

LED's do it

Harmony® LED
Surgical lighting
and visualization
system



STERIS®


HARMONY® LED

Here's a bright idea:
Expect more from a surgical
lighting system.



Idea

What if you could redesign your surgical lighting system from the top down? What would it look like? How would it perform? How would it make your life easier and enable you to provide better outcomes for your patients?

Solution

STERIS surgical lighting engineers, steeped in over 70 years of lighting excellence and innovation, didn't set out to make an LED light. We set out to **completely redesign how you see** in your operating room. Providing not just high intensity, pure white light, we also integrated a new, high-definition suspension, so video images are displayed with razor sharp clarity and eye-popping detail. We developed a system that will **change your expectations** of a surgical lighting system.

The result: Single-colour, phosphor-coated 2nd generation LEDs. They allow the Harmony LED to create a pure white, natural light that provides a crisp, consistent spot that will never cause any of the colour fringing or rainbow effects of multi-coloured LED bulbs.

LED'S DO IT



Easy and quick cleaning:

- Smooth surfaces, without any handles or crevices for dirt to become trapped in
- Low positioning allowing easy access to all areas requiring cleaning
- Excellent heat dissipation facilitating cleaning between each operation
- Resistant materials to cleaning products and to shocks



Compatibility with vertical laminar flow:

- Sleek and streamlined shape of the LED light head allows laminar flow ventilation to be maintained
- Medium sized LED's delivering up to 160kLux can be used within the laminar flow area without negatively impacting ventilation





- > High intensity.
- > Exceptional deep-cavity illumination.
- > Excellent color rendition (CRI).
- > Outstanding R9 value for true red color rendition.
- > Crisp, adjustable spot size.
- > Excellent shadow control.

84 LEDs deliver light from many different angles, reducing shadows and maintaining a bright, consistent spot regardless of obstructions.



Up to 160,000 Lux of pure, white light creates a large, bright spot.

More Power. You wanted more light. We delivered. The Harmony LED delivers a whopping 150,000 lux of cool, white light to the surgical field. That's up to **41% more illuminance** than other LED lights. And we pack all of that power into a surprisingly compact LED array, making the lighthead sleek and easy to move. Our patented Surgeon Control puts you in command; adjust the light intensity, spot size, and position, all from the sterile field.

Not only does the Harmony LED deliver a powerful, natural white light, each LED is specifically engineered to provide a superior color rendering index (CRI) of 97.



But more importantly, we focused on maximizing the R9 value, a specific color rendering index for deep, saturated shades of red. With an R9 value of 96, Harmony LED achieves an impressive 37% improvement over previous halogen technology. Your eyes will **see every detail** in exposed tissue, in every subtle shade of red, with clarity, comfort and focus.

Clarity remains constant with **unparalleled shadow reduction** characteristics. Our engineers, using diamond-turned tooling (accurate to one millionth of an inch) created a custom profile LED lens that gathers and focuses light. All lenses that make up the Harmony LED light heads are meticulously fitted, precisely aimed and overlapped to achieve a tight, round pattern. Block one LED lens – or forty – no matter. The surgical spot remains clear and unobstructed. No distracting shadows. No questions.

Each LED lens creates the entire pattern – block one or forty and the surgical spot remains clear and unobstructed.



A BRIGHTER IDEA – HIGH PERFORMANCE OPTICS

- Surgeon has one-touch control of intensity and spot size over the sterile field.



A BRIGHTER IDEA – HIGH DEFINITION SUSPENSION



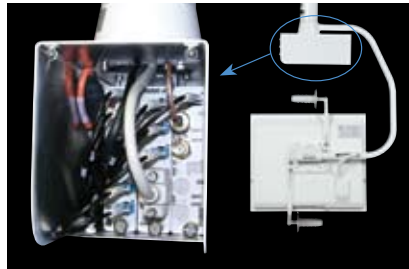
- > HD suspension provides crisp, clear HD images while virtually eliminating image lag.
- > Ultraglide bearings prevent drift and bounce.
- > Specially engineered pre-wired extension arms prevent cable damage.

