
KSI v8™

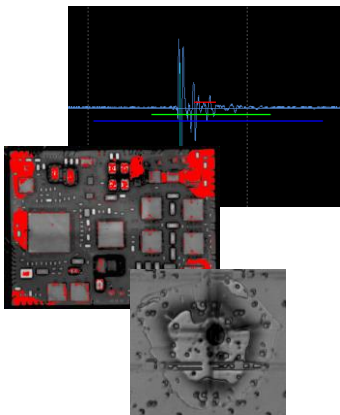
Scanning Acoustic Microscope

Based on the proven KSI “v – series” and its outstanding performance, KSI presents the new state of the art KSI - v8 Scanning Acoustic Microscope.

The “8” stands for KSI’s eighth generation of acoustic microscopes, the most sophisticated SAM. The new system comes with new software features as automated error detection and quantitative sample analysis.



- New ergonomic Design
- New high speed scanner
- App based user software



- Plug and scan
- New high speed scanner
- Multi language graphical user interface

The experience of eight generations ultrasound microscopes combined with the latest in software development and a new high-speed scanner mechanism provides you the...

Best price performance ratio!

Please contact us for more information.

The KSI logo, consisting of the letters "ksi" in a bold, blue, sans-serif font. The letter "i" has a small black dot above it.

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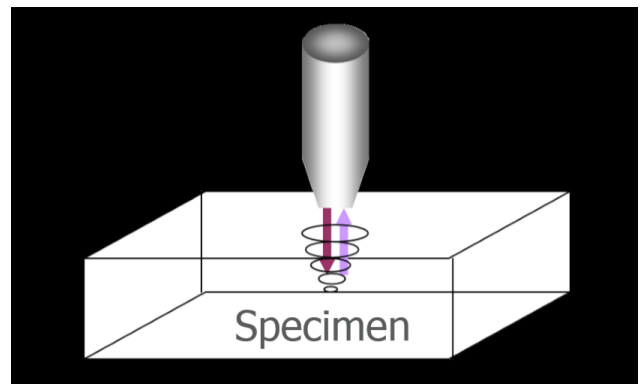
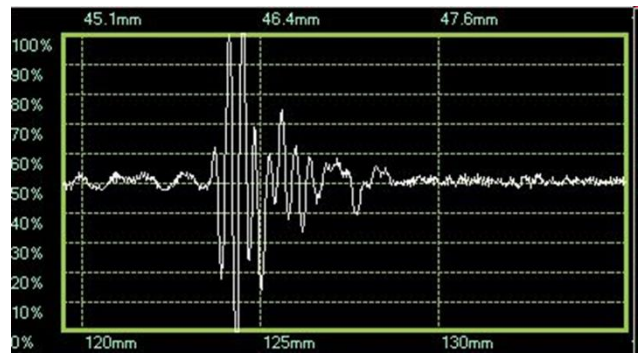
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SCAN MODES

With scanning acoustic microscopes the whole volume of a sample can be penetrated and inspected without any change or damage. To get all information needed and a detailed understanding of the inspected sample, different scan modes are used. The following pictures and examples explain the scan modes and their specific advantages.

A-Scan – Amplitude-Scan, one-dimensional. The information is contained in the way the acoustic wave is reflected from the specimen. This time of flight information is depending upon the depths of the sample feature. A digital waveform on the user interface screen displays the arriving echoes. This quantitative time distance measurement (echo-time) display is used to set electronic gates to select the depth range of view. If more than one gate is placed multiple images are displayed on the monitor screen.



For even more scan modes click [here](#).

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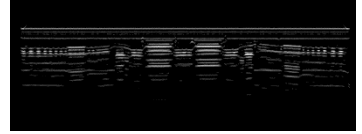
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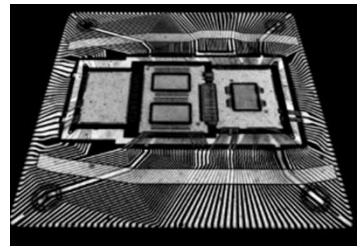
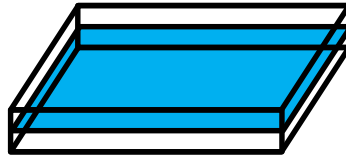
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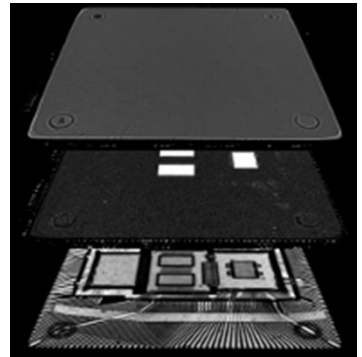
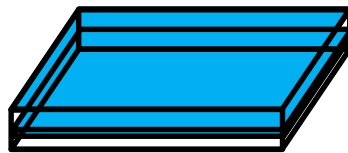
B-Scan (cross section Scan) moves the scanner is moving in x-direction to get a cross section image. The depth of different structures can be measured.



