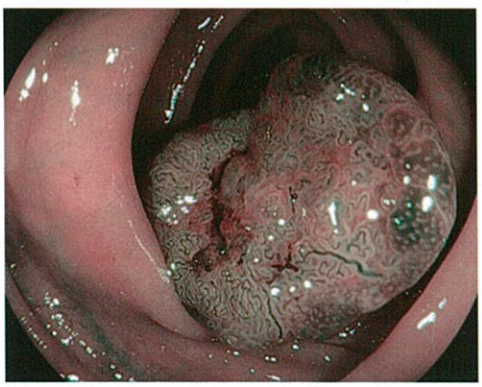
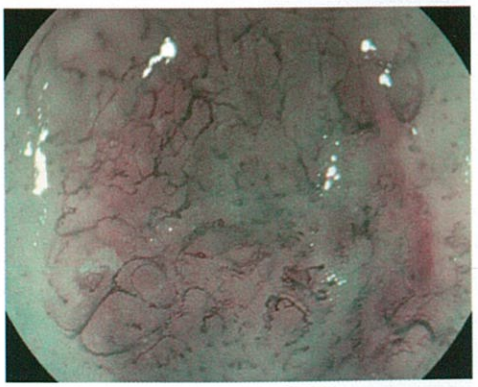
PENTAX
MEDICAL

OPTIVISTA (EPK-i7010)

A unique combination of optical and digital enhancements, for improved in vivo diagnosis





OPTIVISTA - Enlighten your perspectives

The new premium solution for advanced endoscopy.

The success of a procedure can hinge on your ability to clearly visualize the epithelial surface pitpattern and vascular pattern. In addition to the already established i-scan modes, the OPTIVISTA now features OE (Optical Enhancement), creating a very unique platform where both digital and optical enhancements are available. This unique combination provides extra information for a more accurate in vivo diagnosis through improved vessel and mucosal patte rn characterization.

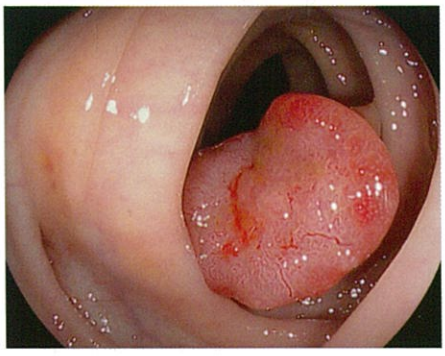


Image 1 – 40 mm non-polypoid lesion with central depression i-scan SE

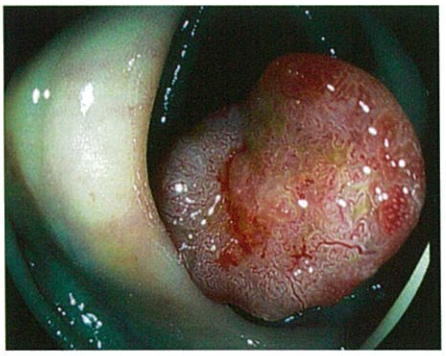


Image 2 – Complete loss of pits architecture with i-scan TE

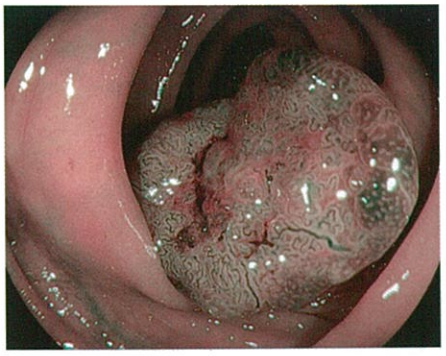


Image 3– Marked distortions, irregular enlahgement and blind ending of the capillary vessels with OE Mode 1

