Portability
Modularity
Color imaging
Data storage
See it all!
OmniScan™ MX

OmniScan™ is the newest family of modular and portable test units from R/D Tech. This family includes the innovative phased array and eddy current array test units, as well as the newly introduced eddy current and conventional ultrasound modules, all designed to meet the most demanding requirements of NDT. The OmniScan offers a high acquisition rate and powerful software features in a portable, modular mainframe to efficiently perform manual and automated inspections.

Rugged, Portable, and Battery-Operated
The OmniScan™ is built to work in the harshest field conditions. Its solid polycarbonate-based casing and rubber bumpers make it a rugged instrument that can withstand drops and shocks.

The OmniScan is so compact and lightweight (only 4.6 kg) that it can be carried easily and handled anywhere inside or outside. The OmniScan will run 6 hours with its two Li-ion batteries.

User Interface
The highly legible 8.4-inch real-time display (60-Hz A-scan refresh rate) with a SVGA resolution of 800 x 600 allows you to clearly see defects and details under any light conditions. A scroll knob and function keys make it easy to browse through and select functions. A mouse and a keyboard can also be plugged in for users looking for a more PC-like interface.

Modular Platform
The instrument is a modular platform that allows you to switch among its different test modules on location. The platform detects the new module and the technology supported so that the configuration and test environment are set automatically.

OmniScan Connector
The OmniScan connector has a probe ID feature that enables physical detection and recognition of the probe connected to the mainframe.
- Sets the probe to an appropriate frequency to prevent probe damage.
- Sets C-scan resolution of ECA probes.
- Loads the correct probe parameters.

Adapters to connect to probes from other manufacturers are available.
Storage and Report
- Setup storage compatible with Microsoft® Windows® (exportable using a CompactFlash® card)
- Complete report setup including reading configuration, which can be customized using HTML page layout
- On-screen interactive help that can be customized for procedure-oriented setups using HTML script templates
- Setup preview

Connectivity, Data Storage, and Imaging
The OmniScan™ offers alarm outputs as well as the standard PC ports: USB, RS-232, SVGA out, and Ethernet™. It offers internal data storage capability and extended storage via a CF (CompactFlash®) card slot or USB device.

Typical Applications

Girth Weld Inspection
R/D Tech has developed a circumferential weld inspection system based on the OmniScan PA for the oil and gas industry. This phased array system is qualified to inspect tube with diameters ranging from 48 mm to 1524 mm and thicknesses from 5 mm to 25 mm in compliance with ASME Boiler and Pressure Vessel Code Section V. The semiautomated system offers better inspection speed and detection, and makes the interpretation of the indications significantly easier.

Inspection of Tee-Joint Welds on Bridge Structures
Automated welding used to build multiple parts of bridge structures can generate cracks in the upper part of the weld of thin stiffeners. The OmniScan allows simultaneous scanning from 40 to 70 degrees. Users can inspect the complete volume of the weld in a single pass. Compared to conventional UT, this technique enables an inspector, with a few hours of training, to operate at least five times faster and present more reliable results.

Landing Gear Inspection
The OmniScan allows the complete inspection of a critical section of the landing gear: a cylinder possessing three different diameters in the zone of interest. The inspection is done in a single pass with 40- to 65-degree shear wave refracted angles in the part. With this system, any inspector can perform the inspection faster, and with better reliability.

Aircraft Fuselage Inspection
The OmniScan ECA provides the ability to detect hidden corrosion in multilayer structures and especially in lap joints independently of lack of sealant. Currently, material loss of 10% of the lap splice thickness can be detected in aluminum at a depth of 0.2 inch. Surface and subsurface cracks can be detected in the skin, at the fastener, or at the lap joint edges.
Ultrasound Inspection

0-Degree Testing (Immersion, Corrosion, Composite)
The 0-degree testing measures time-of-flight and amplitude of ultrasonic echoes reflecting from the part into gates to detect and measure defects.
- C-scan imaging
- Full A-scan recording with C-scan post-processing