C-Scan (x-, y-Scan) moves the scanner in a meander pattern over the sample, depending on the set of instrument parameters. The image is composed line by line.



G-Scan (Gate-Scan) produces multiple images depending on the „gate memory“. Different settings can be stored for automatic evaluation.



For even more scan modes click [here](#).



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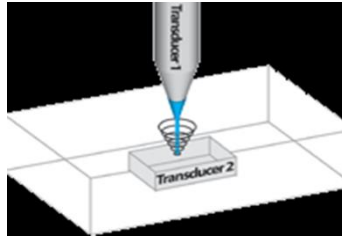
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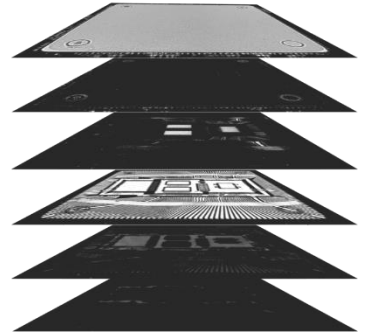
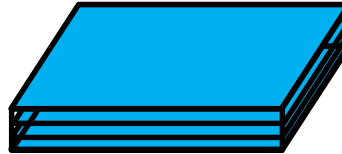
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SCAN MODES

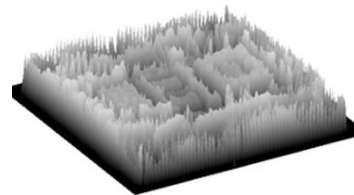
TT-Scan (transmission) stands for Through-Scan. The transducer above the samples emits an ultrasonic signal that is detected by a second transducer placed at the bottom. This image mode provides lower resolution, but a faster information about volume-defects due to the second transducer at the bottom of the sample.



X-Scan - More than 50 pictures of different layers can be created and displayed during a single scan in realtime. The areas and depths of penetration can be selected freely. These pictures can be used for creating a 3D model with the 4D software.



Z-Scan - Automated volume acquisition which enables an offline reconstruction of B-, C-, D-, P-, X-, A-, 3D-Scans and time of flight images with free selectable gate windows



For even more scan modes click [here](#).



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KSI v8™ Specifications

Scanning	Magnification	Up to 625x
	Scanfield	200µm x 200µm up to 400mm x 400mm*
	Sample Size	Up to 500mm x 750mm*
	Detectable	1µm (400MHz)
Motorized XY-drive	Driving System	Linear Motor System
	Speed / Acceleration	Up to 2m/s / Up to 30m/s ²
	Repeatability	± 0.1µm
Motorized Z-drive	Travel Range	Up to 100mm
	Repeatability	± 0.25µm
Scanning mode	Standard	A, B, C, G, P, X, Z, Auto, Sequence and Tray Scan
	Optional	HD – Scan, Layer Thickness, Interface Shape
Transducer	Frequency (MHz)	From 5MHz up to 400MHz
Image	Resolution	Up to 32.000 x 32.000 pixels (1 Gigapixel)
	File Format	sam, saz, jpeg, bmp, tif, csv, RAW (ASCII)
System	Sample Tank	546mm x 780mm x 120mm*
	Dimensions	885mm x 900mm x 1332mm*
	Weight	550 KG*
	Power	100V – 240V / 1,5KW

*values for a standard KSI v8 – customization possible

Please contact us for more information.



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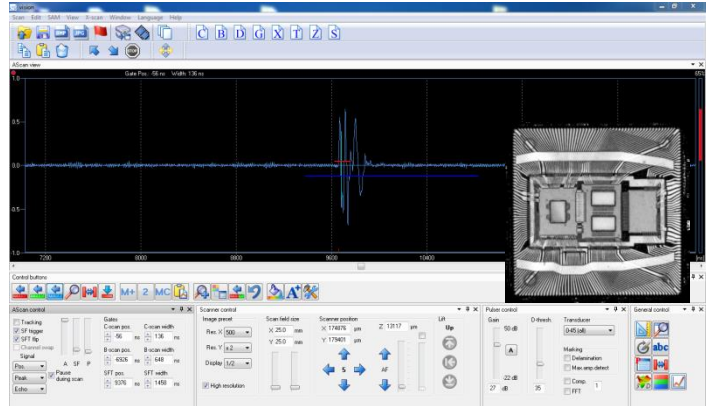
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KSI VISION™ Software

