

IPLEX MX

2004-2005
GOOD DESIGN
GOLD PRIZE

**Easy inspection anytime, anywhere.
Mobile IPLEX brings total convenience
to field maintenance.**

- High efficiency via clear, high-resolution images and stepless zoom
- Excellent mobility thanks to compact, lightweight, battery-powered design
- Simple, intuitive operation
- Complete control of inspection regardless of location and skill level

"Try IPLEX II Now" Experience the high performance of IPLEX II at the IPLEX II website
<http://iplex.olympusindustrial.com>

ACCESSORIES



Optical Adaptor

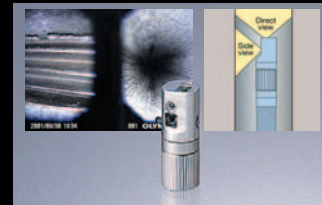
You can change the field of view, direction of view, and depth of field by switching the optical adaptor on the scope tip.



Stereo Optical Adaptor

MAJ-1044D (for ø4.4mm dia. insertion tube, forward-viewing)
 MAJ-1044S (for ø4.4mm dia. insertion tube, side-viewing)
 MAJ-1046D (for ø6.0mm dia. insertion tube, forward-viewing)
 MAJ-1046S (for ø6.0mm dia. insertion tube, side-viewing)
 MAJ-1241D (for ø6.2mm dia. insertion tube, forward-viewing)
 MAJ-1241S (for ø6.2mm dia. insertion tube, side-viewing)

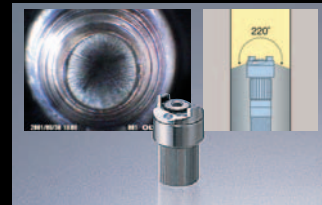
The two objective lenses enable stereo measurement. When used in combination with the 3D Eye-Trek, three-dimensional observation is possible.



Forward/Side-Viewing Adaptor

AT100D/100S-IV76

This single optical adaptor offers enhanced inspection efficiency with both forward-viewing and side-viewing capabilities.



Ultra-Wide-Angle Adaptor

AT220D-IV76

Provides 220° wide-angle images for wide-range inspection. Even makes it possible to confirm the back of an inspection object — something that is impossible with conventional adaptors.



3D Eye-Trek

FMD-3DN (NTSC)
 FMD-3DP (PAL)

Allows you to inspect with super-real three-dimensional images. 3D Eye-Trek makes it easier to get an accurate sense of distance and facilitates insertion of the scope and access to the site.



Accessory Bag

MAJ-1120

Provides convenient, compact storage for the optional 3D Eye-Trek and other accessories. Can also be attached to the IPLEX main unit.



Remote Control Extension Cable

MAJ-1091 Length: 4m

Extends the remote control cable, allowing more freedom of movement during operation. Attaching this cable and removing the monitor from the monopod allows you to operate the main unit while moving freely around a wider area. Note: The remote control shown in the photo does not come with this cable.



Rigid Sleeve

MAJ-1281 (for ø4.4mm dia. insertion tube)

Outer Diameter: ø5.9mm

Length: 250mm/340mm/450mm

MAJ-1253 (for ø6.0mm/ø6.2mm dia. insertion tube)

Outer Diameter: ø7.5mm

Length: 250mm/340mm/450mm

Useful as an auxiliary insertion tool and also makes the scope easier to handle. Simply fit and lock the sleeve onto the tip of the insertion tube.

OLYMPUS®

Your Vision, Our Future

Industrial Videoscope

IPLEX II

NEW

IPLEX II introduces networked inspection

Specifications, design and accessories are subject to change without any notice or obligation on the part of the manufacturer.

OLYMPUS®

www.olympus.com

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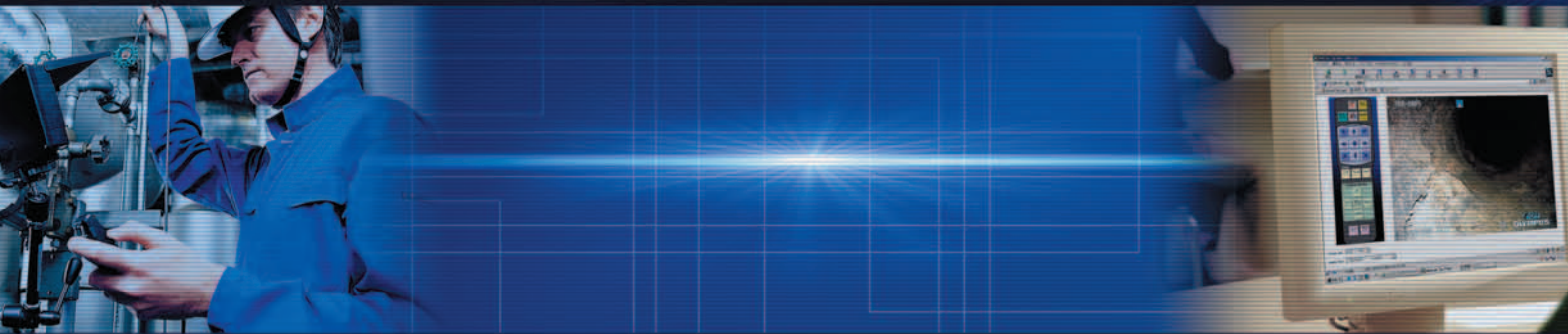
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Precision inspection is now easier for everyone.

