

OmniScan MXU-M

MANUAL INSPECTION SOLUTION



THE OMNISCAN MXU-M STANDARD INSPECTION SOLUTION OFFERS:

- OmniScan® MX platform
- OmniScan M Series module
- OmniScan® MXU-M 2.2 Standard Software featuring:
 - One-line scan
 - Simplified standardized interface
 - Improved A-scan refresh rate for manual inspections
 - Sizing curves (DAC/TCG, ASME, JIS, and DGS)
 - AWS and API code wizards

THE OPTIONAL WELD PACKAGE OFFERS:

- Intuitive RayTracing™ that provides a visual display of the phased array beams in the part.

OmniScan MXU-M

The entry-level OmniScan® MXU-M solution brings the advantages of phased array imaging to manual testing, while keeping all the benefits of a proven product.

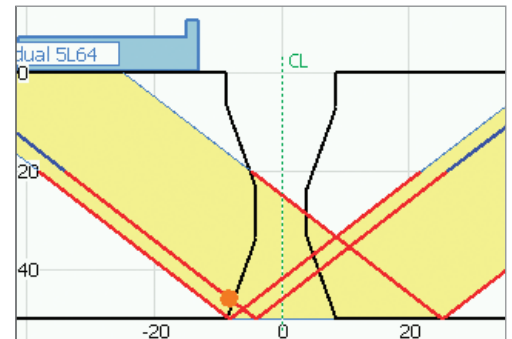
- Entry-level phased array modules (M-Series)
- Flaw detector for manual UT inspections
- Real-time phased array imaging
- PA and UT combined into one instrument
- Simple flaw detector interface
- Fully upgradable to advanced OmniScan modules with 100 % credit

Advantages of Phased Array Imaging

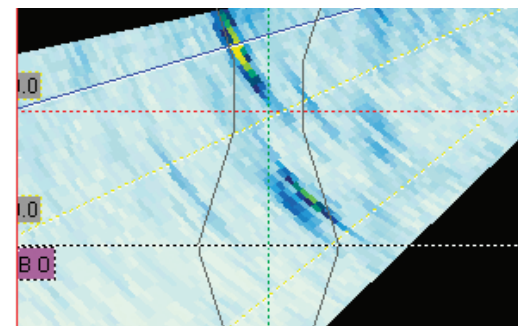
Using phased array imaging is an improved way of visualizing what are, in fact, the same signals as those obtained using conventional UT. Improved imaging becomes possible simply by color encoding the A-scan signals. Phased array software developments allow crack sizing to be performed the same way as with conventional UT—but phased array technology brings these added advantages: faster speed of inspection, better probability of detection, reporting and traceability, and one phased array probe for all angles.

One-Line Scan Capability

The one-line scan capability of the OmniScan MXU-M allows you to collect data in one axis and visualize it using the top view. This feature is easy to set up and allows the data to be played back after the acquisition for offline analysis and reporting. Data can be encoder- or time-based. This capability is of particular interest to aerospace, weld, and corrosion applications when inspection requirements do not call for full A-scan data archiving.



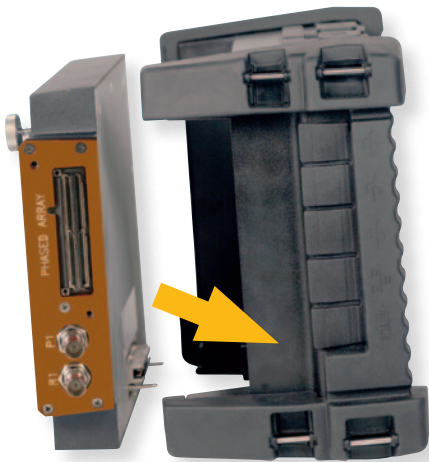
- Weld Overlay that simplifies data interpretations.



LIVE SWITCHING BETWEEN CONVENTIONAL UT AND PHASED ARRAY UT

OmniScan MXU-M 2.2 Standard Version Software

Conventional and Phased Array UT Solution



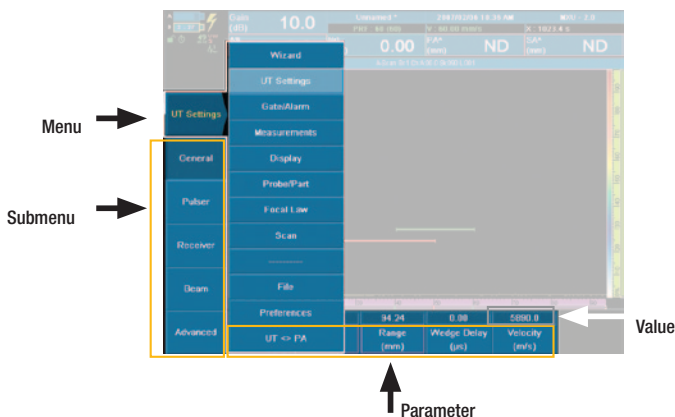
M-Series module and OmniScan MX platform

