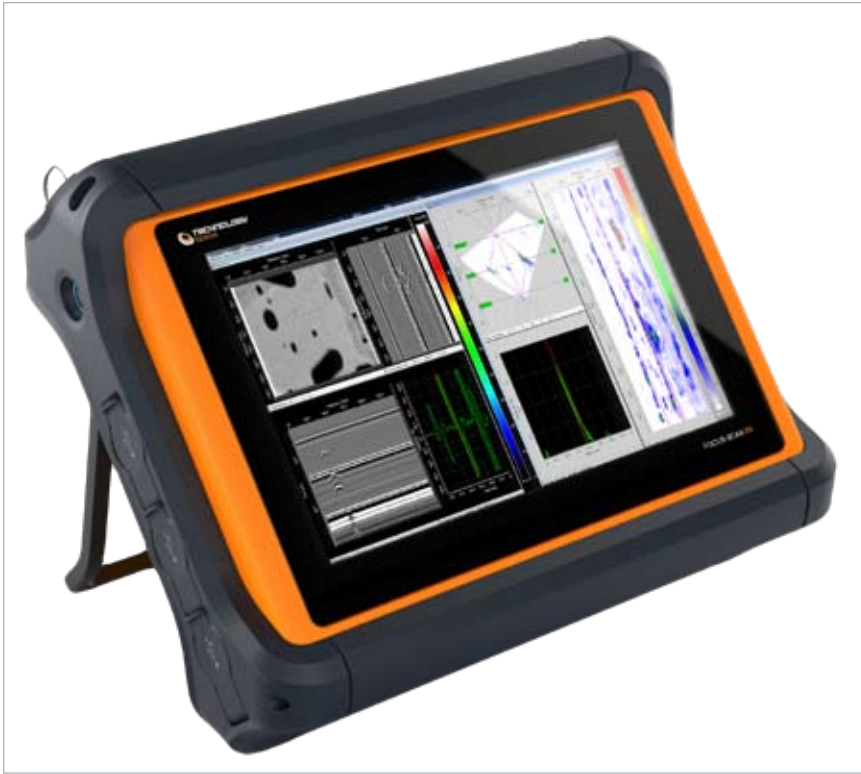




## TD FOCUS-SCAN<sup>RX</sup> - Multi-Function Ultrasonic Inspection Systems



### Features

- Extensive On-Board Analysis Tools
- Powerful Reporting Functions
- On-Board 2-axis Motor Control Drive Unit
- Import Phased Array Setups from ESBeamTool<sup>®</sup>
- User Replaceable Batteries (hot swappable)
- Up to 64/128PR Phased Array
- 8 Independent Conventional Ultrasonic Channels
- 3 Axis Encoding, video tracking
- Simultaneous PA, ToFD and/or PR data collection
- 128GB SSD Storage

### Techniques

- Phased Array
- TOFD
- Pulse Echo
- Corrosion Mapping
- Weld Zone Discrimination
- General Flaw Detection
- 2D Matrix Arrays
- Dual Linear Arrays

### Applications

- Pressure Vessels
- Pipeline Welds
- Composites
- Structural Welds
- Forgings & Castings
- Turbine Disks & Blades
- Aircraft Components
- Hydrogen Damage Surveys
- Corrosion Surveys

### Software

- Phased Array/Pulse Echo
- AWS
- TOFD
- Strip-Scan
- Long Range (Creep Wave & Corrosion Mapping)
- TD Super-View
- ESBeamTool<sup>®</sup> included
- AVG Antivirus

*E&OE - All specifications are subject to change. It is advisable to check all information provided.*



## TD Focus-ScanRX Technical Specification

### Hardware

System Options	
16/128PR	16 Active, 128 Elements, 8 Conventional
32/128PR	32 Active, 128 Elements, 8 Conventional
64/128PR	64 Active, 128 Elements, 8 Conventional
General	
Number of Active Channels	Up to 128
Number Of Focal Laws	Up to 1700
Dynamic Depth Focusing	Yes
Digitisation	
A/D Sampling Frequency	Phased Array = 8Bit & 14Bit @ 100MHz Conventional = 8Bit & 14Bit @ 100MHz
System Bandwidth(-3dB)	Phased Array = 0.25MHz to 25MHz Conventional = 0.25MHz to 25MHz
Max Pulse Repetition Frequency	Variable up to 10KHz
Pulser	
Pulser Delays	0µs to 20µs in 2.5ns steps
Output Impedance	6 Ohms
HT Pulse Shape	Square wave
HT Pulse Voltage	Phased Array = 5 to 190V in 1V Steps Conventional = 5 to 190V in 1V steps
HT Pulse Width Range	20ns to 500ns in 2.5ns steps
Rise/fall time	< 5ns
Receiver	
Receiver Delays	0µs to 20µs in 1ns steps
Gain Range	P/E = 0 to 90dB in 0.1dB steps, P/A = 0 to 72dB in 0.1dB steps
Input Noise Level	2.5nV/(Hz) ½ across full system bandwidth
Input Impedance	50 Ohms
Dynamic Depth Focusing	
Operation	Dynamically optimises receive focus delays
Range Of Operation	User specified depth/range in mm or µs
Performance	100MHz real-time
Receiver TCG Curves	
Number Of Curves	Conventional - 1 per channel Phased Array - 1 per Focal Law
A-Scan Digitizing	
A-Scan Points Per Channel	8000 samples per channel
Number Of Gates Per Channel	3 overlapping hardware Gates
Gate Start/Width	User definable in 40ns steps
Gate Reference Points	Transmit Pulse or Material Interface Echo
Storage Modes Per Gate	A-Scans, Peak Depth and Amplitude, both

