pupil, the optics are separated and the light source remains in the upper position, achieving maximum stereopsis.

### Intermediate pupil

When looking through an intermediate pupil, the viewing optics and light sources are in a 'mid-position' for maximum stereopsis.

### Small pupil

When looking through a small pupil, the viewing optics and light source are converged to allow you to view the retina through the smallest pupils stereoscopically.



### IOS optics without obstructions



**Vantage Plus IOS optics**

View through Vantage Plus with IOS optics.

When small pupil is selected, there is no obstruction of the retina.



**Non-IOS optic system**

View through non-IOS optical systems.

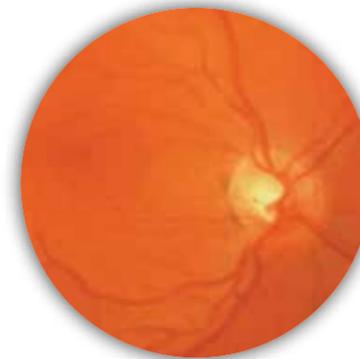
When small pupil is selected there is an obstruction, reducing your clinical information.

## HiMag lens

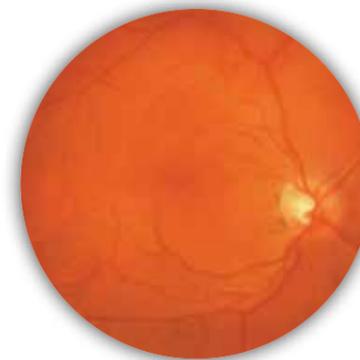
### Slides on and off with ease

This unique feature is only offered with the Vantage Plus indirect. It gives you 1.6X additional magnification than with a condensing lens alone, providing superb stereoscopic images.

Scratch-resistant coated optics guarantee high-quality images at all times. When not in use, the HiMag lens can easily be flipped out of view.



View when using a 20D lens and the Keeler HiMag lens.



View when using a 20D lens only.



### Patented technology

Both the IOS and the HiMag lens are patented technologies exclusive to Keeler.

# All Pupil II

All Pupil II is based on the design of the number-one selling All Pupil indirect. Look out for the features designed to make your examinations easier and more comfortable.

## Go wireless

No more wires and cords – gives the user freedom to move from room to room without any constraints. Keeler continues to provide the best-selling wireless indirect on the market.

## Outstanding brightness

With 2,000 lux of light, which can be turned down to 2% of total illumination, when necessary, All Pupil II offers maximum illumination with total control.

## Lightweight and comfortable

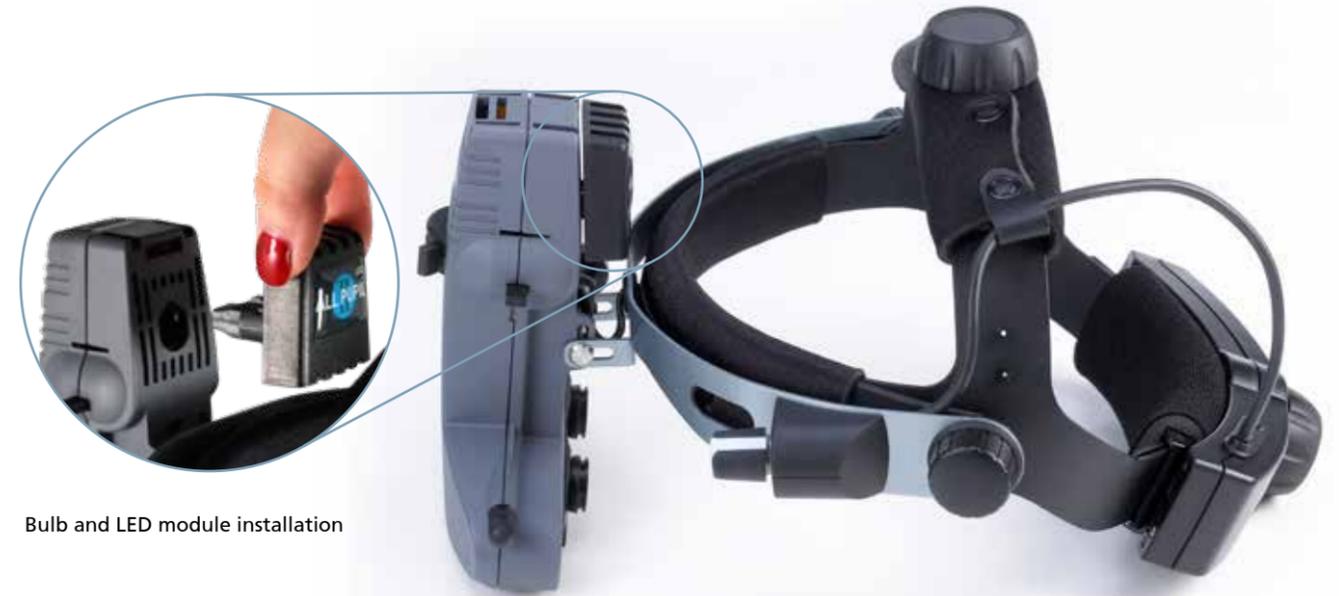
The device weighs just 520 grams, and extra padded materials have been incorporated into the headband to make this indirect extremely comfortable for all examinations.