The OmniScan® MXU-M with its new 2.2 Standard Version software, is the perfect choice for customers who want to step into phased array technology and are aiming towards semiautomated and automated inspections in the near future. (That would be the time to upgrade to the OmniScan MXU.) The modularity of the OmniScan family will allow you to upgrade from the MXU-M to the MXU while keeping the same MX platform. Also,

as an incentive, Olympus will give a 100 % credit on the MXU-M module when you upgrade to the MXU (within the first year). This safe equipment investment is enhanced by a sound training investment: the OmniScan MXU, which is construction-code compliant, uses the same interface and concept as the OmniScan MXU-M. By investing in the OmniScan MXU-M, you will be able to familiarize yourself with phased array technology and acquire a solid knowledge base allowing you to then migrate easily to semi- or fully automated inspections.

Flaw Detector User Interface

The OmniScan software user interface provides access to parameters using three menu levels. The illustration indicates the elements of the navigation syntax used to select menus, submenus, and parameter buttons, and to enter or select parameter values (**Menu > Submenu > Parameter = Value**).



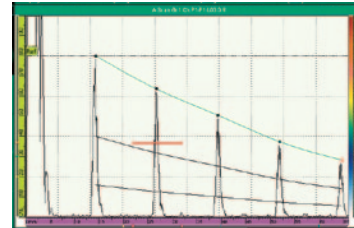
Menus, submenus, parameter selection, and value entry are intuitive and shared by all OmniScan flaw detectors.

The order in which the menu items, submenus, and parameter buttons appear, corresponds to their typical sequence of usage.

Conventional UT Flaw Detector Features

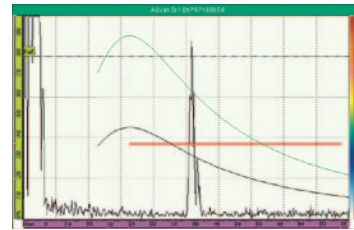
The new MXU-M-2.2 software, by means of the conventional UT channel, provides many of the features typically found in conventional UT flaw detectors (for example, the EPOCH™ XT) . All the sizing curve types and readings available in the UT mode are also available in the PA mode:

- ADT – (Advanced DAC/TCG)
 - ASME , ASME-3, JIS, custom curves
 - Readings related to gate and curve measurements: A%Curve, Max%Curve, AdBCurve, MaxdBCurve



ASME-3 DAC curves

- Onboard DGS/AVG
 - ERS readings (equivalent reflector size)



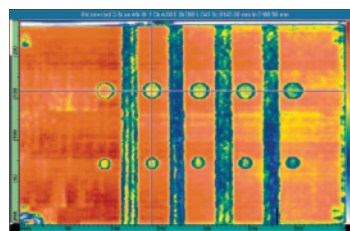
DGS curves

- AWS D1.1/D1.5
 - AWS rejection criteria (AWS D) and class (AWS CL) readings
- API 5UE
 - Crack height (API-DL) and half-wave (API-HW) readings

One-Line Scan Software Features

The one-line scan capability of the OmniScan MXU-M allows you to collect data in one axis and visualize it using the top view. This feature, used with a linear 0° scan, allows you to map large surfaces of composite or steel parts. The MXU-M Standard Version software offers the following features:

- Monitoring of amplitude, peak position, crossing-level position, and thickness on each gate
- Interface gate for surface-following synchronized on the front-wall echo
- Automatic gate synchronization on the interface gate
- Customizable color palette for amplitude and thickness C-scans
- 1-axis encoder with data acquisition synchronized on mechanical movement



A C-scan display of a one-line scan done on a composite flat panel

Optional Weld Package

Simplified Phased Array Interpretation

The intuitive RayTracing™ feature simplifies phased array interpretations for manual weld inspections and dramatically reduces your required training time. RayTracing is an embedded software tool that allows the weld area, covered by your inspection, to be visualized in real time. RayTracing is therefore useful to help you localize defects during analysis and can make phased array testing for manual weld inspections much simpler.