Angle Beam Testing
Angle beam testing enables the detection of vertical or thin defects that 0-degree inspection might miss because of poor sound reflection. Angle beam testing uses an angled wedge to create the desired angle.
- True depth configuration
- Flaw sizing using tip diffraction technique
- Raster scans (A, B, C, and D scans)
- Built-in FFT for probe characterization

Time-of-Flight Diffraction (TOFD) Testing
TOFD is a technique that uses two probes in pitch-and-catch mode. TOFD detects and records signals diffracted from defect tips for both detection and sizing. The TOFD data is displayed in a grayscale B-scan. TOFD offers wide coverage and amplitude-independent sizing compliant with ASME-2235 code.
- One-line scan for full-volume inspection
- Setup independent of weld configuration
- Very sensitive to all kinds of defects and insensitive to defect orientation

Ultrasound Transducers
R/D Tech offers thousands of transducers in standard frequencies, element diameters, and connector styles.
- Contact and immersion transducers
- Dual transducers
- Angle beam transducers and wedges
- Replaceable delay line transducers
- Protected-face transducers
- Normal incidence shear wave transducers

TOFD Caliper
The TOFD caliper is small, lightweight, easily portable, and simple to use on a variety of different inspections. The probe distances are easily adjusted, and angles can be set to 45°, 60°, and 70°. The TOFD caliper opens up new possibilities for fast manual inspection with permanent record of the results.
Ultrasound Software

Full-Featured C-Scan
- Monitoring of amplitude, peak position, crossing level position, and thickness on each gate
- Automatic gate synchronizes from previous gate for higher dynamic range of thickness.
- A-scan data storage and C-scan postprocessing capabilities

- Optional IF gate for surface following synchronization or measurement gate or TCG/DAC curves
- Either positive or negative gate on RF signal (independent for each gate)
- Three alarms completely configurable on single gate events or multiple gate events, filter for n occurrences from one or multiple channels
- Customizable color palette for amplitude and thickness C-scan
- 2-axis mechanical encoder with data acquisition synchronization on mechanical movement
- Optional data library to access A-scan and/or C-scan on PC for custom processing
- 60 Hz A-scan refresh rate with overlays of envelope and peak inside the gate

Angle Beam Transducer for Weld Inspection
- Trigonometric flaw location with curvature correction for angle beam transducer
- Optional DAC and TCG curves for compensation of material attenuation as well as beam spread
- Assisted calibration for probe delay and sound velocity, as well as TCG and mechanical encoder
- Support of pulse-echo, dual, or through-transmission modes
- Visual skip indicator for easy location of the defect

Full-Featured A-Scan

Indoor/outdoor color schemes for improved readability in all conditions.
- Color-selectable A-scan display
- Reject mode
- Hollow mode
- Peak/hold mode (always keep the signal that shows the maximum amplitude in gate A)
- Gate threshold level crossing (changes the color of the curve that is over the gate level)

TOFD

- A B-scan encoded data imaging and storage
- Adjustable for brightness and contrast grayscale color palette
- 100 MHz A-scan digitizing
- TOFD calibration wizard online and offline
- Hyperbolic cursor and reading for TOFD sizing
- Lateral wave resynchronization
**Phased Array Technology**

Phased array technology generates an ultrasonic beam with the capability of setting beam parameters such as angle, focal distance, and focal point size through software. Furthermore, this beam can be multiplexed over a large array. These capabilities open a series of new possibilities. For instance, it is possible to quickly vary the angle of the beam to scan a part without moving the probe itself. Phased arrays also allow the replacement of multiple probes and even mechanical components. Inspecting a part with a variable-angle beam also maximizes detection regardless of the defect orientation, while optimizing signal-to-noise ratio.