## Simple controls

The All Pupil II has a unique single control to change aperture size and position in one movement to view through all pupil sizes.

## Convertible technology

All Pupil II convertible technology offers you the choice between a neutral LED for longer life, better contrast, and a white light or a traditional xenon bulb in the same product.



Bulb and LED module installation



Interchangeable LED module and xenon bulb

## LED illumination

The neutral LED cooler color provides brighter, whiter illumination, longer battery life, and freedom from purchasing bulbs. Clinically, the superior optics combined with the natural LED illumination could provide greater detail, allowing you to find retinal pathology that was not visible with the xenon bulb.

## Slimline lithium polymer battery

The slimline lithium polymer battery weighs only 53 grams, making it comfortable and perfectly balanced. Wireless technology allows you to move from room to room and lasts up to six hours because of its combined LED illumination and lithium polymer battery.

## 15% lighter

Advanced textured engineering materials provide a lighter, smaller, and more compact instrument without compromising the renowned Keeler reputation for robustness, reliability, and quality.

## Filters and apertures

IR/UV filters are built into the optics of the All Pupil II with optional filters and a choice of three apertures, plus a soft light diffuser. The built-in IR/UV barrier guarantees improved patient protection and safety.

## Quality and efficiency

The high-contrast optics combined with the neutral LED or xenon light source offers brighter high-definition retinal images.

“Keeler rep came to my O.D. school [and] educated us on their products. I [asked] the upperclassmen which BIO they [liked] the best and Keeler was on the top of their list. After trying it out, as well as the other brands, I felt the Keeler BIO fit my needs best: comfortable, the most light weight, superior optics and clarity, simple to use and a modern design, also a nice carrying case as a bonus.”

*Dr. Maryann Youssef / O.D. / California*



## Spectra Iris

### Little indirect, bigger benefits!

Spectra Iris has been specifically designed as a compact, lightweight, and portable indirect with big benefits for professionals on the move. It can be tucked away in its neat carrying case or hung around your neck when not in use.

Just like the iris in your eye, you can adjust the size of the aperture at the touch of a slider.

### Keeler sport frame

Spectra Iris comes on the new Keeler sport frame. This wrap-around frame is not only attractive but provides maximum comfort and balance.

### LED long-lasting illumination

No more bulbs, just a long-lasting white homogenous light patch that can be used for up to 4 hours continuously.

### Flip-up optics

The whole optical box and light pod can be flipped up, allowing direct eye contact when talking to patients or for writing notes.



### Adjustable aperture slider for all pupil sizes

Now you can adjust the aperture simply by moving the slider. Slide to the right to increase aperture size, and slide to the left to decrease it. The aperture range is from 20mm to 60mm.



## Wireless power supply options

Keeler wireless technology allows you to move from room to room without any constraints. The chargers are either desktop or wall mountable, and they hold an extra lithium battery as a back-up, should you need it.

