



# Technical specifications

M 2 M

Phased Array Technologies

## M2M MULTI2000 pocket

Multiplexed architecture: 8x32 (pulsers x channels)

### Acquisition

- Hardware acquisition gates
- Synchronization of gates
- Acquisition trigger on event (e.g. threshold, detected echo)
- Acquisition on user specified trigger (e.g. time, mechanical trigger)
- Choice of data acquired (e.g. RF, peaks)
- Real-time image display during acquisition
- User definable inspection configuration
- Public file format for parameters (XML) and data (binary)

### Phased-array

- Customized focusing, electronic scanning, and sectorial scanning
- Inspection mode: pulse echo with electronic selection of active channels
- Fast multiplexing of focal laws during electronic scanning
- Imaging adapted to focusing
- Corrected images (e.g. linear, sectorial BScan)

### Pulsers

- Adjustable voltage: 10 to 100 V with 1V steps
- Negative rectangular pulse, adjustable width: 20 ns to 1.2  $\mu$ s, steps of 2.5 ns
- Maximum PRF: 2 kHz (on USB power supply) to 10kHz (external power supply)

### Receivers

- Bandwidth: 0.5 to 25 MHz
- Adjustable gain on each channel from 0 to 80 dB
- Adjustable analog DAC 80 dB (max. 20 dB/ $\mu$ s)
- Crosstalk between two channels: gain > 50 dB
- Maximum input signal amplitude  $\pm$  1V

### Digitizer

- Maximum sampling frequency: 100 MHz (adjustable from 100 MHz to 6.6 MHz)
- Range: 8 bits
- Input impedance: 50 $\Omega$
- Global delay: 0 up to 1.6 ms, steps of 10ns
- Delay laws at transmission/reception: 0 to 20  $\mu$ s, steps of 2.5 ns
- Digital and analog FIR filters

### Simulation of ultrasonic field, focal law computation

- Simulation tools (CIVA subset) integrated
- Complete description of the testing configuration
- Focal law and associated ultrasonic field computation
- 3D interactive display

### Input-Output

- USB2 for power supply and data transfer
- 1 FRB (Hypertronix) for phased-array probe or SubD HD
- Encoders input
- External power supply input

### Platform

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

### Compatibility

- Imaging and analysis compatible with CIVA
- NDT configuration compatible with CIVA

### Dimensions

- Length: 160mm (6.4")
- Width: 100mm (4")
- Thickness: 30mm (1.2")