**Benefits of Phased Arrays**

Phased array technology offers the following capabilities:
- Software control of beam angle, focal distance, and spot size
- Multiple-angle inspection with a single, small, electronically controlled, multielement probe
- Greater flexibility for the inspection of complex geometry
- High-speed scans with no moving parts

**Phased Array Probes**

R/D Tech’s standard phased array transducers are divided in four types:
- Angle beam transducers with external wedges (1) (2)
- Angle beam transducers with internal wedges (3)
- Contact transducers (4)
- Immersion transducers (5)

Water boxes for immersion transducers are also available (6), as are numerous accessories, such as encoders (7).
Phased Array Software

Full-Featured A-Scan
- User-selectable A-scan color
- Reject mode
- Hollow and filled display mode
- Fast 60 Hz refresh rate for analog-like display

Full-Featured B-Scan
- Easy-to-interpret cross-sectional view of inspected part
- Excellent presentation for corrosion mapping of pipes, boilers, and storage tanks
- Allows the operator to visually verify acquired thickness points as well as zoom in on areas with critically thin thickness values.
- Encoded TOFD capability for amplitude-independent defect sizing

Full-Featured C-Scan
- Adjustable 256-level color palette
- Encoded C-scan storage and imaging capabilities
- Dual gate amplitude and measurement C-scan
- Built-in measurement and analysis tools

Full-Featured Sectorial Scan
- Real-time volume-corrected representation
- Higher than 20 Hz refresh rate (up to 40 Hz)

Advanced Real-Time Data Processing
- Real-time data interpolation to improve spatial representation of defects during acquisition of data
- User-selectable high- and low-pass filters to enhance A-scan and imaging quality
- Projection feature allows the operator to view vertically positioned A-scan simultaneously with sectorial scan image.

PC-Based Analysis Software: TomoView™
- OmniScan™ data is compatible with R/D Tech’s TomoView™ PC-based software platform.
- Offline analysis A, B, C, D, and sectorial scans (S-scan)
- Measurement utilities, zooming, and customizable color palette
- Compatible with advanced focal law calculator

C-scan display on OmniScan PA.
Eddy Current Inspection

Eddy Current Technology

Eddy current (ECT) technology is a noncontact method for the inspection of metallic parts. In this technique, the probe, which is excited with an alternative current, induces eddy current in the part under inspection. Any discontinuities or material property variations that change the eddy current flow in the part are detected by the probe as a potential defect.

Over the years, probe technology and data processing have continuously progressed so that the eddy current technique is now recognized to be fast, simple, and accurate. This is why the technique is widely used in the aerospace, automotive, petrochemical, and power generation industries for the detection of surface or near-surface defects in material such as aluminum, stainless steel, copper, titanium, brass, Inconel®, and even carbon steel (surface defect only).

Benefits of Eddy Current

Eddy current offers the following capabilities:

- Quick, simple, and reliable inspection technique to detect surface and near-surface defects on conductive material
- Can be used to measure material electrical conductivity.
- Measurement of nonconductive coating
- Hole inspection with the use of high-speed rotating scanner and surface probe

Eddy Current Probes

R/D Tech’s standard eddy current probes are available in different configurations:

- Bolt hole probes
- Surface probes, in various shapes and configurations
- Low-frequency Spot and Ring type probes
- Sliding probes
- Wheel probes
- Conductivity probes
- Speciality probes made for specific applications

Reference standards with EDM notches can be manufactured according to the application specifications.

Probes used to perform eddy current inspections are made with a copper wire wound to form a coil. The coil shape can vary to better suit specific applications.

a. - The alternative current flowing through the coil at a chosen frequency generates a magnetic field around the coil.

b. - When the coil is placed close to an electrically conductive material, eddy current is induced in the material.

c. - If a flaw in the conductive material disturbs the eddy current circulation, the magnetic coupling with the probe is changed and a defect signal can be read by measuring the coil impedance variation.