### Software

General Features	
<ul style="list-style-type: none"> <li>• Simultaneous Phased Array, TOFD &amp; Pulse Echo data collection</li> <li>• Operator definable weld geometry overlays</li> <li>• Real-time A, B, C and D-Scan images, with user defined display modes</li> <li>• On-Board report generation including interactive print-preview &amp; user-definable report fields</li> <li>• Full cursor analysis indicating peak depth, amplitude and x,y position</li> <li>• Export Bitmap images to any Windows application</li> <li>• 8 or 14 bit Data collection (Phased array/Pulse Echo/TOFD)</li> <li>• Import ESBeamTool® setups</li> </ul>	
Phased Array	
<ul style="list-style-type: none"> <li>• User configurable control of beam angle, focal distance and spot size</li> <li>• Fixed-angle electronic or sectorial scans</li> <li>• Dynamic Depth Focusing (DDF) provides a user-definable focal range</li> <li>• Supports linear probe/wedge geometry</li> <li>• Normalisation of amplitude across sectorial scan angles or fixed angle focal laws</li> <li>• Beam Apodization</li> <li>• Skip Correction provides correct depth/range relationship for multiple legs</li> <li>• 2D Matrix Arrays</li> <li>• Dual Linear Arrays</li> </ul>	

Signal Averaging	
Number Of Channels	All (128 software channels)
Averaging Rates	Real-time averaging 2 - 256, user definable
Peak Processing	
Peak Storage Modes	All Peaks, First Peak, Largest Peak/s, Loss of Signal, Between
Threshold Setup	5 to 100% in 1% steps per hardware Gate
Number Of Peaks Per Gate	16 max
Scanner Interface Ports	
Input Type	Encoder, Video Camera
Number of Axis	3 Axis
Encoder Interface	TTL compatible, 5V @ 1A, 12V @ 0.4A
Video Input	1Vpp Composite
Motor Drive	2 Axis (24v, 5 Amps)
PC (Internal)	
Operating System	Windows® 10
3rd Party Software	AVG Antivirus® ESBeamTool® (Eclipse Scientific)
Processor	Intel Atom E3827
Memory	4GB
Display	Colour TFT (industrial type) 12.1"
Display Resolution	1280 x 800 (Sunlight Readable Screen)
Storage	128GB SSD
Ports	3 x USB 2.0 1 x 10/100/1000 Ethernet, GPIO 1 x Video

Size, Weight and Environmental	
Unit Dimensions	370 x 294 x 114 (WxHxD)
Weight	7.3kg (1 Battery)
Rating	Designed to IP66
Temperature	-10°C to 40°C operating / -25°C to 85°C storage

Power Requirements	
Batteries	2 x Hot Swappable
DC Input	19V
AC Input	90 to 260VAC @ 40Hz to 60Hz

Pulse Echo	
<ul style="list-style-type: none"> <li>• Independent control of transmit and receive parameters</li> <li>• C-scan with end views for corrosion mapping</li> <li>• Trigger reference modes including Interface Echo or Tx Pulse</li> <li>• Multiple peak data storage modes, including full/selective A-Scan storage</li> </ul>	

ToFD	
<ul style="list-style-type: none"> <li>• Perform multi-channel TOFD and Pulse Echo inspections simultaneously</li> <li>• Full suite of image analysis tools for defect/crack sizing</li> <li>• Real-time multi-channel averaging significantly improves signal quality</li> <li>• Linearization, Straightening, Synthetic - Aperture - Focusing - Technique (SAFT)</li> <li>• File utilities include file join, split, reverse, save partial, output data to text file etc.</li> </ul>	

Weld Zone Discrimination	
<ul style="list-style-type: none"> <li>• Combined TOFD, Time/Amplitude view, Map view, Couplant Check &amp; Go/No-Go in a single pass</li> <li>• Inspection data displayed as strips indicating weld zones</li> <li>• Integrated TOFD analysis</li> <li>• Automated report generator</li> </ul>	

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