Network features link experts with the site.

With conventional industrial videoscope systems, inspection might be easy but accurate judgment is difficult and can be time consuming. IPLEX II makes precision analysis faster and easier than ever before, regardless of the inspectors' skill level, by introducing powerful new features such as a high-resolution Cristal LCD Monitor for more precise observation and Super Stereo Measurement for greater measurement accuracy and ease of use. Moreover, a new network function gives specialists the ability to remotely operate IPLEX II from the technology center, headquarters, or almost anywhere away from the inspection site. Fast, efficient and highly precise, IPLEX II redefines the meaning of quality inspection.



● Precision results made easy

● Teamwork from afar

Cristal LCD monitor

More accurate evaluation of small chips, corrosion and dirt.

Network functions^{*2}

Remote endoscope control, remote viewing of moving images, and emailing of still images.

Super Stereo Measurement^{*1}

More accurate determination of distances to objects and between points.

Multi-language display

Easier, more user-friendly operation for inspectors around the world.

User-friendly design

Convenient all-in-one design with everything needed for inspection, including a multifunctional remote control.

► Features and specifications

| ■ IPLEX II Equipment Components and Functions | | | | | | ■ IPLEX II Detailed Specifications | |
|--|------|-----------------------|--------------|------------------------------|------------------------------|---|--|
| | | | | | | IPLEX SA II stereo measurement model is IPLEX SA II advanced model with stereo measurement. | |
| Scope Variation | | Insertion tube length | Product code | | | | Insertion tube length refers to the length from the distal end to the main unit case when the insertion tube is fully pulled out. |
| Outer diameter | | | | | | | |
| ø4.4mm | 3.5m | IV7435A-2 | IV7435A-2 | IV7440X1(4m) ^{*5} | IV7440X1(4m) ^{*5} | IV7435-2 | |
| | 3.5m | IV7635A-2 | IV7635A-2 | | | IV7635-2 | |
| | 5.0m | IV7650A-2 | IV7650A-2 | | | IV7650-2 | |
| ø6.0mm | 5.0m | IV7650A-2 | IV7650A-2 | | | IV7650-2 | |
| | 7.5m | IV7675A-2 | IV7675A-2 | | | IV7675-2 | |
| | 9.6m | IV7696A-2 | IV7696A-2 | | | IV7696-2 | |
| ø6.2mm | 3.5m | | | IV7635X1(3.5m) ^{*5} | IV7635X1(3.5m) ^{*5} | | |
| Basic Functions | | | | | | | |
| Interchangeable optical adapter ^{*3} | | ✓ | ✓ | ✓ | ✓ | ✓ | For the specifications, see "Optical Adaptor Specifications." |
| 4-way motorized angulation (with fine-tuning mode) | | ✓ | ✓ | ✓ | ✓ | ✓ | Angulation range (up-down/right-left): IV76 Series — 150°, IV74 Series — 120°, IV74X1 Series — 130° |
| Tough Tapered Flex insertion tube | | ✓ | ✓ | ✓ | ✓ | ✓ | Tube design that becomes more pliable towards the distal end with crush resistance more than 3 times as high as that of a conventional model |
| Scope length index line | | ✓ | ✓ | ✓ ^{*6} | ✓ ^{*6} | ✓ | Marked at every 500 mm ^{*6} Special index line for IV7635X1 |
| Interchangeable scope unit | | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Working channel | | ✓ | ✓ | ✓ ^{*7} | ✓ ^{*7} | ✓ | ^{*7} Available only for IV7635X1 |
| LCD monitor ^{*4} | | ✓ | ✓ | ✓ | ✓ | ✓ | 6.3" XGA full-color, detachable from main unit |
| LCD fixing device (monopod) | | ✓ | ✓ | ✓ | ✓ | ✓ | Two-step expandable, maximum height 964 mm |
| Remote controller | | ✓ | ✓ | ✓ | ✓ | ✓ | LCD monitor/provided with 3D Eye-Trek connector |
| 50-W metal-halide light source | | ✓ | ✓ | ✓ | ✓ | ✓ | Lamp life: Minimum 300 hours |
| Integrated shock-resistant case | | ✓ | ✓ | ✓ | ✓ | ✓ | Dimensions: 508 (W) x 290 (D) x 528 (H) mm Weight: 22.8kg (with IV7635X1) |
| Rod handle & casters | | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Vertical and horizontal operation | | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Insertion tube winding drum | | ✓ | ✓ | ✓ ^{*8} | ✓ ^{*8} | ✓ | ^{*8} Pocket style |