In today's OR, providing exceptional, pure white lighting isn't enough. More complex procedures require you to process more information: endoscopic images, PACS images, vital signs. We seamlessly deliver all of this information to the surgical field with our patent-pending HD suspension. STERIS ensures **stunning image clarity** with vivid color accuracy by transmitting high-definition signals from any HD image device, including the Harmony third-arm camera, through low loss HD fiber optic cables. This information is then displayed on our fast response, surgical-grade HD monitors, providing **image quality without compromise**.

Moving with quiet precision, Harmony LED lights and monitors practically float above the surgical field, easily moving at your touch. High-speed ultraglide bearings are designed for **strength and durability**, preventing bounce or drift as lightheads and monitors are moved to their positions. Harmony LED also features a thoughtful, practical video equipment box for storage and maintenance of modems, cables and power supplies, keeping your surgical environment safe and making it easier to keep clean.



Clean monitor design hides wires and cables.



Unique modem chassis allows modems to easily slide in and out, making future upgrades fast.



Pre-wired monitor arms contain 12 fiber optic cables and 9 coaxial cables to accommodate all signal types.

Our high-definition suspension incorporates a state-of-the-art **helix coil/energy chain system** to protect internal wiring. We further encase our fiber optic cables in a double-wall Kevlar jacket to prevent them from kinking and breaking. STERIS tested this system under extremely abusive conditions to **over 20 years of life**, experiencing no degradation in signal quality. So as you position and reposition monitors, the fiber optic video cables inside will not snag, pinch, or abrade, ensuring reliable, high-quality video images over the entire life of your system.



Touch Panel controls lights, camera, and ambient light; self diagnostics help maintain performance and prevent downtime.



- > Future-ready design protects your investment.
- > Modular, flexible design easily adapts as your needs change.
- > All lightheads are camera-ready.
- > Harmony LED system accommodates all current video signals including:
 - DVI
 - RGBHV
 - Component
 - Composite
 - HD-SDI
 - RGBS
 - S-Video

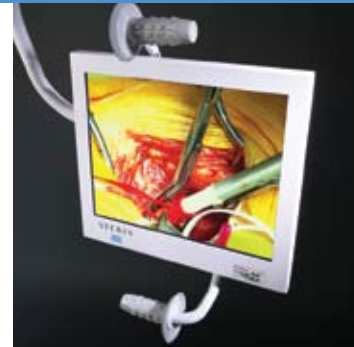
A BRIGHTER IDEA - FUTURE-READY ARCHITECTURE



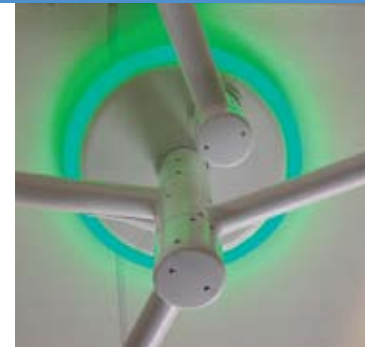
Add a lighthead.



Add a camera.



Add a monitor.



Add an ambient light.

Surgical techniques and technologies advance in a flash. The Harmony LED system is engineered in every way possible to accommodate change.

An **open infrastructure**, camera-ready lightheads, and a sleek, modular design provide for surgical suite flexibility. Monitor extension arms come pre-wired with our new Superbundle and include 12 fiber optic cables, 9 coaxial cables, both AC and DC power and communication cables. This extra video capacity **supports any current video signal** type, from any video vendor, so changing from one video source to another is effortless.

Add a light, a monitor, a camera, an ambient light – Harmony LED is upgradeable to meet your changing needs, all without disrupting your OR. Harmony LED is designed to adapt and grow, so as technology evolves, **your investment remains protected!**



Harmony LED consumes 1/3 less energy than traditional surgical lighting and lasts 30 times longer.

