# MOI+

## Magneto-Optic Imaging System


**Aircraft Inspection**

- Flush Mount Fasteners
- Countersunk Fasteners
- Fatigue cracks
- Corrosion, subsurface cracks
- Spotwelds
- Alodine rivets

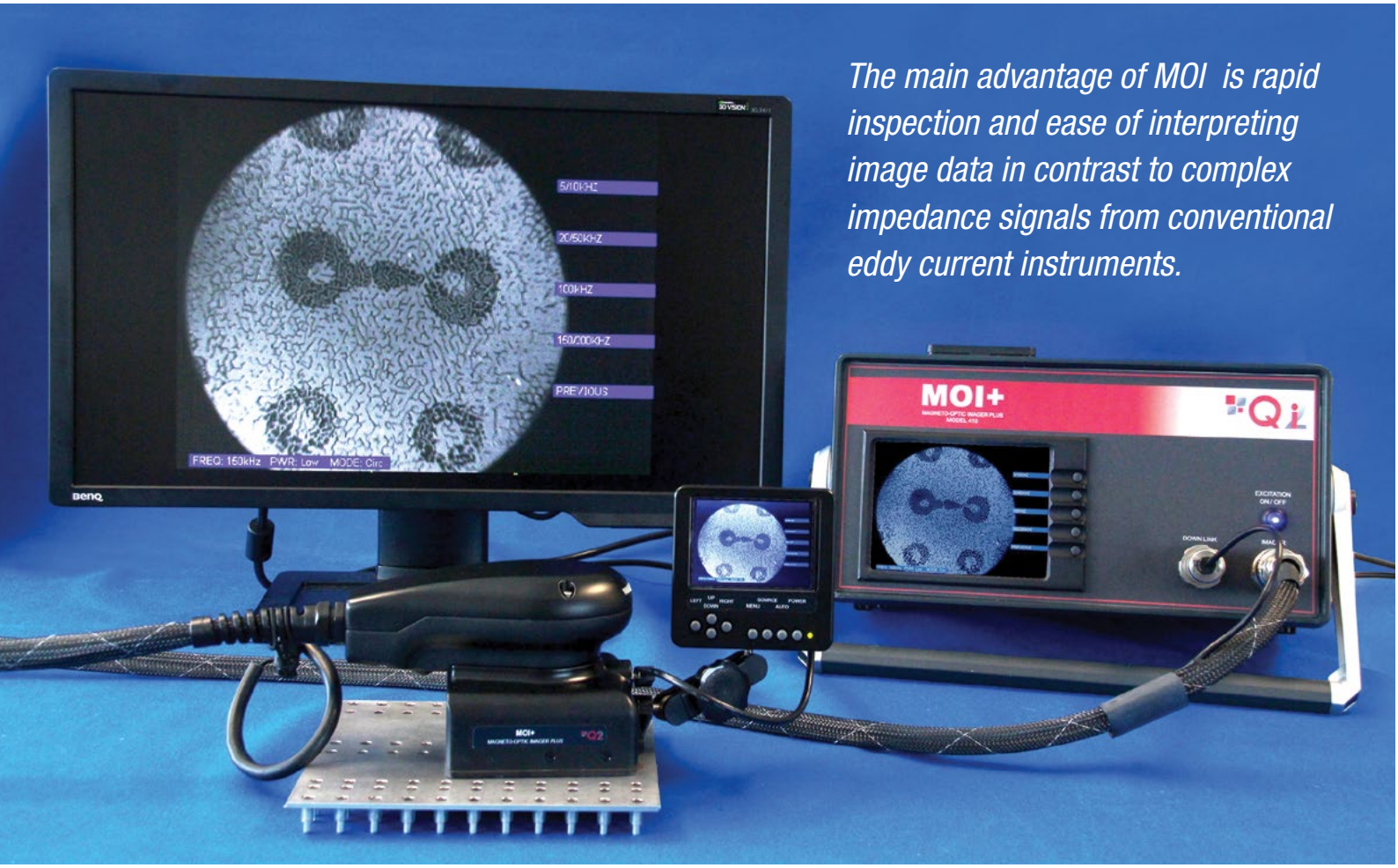
**Industrial NDI**

- Fatigue cracks
- Non-ferromagnetic metals

*Designed and fabricated in the USA*

Qi2

**Rapid Aircraft Inspection**




*The main advantage of MOI is rapid inspection and ease of interpreting image data in contrast to complex impedance signals from conventional eddy current instruments.*

# MOI+™

With the increasing use and life extension of aircraft structures, there is a need to enhance the inspection capabilities of current NDT equipment. The Magneto Optic Imaging (MOI) eddy current system provides a proven, fast, and reliable method to inspect flush mount fasteners that is specified by commercial and military aircraft manufacturers, as well as repair and maintenance centers.

