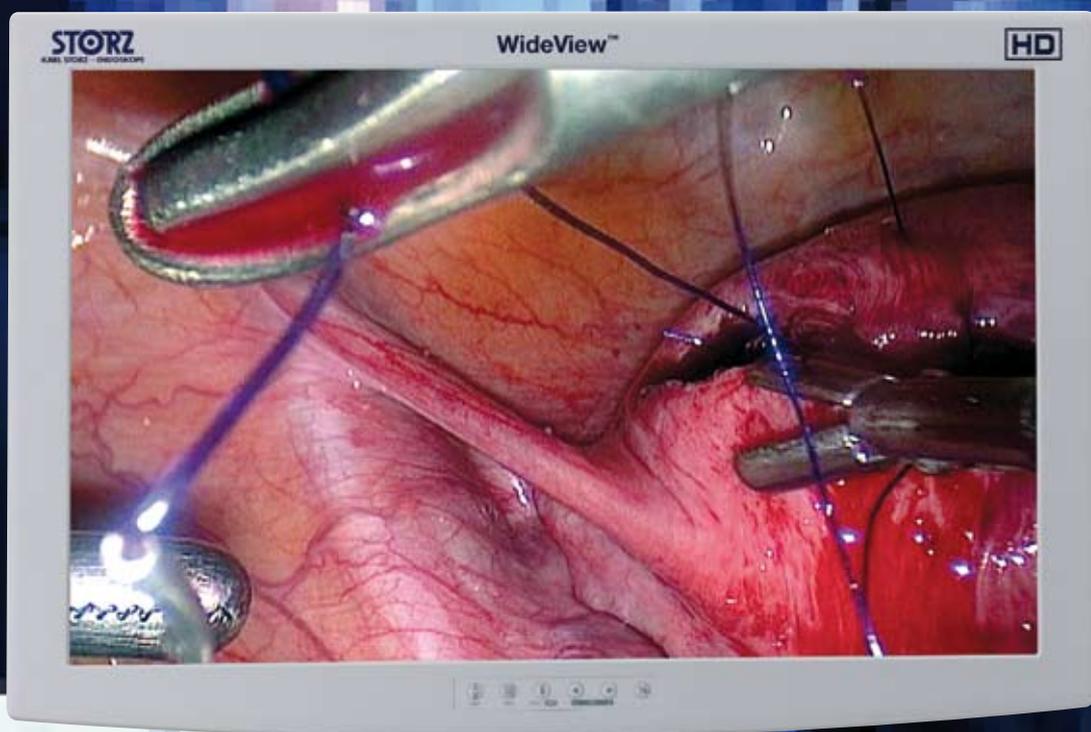


IMAGE 1 HD

The Best Viewing Experience



STORZ
KARL STORZ — ENDOSKOPE
THE DIAMOND STANDARD

FULL HD From KARL STORZ

The Fine art of High Definition Imaging



FULL HD

Key functions:

- Image acquisition
- Image processing
- Image display

Highest quality maintained by:

- Digital signal handling
- 10 Bit processing
- Progressive scan
- High frame rate
- Super low latency

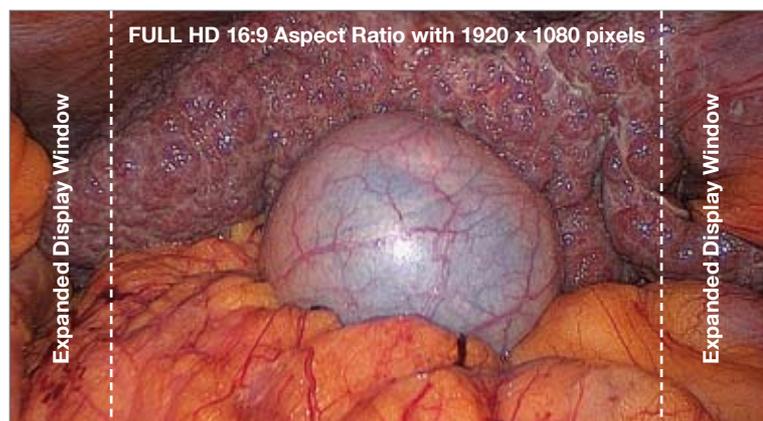


1920 x 1080 pixels
16:9 Aspect Ratio
Progressive Scan

FULL HD imaging in medical applications has many advantages:

- Up to 6* times higher input resolution of the camera delivers more detail and depth of focus
- 16:9 format image acquisition enlarges the field of vision and supports ergonomic viewing
- Excellent contrast and color brilliance enable optimal diagnosis
- High light sensitivity and natural color preservation assure natural rendering on the WIDEVIEW™ screen
- The 16:9 high resolution image sensor provides a 30% increase in lateral vision over a standard definition system with the same magnification:
 - Safe, increased scope to site distance
 - Less instrument clutter
 - Maintain clear vision

All excellent reasons for KARL STORZ to “evolutionize” the highly successful IMAGE 1 Camera System to the next level.