RAYTRACING IN SETUP MODE

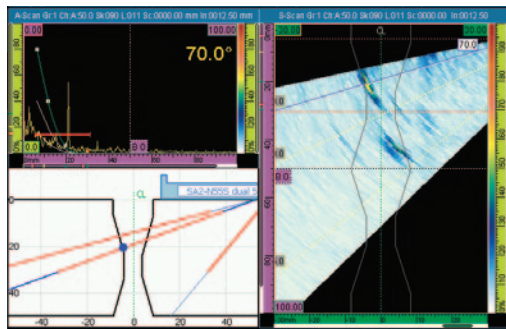
In Setup mode, RayTracing is presented by way of an interactive wizard that displays the part, the weld, and the zone covered by the focal law configuration.

RAYTRACING IN INSPECTION MODE

In Inspection mode, using the A-S-R layout, a RayTracing view helps you localize the position of a defect in the weld. RayTracing view parameters can easily be modified during an inspection (for example: X offset, skew, weld zoom, leg quantity).

RAYTRACING IN ANALYSIS MODE

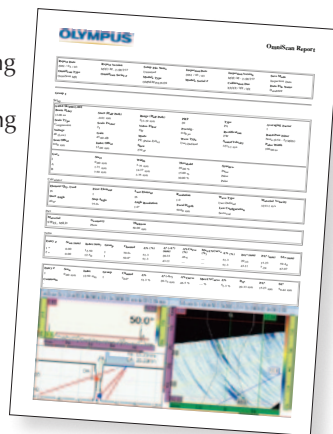
In Analysis mode, a table of indications can be used to record the information for each defect detected in the S-scan. For each table entry, a color point is added on the RayTracing view. This image can then be used to create easy-to-understand reports.



A-S-R layout in analysis mode

REPORTING TOOL

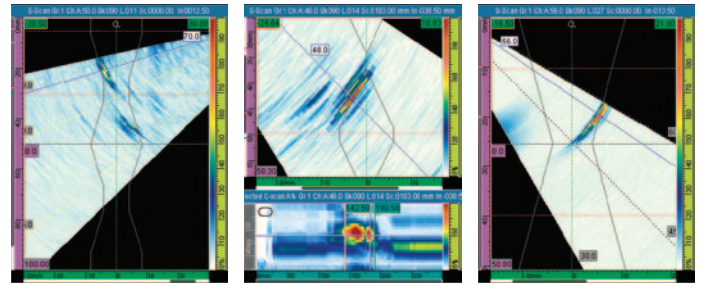
- Setup storage is compatible with Microsoft® Windows® (exportable using a CompactFlash® card).
- Complete report setups, including reading configurations, that can be customized using HTML page layouts.
- Easy report generation, from acquired data to complete report in seconds
- On-screen interactive help that can be customized for procedure-oriented setups using HTML script templates
- You can create a report showing up to 10 indications from the indication table



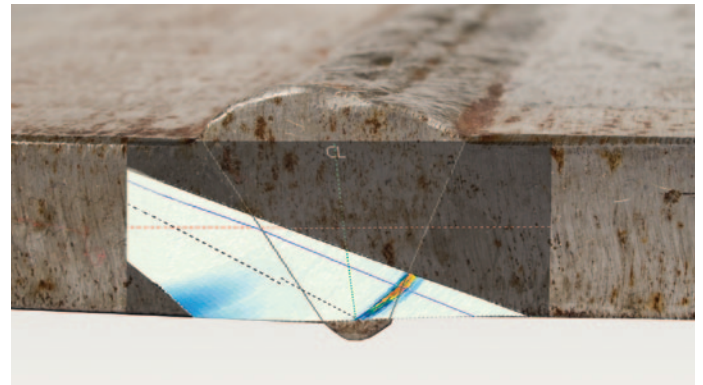
WELD OVERLAY

The OmniScan Weld Overlay is intended to provide you with a visual reference of the flaw location in relation to the weld while viewing the S-scan display. The Weld Overlay feature consists of the superposition of the weld geometry drawing on top of the S-scan display.

When a flaw is detected, you enter the real position of the probe in relation to the weld centerline (offset). Viewing the flaw with the Weld Overlay increases the inspection speed. In addition, it reduces the likelihood of errors and increases your ability to characterize, size, and locate the flaw within the component for inspection, analysis, and reporting.



Examples of volumetrically positioned defects with Weld Overlay showing different bevels and geometries.



OmniScan sectorial scan with Weld Overlay showing a crack indication.