Surface preparation is minimal. Unlike liquid penetrant or magnetic particle inspection, it is unnecessary to remove the paint from the surface to inspect the parts.
Impedance Plane and Strip Chart Display

- User-selectable screen persistency
- Two-frequency operation and automatic mixing capability
- Reference signal overlay can be kept on the screen for easier signal interpretation.
- Freeze mode allows signal rotation and gain adjustment without having to hold the probe on the part.
- Zoom and Best Fit functions

Conductivity and Thickness Measurement Mode

- Simple step-by-step calibration procedure
- Material conductivity or coating thickness are displayed with very large numerals.
- Impedance plane display for signal representation during measurement
- Instruction window guides the operator during the measurement process.
- Adjustable threshold represents the measurement values in blue, green, or red.
- Measurements can be stored in a tabular report.

Rotating Probe Operation

- Impedance plane with synchronized sweep trace displayed simultaneously
- Adjustable impedance plane persistency to show one or several probe rotations on the screen
- Scrolling C-scan display to represent the inspected area in a 2-D color map
- High acquisition rate allows smooth signal representation and high-speed rotation.
- Real-time data interpolation or compression to compensate for rotation speed variation
- Full data recording capability
- Special median high-pass filter provides a stable trace.

C-Scan Surface Mapping

- Support of two encoder inputs to connect various scanners
- Real-time C-scan mapping display with impedance plane and strip chart view

Advanced Real-Time Data Processing

- Three alarms can be defined with various shapes to activate LED, buzzer, or TTL output.
- High-pass, low-pass, and specialized filters

Alarm zone in impedance plane on OmniScan ECT.
**Eddy Current Array Technology**

Eddy current array (ECA) technology allows to electronically drive and read several eddy current sensors positioned side-by-side in the same probe assembly. Data acquisition is made possible through the use of multiplexing, which avoids mutual inductance between the individual sensors.

The OmniScan™ ECA test configuration supports 32 sensor coils (up to 64 with an external multiplexer) working in bridge or transmit-receive mode. The operating frequency ranges from 20 Hz to 6 MHz with the option of using multiple frequencies in the same acquisition.

**Benefits of Eddy Current Arrays**

Compared to single-channel eddy current technology, eddy current array technology provides the following benefits:

- Drastically reduces inspection time.
- Covers a large area in one single pass.
- Reduces the complexity of mechanical and robotic scanning systems.
- Provides real-time cartography of the inspected region, facilitating data interpretation.
- Is well suited for complex part geometries.
- Improves reliability and probability of detection (POD).

**Eddy Current Array Probes**

R/D Tech manufactures ECA probes for a wide range of applications. Probes can be designed to detect a specific type of flaw or to follow the shape of the part to inspect. Standard designs are available to detect defects such as cracks and pitting, and subsurface defects like cracks in multilayer structures as well as corrosion.

Transmit-receive probe for corrosion detection down to 6 mm (0.125 in.) in aluminum.

Transmit-receive probe for surface crack detection shown with optional encoder.

Absolute probe for surface crack detection.

Eddy current array probes can replace one axis of a two-axis scan and offer greater flexibility in the eddy current setup.

Probes can be made in different shapes and sizes to better follow the contour of the part to inspect.
Simple Acquisition and Analysis Displays

- Data acquisition in a C-scan view for quick and efficient defect detection
- Data selection in analysis mode to review the signal in the impedance plane and strip charts
- Amplitude, phase, and position measurement
- Adjustable color palette
- Large impedance plane and strip chart views to accommodate conventional single-channel ECT probe inspection

Calibration Wizard

- Step-by-step process
- All the channels of a group are calibrated simultaneously, each channel having its own gain and rotation.
- Amplitude and phase can be set on different reference flaws.

Alarms

- Three alarm outputs can combine LED, buzzer, and TTL output.
- Various alarm zone shapes can be defined in the impedance plane (sector, rectangular, ring, etc.).

Automatic Probe Detection and Configuration

- C-scan parameters and multiplexing sequence are automatically set when the probe is connected.
- Frequency range protection to avoid probe damage

Subtraction Tools in Analysis Mode

This function can be used to remove the lift-off variation that can be seen between adjacent channels.