FULL HD From KARL STORZ

Optimized Workflow With IMAGE 1 HD

The IMAGE 1 HD platform represents an advanced control hub for management of images, integration into the OR1™ system and much more. Its wide portfolio of video outputs allows accommodation of even the most challenging video routing scenarios. The built-in KARL STORZ-SCB Communication Bus Interface enables inter-device communication and allows for centralized control and messaging.



WIDEVIEW™ HD Monitors

For the Best Viewing Experience



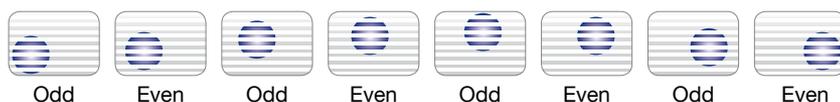
The Standard for Endoscopic Imaging

Image format and image rendering determine quality

Using 16:9 Aspect Ratio monitors in place of the conventional 4:3 format provides a larger display window and demonstrably improves the viewing ergonomics. KARL STORZ FULL HD technology produces the highest possible resolution of 1920 x 1080 pixels, providing medical users with

improved depth of focus and color contrast for enhanced surgical performance. In contrast to interlaced scanning, the 1920 x 1080 progressive scanning delivers an extremely stable image, with no flickering or interference. For medical use, this improved image quality eliminates eye fatigue common in long procedures.

Interlaced Scan



Interlaced = only ½ of the complete image is captured per time instance.



Visible motion artifacts due to merger of odd and even fields into full frames.

Progressive Scan



Entire image information is captured and displayed at the capture rate. The KARL STORZ FULL HD way of image acquisition.

H3 Camera Head Series

Best in Class Visualization Guaranteed



Image Acquisition With KARL STORZ IMAGE 1 HD Camera Heads

- The 16:9 three-CCD chip set in the IMAGE 1 HD Camera Heads captures images that can be displayed on our new WIDEVIEW™ monitors in their native format without any conversion. This preserves the image quality as there is no stretching required.
- IMAGE 1 HD Camera Heads acquire images with an input resolution of more than 2 million pixels – up to 6* times higher than with Standard Definition Camera Heads.
- Maintaining all digital processing from the camera head all the way to the display preserves the pristine quality of the captured images. Conversion between analog and digital signal formats introduces artifact and leads to image quality degradation.

* Depending on used color system PAL/NTSC

IMAGE 1 HUB™ HD

The Heart of the Imaging System

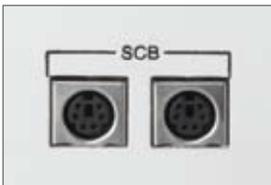
Versatile and Highly Connected



■ Modularity

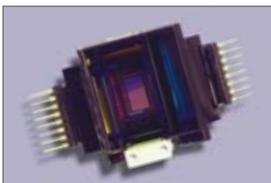
The subsequent installation of connectivity options is supported by a module slot concept. Module options that are available:

- Dual SDI output for long range video data transmission
- Optical outputs for OR installations



■ In full control

The IMAGE 1 HUB™ features device control and monitoring through the SCB. Light sources and insufflators can be controlled via the camera head buttons. Status information overlay like light intensity and flow provide the surgeon with easy access to crucial information.



■ Image processing at its best

The IMAGE 1 HUB™ carefully manages the pristine quality of the camera head images:

- 1:1 acquisition and display
- No de-interlacing required for progressive display
- No scaling or cropping required for HD display



■ Value retention

The IMAGE 1 HUB™ is built on a platform concept. All IMAGE 1 Camera Heads regardless of whether they are high definition or standard definition will continue to work in conjunction with the IMAGE 1 HUB™ Camera Control Unit.

IMAGE 1 HUB™ HD

The Image Capture Module

Efficient Built-in Documentation

- Cost effective

No separate image capture box is needed to print or archive still images or video. Front and back side USB connectors allow for simultaneous connection of USB mass storage device and printer.



- Plug & Play

The capture functionality through USB allows connecting USB mass storage devices. Still images can be captured in FULL HD resolution whereas videos are captured in SD resolution in a H.264 compressed format.