Qi2's Magneto-Optic Imaging (MOI) eddy current system rapidly detects cracks and defects in metallic aircraft skins. It integrates the eddy current inspection method and the fast measurement speed of optical visual inspection. Fast inspection speed and ease of data interpretation provides a very time- and cost-efficient inspection process, combined with a large field of view.

MOI+™ Benefits:

- Direct visual image
- Sensitive to flaws in any orientation
- Imaging head can be moved in any direction
- Accurate and rapid real-time inspection of large areas for surface and subsurface defects
- Translational speeds of up to 100 mm/second
- Reliable inspection through paint and decals
- Large visualization area (up to 45 mm circle) for a single video frame
- Use is straightforward, requiring minimal training
- Calibration is **not** required
- Multi-frequency (5kHz, 10kHz, 20kHz, 50kHz, 100kHz, 150kHz, 200kHz) with 3 excitation power settings (Low, Medium, High)

Recently developed MOI+ product maintains all the capability of the historical MOI models (308/7 and 308/3), but with many improvements and additional features.

Improvements of the new MOI+ model over previous MOI products are:

- Large 45mm field of view (FOV) that allows for more rivets to be inspected and displayed, further shortening inspection
- More compact packaging providing a field of view comparable to the 303 model, but at a fraction of the weight and size (see below for a comparison)
- Triple display consisting of a front panel LCD on the controller, a portable display mounted on the handheld imager or alternatively on the wrist, and a digital video output port for additional external monitors
- Higher quality images with reduced distortion, and improved contrast providing clarity to the operator
- Cooler operating sensor allowing for improved performance at elevated ambient temperatures
- Display-integrated user interface with reliable digital control panel
- Video out capability enables operators to save the videos to an optical standalone video recorder for future troubleshooting and analysis


*The MOI+ imager design compared to previous models*

**307 Imager**
15 oz

**MOI+ Imager**
2.3 lbs

**303 Imager**
3.7 lbs

| This model comes standard with: | Optional accessories: | Qi2 quality/support: |
|---|---|---|
| • Power control unit<br>• Imager with cable<br>• Portable LCD with fixtures<br>• One roll imager wear pad tape<br>• Custom ruggedized shipping case | • Crack defect standards for setup/training<br>• Corrosion defect standards for setup/training<br>• Imager wear pad tape<br>• Demagnetizer<br>• External large monitor<br>• Real-time video recorder | • We design and build all our systems<br>• Total product life cycle support<br>• Systems serviced by skilled in-house technicians<br>• Remote product support from knowledgeable engineers and technicians |

Qi2's Magneto Optic Imaging (MOI) eddy current system is extending useful equipment life on military and commercial aircraft including, but not limited to:

- B-52
- Bombardier Dash-8
- C-5
- C-130
- C-140
- CRJ700
- DC-10
- E-2
- Gulfstream III
- KC-10
- KC-135
- MD-11
- MD-80
- P-3
- RQ-4
- All Cessna Citation Variants
- 707
- 717
- 727
- 737 Original
- 737 Classic
- 737 Max
- 747
- 747-8
- 757
- 767
- 777

**Chosen by manufacturers, carriers and military fleets**

- Aerospatiale
- Boeing
- Canadair
- Cessna
- Daimler-Benz Aerospace
- FAA
- Gulfstream
- Northrop Grumman
- NASA
- American Airlines
- Delta
- Nippon Airways
- Qantas
- Royal Air Maroc
- Southwest
- Singapore Airlines
- United
- US Air Force
- Air National Guard
- US Navy (NAVAIR)
- Raytheon E-Systems
- China Air Force
- Israeli Air Force
- Polish Air Force

QUALITY IN ENGINEERING, SCIENCE & TECHNOLOGY

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