Advanced Real-Time Data Processing

- Real-time data interpolation to improve the spatial representation of the defects
- When working with two frequencies, a MIX signal can be generated to remove unwanted signals (like lift-off, fastener signals, etc.).
- Several filters can be applied to the data such as high-pass, low-pass, median, and averaging. The figures above represent an application where the cracks are located at the edge of a lap-joint, which has a sharp thickness variation. The filtered data may improve detection, especially for small cracks.
OMNISCAN MX SPECIFICATIONS

OVERALL DIMENSIONS
321 mm x 209 mm x 125 mm (12.6 in x 8.2 in. x 5 in.)

WEIGHT
4.6 kg (10.1 lb) (including test module and one battery)

DATA STORAGE

STORAGE DEVICES
CompactFlash® card, most standard USB storage device, or through fast Ethernet™

INTERNAL MEMORY
32 MB DiskOnChip®

DATA FILE SIZE
200 MB

I/O PORTS

USB PORTS
3

SPEAKER OUT
Yes

MICROPHONE INPUT
Yes

VIDEO OUTPUT
Video out (SVGA)

VIDEO INPUT
Video input (NTSC/PAL)

ETHERNET™
10/100 Mb/s

I/O LINES

ENCODER
2-axis encoder line (quadrature or clock/direction)

DIGITAL INPUT
2 digital inputs TTL 5 V

DIGITAL OUTPUT
4 digital outputs TTL, 5 V, 10 mA

REMOTE COMMUNICATION
Remote communication RS-232 or RS485

ACQUISITION ON/OFF SWITCH
Remote acquisition enable TTL 5 V

POWER OUTPUT LINE
5 V, 500 mA power output line (short-circuit-protected)

ALARMS
3 TTL, 5 V, 10 mA

ANALOG OUTPUT
2 analog outputs (12 bits) ±5 V in 10 kΩ

FACE INPUT
5 V TTL face input

DISPLAY

DISPLAY SIZE
8.4 in. (diagonal)

RESOLUTION
800 x 600 pixels

NUMBER OF COLORS
16 million

TYPE
TFT LCD

POWER SUPPLY

BATTERY TYPE
Smart Li-ion battery

NUMBER OF BATTERIES
1 or 2 (battery chamber accommodates two hot-swappable batteries)

BATTERY LIFE
Minimum 6 hours with two batteries, minimum of 3 hours per battery in normal operation conditions

DC-IN VOLTAGE
15 V – 18 V (min. 50 W)

ENVIRONMENTAL SPECIFICATIONS

OPERATING TEMPERATURE
0°C to 45°C

STORAGE TEMPERATURE
-20°C to 70°C

RELATIVE HUMIDITY
0–95% non-condensing. No air intake, splashproof design.

ULTRASOUND MODULE SPECIFICATIONS

OVERALL DIMENSIONS
244 mm x 182 mm x 57 mm (9.6 in. x 7.1 in. x 2.1 in.)

WEIGHT
1 kg (2.2 lb)

CONNECTORS
LEMO® 00 (2)

PULSER/RECEIVER

NUMBER OF PULSERS/RECEIVERS
2

PULSER

PULSE OUTPUT
50 V, 100 V, 200 V ±10% (variable pulse width)

PULSE WIDTH
Adjustable from 30 ns to 500 ns ±10%, resolution of 2.5 ns

FALL TIME
Less than 10 ns

PULSE SHAPE
Negative square wave

OUTPUT IMPEDANCE
Less than 4 Ω

RECEIVER

RECEIVER GAIN RANGE
0–100 dB, by steps of 0.1 dB

MAXIMUM INPUT SIGNAL
14 V p-p (screen at 128%)

MINIMUM SENSITIVITY
140 µV p-p (screen at 128%)

NOISE REFERRED TO INPUT
140 µV p-p (23 µV RMS) (128%)