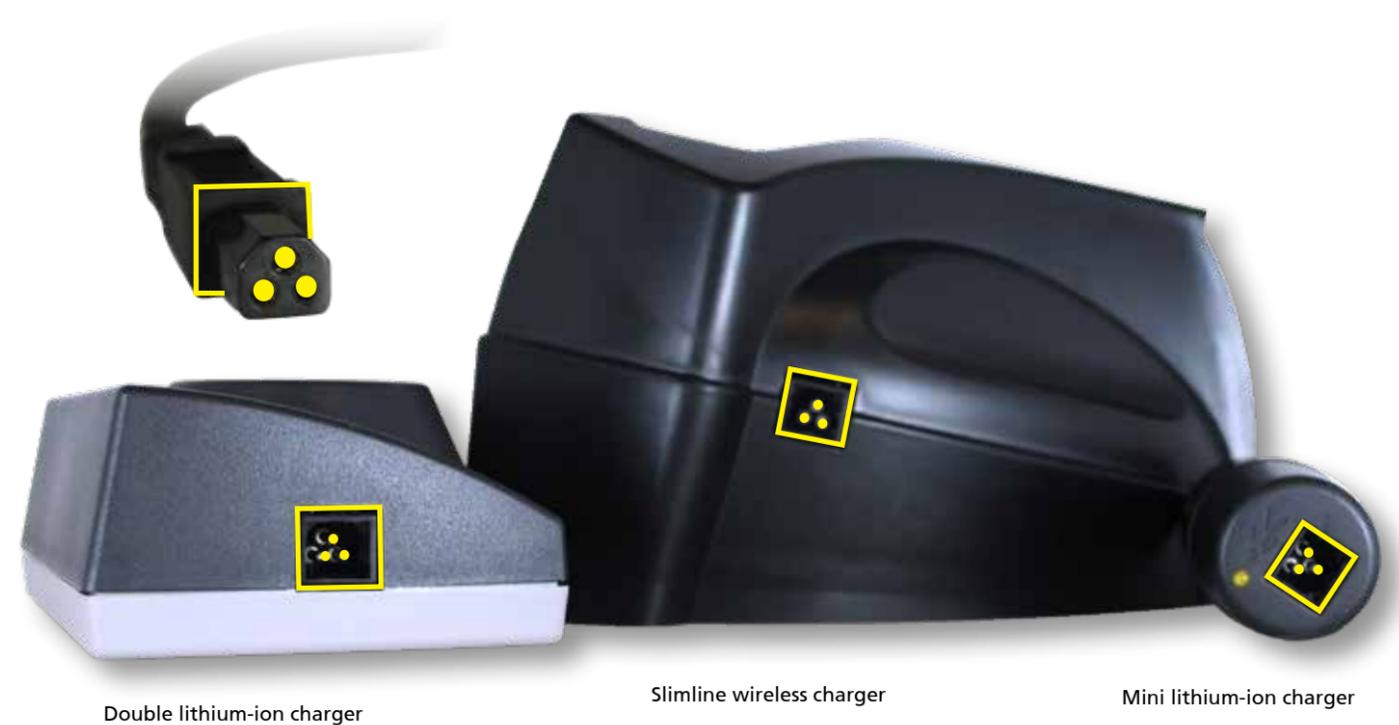
### Slimline wireless charger

The new desktop or wall-mountable charger remains as durable as the standard wireless with the facility to store your extra battery in the top compartment. The charger has an easy-release button to remove the extra battery. LED indicators show the level of charge in both batteries when BIO is docked and spare battery is clipped in back.



### Universal power plug

The cord used to power the slimline wireless charger can also be used across our entire product line (with the exception of our cryo units). This allows you to easily swap out power cords from your PSL to your duo charger, or even your Pulsair Desktop. We try to make our products as convenient to use as possible, and our power source is no different.



Double lithium-ion charger

Slimline wireless charger

Mini lithium-ion charger

## Convertible technology

### Conventional bulb or advanced LED, your choice.

The Vantage Plus and All Pupil II indirect ophthalmoscopes now come with a xenon bulb and LED module so you can choose the illumination you prefer at no extra cost. Here we compare the benefits of either illumination so that you can understand why we supply both.

