

## DYNARAY®

### High Performance Phased Array UT

#### 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 Dependant configuration for superior inspection quality on complex surfaces
- **3-D Work Environment**  
Controlled by UltraVision® 3, offering 3-D work environment for creation of components and data visualization



#### Phased Array UT going *forward...*

Zetec's innovative DYNARAY® system completely redefines the potential of phased array UT technology by enabling highly efficient and more flexible inspection solutions. This powerful phased array UT data acquisition system can be configured with up to 256 simultaneously active channels, to fully benefit from the versatility of 2-D matrix array probes.

The DYNARAY® acquisition system offers superior inspection capabilities on rough and wavy surfaces. Owing to its raw processing power, the system can dynamically adapt focal laws sent to the phased array probe during the inspection sequence as a function of the probe position.

With capacity to generate 20 GB data files with 16-Bit amplitude resolution, the DYNARAY® acquisition system is built to meet all challenges. No inspection is too big.

The high data throughput removes any hardware speed limitations and helps you increase your scan speed, lowering the inspection time.

The new UltraVision® 3 software drives the DYNARAY® system with advanced data acquisition and analysis functions. The software offers a 3-D work environment, including the creation of components and visualization of examination data. UltraVision® 3 can also generate optimized acoustic beams through complex inspection surfaces. Any desktop or laptop PC with at least a 2-GHz processor, 2 GB of RAM and a high-speed (1 Gb/s) Ethernet link can be used to control Zetec's DYNARAY®. Higher PC specifications may be required to fully exploit some of the advanced features. In particular, a high performance HDD is strongly recommended to keep up with the high data throughput capability.

# DYNARAY®

## High Performance Phased Array UT

Feature	Tomoscan III PA	Z-Scan PA	DYNARAY®
Size (H x W x D)	13.5 x 16.7 x 16.5 in (34.5 x 42.7 x 41.9 cm)	4.5 x 12.3 x 14.8 in (11.4 x 31.3 x 37.7 cm)	15.5 x 14.4 x 18.5 in (39.4 x 36.6 x 47.0 cm)
Weight	53 lb (24 kg)	11 lb (5 kg)	59 lb (27 kg) for 128/128 PR 71 lb (32 kg) for 256/256 PR
Air Intake	Yes	Yes	Yes
Battery Operation	No	External	No
Phased Array Connector	1 or 2 Hypertronics	OmniScan	up to 4 Hypertronics
Phased Array Channels	up to 32/128 PR	up to 64/128 PR	up to 256/256 PR up to 128/512 (scheduled)
UT Channels	8	4	16
Digitizing Frequency	up to 100 MHz	up to 100 MHz	up to 100 MHz
Amplitude Resolution Phased Array signal	8 or 12-bit	8 or 10-bit	8 or 16-bit
Network Interface	100Base-T	100Base-T	High-speed (1 Gb/s)
Maximum PRF	20 kHz	20 kHz	30 kHz
Global Data Throughput	-5MB/sec	4 MB/sec	20 MB/sec
Max. Pulser Voltage (50 Ohm load)	200 V	<60 V	200 V
Bandwidth (-6 dB)	from 0.5 to 20 MHz	from 0.5 to 20 MHz	from 0.25 to 20 MHz
Real-time Data Compression	Yes	Yes	Yes
Rectification	Digital	Digital	Digital
Filtering	Analog	Digital (FIR)	Analog/Digital (FIR)
Smoothing (video filter)	Digital	Digital	Digital
Self Check	No	No	Yes
Parallel Firing	No	No	Yes (scheduled)
Dynamic Depth Focusing (DDF)	Yes	Yes	Yes
# Focal Laws	512	256	4096
A-scan length	20 to 16,328	32 to 8,192	up to 256,000
Recording rate A-scans (512 samples)	4,800 12- or 9,600 8-bit A-scan/s	6,000 8-bit A-scan/s	20,000 16-bit or 40,000 8-bit A-scan/s
Amplifier	LIN, LOG	LIN	LIN, LOG (processed)
Encoder Interfaces	6 quadrature-type	2 quadrature-type	6 quadrature type 3 differential type
PC Software Control	Yes	Yes	Yes
Data Acquisition	UltraVision® 1	UltraVision® 1	UltraVision® 3
Data Analysis	UltraVision® 1 & 3	UltraVision® 1 & 3	UltraVision® 3

## GENERAL SPECIFICATIONS

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

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

## ORDERING INFORMATION

**System Purchase includes: Online data acquisition software, carrying case, calibration certification and user's manual**

**DYNARAY® 64/256PR** - Innovative phased array system, up to 64 simult. active channels and 256 in total - Can use the same 64 channels as transmitters and receivers or 64 channels as transmitters and 64 others as receivers - 4 Hypertronics and 16 Lemo00 connectors

**DYNARAY® 128/128PR** - Innovative phased array system, up to 128 simult. 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 Lemo00 connectors

**DYNARAY® 256/256PR** - Innovative phased array system, up to 256 simult. 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 Lemo00 connectors

**Also available in the DYNARAY® product line:**

**DYNARAY® Lite 64/64PR** - Innovative phased array system, up to 64 simult. 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 Lemo00 connectors

875 boul. Charest Ouest, Suite 100  
Québec, Qc G1N 2C9

Toll free: 800.643.1771

P: 418.266.3020

F: 418.263.2701

[www.zetec.com](http://www.zetec.com)

