OLYMPUS

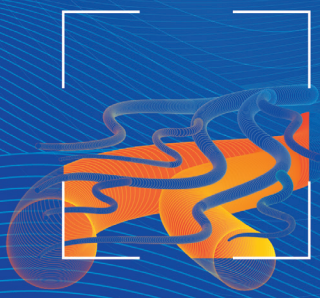
EVIS X1™
Endoscopy System

EVIS X1™ Endoscopy System

Elevating the Standard of Bronchoscopy

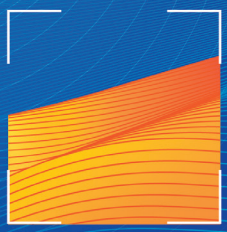
BAI-MAC™ Technology

The Confidence to See Further



RDI™ Technology

The Power to See Deeper



TXI™ Technology

See Things in a New Light

EVIS X1™ Endoscopy System

Elevating the Standard of Bronchoscopy

EVIS X1™
Endoscopy System

As a leading medical technology company, we are proud to present our most advanced endoscopy system.

The EVIS X1 endoscopy system introduces a range of technologies that aim to advance the way physicians can detect, sample and treat pulmonary disorders.

Enhancing visibility, expanding possibilities and elevating experiences through imaging technologies developed for the EVIS X1 endoscopy system.

Detection **Sampling** **Treatment**

Reaffirming Leadership in Bronchoscopy

Elevate respiratory care with Olympus' EVIS X1, Olympus' most advanced endoscopy system which integrates diagnostic and therapeutic imaging technologies to help set a high standard in detecting, sampling and treating pulmonary disorders.

RDI, BAI-MAC and NBI technologies are not intended to replace histopathological sampling as a means of diagnosis.

The Confidence to See Further

Unleash the power of BAI-MAC™ for bronchial inspection with even illumination

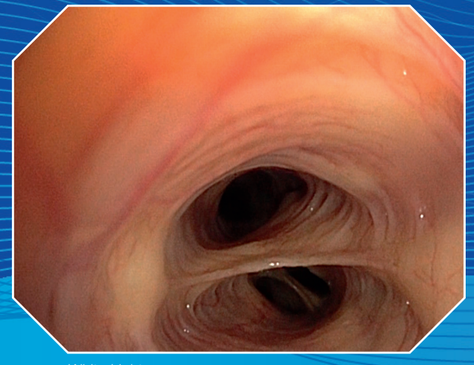
BAI-MAC technology is an image processing function to correct the brightness of dark portions of the image while maintaining the brightness of the brighter potions of the image in order to increase visibility of distant areas. BAI-MAC technology does not accentuate halation in the image.[1]

BAI-MAC

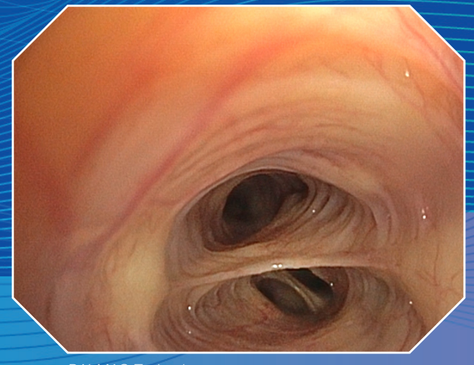
BAI-MAC Technology

Brightness Adjustment Imaging with Maintenance of Contrast

Each image is split into texture and brightness information. The texture remains unchanged, while the brightness of dark areas is automatically enhanced. Combining the original texture information with the adjusted brightness information generates a new, enhanced image in which close-by and distant areas are evenly illuminated — resulting in an enhanced and clear view within bronchial structures.[1]



White Light



BAI-MAC Technology

Images provided by Dr. Arschang Valipour using the BF-1TH1100.

1. Data on file with Olympus (DC00436067)

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See Things in a New Light

Texture and Color Enhancement Imaging (TXI™ Technology)

Early mucosal changes and inflammation can be challenging to see under white light.

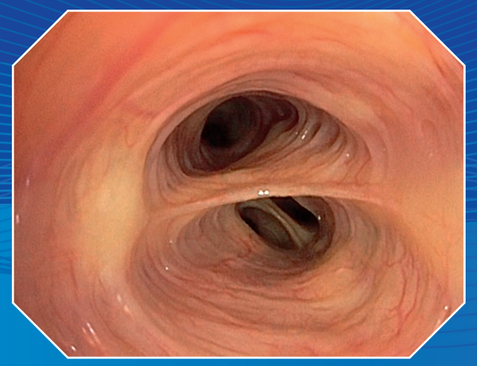
TXI technology selectively improves and increases visibility of mucosal morphology, color patterns and blood vessels.[3]

TXI technology was designed to increase the visibility of potentially suspicious lesions and mucosal abnormalities by enhancing image color and texture during bronchoscopic screening.[3] Images are captured using White Light then TXI™ technology is applied as a post process meaning the color appearance is similar to white light. This allows users to relate to images of lesions they are familiar with.[2]

TXI

TXI Technology
Texture and Color Enhancement Imaging

TXI technology is a function to emphasize image information by combining the three image processing algorithms of brightness correction of the dark part of the image, color difference expansion processing, and texture component emphasis processing.[3]



White Light

TXI Technology

Images provided by Dr. Arschang Valipour using the BF-1TH1100.