| AC power supply | | ✓ | ✓ | ✓ | ✓ | ✓ | Voltage: 100 to 120 V/220 to 240 V Max power consumption: 250 VA Frequency: 50/60/400 Hz |
| DC power supply | | ✓ | ✓ | ✓ | ✓ | ✓ | Voltage: 12 V to 30 V Max power consumption: 288 W |
| CCU Functions | | | | | | | |
| Freeze | | ✓ | ✓ | ✓ | ✓ | ✓ | Selectable between freeze and field, 4-frame memory possible |
| Stepless digital zoom | | ✓ | ✓ | ✓ | ✓ | ✓ | Max 3x |
| Panning | | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Exposure | | ✓ | ✓ | ✓ | ✓ | ✓ | 17 to 500 msec (NTSC) 20 to 500 msec (PAL) |
| Brightness adjustment | | ✓ | ✓ | ✓ | ✓ | ✓ | 7 steps |
| Gain | | ✓ | ✓ | ✓ | ✓ | ✓ | Selectable from Standard, Boost and Low |
| Enhancement | | ✓ | ✓ | ✓ | ✓ | ✓ | 3 steps |
| Comparison | | ✓ | ✓ | ✓ | ✓ | ✓ | Live image and retrieve image are displayed on half-split screen |
| Menu language selection | | ✓ | ✓ | ✓ | ✓ | ✓ ^{*9} | PAL: English, German, French, simplified Chinese, Spanish, Italian, and Russian NTSC: English, Japanese, Spanish, Korean, and traditional Chinese ^{*9} Japanese or English |
| Video signal output | | ✓ | ✓ | ✓ | ✓ | ✓ | Composite video output terminal (BNC): 1 (75 Ω) S-video terminal: 1 (75 Ω) |
| Video signal input | | ✓ | ✓ | ✓ | ✓ | ✓ | S-video terminal: 1 |
| Audio signal output | | ✓ | ✓ | ✓ | ✓ | ✓ | Monaural x 1 (RCA Pin) |
| Recording Management Functions | | | | | | | |
| Still image recording/playback | | ✓ | ✓ | ✓ | ✓ | ✓ | File format: When stereo adaptor is selected — Uncompressed TIFF. When other adaptor is selected — JPEG (standard quality or high quality) File size: Uncompressed TIFF — 640 KB, Standard quality JPEG — 100 KB, High-quality JPEG — 200 KB, Resolution: NTSC — 640 x 480 pixels, PAL — 768 x 576 pixels |
| Audio recording/playback | | ✓ | ✓ | ✓ | ✓ | ✓ | Recording time: Max 60 sec. File format: WAV |
| Movie recording/playback | | ✓ | ✓ | ✓ | ✓ | ✓ | Recording time: Variable depending on recording card capacity. File format: QuickTime M-JPEG Resolution: NTSC — 320 x 240 pixels, PAL — 384 x 288 pixels |
| Removable medium | | ✓ | ✓ | ✓ | ✓ | ✓ | 32 MB recording card provided as standard |
| Thumbnail display | | ✓ | ✓ | ✓ | ✓ | ✓ | 9-frame display |
| Image file operation | | ✓ | ✓ | ✓ | ✓ | ✓ | Copy, move, delete. Manageable by folder |
| Search function | | ✓ | ✓ | ✓ | ✓ | ✓ | Date search |
| Image title entry | | ✓ | ✓ | ✓ | ✓ | ✓ | Up to 15 alphanumeric characters and symbols can be entered. |
| USB terminal | | ✓ | ✓ | ✓ | ✓ | ✓ | USB version 1.1 |
| IPLEX MANAGER software | | ✓ | ✓ | ✓ | ✓ | ✓ | For Windows 95, NT, 98, 2000 [®] , XP |
| Direct recording to PC | | ✓ | ✓ | ✓ | ✓ | ✓ | Still image and still image with audio. Movie cannot be transferred. |
| Recorded data transferring to PC | | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Remote operation by PC (via USB) | | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Measurement Functions | | | | | | | |
| Scaler measurement | | ✓ | ✓ | ✓ | ✓ | ✓ | Measures the distance between points. The calculation is based on the known length in the same inspection image. |
| Stereo measurement (Distance) | | ✓ | ✓ | ✓ | ✓ | ✓ | Measures the distance between the two plotted points. |
| Stereo measurement (Point-to-Line) | | ✓ | ✓ | ✓ | ✓ | ✓ | Measures the distance between a hypothetical line between two designated positions and the required point. |
| Stereo measurement (Depth) | | ✓ | ✓ | ✓ | ✓ | ✓ | Measures the depth/height from a hypothetical plane inside three designated positions to the required point. |
| Stereo measurement (Area/Lines) | | ✓ | ✓ | ✓ | ✓ | ✓ | Calculates the area surrounded by multiple designated positions and plots multiple positions for measurement of curved surfaces. |
| Stereo measurement (Profile) | | ✓ | ✓ | ✓ | ✓ | ✓ | The cross section of two designated points is represented with computer graphics. |
| Network Function | | | | | | | |
| Network | | Option | Option | | | | |
| Other Functions | | | | | | | |
| 3D observation | | Option | Option | Option | Option | Option | Stereo optical adaptor and 3D Eye-Trek are required. |