INPUT IMPEDANCE
50 Ω

INPUT FILTER
(100% bandwidth) Centered at 1 MHz (1.5 MHz), centered at 2 MHz (2.25 MHz), centered at 5 MHz (4 MHz), centered at 10 MHz (12 MHz), centered at 15 MHz, 0.25–2.5 MHz, 10–35 MHz ±10% HP, 2–25 MHz BB

BANDWIDTH OF THE SYSTEM
0.25–35 MHz (~3 dB)

RECTIFIER
Both, positive, negative

MODE
P-P, P-R, T-T (through-transmission), maximum of 2 channels in P-P, maximum of 1 channel in P-R, (ex.: P1 → P2)

SMOOTHING
Digital

DAC

NUMBER OF POINTS
16

DAC RANGE
Up to 40 dB

MAXIMUM GAIN SLOPE
20 dB/µs

DATA ACQUISITION

A-SCANACQUISITION RATE
6000 A-scans/s (512-point A-scan)

MAXIMUM PULSING RATE
1 channel at 10 kHz (C-scan)

DATA PROCESSING

REAL-TIME AVERAGING
2, 4, 8, 16

GATES

QUANTITY
3:1 (synchronous), A and B (measure)

Synchronization
I, A, B referenced on main bang, A and B referenced on gate I (post-synchronization)

DATA STORAGE

A-SCAN RECORDING (TOFD)
6000 A-scans/s (512-point A-scan)
(3 MB/s transfer rate)

C-SCAN TYPE DATA RECORDING
20,000 (A1, A2, A3, T1, T2, T3) (3 gates)
10 kHz (lower frequency for corrosion mapping)

DATA VISUALIZATION

REFRESH RATE
60 Hz

DATA SYNCHRONIZATION

ON TIME
10 Hz–10 kHz

EXTERNAL
Yes

ON ENCODER
On 1 or 2 axes divided into 1 to 65,536 steps

ALARMS

NUMBER
3

CONDITIONS
Any logical combination of gates

SIGNAL
Amplitude or time of flight of gate A or B

FREQUENCY
Up to 10 kHz
Eddy Current Modules Specifications

<table>
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<tr>
<th>EC Array</th>
<th>Eddy Current</th>
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</thead>
<tbody>
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<td>Overall dimensions</td>
<td>244 mm x 182 mm x 57 mm (9.6 in. x 7.1 in. x 2.1 in.)</td>
</tr>
<tr>
<td>Weight</td>
<td>1.2 kg (2.6 lb)</td>
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<tr>
<td>Connectors</td>
<td>1 OmniScan connector for eddy current array probes</td>
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<tr>
<td>1 19-pin Fischer® eddy current probe connector</td>
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</tr>
<tr>
<td>1 BNC connector</td>
<td></td>
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<tr>
<td>Number of channels</td>
<td>32 channels with internal multiplexer</td>
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<tr>
<td>64 channels with external multiplexer</td>
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<tr>
<td>Probe recognition</td>
<td>Automatic probe recognition and setup</td>
</tr>
</tbody>
</table>

Generator

| Number of generators | 1 (with internal electronic reference) |
| Maximum voltage | 12 V p-p into 10 Ω |
| Operating frequency | 20 Hz – 6 MHz |
| Bandwidth | 8 Hz – 5 kHz (in single coil). Inversely proportional to the time slot duration and set by the instrument in multiplexed mode. |

Receiver

| Number of receivers | 1 to 4 |
| Maximum input signal | 1 V p-p |
| Gain | 28–68 dB |

Internal multiplexer

| Number of generators | 32 (4 simultaneously on 8 time slots; up to 64 with external multiplexer) |
| Maximum voltage | 12 V p-p into 50 Ω |
| Number of receivers | 4 differential receivers (8 time slots each) |
| Maximum input signal | 1 V p-p |

Data acquisition

| Digitizing frequency | 40 MHz |
| Acquisition rate | 1 Hz – 15 kHz (in single coil). The rate can be limited by the instrument’s processing capabilities or by delays set by the multiplexed excitation mode. |
| A/D resolution | 16 bits |