Supporting to Complete Clinical Pathway

A leap forward for in vivo histology

i-scan & i-scan OE - a unique combination of Digital & Optical enhancements

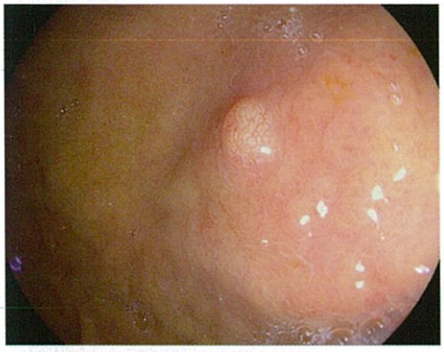
Enhanced detection and improved in vivo diagnosis

i-scan Management

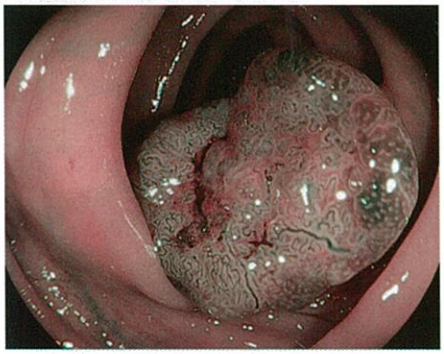
Sharp High-Definition Image, combined with i-scan imaging and excellent illumination for a more detailed view of the mucosa and enhanced detection.

OE

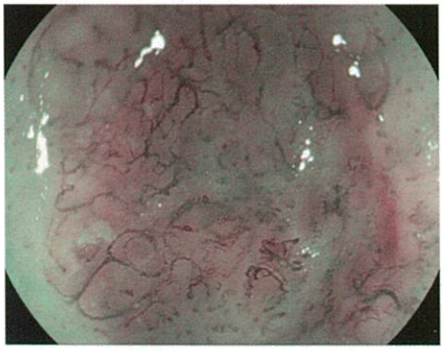
A unique combination of digital enhancement (i-scan) and Optical Enhancement (OE), provides extra information for a more accurate in vivo diagnosis through improved vessel and mucosal pattern characterization



Improved **lesion detection** with i-scan digital processing.



Improved **surface pattern characterisation** with i-scan digital processing & OE (Optical Enhancement).

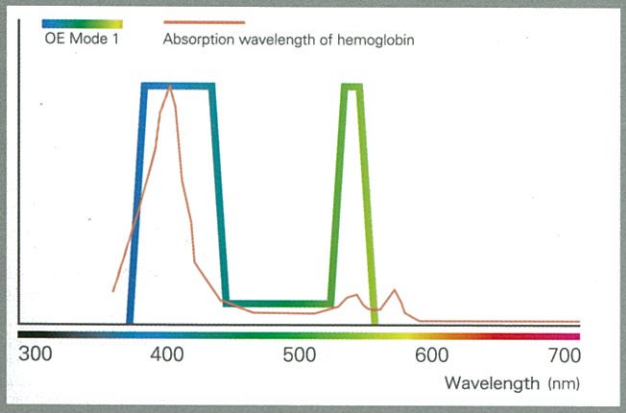


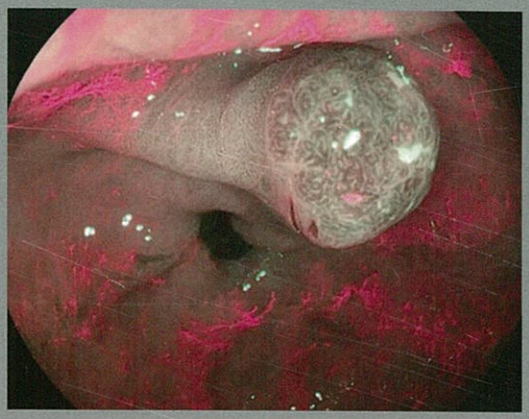
Improved **vascular pattern visualisation** with OE (Optical Enhancement).

Bright, detailed Images in white light and
OE (Optical Enhancement) band - limited light modalities.

Optical Enhancement (Band-Limited Light Filtration)

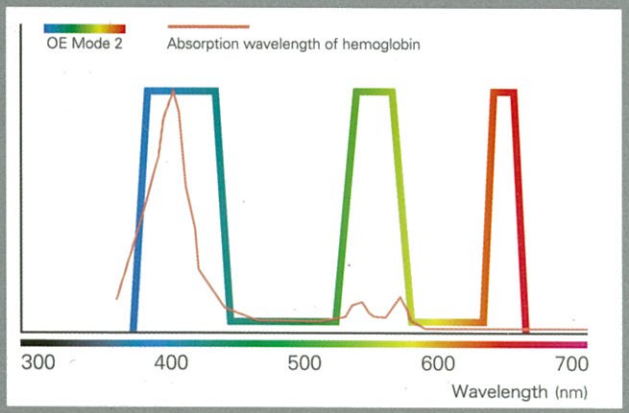
A leap forward for in vivo diagnosis, i-scan and OE - a unique combination of optical and digital enhancement





OE mode 1

The mode 1 optical filter enhances the contrast of the blood vessels, supporting vessel structure characterization. Light that has a wavelength of 415nm emphasises blood vessels on the surface of the mucous membrance and light with a wavelength around 540 nm emphasises blood vessels within the mucous membrane.