^{*1} Comprised of the IPLEX SA main unit and stereo measurement set. ^{*2} The IPLEX can be upgraded to the IPLEX SA after purchase. ^{*3} The distal end optical adapter is optional. ^{*4} Some functions are not available with Windows 95 or NT. ^{*5} Insertion tube length.

| ■ Optical Adapter Specifications | | | | | |
|----------------------------------|------------------|----------------|-------------------|----------------|------------|
| Scope | Optical Adapter | Optical System | | | Distal End |
| | | Field of view | Direction of view | Depth of field | |
| IV74 IV7440X1 | AT40D-IV74 | 40° | Forward | 200→mm | 2.4 |
| | AT80D/NF-IV74 | 80° | | 8→mm | 9.5 |
| | AT80D/FF-IV74 | 80° | | 35→mm | 3.1 |
| | AT120D/NF-IV74 | 120° | | 4→190mm | 9.2 |
| | AT120D/FF-IV74 | 120° | | 25→mm | 3.3 |
| | AT80S-IV74 | 80° | Side | 25→mm | 3.7 |
| | AT120S/NF-IV74 | 120° | | 1→20mm | 9.6 |
| | AT120S/FF-IV74 | 120° | | 6→mm | 6.0 |
| | AT40D-IV76 | 40° | | 200→mm | 2.4 |
| | AT80D/NF-IV76 | 80° | | 8→mm | 9.5 |
| IV76 | AT80D/FF-IV76 | 80° | Forward | 35→mm | 3.1 |
| | AT120D/NF-IV76 | 120° | | 4→190mm | 9.2 |
| | AT120D/FF-IV76 | 120° | | 25→mm | 3.3 |
| | AT80S-IV76 | 80° | Side | 18→mm | 4.0 |
| | AT120S/NF-IV76 | 120° | | 1→25mm | 9.6 |
| | AT120S/FF-IV76 | 120° | | 5→mm | 5.9 |
| | AT100D/100S-IV76 | 100°/100° | | 2→mm | 7.0 |
| | AT220D-IV76 | 220° | | 2→mm | 4.3 |
| | AT120D/NF-IV76X1 | 120° | Forward | 4→190mm | 9.2 |
| | AT120D/FF-IV76X1 | 120° | | 25→mm | 3.3 |
| IV7635X1 | AT80S-IV76X1 | 80° | Side | 18→mm | 4.0 |
| | AT120S-IV76X1 | 120° | | 5→mm | 5.9 |

| ■ Stereo Measurement Optical Adaptor Set Specifications | | | | | |
|---|-----------|------------------|----------------|-------------------|----------------|
| Scope | Set Name | Optical Adaptor | Optical System | | |
| | | | Field of view | Direction of view | Depth of field |
| IV74 IV7440X1 | MAJ-1044D | AT60D/60D-IV74 | 60° | Forward | 5→mm |
| | MAJ-1044S | AT50S/50S-IV74 | 50° | Side | 4→mm |
| IV76 | MAJ-1046D | AT60D/60D-IV76 | 60° | Forward | 5→mm |
| | MAJ-1046S | AT60S/60S-IV76 | 60° | Side | 4→mm |
| IV7635X1 | MAJ-1241D | AT60D/60D-IV76X1 | 60° | Forward | 5→mm |
| | MAJ-1241S | AT60S/60S-IV76X1 | 60° | Side | 4→mm |