#### LED features

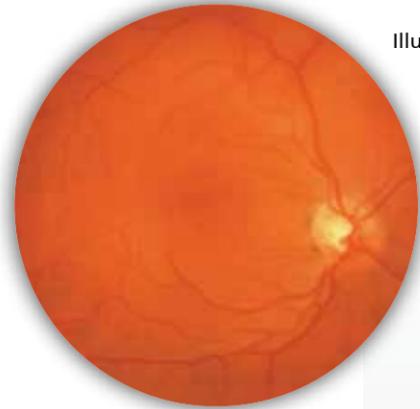
- Best homogenous light source for accurate retinal diagnosis
- Brighter, whiter illumination
- Six hours of use from full charge
- Freedom from purchasing bulbs
- Lasts the length of your career
- Neutral 4,000K color temperature
- Five year warranty



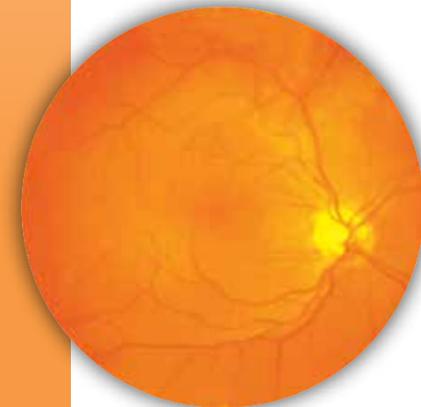
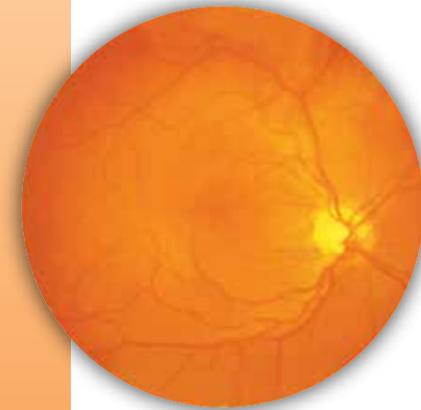
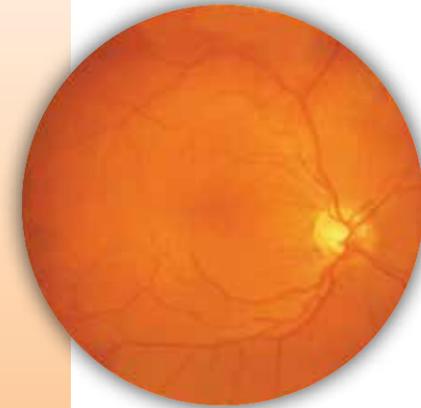
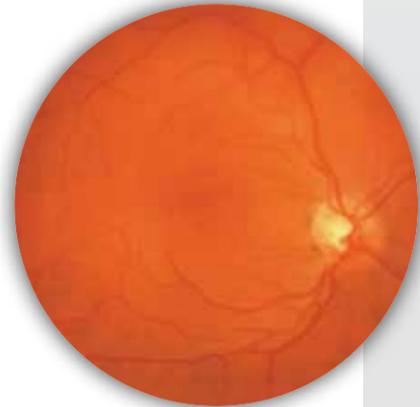
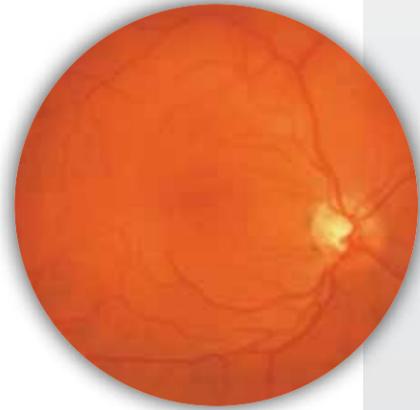
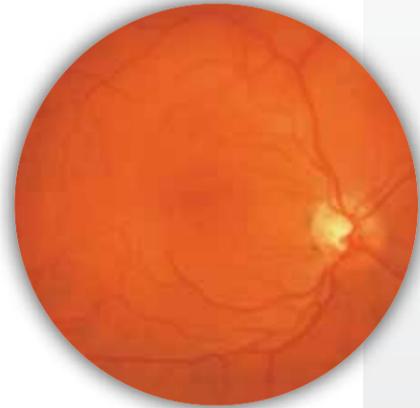
All Pupil II LED module

Vantage Plus LED module

As the illumination increases with neutral LED technology from minimum to maximum, virtually no color shift occurs.