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2. Data on file with Olympus (DC00785702)
3. Data on file with Olympus (DC00489983)

The Power to See Deeper

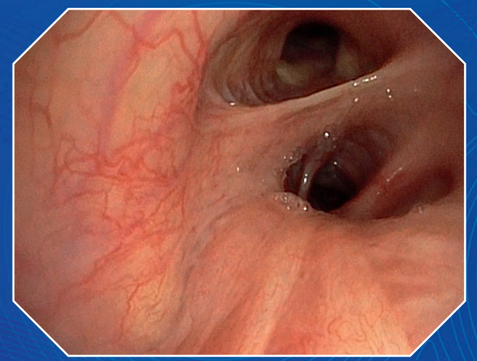
Red Dichromatic Imaging (RDI™ Technology)

Internal bleeding in general can be a serious challenge. Consequently, prevention of bleeding during a bronchoscopy is crucial.

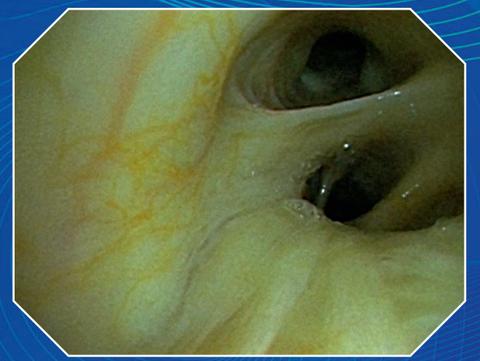
RDI technology improves the visibility of bleeding points within the mucosa and enhances the visibility of deep blood vessels compared to white light.[4]

Red Dichromatic Imaging technology enhances the visibility of deep blood vessels and potential bleeding sources, thereby helping to identify blood vessels that could require immediate treatment. It utilizes green, amber and red wavelengths to visualize deep blood vessels.[5]

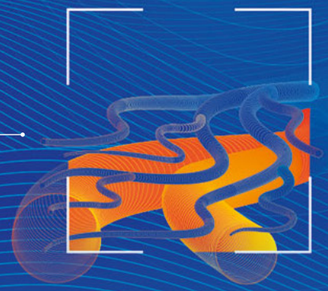
Images provided by Dr. Arschang Valipour using the BF-1TH1100.



White Light



RDI Technology



RDI Technology
Red Dichromatic Imaging

RDI technology works by employing specific green, amber and red wavelengths. The latter two penetrate deep into the mucosa, enabling the visualization of deep blood vessels, while the green light provides the contrast required to differentiate the vessels from the surrounding mucosa.[5]

4. Data on file with Olympus (DC00489983)
5. Uraoka T, Igarashi M. “Development and clinical usefulness of a unique red dichromatic imaging technology in gastrointestinal endoscopy: A narrative review.” Therapeutic Advances in Gastroenterology. 2022;15. doi:10.1177/17562848221118302

Expanding Possibilities

Bronchoscope Design for Improved Procedural Performance

Using a scope with an ergonomic control section may help improve a physician's operability and experience.

Our bronchoscopes are designed with insertion tube rotary function, which may reduce physical stress, providing a comfortable body position during the procedure.[6,7]

Rotation

Insertion Tube Rotation Function

The insertion tube rotation ring on the control section is connected to the insertion tube. By turning the ring in the right or left direction, the insertion tube turns in the same direction without turning the control section. This mechanism reduces hand rotation on the whole control section when turning the insertion tube.[6,7]

Micro image sensors in the BF-H1100 diagnostic and BF-1TH1100 therapeutic bronchoscopes allow for an outer diameter that is 0.2 mm smaller than the predecessors.[8,9,10] These bronchoscopes also provide expanded working channels when compared to predecessor models, which enables increased suction and use of a broad array of Endotherapy devices.[8,9,11]

6. Data on file with Olympus (DC00688716)
7. Data on file with Olympus (DC00704842)
8. Data on file with Olympus (DC00507026)
9. Data on file with Olympus (DC00487063)
10. Data on file with Olympus (DC00507026)
11. Data on file with Olympus (DC0045611)

EVIS X1™
Endoscopy System

The EVIS X1 endoscopy system provides a combination of diagnostic and therapeutic innovation to streamline and improve bronchoscopic procedures and scope handling.

5 LED Spectrum Technology

The CV-1500 video system center combines 5 LEDs to produce various observation modes; its amber LED enables the visualization capabilities of RDI™ technology. LEDs have a longer life span than a xenon lamp and consume less energy.[12]

Supporting Ergonomics

The EVIS X1 system and its range of bronchoscopes are the ideal tools to perform challenging bronchoscopies. By consolidating all operations into the touch panel, the user can initiate procedures and control image data and settings from one device, leading to improved workflows.[13]

High Imaging Performance

Getting the most out of every image by combining innovative technologies: WL, NBI™, RDI™, BAI-MAC™, and TXI™ Technologies.

Touch Panel

The touch panel on the front of the CV-1500 video system center allows the user to initiate all procedures and settings and control image data from one device.[14]

Elevating the Standard of Bronchoscopy

Bring more into view. Perform at new levels. Transforming respiratory care, Olympus' EVIS X1 endoscopy system combines innovative imaging to support diagnostic and therapeutic procedures as well as enhanced scope handling, setting a high standard with easy-to-use technologies for physicians to detect, sample and treat pulmonary disorders.

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12. Data on file with Olympus (DC00412083 and DC00623365).
13. Data on file with Olympus (DC00489983)
14. Data on file with Olympus (DC00460933)

The EVIS X1™ endoscopy system is not designed for cardiac applications. Other combinations of equipment may cause ventricular fibrillation or seriously affect the cardiac function of the patient. Improper use of endoscopes may result in patient injury, bleeding, and/or perforation. Complete indications, contraindications, warnings, and cautions are available in the Instructions for Use (IFU).

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