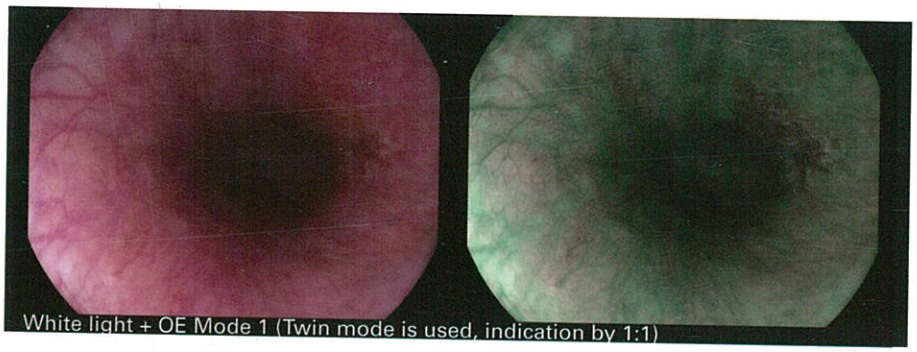


OE mode 2

The Mode 2 optical filter transmits long wavelength light (red) in addition to the light wavelengths of Mode 1. The combination of these three light wavelengths also emphasises blood vessels on and within the mucous membrane, however in a more natural 'white light' that maintains natural colour tones that may be used for an entire procedure.

CASE 1 – Esophagus

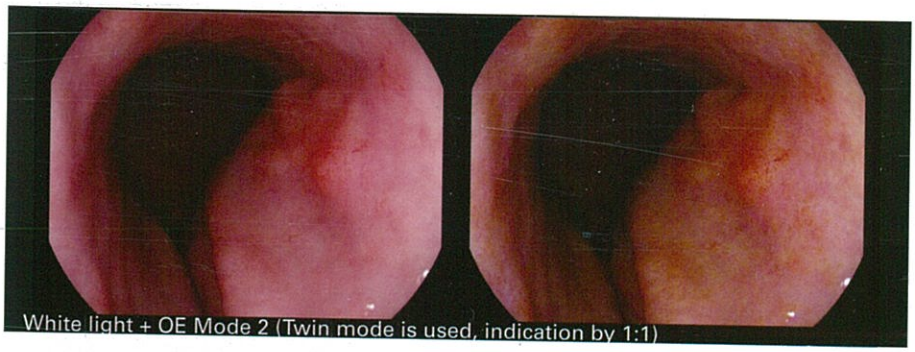
The white-light image indicates a slightly reddened irregular epithelium at the right wall of the Ut area. In the OE mode 1 image, the boundary of the area is obvious and the area is recognized as a brownish area, which has a high color tone contrast to normal epithelium. In addition, use of a magnification endoscope combined with OE mode 1 enables observation of atypical IPCL in tumors and confirmation of the detailed shape of IPCL.

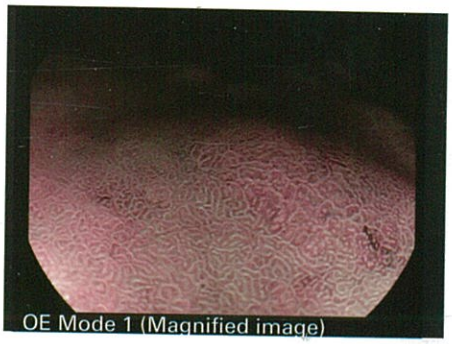

White light + OE Mode 1 (Twin mode is used, indication by 1:1)


OE Mode 1 (Magnified image)

CASE 2 – Stomach

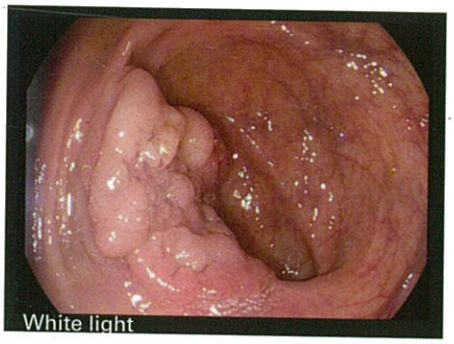
The white-light image indicates an elevated lesion of normal color (to faded color) at the rear wall of the body of the stomach. In the OE Mode 2 image, the difference in color between the normal mucous membrane and tumors at the site is obvious, so it is estimated that the presence diagnosis in OE Mode 1 is highly effective. Use of a magnification endoscope combined with OE mode 1 enables recognition of the difference in surface structure with obvious boundaries, and the combination is expected to be effective for diagnosis of a range of tumors even at low magnification.