Data processing

| Phase rotation | 0° to 360° with increments of 0.1° |
| Filtering | FIR low-pass, FIR high-pass, FIR band-pass, FIR band-stop (adjustable cutoff frequency), median filter (variable from 2 to 200 points), mean filter (variable from 2 to 200 points) |
| Channel processing | Mixing, Interpolation |

Data storage

| Maximum file size | Limited by memory size |

Data synchronization

| On internal clock | 1 Hz – 15 kHz (single coil) |
| External pace | Yes |
| On encoder | On 1 or 2 axes |

Alarms

| Number of alarms | 3 |
| Alarm zone shape | Pie, inverted pie, box, inverted box, and ring |
| Output type | Visual, audio, and TTL signals |
| Analog outputs | 1 (X or Y) |

Phased Array Module Specifications

| Overall dimensions | 244 mm x 182 mm x 57 mm (9.6 in. x 7.1 in. x 2.1 in.) |
| Weight | 1.2 kg (2.6 lb) |
| Connectors | 1 OmniScan connector for phased-array probes |
| 2 BNC connectors (1 pulser/receiver, 1 receiver for conventional UT) |
| Number of focal laws | 256 |
| Probe recognition | Automatic probe recognition and setup |

Pulser/Receiver

| Aperture | 16 elements |
| Number of elements | 128 elements |

Pulser

| Voltage | 80 V per element |
| Pulse width | Adjustable from 30 ns to 500 ns, resolution of 2.5 ns |
| Fall time | Less than 10 ns |
| Pulse shape | Negative square wave |
| Output impedance | Less than 25 Ω |

Receiver

| Gain | 0–74 dB maximum input signal |
| Input impedance | 1.32 V P-P |
| System bandwidth | 0.75–18 MHz (~3 dB) |

Beam forming

| Scan type | Azimuthal and linear |
| Active elements | 16 |
| Elements | 128 |
| Delay range transmission | 0–10 μs in 2.5-ns increments |
| Delay range reception | 0–10 μs in 2.5-ns increments |

Data acquisition

| Digitizing frequency | 100 MHz (10 bits) |
| Maximum pulsing rate | Up to 20 kHz (C-scan) |
| Acquisition depth | 59.8 meters in steel (L-wave), 10 ms with compression. 0.49 meter in steel (L-wave), 81.9 μs without compression |

Data processing

| Number of data points | Up to 8000 |
| Real-time averaging | 2, 4, 8, 16 |
| Rectifier | RF, full wave, halfwave +, halfwave – |
| Filtering | Low-pass (adjusted to probe frequency), digital filtering (bandwidth, frequency range) |
| Video filtering | Smoothing (adjusted to probe frequency range) |

Data storage

| A-scan recording (TOFD) | 5000 A-scans per second (512-point 8-bit A-scan) |
| C-scan type data recording | 1, A, B, up to 20 kHz (amplitude or TOF) |
| Maximum file size | Limited by memory size |

Data visualization

| A-scan refresh rate | Real-time: 60 Hz |
| Volume-corrected S-scan | Up to 40 Hz |

Data synchronization

| On internal clock | 1 Hz – 20 kHz |
| External pace | Yes |
| On encoder | On 1 or 2 axes |

Programmable time-corrected gain (TCG)

| Number of points | 16 (1 TCG curve per channel for focal laws) |

Alarms

| Number of alarms | 3 |
| Conditions | Any logical combination of gates |
| Analog outputs | 2 |
R/D Tech Sales Network

Continuous Innovation

The OmniScan™ is another milestone in the R/D Tech’s tradition for innovation.

Its modular concept propels the OmniScan ahead of all other NDT products. The OmniScan platform allows our customers to build for the future by adding modules as the need arises.

Take part in the future of NDT now!

www.rd-tech.com

R/D Tech has representatives in more than 40 countries. Consult the Web to see the complete list.

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