PHASED ARRAY WELD PROBE SERIES

The OmniScan MXU-M is ideally suited for manual weld inspections because of its affordable price and its easy-to-use interface. Among the Weld Probe Series, the most common probes for single-channel scan inspections are the following:

- 5L16-A10
- 5L64-A12
- 2L8-DGS and 4L8-DGS (DGS Phased Array probe)
- 2.25L16-AWS (AWS Phased Array probe)



5L16-A10



2.25L16-AWS



2L8-DGS

Ordering Numbers

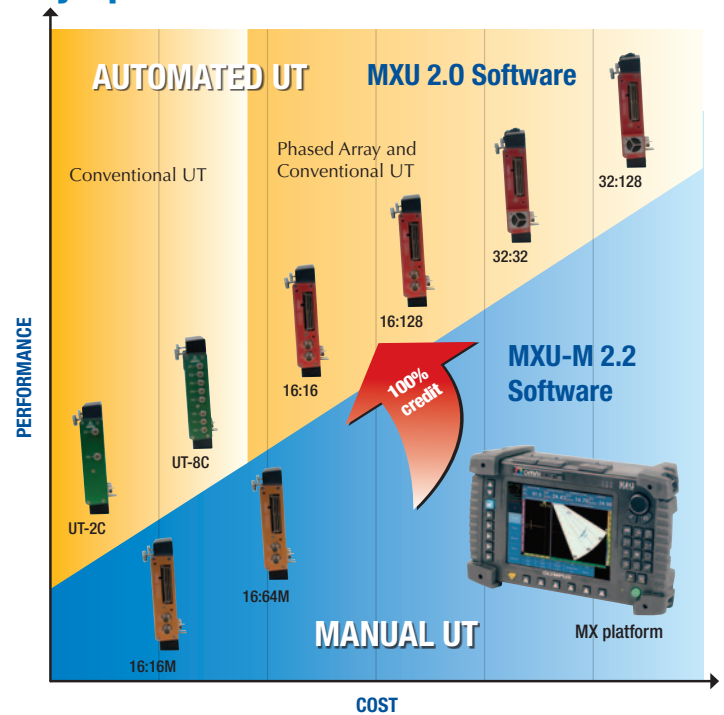
OmniScan MXU-M Standard Kits*	
- OmniScan MX 16:16M	OMNI-P-PA1616M
- OmniScan MX 16:64M	OMNI-P-PA1664M
- OmniScan MX 16:16M - 5L16-A10 PA probe - SA10-N55S wedge	OMNI-K-PA1616M1
- OmniScan MX 16:16M - 10L16-A00 PA probe - SA1-N60S5X5 wedge	OMNI-K-PA1616M2
- OmniScan MX 16:64M - 5L64-A12 PA probe - SA12-N55S wedge	OMNI-K-PA1664M1

OmniScan MXU-M Weld Kits*	
- OmniScan MX 16:16M - Weld Package	OMNI-P-PA1616MW
- OmniScan MX 16:64M - Weld Package	OMNI-P-PA1664MW
- OmniScan MX 16:16M - Weld Package - 5L16-A10 PA probe - SA10-N55S wedge	OMNI-K-PA1616MW1
- OmniScan MX 16:64M - Weld Package - 5L64-A12 PA probe - SA12-N55S wedge	OMNI-K-PA1664MW1

OmniScan MXU-M Weld Package Option	
- Manual Weld Package software option	OMNI-SO-WELD

Upgrades	
- Phased Array Acquisition Module upgrade from 16:16M to 16:64M. - Includes module calibration.	UPG-OMNI-MX1616M1664M
- Phased Array Acquisition Module upgrade from 16:16M to 16:16. - Includes module calibration.	UPG-OMNI-MX1616M1616
- Phased Array Acquisition Module upgrade from 16:64M to 16:128. - Includes module calibration.	UPG-OMNI-MX1664M16128

Olympus OmniScan Ultrasonic Products



OmniScan MXU-M Weld and DGS Kits*

- OmniScan MX 16:16M - Weld Package - 2L8-DGS PA probe	OMNI-K-PA1616MW2
- OmniScan MX 16:16M - Weld Package - 4L16-DGS PA probe	OMNI-K-PA1616MW3
- OmniScan MX 16:64M - Weld Package - 2L8-DGS PA probe	OMNI-K-PA1664MW2
- OmniScan MX 16:64M - Weld Package - 4L16-DGS PA probe	OMNI-K-PA1664MW3

OmniScan MXU-M Weld and AWS Kits*

- OmniScan MX 16:16M - Weld Package - 2.25L16-AWS PA probe - AWS PA wedge	OMNI-K-PA1616MW4
- OmniScan MX 16:64M - Weld Package - 2.25L16-AWS PA probe - AWS PA wedge	OMNI-K-PA1664MW4

*: All kits include the OmniScan MXU-M 2.2 Standard Version Software

OLYMPUS NDT INC. is ISO 9001 certified.

OLYMPUS

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Product group from well-managed
forests, controlled sources and
recycled wood or fiber

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