MULTi.X

Ultrasonic Phased Array System

- Full parallel Architecture

  Matrix, linear Array probes

- Real-time parallel firing & processing

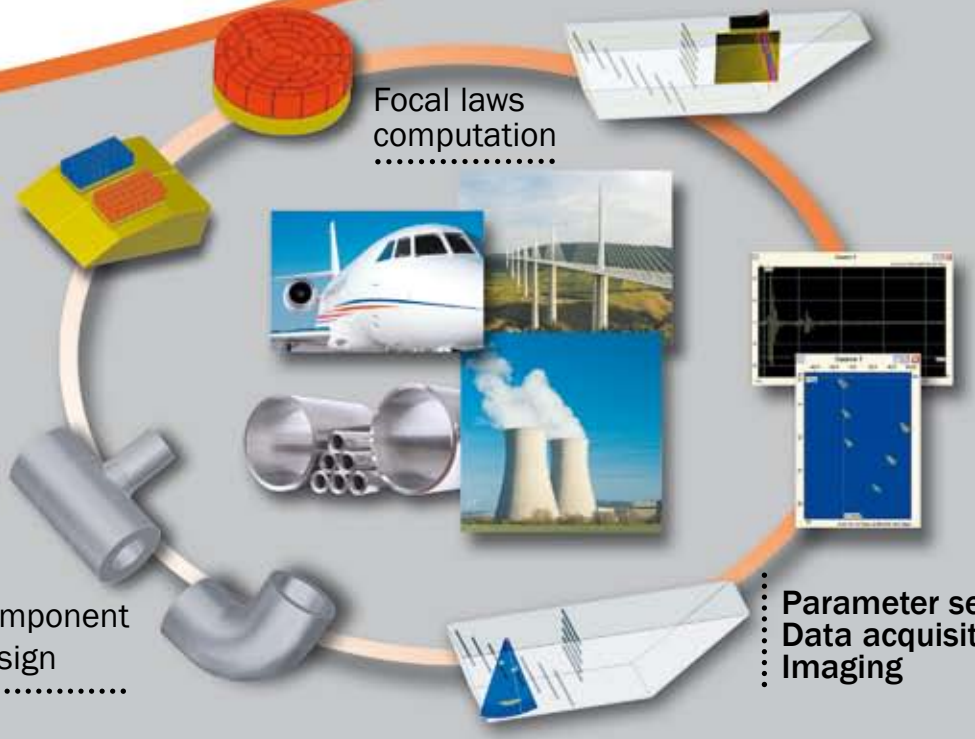
  High speed testing

- Advanced NDT Tools

  Flexible Array probes (CEA)

- NDT simulation

- Flexible & User-friendly



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Multi.X Technical Specifications

Acquisition

- Software (Unlimited number) and Hardware acquisition gates.
- Synchronization of gates.
- Acquisition release on event (threshold, detected echo...).
- Acquisition release on coder trigger (time, mechanical).
- Choise of the elementary channels, and/or their related sum.
- Real-time images display during the acquisition.
- User-definable inspection configuration.
- Public file format for parameters (XML) and data (binary).
- Max. data flow > 30 MB/s Max. acquisition rate: 20 KHz.

Phased array skills

- Electronic focusing, electronic scanning, sectorial scanning.
- Inspection mode: pulse echo or transmit-receive modes, Dynamic Depth Focusing (DDF), with Dynamic aperture.
- Fast multiplexing of focal laws during the electronic scanning, thanks to laws stored on 32 MB hardware RAM.
- Imaging adapted to the focusing modes.
- Corrected views in the CAD component (linear, sectorial Bscan).

Digitizer

- Digitizing and real time summation on 8 channels boards.
- Max. sampling frequency 100 MHz (adjustable: 100 to 6.6 MHz).
- Range: 10 bits. Input impedance: 50 Ω.
- Global delay: 0 up to 1.6 ms, step of 10 ns.
- Delay laws at transmission/reception: 0 to 20 µs, step of 2.5 ns.
- Digitising depth: up to 4000 samples per elementary channel, 50000 samples after summation.
- Digital FIR filters.

Pulsers

- Adjustable voltage: 30 to 200V with 1V step.
- Negative rectangulaire pulse, adjustable width: 30 ns to 1.2 µs, step of 2.5 ns. fall time < 10 ns (200V, 50 ns).
- Max. PRF 30 KHz, with change of focal laws.

On-line Processors

- 2 CPU (PowerPC) on CPU board allow fast and exchangeable processing.

Hardware Configuration

- 32, 64, 128 (adjustable on a 8 channels basis).

Receivers

- Bandwidth: 0,8 to 20 MHz.
- Adjustable gain on each channel from 0 to 80 dB.
- Adjustable analogical DAC on 80 dB (max. 20 db/µs) synchronized on events.
- Cross-talk between two channels: > 50 dB.
- Max. input signal amplitude 1 Vpp.

NDT Simulation

Simulation tools (CIVA software) integrated into Multi2000 software:
- Complete description of the testing configuration
- Focal laws and related ultrasonic field computation

Compatibility

- CIVA software: data analysis and definition of NDT configurations.
- MASERA and NDT kit: data analysis softwares.

Computer

- Software environment: Windows XP.
- Usb2 link between Hardware and PC (desktop or laptop).

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