Gen7™

C-SAM® Inspection System

Our most versatile C-SAM instrument ever!

Features and Benefits

- **See more of the image on dual 28" 4k monitors.**

- **Do more with advance user interface Sonolytics 2™ for Windows 10®.**

- **Better results with up to six times the acquisition rate.**

- **Scan larger parts with a 23% greater scan area.**

- **Faster acquisition times with five individual motors.**

The industry's best dual pulsers provide the ultimate in image control and gain.

Impressive image detail with dual 28" 4k monitors.

Simple one button On / Off.

The Gen7 C-SAM inspection system is the latest generation in Acoustic Micro Imaging. Built on the advancements made by its predecessors, the Gen7 delivers the most advanced hardware ever available. The advanced hardware allows for new features and analysis that can now be completed faster than ever before.

Advanced features such as PolyGate, SonoSimulator, Virtual Rescanning Mode (VRM) and Frequency Domain Imaging (FDI) add value and confidence. With its large, easy access illuminated scanning area, the Gen7 has the capability to efficiently scan everything from a small part up to 350mm sized parts.

In addition to being packed with leading innovations, the Gen7 was designed with the user in mind. Its ergonomic features make it comfortable and convenient to use. The new Sonolytics 2 is an advanced operating software with new, even more intuitive operator interface menus which help maximize results, while saving operator time.

The Gen7 is truly the most advanced acoustic microscope, delivering a package of technology, ergonomics, and advanced Nordson SONOSCAN-developed features that cannot be found anywhere else.

Nordson
SONOSCAN

Gen7

Specifications

Inspection Modes

- **Easily Capture** 100 images simultaneously with **Visual PolyGate™**.

- **Create informative images** with customizable color mapping schemes.

- **Flexible scanning modes:**
  ◊ **A-Scan** displays the transducer signal.
  ◊ **B-Scan** provides a cross-sectional image.
  ◊ **C-Scan** is a two dimensional plane image.
  ◊ **Bulk Scan** reveals defects in uniform materials.
  ◊ **Multi-Scan** generates multiple images at different levels.
  ◊ **Surface Scan** shows defects at the surface.
  ◊ **Loss of Back Echo (LoBE)** reveals continuity defects.
  ◊ **Nordson SONOSCAN's exclusive Q-BAM™** (Quantitative B-Scan Analysis Mode) is a focused cross sectional view of a sample.
  ◊ **THRU-Scan** (Through transmission Image) an optional shadowgraph view through the sample.
  ◊ **S**imultaneous **T**hru-Scan **a**nd **R**eflection (**STaR**) an optional feature that generates both a Thru-Scan image and relection images in one pass.
  ◊ **S**imultaneous **ASF a**nd **R**eflection (**SASFaR**) option allows two modes in one scan.

- **Accurate waveform analysis modes:**
  ◊ **FDI™** (**F**requency **D**omain **I**maging) frequency response of echo reveals detail not seen with other methods. Patent 7,522,780 & 6,890,302
  ◊ **Amplitude** captures peak-to-peak signal and polarity.
  ◊ **Profile** tracks the position of an interface.
  ◊ **Time Difference** evaluates distance or thickness between two interfaces.
  ◊ **Integration Mode™** easily finds defects in multiple layer samples.
  ◊ **ASF™** (**A**coustic **S**urface **F**latness) an optional feature that measures curvature or warpage of a surface. Patent 8,794,072

- **Securely capture images with included advance triggering tools:**
  ◊ Trigger at Positive, Negative and ± crossing.
  ◊ Set start at Front Interface Echo (FIE), Main Bang, or Gated Trigger.
  ◊ Accurately locate layers with Dynamic Trigger and lock in positions with dynamic gating.

- **Save time** for repeat setups with **AUTOSCAN™**. A single button starts a scan of multiple areas and will automatically align, center and focus each area. Complete the automation with integrated analysis through our DIA feature.

- **VRM™** (Virtual Rescanning Mode) stores 100% of A-Scan echo data to reproduce an image in any mode without rescanning the actual sample.

- **DIA™** (Digital Image Analyzer) advanced algorithm to quantify results for automated accept/reject criteria.

Operating System

- **Easy to use** operating environment Sonolytics 2™ for Windows® 10.

- **SONOLINK™** Direct online support for diagnostic and application assistance.

- **C-SAM Interactive™** provides user application support.

System

- Accurate images with patented balanced scanner. Patent 7,584,664 B2

- Repeatable positioning utilizing a scan tower connected to the sample's position and X,Y and Z axis precision of ± 0.5 microns.

- Capacity to scan a 350 mm x 350 mm sample with an adjustable Z height of 170 mm vertically.

- Five High Speed Scanner motors for the fastest image acquisition time.

- Huge image generation greater than 1 Gigapixel.

- Pulser/Receiver with 500 MHz bandwidth for transducers up to 400 MHz.

- 95 dB Gain selectable in 0.5 dB steps.

- Transducers available from 5 to 400 MHz.

- Digital Gating selectable from 1 to 10,000 ns.

- Precise selectable TOF in 10ns steps.

- **A**coustic **I**mpedance **P**olarity **D**etector (**AIPD**) displays simultaneously both polarity and amplitude information. Patent 4,866,986

- Industrial rackmount Intel Core® i7-7700 computer.

Facility Requirements

- Ergonomic wrap-around
      L 248 cm x W 158 cm x H 186 cm
- Weight approximately 610kg
- Universal power requirements
      90VAC to 250VAC Single Phase 50/60Hz
- DI Water Flow Rate: 15 lpm.

Optional Features and Equipment

- **WaterFall™** Non-Immersion technique.
- **WaterPlume™** Inverted Non-Immersion technique.
- **THRU-Scan™** A through transmission image.
- **Degassification** extracts trapped gases to reduce bubbles that can cause interference.
- **Water Heater** for optimum high frequency performance.
- **QDZ™** Quantitative Dynamic Z maintains focus on warped surfaces.
- **Universal wafer fixture** precisely holds 1" to 300mm wafers.