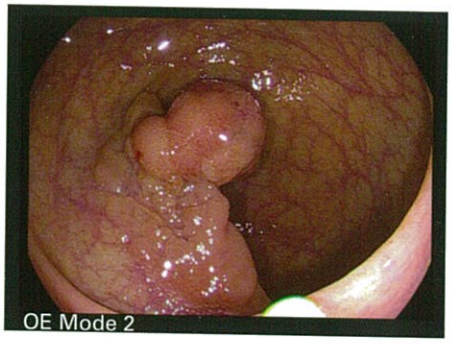

White light + OE Mode 2 (Twin mode is used, indication by 1:1)

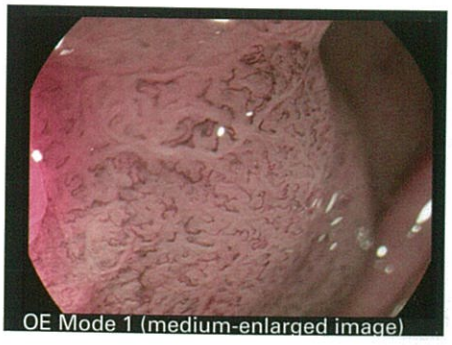

OE Mode 1 (Magnified image)

CASE 3 – Colon

The Is+IIa (LST-G) with a diameter of 30 mm is detected in rectum (Ra). The white-light image indicates IIa component as an elevated region of normal color. The image in OE Mode 2 enables the blood vessels to be clearly seen through the normal mucous membrane, and recognition of IIa component as a red-colored elevated part through which blood vessels can be seen is interrupted. The OE Mode 1 image enables accurate observation of the change in the microstructure on the surface and microvessels on the surface.


White light


OE Mode 2


OE Mode 1 (medium-enlarged image)

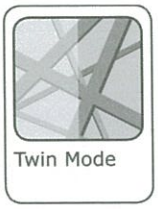
The cases mentioned above are only examples. This effect is not guaranteed to be always effective for all procedures
Images and comments by courtesy of Department of Endoscopy and Endoscopic Surgery, the University of Tokyo Hospital.
The above are the cases that have been captured by EPK-i7000 with the OL-U1 optical filter upgrading kit that adds OE functions. The OE function specifications of OL-U1 are the same as the OE function specifications of EPK-i7010. (OL-U1 is only available for purchase in Japan).

Optivista - A powerful education platform

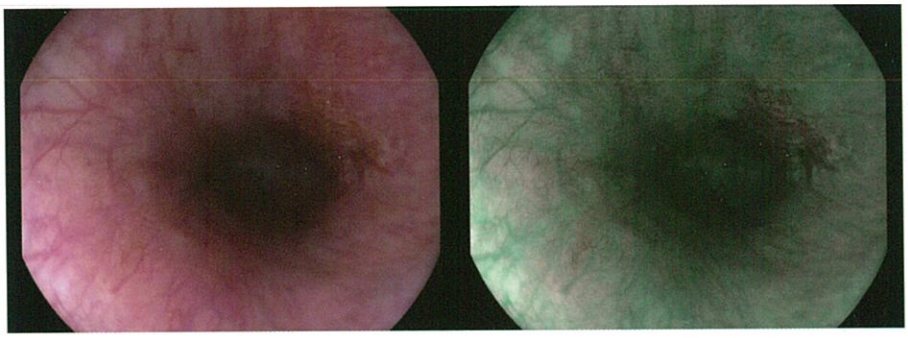
The OPTIVISTA EPK-i7010 video processor is a state-of-the-art educational tool with customizable functions perated easily by the touch screen, or via the endoscope buttons.