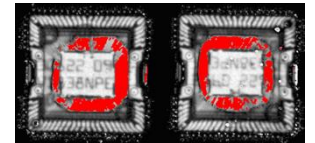
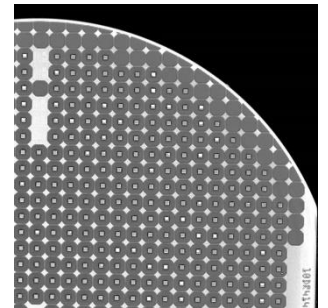
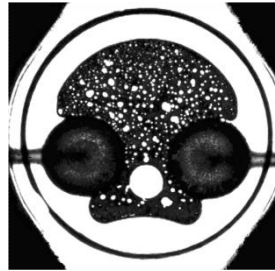
KSI VISION™ is an innovative and userfriendly software for all KSI SAM systems.

The software was developed for the needs of our customers in research, development and production control.



Key features

- A, B, C, D, G, 3D, P, S, X, Z, Auto, Sequence, HQ and Tray-scan (free selectable x-y matrix scan),
- Fast fourier transformation (FFT)
- Digital waveform overlay
- Free selectable B,P and D-scan
- B-scan with quantitative measurement
- Image resolution up to 32.000 x 32.000 pixel
- A-scan real time display with time of flight function
- HQ-scan, pre-scan and fast pre-scan mode
- File format: bmp, jpeg, sam, saz, ASCII
- On screen measurement tools
- Thickness and distance measurement
- Control and automatic storage of all instrument settings including A-scan histogram
- Power, rf and video gain (total 80dB) gate delay, gate width (resolution 2ns)
- Variable gain, gate width and gate delay setting during scanning
- Threshold, positive-negative peak phase detection: amplitude, mean, bipolar
- Phase measurement with automatic delamination detection (selectable)
- Picture reset function for easy reconstruction of KSI-SAM images
- Impedance measurement with histogram and calibration curve
- User friendly multi language graphical interface
- Signalprocessing digital: FFT bandpass, Chebyshev, Moving average, Rectifier and Calculus



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KSI VASC™ Software

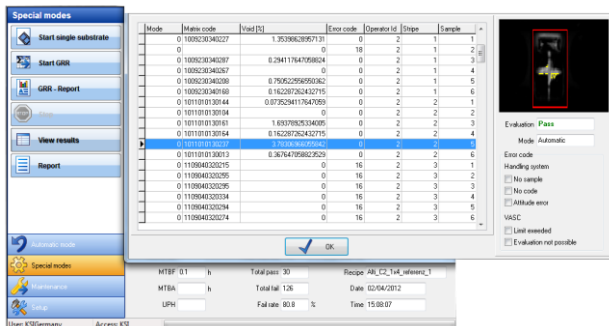
Vision Automatic Scan Control



Custom built software to control scan and handling processes in fully automated multihead scanning acoustic microscope systems.

Key features

- Control of scan process in multihead scanning acoustic microscopes
- Simple operation with graphical user interface
- Various operator levels
- Automatic data storage and management
- Auto pattern recognition
- Record and manage customer specified data
- Automatic failure detection



- Analysestatistic like:
 - MTBA Report
 - MTBF Report
 - GRR Report
- Control of all handling processes like:
 - transport of samples
 - monitoring of drying proces of the samples
 - magazin handling
 - marking system for failure samples
 - Control of superimposed optical inspection
- 1D and 2D code interpretation



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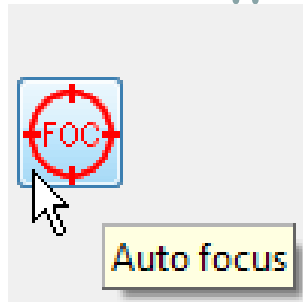
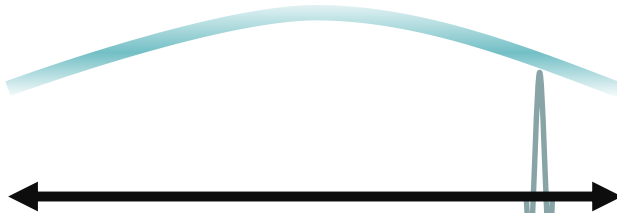
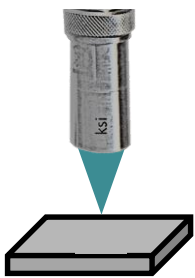
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KSI Auto Focus

