

FlawInspecta[®]

Ultrasonic Inspection and Imaging System

Diagnostic Sonar Ltd.



TOF C-Scan Image



AMP C-Scan Image



Combined Image

The FlawInspecta[®] system is designed to address requirements for rapid, low-cost, ultrasonic phased array inspection. The real-time data acquisition and processing technology used for B and C-scan imaging means that the full-waveform can be acquired without compromising inspection speed.

Unique Features

- **FIRE-Technology** for real-time full-waveform acquisition and B-scan imaging
- Inspection results can be transferred into reports or into analysis packages

Operation Modes

A-Scan

- Operation and display similar to standard flaw detector. Individual beams of the array can be displayed as an A-scan.

Real-Time B-Scans

- Rates suitable for interactive fast search (typically over 100Hz). Ideal for inspecting complex cross sections.

Real-Time C-Scans

- A C-scan map of sub-surface structures is made by recording the value of a parameter (such as peak echo or time-of-flight) as an image pixel for each point on the surface. An array can be translated across the surface, at a right-angle to the electronic scan, to provide a very rapid C-scan.

Freeze Mode

- Images can be saved in standard formats (BMP, TIFF, JPEG and PNG). Data can be reviewed as an interactive 3D profile plot that can be exported in JPEG or PNG format. Images can be recalled for reviewing and/or performing follow-on measurements. Full-waveform data can be saved in standard AVI format.

Seamless Large Area Mapping

- The FIRE-technology that provides the capability for real-time B-scan imaging can now be used to provide rapid full-waveform acquisition over large areas.

Full Raw Data (FRD) Mode

- A real-time imaging mode where the array data is acquired and processed in a manner analogous to pulse-echo holography. The images have dynamic focus on transmit as well as receive for improved clarity. Beam steer, focusing, aperture size and shading on both transmit and receive can be adjusted on captured/stored data. Non-linear beam forming techniques can be used on the FRD data to provide further enhancements to the image resolution.

Imaging Digital Flaw Detector

- **Pulser:** 0-200V pulser selectable between pulse-echo (single probe), pitch-catch (dual probe), and through transmit modes.
- **Receiver:** Low-noise wide-band high dynamic range receiver.
- **DAC:** 90dB gain range – programmable control of: initial gain; delay until gain increase; rate of gain increase; maximum gain.
- **Filters:** Low-pass filter values of 1MHz, 2.25MHz, 5MHz, 10MHz & Off; band-pass filter values of 0.5MHz, 1MHz, 2.25MHz, 5MHz, 7.5 MHz, 10MHz, 15MHz & Off; high-pass filter values of 1MHz, 5MHz, 10MHz & Off.
- **Rectifier Modes:** RF, full-wave envelope, and rectified (half-wave +ve, half-wave -ve and full-wave) – the rectified modes have 4 selectable post-rectification filters.
- **Display Range:** Standard controls of display range, display delay and material velocity. Note: Material Velocity is adjustable as a post processing feature.
- **Gate:** Control over start and width – outputs are the maximum value within gate and the time-of-flight (from start of gate) to this maximum value. Note: Gate functions are adjustable as post-processing features.
- **Sampling:** 8bit A/D conversion into 16MB Image store.

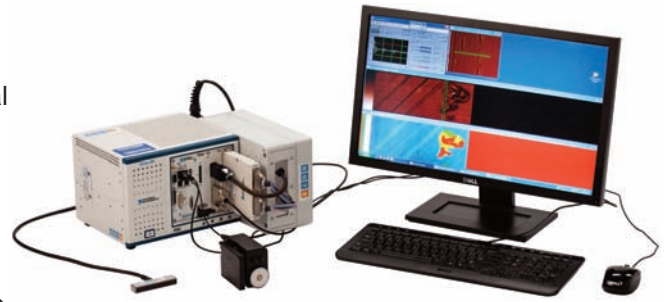
OEM Version Available

The FlawInspecta® array technology is available in OEM version that allows the integration of our array technology into your large area scanning system (such as the MAUS®, AUSS®, C-scan systems). A software development kit (SDK) and interface document is available upon request.

Custom Solutions

NDT Solutions, Inc. specializes in innovative designs and solutions to difficult NDT problems. Let our team of development experts build you a system customized to meet or exceed your expectations.

Diagnostic Sonar and NDTs reserve the right to modify or change the specifications of any of its products without notice and without incurring any responsibility for modifying previously manufactured products.



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