- Convenient capture control

All functions and features are accessible from the camera head buttons within the sterile field. All captured images or movie recordings will be stored taking previously entered patient information into account in the folder name.



- Image and movie capture made easy

Images can be captured in JPEG format in FULL HD quality. Movies are recorded in the highly efficient H.264 format in standard definition.



- Printing out of the box

Printing high quality images is now easier than ever. Common medical USB printers are supported by the image capture module.



Why Have Tunnel Vision When There is Enjoy the Wide, Natural Views of KARL STORZ FULL HD



The best viewing experience

IMAGE 1 HD offers a superior image with a wide, more natural 16:9 format and a resolution of 1920 x 1080 pixels for FULL HD with 2 million pixels. That is the highest resolution in the medical industry.



The widest reach

The IMAGE 1 platform makes KARL STORZ FULL HD technology available to most surgical specialties – from gastroenterology, urology and ORL to orthopedics, gynecology, neurosurgery and general surgery.



Preserving investment

IMAGE 1 is a product platform rather than just an endoscopic camera. It provides long-term investment protection through backward and forward compatibility that ensures upgradeability.

so Much More to see? LL HD

Visualization platform

The IMAGE 1 HD platform functions as a single flexible hub for HD and standard three-chip camera heads, distal-chip videoendoscopes, our DCI®-D1 camera heads, among other products.



A Dialogue of Tradition and Innovation



With over sixty years in the marketplace, KARL STORZ has become the most well-known manufacturer of medical technology in the world, with a well-earned reputation for quality and product innovation. The fundamental inventions of the company's founder Dr. med. h. c. Karl Storz set the first standards and paved the way for the establishment and interdisciplinary use of endoscopy for minimally invasive medicine. This demand for quality innovations has been consistently pursued into the 21st century.

Fulfilling the medical demands for functionality and ergonomics, as well as using technology to improve the well-being of the patient, are of central importance. KARL STORZ is one of only a few companies to offer a range of endoscopy products for more than 14 disciplines in human medicine.

An intensive exchange of expertise with leading medical universities and research institutes has enabled KARL STORZ to consistently design its products and services to meet the demands of practical medical applications.

tradition innovation



Partners With Medicine for 60 Years

KARL STORZ provides users of its products and services with comprehensive support by offering training courses in the field of minimally invasive surgery. Users receive guidance in the use of endoscopic technology at numerous national and international presentations each year. KARL STORZ works closely with renowned training centers throughout the world.

The KARL STORZ Media Library offers a wide range of specialist material in print and digital form, e.g. guidance from leading medical professionals in “Doctor to Doctor Manuals” and many other sources of information related to products and applications.

For KARL STORZ, consultancy and service for the long-term maintenance of instrument value are important aspects of the dialogue between medicine and industry. The protection of patients, user safety and optimization of the cost effectiveness of instruments are important goals.

cooperation service



Telemedicine

Bridge distances at the push of a button with

OR1™ connect series – unlimited possibilities for communication

Displaying the right information, at the right place and the right time, introduces improved ergonomics and increases safety within the OR – this was the guiding principle behind the development of the KARL STORZ OR1™ connect series. The modular system construction provides user-friendly integration solutions for the OR, offering a high degree of flexibility for various applications.

Special features:

- Simultaneous display of endoscopic images on several monitors
- High resolution “Picture in Picture” function/OR1™ Quadvideo
- Unlimited communication within the hospital, e.g. from OR to OR, with the doctor’s office or lecture hall, as well as with locations outside the clinic, e.g. for teaching or training purposes
- Access to X-ray, ultrasound and other PACS images during surgical procedures
- Monitoring of vital patient parameters
- Integration of images from a navigation system
- Numerous options for adapting to individual requirements, e.g. integration of a CD player, light controls, etc.

KARL STORZ AIDA® compact HD

Your endoscopic images, too, can now be documented and stored in the best possible image quality.

Special features:

- Greater detail and depth of field
- High color contrast for better spatial, three-dimensional viewing
- Best possible evaluation of findings thanks to unparalleled color brilliance
- The 16:9 image generation format enlarges the viewing area and enhances viewing ergonomics; potential vertical information loss is restored
- Still images are recorded and displayed in top quality with 1920 x 1080 pixels resolution and 2 million pixels – the highest available resolution in medical technology
- Videos are recorded in progressive scan with 720p resolution





OR1™ TENDOS® System I HD – mobile unit for telemedicine, endoscopic devices and documentation in a single unit

OR1™ TENDOS® System I HD combines visualization in best HD quality, telemedicine, documentation and endoscopic devices in a single unit – mobile, compact, multifunctional and extremely flexible!