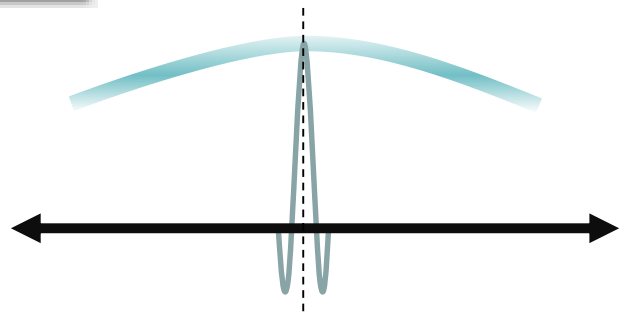
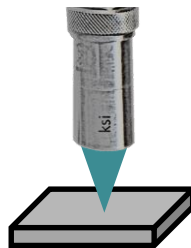
The Auto Focus is a new function to automatically detect the optimal focal point (max. amplitude) with the click of a single button. The auto focus works with every interface not only the surface.

An optimized focal point results in sharper, high-contrast images, which are essential in an qualified evaluation of the sample pictures.



No need for complicated formulas or difficult calculations. Even inexperienced operators will be able to produce good results easily.

A software and hardware upgrade for all existing KSI SAM systems is possible.



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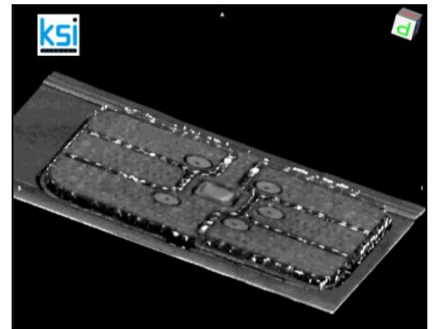
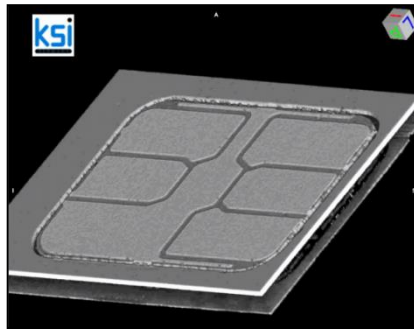
KSI 4D Analysis Software



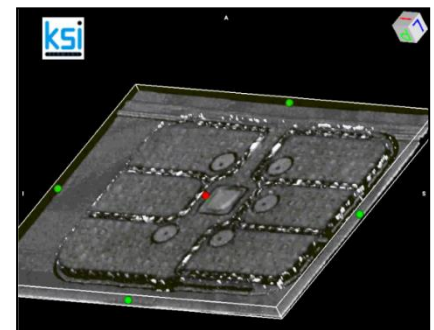
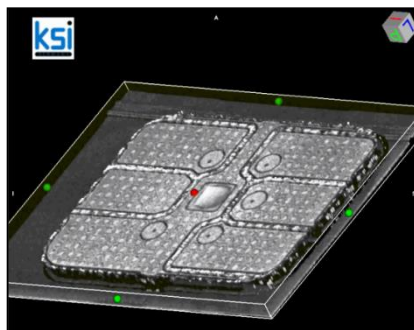
New unique KSI 4D software for three dimensional presentation and analysis of SAM images.

Key features:

- Three dimensional construction of voids, cracks and inclusions
- Sectional view in all dimensions
- Easy to use. One click to create 4D image
- Free rotatable in all axis
- Retrofit for most KSI systems possible



3D images of a SIM card



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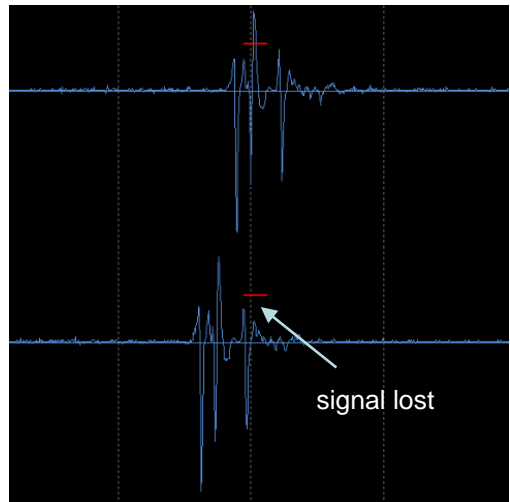
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KSI Surface Trigger

The Surface Trigger (SFT) is a feature in the KSI VISION™ software, which helps to even out the roughness of the sample surface.

Why is a SFT necessary?

