



DYNARAY® AND DYNARAY LITE

Ultra-High Performance Phased Array UT Instruments

FEATURES & BENEFITS

2-D Matrix Array Technology

- ▶ Up to 256 simultaneously active elements and up to 512 channels in total

Speed Counts

- ▶ High data throughput, up to 20 MB/s

Wide Range of Probe Frequencies

- ▶ Drives low-frequency array probes (down to 0.5 MHz)

Flexible Inspection Setup

- ▶ Up to 4,096 different focal laws with position dependent configuration for superior inspection quality on complex surfaces

3-D Work Environment

- ▶ Controlled by UltraVision® offering 3-D work environment for creation of components and data visualization



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PERFORMANCE THAT CAN SIMPLIFY COMPLEX INSPECTIONS

The Zetec DYNARAY® instrument family sets the highest performance standard for phased array UT technology. Delivering unparalleled power and versatility, DYNARAY is optimized for inspections requiring 2D matrix arrays probes, long sound paths, low-frequency probes and complex geometries.

A range of configurations are available to meet your specific needs, from 64/64 up to 256/256. DYNARAY instruments can drive a wide range of probe frequencies, from 0.5 MHz up to 20MHz with a pulser voltage up to 200 Volts.

Driven by the powerful UltraVision software platform,

DYNARAY offers advanced data acquisition and analysis. It can dynamically adapt focal laws to conduct inspections on complex surfaces. The unique 3-D environment provides all the tools necessary for the creation of components, data analysis and visualization. Additionally, it can generate optimized acoustic beams through complex inspection surfaces.

No matter how challenging the inspection, DYNARAY delivers. The high data throughput helps eliminate any hardware speed limitations and can increase scanning speed. Plus DYNARAY instruments are capable of handling data files up to 20 GB and 16-bit resolution signals so no inspection configuration is too challenging.

Ultra-High Performance Phased Array UT

FEATURE	DYNARAY®	DYNARAY® LITE
Size (H × W × D)	394 × 366 × 470 mm 15.5 × 14.4 × 18.5 in	244 × 358 × 445 mm 9.6 × 14.1 × 17.5 in
Weight	27 kg (59lb) for 128/128 32 kg (71lb) for 256/256	13.5 kg (30 lb)
Air Intake	Yes	Yes
Battery Operation	No	No
Phased Array Connector	up to 4 Hypertronics	2 Hypertronics
Phased Array Channels	64/64PR 64/256 PR 128/128 PR 256/256 PR	64/64 PR
UT Channels	16	16
Digitizing Frequency	up to 100 MHz	up to 100 MHz
Amplitude Resolution Phased Array signal	8 or 16-bit	8 or 16-bit
Network Interface	Ethernet 1000 Base-T	Ethernet 1000 Base-T
Maximum PRF	30 kHz	30 kHz
Global Data Throughput	20 MB/sec	20 MB/sec
Max. Pulsar Voltage (50 Ω)	200V	200 V
Bandwidth (-3 dB)	from 0.25 to 20 MHz	from 0.25 to 20 MHz
Real-time Data Compression	Yes	Yes
Rectification	Digital	Digital
Filtering	Analog/Digital (FIR)	Analog/Digital (FIR)
Smoothing (video filter)	Digital	Digital
Self-Diagnostics	Yes	Yes
Dynamic Depth Focusing (DDF)	Yes	Yes
# Focal Laws	4096	4096
A-scan length	up to 256,000	up to 256,000
Recording rate A-scans (512 samples)	20,000 16-bit or 40,000 8-bit A-scan/s	20,000 16-bit or 40,000 8-bit A-scan/s
Amplifier	LIN, LOG (processed)	LIN, LOG (processed)
Encoder Interfaces	Quadrature & Differential	Quadrature & Differential
Software Control	UltraVision®	UltraVision®

General Specifications

Power Requirements

- ▶ **Voltage:** 120 VAC or 240 VAC
- ▶ **Frequency:** 50 Hz or 60 Hz
- ▶ **Maximum power:** 1500 VA, Fuse 250 V slow blow; 6 A at 240 V, 15 A at 120 V

Environment

- ▶ **Operating Temperature Range:** 0°C to 45°C (32°F to 113°F)
- ▶ **Storage Temperature Range:** -20°C to 70°C (-4°F to 158°F)
- ▶ **Relative Humidity:** 95%, non-condensing

European Directives and Standards CE mark approves the conformity with all applicable directives and standards of the European community. DYNARAY is an instrument of Class 1 and installation category II.

Zetec: Innovation That Delivers Results

For nearly 50 years, Zetec has advanced NDT standards and science. We provide new insight and control through inspection solutions that protect our customers' most important assets and ensure the quality of their products. By integrating design and engineering with our own manufacturing, Zetec delivers solutions that optimize productivity, safety and total cost of ownership.

Ordering Information

PART #	SHORT DESCRIPTION	DESCRIPTION
10035391	ZPA-RDT-DYNARAY-64/64PR-LITE	DYNARAY LITE 64/64PR - Phased array system with up to 64 simultaneous active channels. Can use the same 64 channels as transmitters and receivers or 64 channels as transmitters and 64 others as receivers. 2 Hypertronics and 16 Lemo 00 connectors.
10024414	ZPA-RDT-DYNARAY-64/64PR	DYNARAY 64/64PR - Phased array system with up to 64 simultaneous active channels. Can use the same 64 channels as transmitters and receivers or 64 channels as transmitters and 64 others as receivers. 2 Hypertronics and 16 Lemo 00 connectors.
10024415	ZPA-RDT-DYNARAY-64/256PR	DYNARAY 64/256PR - Phased array system with up to 64 simultaneous active channels and 256 in total. Can use same 64 channels as transmitters and receivers or 64 channels as transmitters and 64 others as receivers. 4 Hypertronics and 16 Lemo 00 connectors.
10024416	ZPA-RDT-DYNARAY-128/128PR	DYNARAY 128/128PR - Phased array system with up to 128 simultaneous active channels. Can use the same 128 channels as transmitters and receivers or 128 channels as transmitters and 128 others as receivers. 2 Hypertronics and 16 Lemo 00 connectors.
10024417	ZPA-RDT-DYNARAY-256/256PR	DYNARAY 256/256PR - Phased array system with up to 256 simultaneous active channels. Can use the same 256 channels as transmitters and receivers or 256 channels as transmitters and 256 others as receivers. 4 Hypertronics and 16 Lemo 00 connectors.



Zetec holds ISO 9001 and ISO/IEC 17025 certifications



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