The most important telemedicine functions, required by the surgeon for routine hospital tasks, such as the transmission of images, video conferencing and telephone functionality, can be implemented in any room via plug & play.

Telemedicine, used in combination with endoscopic devices and the documentation system, equips doctors with everything they need for endoscopic interventions.

Special features:

- Complete mobile plug & play solution – for use in the OR, conference room, etc.
- Visualization in best HD quality (1080p)
- 23" monitors in WIDEVIEW™ format
- Integration of endoscopic camera, room camera and other signal sources
- Digital transmission of high quality audio and video recordings, e.g. to consult a third party
- Display of presentations and other PC signals using the video conference function
- Intuitive user control via touch screen
- Standard sets of endoscopic devices for diverse clinical disciplines
- Straightforward recording and archiving of image, video and audio data



Maintain Value With Service

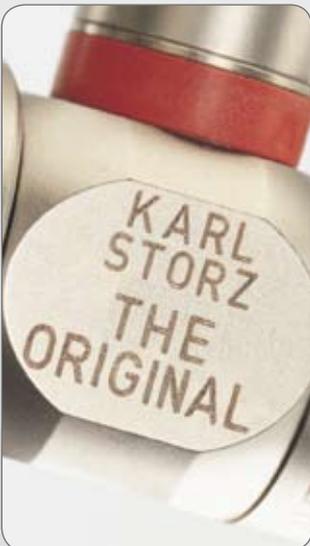
- Patient and user safety
- Transparent, planable costs

The right to service

Today, working together as partners not only involves joint planning, but also thinking ahead to ensure the future safety of patients and users and to protect investments in the long term.

Professional maintenance services with manufacturer's guarantee, comprehensive consultancy and training in correct instrument handling to ensure longevity, improvement of instrument deployment by optimizing sets and replacing instruments are the fundamental components of a reliable service offering.

The ENDOPROTECT1 service program developed and refined by KARL STORZ offers planning and services which go far beyond these basic requirements, guaranteeing transparent and planable costs for all aspects of instrument management.



ENDOPROTECT1

The KARL STORZ Service Program

Advantages of service modules

The KARL STORZ ENDOPROTECT1 service program offers professional maintenance services carried out by the manufacturer. ENDOPROTECT1 also includes service modules which enable clinics to optimize instrument sets and to ensure that personnel handle instruments correctly and carefully.

The goals of ENDOPROTECT1 are:

- Protection of the patient against potential safety risks
- Protection of clinic, doctors and medical personnel
- Protection of investment by maintaining value in the long term

The KARL STORZ service modules:

- Manufacturer repair and replacement service
- Training of personnel
- Set audit and reorganization of sets
- Instrument management

8 reasons to choose the KARL STORZ ENDOPROTECT1 Service Program

- Preparation in manufacturer quality and the use of original KARL STORZ replacement parts based on special production specifications to restore the original performance parameters
- Repairing with the E-CLASS® replacement process ensures fast service
- “As new” replacement parts used in every maintenance service; the latest product technology is also integrated – at no additional charge
- The ENDOPROTECT1 program reduces costs: The need to reinvest at new prices is virtually eliminated, which means the value of products is maintained at the cost of repairs
- ENDOPROTECT1 service agreements with fixed budgets provide cost transparency and savings
- Trade-in program for economical conversion and standardization of the product range
- User training in professional preparation and care verifiably increases the usable life of products
- Individual set audits optimize the product range, keeping functionality and costs of the sets in perfect balance



In a Sea of Imitations The Original



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KARL STORZ—ENDOSKOPE
THE DIAMOND STANDARD

**Please send via fax to:
+49 (0)7461 708-105**

YES, I'm interested in KARL STORZ FULL HD.

- Please send me more information about the KARL STORZ HD Platform.
- Please contact me to arrange a date with your customer service.

YES, I'm interested in KARL STORZ OR1™.

- Please send me more information about KARL STORZ OR1™.
- Please contact me to arrange a date with your customer service.

**YES, I'm interested in the KARL STORZ
ENDOPROTECT1 program.**

Please send me more information about KARL STORZ ENDOPROTECT1.

**YES, I'm interested in the KARL STORZ
training program.**

Please send me more information about training from KARL STORZ.

My contact information:

Name

Hospital

Department

Address

City

Country

Phone

Fax

Email address



...evolution continues

STORZ
KARL STORZ—ENDOSKOPE

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