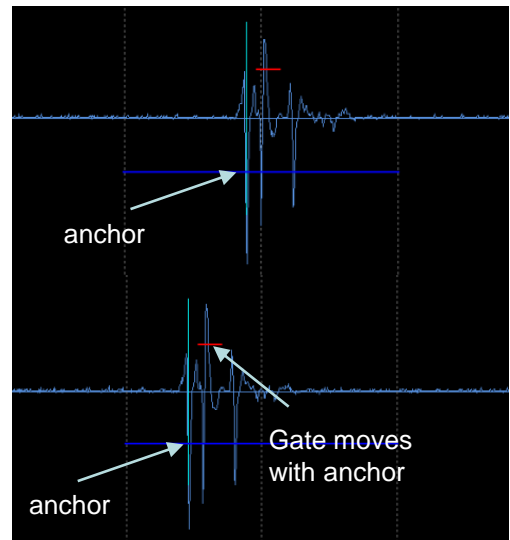
A samples' surface is almost never totally even. Therefore the distance between the surface and the transducer will vary during the scan process, which results in moving or even "jumping" signals. Since the gate used for evaluation of the signals is static, this may lead to a loss of signal. The SFT keeps the gate on the signal to prevent that.



How does the SFT work?

The SFT has to be set over a freely adjustable period of time, represented by a blue bar. The first signal crossing this bar will act as an "anchor" which keeps the gate for evaluating the signals in freely adjustable distance to this "anchor".

If the signal moves within the blue bar, the "anchor" point will also move, which in turn will move the evaluation gate as well.



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KSI Through-Scan-KIT

for
Scanning Acoustic Microscope v-series

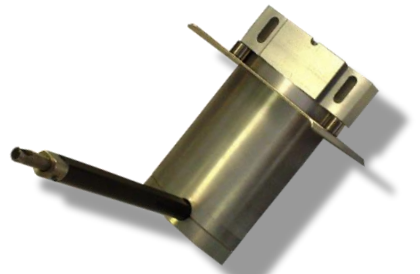
The KSI Through-Scan-Kit is required for inspection in transmission mode. With its new design higher scan-speed with less turbulences can be archived.



Through-Scan
Transducer



Samplestage

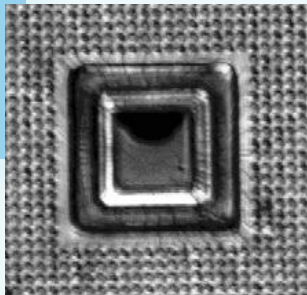


Through-Scan Extension



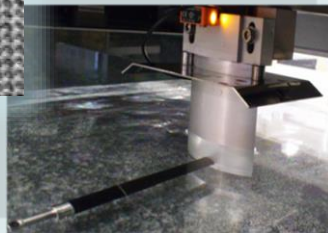
Through-Scan Principle

A Through-Scan image displays the complete sample-volume in a single image.



Through-Scan Image

The KSI Through-Scan-Kit contains all features to upgrade a KSI v-series SAM for through-scan images.



Through-Scan mounted

The Kit includes a special sample stage, a Through-Scan Transducer and an extension for the transducer.

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KSI Sample Stages



To meet the demand of optimal throughput and to take full advantage of the capabilities of the KSI Scanning Acoustic Microscopes an optimized sample stage is often a necessity.

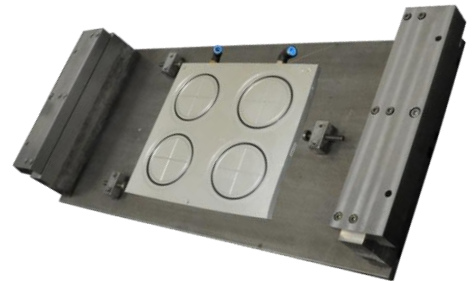
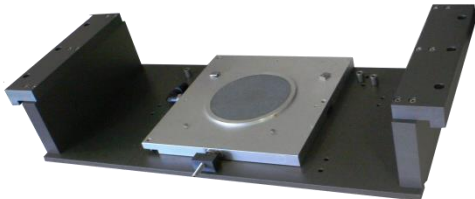
KSI offers a wide range of sample stages to fulfill these requirements.

Key Advantages:

- Accurate, fast and efficient loading and unloading of specimens
- Minimized setup times
- Optimal sample fixation

Sample stages are available for:

- JEDEC TRAY's
- Wafer up to 12"
- Solar Cells
- IGBT
- Universal sample stage
- Trough scan sample stage
- Special vacuum sample stage for smallest samples
- Prepared for multihead measurement



Need a special sample stage?
Other customized sample stages available on request.
Contact us!



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