HD Twin Mode

Teach and access with the Unique Twin Mode


Twin Mode

- TwinMode is useful in teaching the appropriate interpretation of image enhanced endoscopy, providing simultaneous comparison of side by side endoscopic images.
- Among experts, TwinMode is respected appreciated as an educational tool for non-experts in "building the bride" between HD+ white light images and different i-scan modes and findings.
- The simultaneous comparison of enhanced clinical images is useful in teaching the appropriate characterization of lesions.

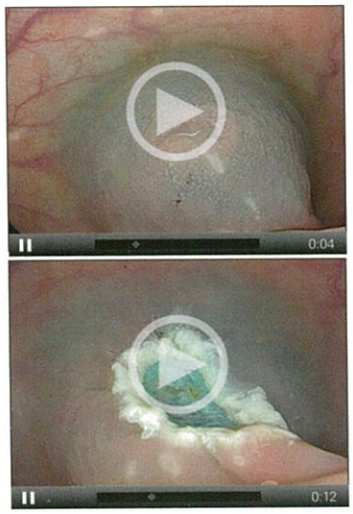

HD White light Image OE Mode 1

HD Video and Audio Recording (USB)

Collect and share with the unique integrated video and audio recording


HD+ Video Recording

- The video recording function enables capture of HD+ video files through a USB storage device, for fast and easy sharing of findings with peers. Audio recording for video is captured through external microphone.
- Contributes to cost savings in the endoscopy room by avoiding unnecessary external HD recording devices.
- For best image collection, the OPTIVISTA also incorporates freeze scan technology which automatically selects the sharpest picture.

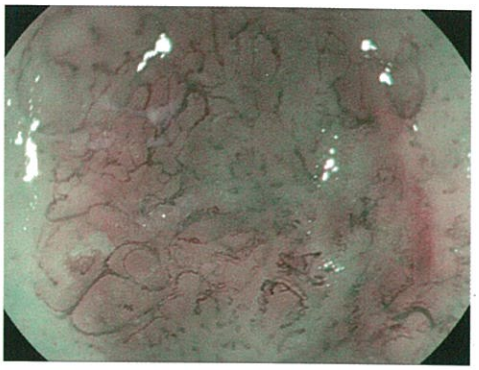


Exchange and expand your knowledge of i-scan by visiting the i-scan website www.i-scanimaging.com

Optical Magnification & Close Focus Endoscopes

A range that meets all needs

Magniview Endoscope Series



Magniview HD+ Endoscope Series

The PENTAX MEDICAL Magniview endoscopes complement the outstanding HD+ endoscope range with the addition of an optical zoom function.

In combination with i-scan & OE, the Magniview endoscopes support enhanced characterisation in a wide range of procedures, with images of up to 136 times magnification.

i10 Endoscope Series

i10 HD+ Endoscope Series

The PENTAX MEDICAL i10 offer outstanding HD image quality with increased therapeutic opportunity through larger instrument channels. In combination with i-scan & OE, the i10 endoscopes allow detailed examination of the mucosal surface and vessel patterns, with a 2nd Generation HD+ CCD and Close Focus lens system providing clear images from a distance of only 2mm.

Specifications

OPTIVISTA EPK-i7010 Video Processor

HD Video Outputs	1080i via HD-SDI, DVI-D and SXGA via DVI-D
External Device Interface	USB (Front x1, Rear x2) and RJ45 (Ethernet)
User Interface	Touch Screen Keyboard
Image Enhancement Endoscopy Function	Digital Image Enhancement: i-scan (SE, TE, CE) Optical Image Enhancement: OE (Mode 1, OE Mode 2) Enhances the endoscopic view of mucosal surface and vessel patterns
Compatible Video Endoscopes	70K/80K/ 90K/90i/i10/K10 series
Lamp	300W Xenon Lamp
Dimensions (WxHxD/weight)	400x205x520 mm / 21.5 Kg
Contrast Mode	Normal, Mode 1 ,Mode 2 Can be adjusted for optimising optimal image contrast to meet individual user needs and varying monitor brands
Dynamic Range	Off, Low, Med, High Adjustment for optimising image brightness in darker areas of an image
Freeze Scan	Off, Low, Med, High Selects the sharpest image from a series of images temporarily stored in the processor memory, whenever an image is frozen
Digital Zoom	Magnification options: Off, 1.2x, 1.5x, 2.0x

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PENTAX MEDICAL
Excellence in Focus