| ■ Operating Environment | |
|--------------------------------|--|
| Operating temperatures | Insertion tube In air: -25 ~ 80°C Caution: Angulation to a large angle may become difficult under low temperatures. Under water: 10 ~ 30°C Other parts than above In air: 0 ~ 40°C |
| Operating atmospheric pressure | Insertion tube With IV7635-2, 7670-2, 7675-2, 7696-2, 7635A-2, 7650A-2, 7675A-2 & 7696A-2: In air: 1013 hPa (1 atm) In water: 1013 ~ 1985 hPa (1 ~ 1.96 atm) With IV7435-2, 7435A-2, IV7440X1: In air: 1013 hPa (1 atm) Under water: 1013 ~ 1368hPa (1 to 1.35 atm) With IV7635X1: In air: 1013 hPa (1 atm) |
| Liquid resistance | Other parts than above In air: 1013 hPa (1 atm) Insertion tube, remote control No trouble even when machine oil, light oil or 5% saline is attached. Channel port (IV7635X1) No trouble with the case outer finishing even when machine oil, light oil or 5% saline is attached. |
| Water proofing | Insertion tube Waterproof. Can be used under water. Remote control, LCD monitor Drip-proof. Can be used in rain but cannot be used under water. Channel port (IV7635X1) Neither waterproof nor drip-proof. Other parts than above |

► Multi-language display

Easier operation for users in various regions.



In its quest to bring greater user-friendliness to users around the world, Olympus equipped IPLEX II with a multi-language display. This feature allows users to choose one of several languages for the displayed interface. PAL standard versions: English, German, French, Spanish, Italian, simplified Chinese and Russian. NTSC standard versions: English, Japanese, Spanish, Korean, and traditional Chinese. For many users, this simple feature can reduce stress, decrease errors and enable more accurate, efficient inspection.

Introducing a versatile Ø6.2mm scope with Working Channel.
Ideal for Gas Turbine Inspection.

IPLEX SX II

Purpose-built to meet the specific requirements of gas turbine inspection, the new IPLEX SX II from Olympus provides improved access to intricate engine interiors and enhanced hooking operation for exceptional ease of use. With a diameter of only 6.2mm, this is one of the world's slimmest videoscopes to incorporate a working channel. The channel port can be mounted on the remote control, further enhancing operability, while the hook assembly features an original highly responsive Olympus design that optimizes hook operation for inspection.

Interchangeable Ø4.4mm scope

The IPLEX SX II includes a 4.4mm scope (without a channel) that enables inspection of minute parts. Interchangeability with 4.4mm and 6.2mm scopes makes this system extra cost effective.



Rigid Sleeve

The rigid sleeve is useful as an auxiliary insertion tool and makes the scope easier to handle. It simply fits and locks onto the tip of the insertion tube.

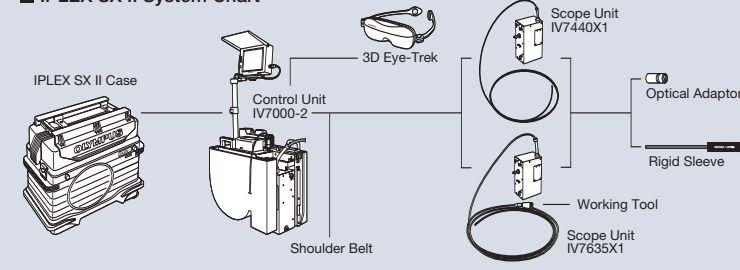


Various accessories available

Versatile accessories are available to meet a wide range of inspection requirements, such as the retrieval of foreign and dropped objects.



■ IPLEX SX II System Chart



The IPLEX II Series satisfies all your inspection needs.

IPLEX SA II

High-end model with image recording unit and Super Stereo Measurement^{*1}. Optional Network functions^{*2} allow operation from remote locations.

IPLEX SX II

All the features of IPLEX SA II with interchangeable insertion tubes of 4.4mm and 6.2mm diameter. The 6.2mm diameter model incorporates an internal working channel for foreign object retrieval.

IPLEX II

Basic model designed for total user friendliness. Cristal LCD monitor with dramatically improved resolution and dynamic range.

^{*1} Super Stereo Measurement is only provided on the stereo measurement models of IPLEX SA II and IPLEX SX II.
^{*2} Network functions available for IPLEX SA II only.