Illumination simulated



### Why would you use a xenon bulb?

As a student, you will be learning how to use your rheostat and diffuser settings with proficiency. However, until you have mastered these controls, some professors prefer the softer light of a bulb for their students to practice on one another. This limits discomfort and allows for longer practice sessions. Additionally, some practitioners continue to use bulbs for a few reasons. It may be what they were trained on, and are set in their ways, or they work in pediatrics and feel it is easier to have children maintain eye contact using a softer and more yellow light source.

#### Xenon features

- Softer, more yellow light for use in pediatrics
- 3,800K color temperature
- Two hours of use from full charge
- Preferred by some professors for untrained use



Vantage Plus xenon bulb

All Pupil II xenon bulb

As the illumination increases with xenon bulb technology from minimum to maximum, there is a visible yellow hue.



## Accessories

### Case options

#### Professional 3-in-1 case

Stylish slim case protects your Vantage Plus or All Pupil II. Easily convert from roller case to handheld or backpack!



#### Spectra Iris case

Lightweight, durable case that is designed specifically to hold the Spectra Iris and Spectra Plus.



### LED & bulb modules



Vantage Plus



All Pupil II

### Scleral depressor



## Choose your Keeler binocular indirect set



Vantage Plus Set



All Pupil II Set



Spectra Iris Set

	Vantage Plus Set	All Pupil II Set	Spectra Iris Set
Style	Slimline	Slimline	Sport frame
Light source	LED & bulb	LED & bulb	LED
Lithium-ion battery			•
Lithium polymer battery	x2	x2	
Wireless	•	•	
Hi-Mag lens	•		
Teaching mirror	•	•	•
Scleral depressor	•	•	•
Case	Roller/backpack	Roller/backpack	Spectra

Additional batteries are available.

### Batteries

#### Slimline lithium polymer battery

The Slimline lithium polymer battery can give you up to six hours of use, weighs less than 2oz., and is nearly 70% lighter than the standard battery. It is also much smaller and can fit nicely into the palm of your hand.



#### Lithium charger and power supply

Designed to optimize your power requirements in a light weight 6oz. system. Made for four hours of continuous use with Spectra Iris. The battery is supplied with a small fast charge system that provides a usable charge in five minutes and fully charges in two hours.



### Clip-on accessories

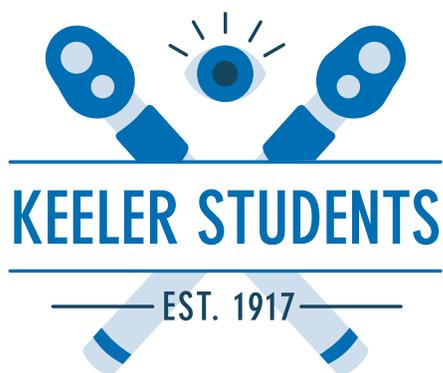


HiMag lens

Teaching mirror

More information on the HiMag lens can be found on page 27.

The teaching mirror just slides on and off with ease, allowing two observers to view the retina at the same time.



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

**Keeler**

3222 Phoenixville Pike

Building 50, Malvern

PA 19355 USA

**Toll Free: 1 800 523 5620**

**Tel: 610 353 4350**

**Fax: 610 353 7814**

**Email: [customerservice@keelerusa.com](mailto:customerservice@keelerusa.com)**

**Website: [www.keelerusa.com](http://www.keelerusa.com)**

**Keeler Ltd.**

Clewer Hill Road, Windsor

Berkshire, SL4 4AA, UK

**Tel: +44 (0) 1753 857177**

**Fax: +44 (0) 1753 827145**

**Email: [info@keeler.co.uk](mailto:info@keeler.co.uk)**

**Website: [www.keeler.co.uk](http://www.keeler.co.uk)**

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