IMPROVE YOUR ENVIRONMENT

- > Greater comfort for the surgical staff.
- > Improved safety for the patient.
- > Saves energy.
- > 30,000-hour life.

Let's face it. If you aren't comfortable, you can't concentrate on the critical task at hand. Harmony LED emits **34% less beam heat** than traditional lighting technologies, keeping you and your staff **cool and comfortable**, even during long, complex procedures. Not only is there less heat on you, but less on the patient as well, reducing the risk of drying out exposed tissue.

Here's the kicker. This technology is better, not only for you and your patient, but for the environment as well. With many hospitals devoted to "green" practices, Harmony LED can be part of your solution. Not only does it **use one-third less energy** than traditional lights, but it is rated for **30,000 hours of life**. That is 10-15 years! Less energy, less waste, better performance. Now that is a brighter idea.



Harmony LED generates 34% less heat than traditional surgical lighting.



A BRIGHTER IDEA – EXACTLY WHAT YOU NEED

Every surgeon is a unique individual with specific goals for each type of procedure performed. Your lighting needs for a quadruple bypass procedure in the morning are vastly different from those for a MIS stent procedure in the afternoon. You expect a lighting system to be able to adapt to your needs.

Harmony LED is available in a multitude of configurations so you have exactly what you need, where you need it. And as your needs change, Harmony LED is engineered to grow with you.

Harmony® LED 785/585 with two Dual Flat Panel Monitors



Harmony® LED 585 Single Lighthead System



Harmony® LED 785/585 Dual Lighthead System



Harmony® LED 785/585/585 Triple Lighthead System



Harmony® LED 585 with Single Flat Panel Monitor



Harmony® LED 585/585 with Single Flat Panel Monitor



Harmony® LED 585/585 with two Single Flat Panel Monitors



> Ask your STERIS Sales Professional about the broad offering of flat panel monitors and accessories available for the Harmony LED Surgical Lighting and Visualization System.

Harmony® LED Surgical Lighting and Visualization System

Features	Harmony® LED 585	Harmony® LED 785
Technology	White 2nd generation LED	White 2nd generation LED
Light head diameter	585 mm	785 mm
Maximum central illuminance	160 000 Lux	160 000 Lux
Intensity adjustment system Surgeon Control™ (*)	Standard, from the sterile light handle or from wall control	Standard, from the sterile light handle or from wall control
Pattern diameter	From 18 to 28 cm	From 22 to 30 cm
Pattern size adjustment Wavelens™ system (*)	In standard, from the sterile light handle	In standard, from the sterile light handle
Colour temperature	4400 K	4400 K
CRI (Colour Rendering Index)	97	97
R9 (deep saturated red colour index)	96	96
Depth of field at 24 cm pattern diameter	> 100 cm	> 100 cm
Heat-to-light ratio	3,38 mW/(m ² .lx)	3,15 mW/(m ² .lx)
Power consumption per light head	130 W	198 W
Life	30 000 h	30 000 h
Video prewired monitor arm	Standard, all signal types	Standard, all signal types
Camera ready light head	Standard	Standard
LED Ceiling Ambient Light (*)	Optional	Optional
Light handle camera (easily adapted from a light head to another one) (*)	Optional, on each light head	Optional, on each light head

(*) STERIS Exclusiveness

Features	Video camera
Sensor	1/4" CCD
Format	NTSC or PAL
Resolution	380 000 pixels (NTSC) - 588 000 pixels (PAL)
Zoom	x 40
Control	From the wall control or IR remote control (optional)
Electricity supply	Available from the head light
Focusing	Auto / Manual
Functions	Autofocus, auto white balance, auto brightness, auto flicker cancel
Output	S-Vidéo, Composite, RS 232

> Visit www.steris.com/harmonyled to see a video of the Harmony LED lighting system in action.

STERIS®



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