

## ZIRCON<sup>®</sup>

### Portable High Performance Phased Array UT Instrument

#### FEATURES & BENEFITS

##### Battery-operated for portability

- ▶ Up to 8 hours of battery life, you get the job done

##### Compact and rugged for the real-world

- ▶ Portable with no air intake means Zircon can easily be deployed virtually anywhere, even contaminated areas

##### Easily handles advanced lightweight material inspections

- ▶ ZIRCON TR supports the innovative Time Reversal technique for the inspection of complex lightweight materials like CFRP (Carbon Fiber Reinforce Polymers)

##### Superior signal quality for better results

- ▶ State-of-the-art electronics delivering high-quality and outstanding signal to noise ratio

##### 3-D Work Environment

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



#### REAL-WORLD PERFORMANCE YOU CAN COUNT ON

Portable and rugged, ZIRCON is designed for demanding inspections. As the instrument of choice for any mission-critical ultrasonic application, ZIRCON offers a 32/128PR Phased Array configuration and two conventional UT channels for pulse-echo, pitch-catch or TOFD inspections. ZIRCON delivers significant benefits including automatic probe detection, self-diagnostics, an impressive data throughput and up to 1024 focal laws in a rock-solid fan-less casing.

Driven by the UltraVision software platform ZIRCON

offers advanced data acquisition and analysis. The unique 3-D environment provides all the tools necessary for the creation of components, data analysis and visualization.

Using the Time Reversal inspection technique, ZIRCON TR is the optimal choice for the inspection of CFRP (Carbon Fiber Reinforce Polymers) or other advanced lightweight materials.

Count on ZIRCON to perform in extreme, real-life conditions with no compromise on signal quality.

# High Performance Phased Array UT

FEATURE	ZIRCON	ZIRCON TR
Size (H x W x D)	110 x 290 x 322 mm (4.3 x 11.4 x 12.8 in)	110 x 290 x 322 mm (4.3 x 11.4 x 12.8 in)
Weight	5.2 kg (11.5 lb)*	5.2 kg (11.5 lb)*
Air Intake	No	No
Battery Operation	Yes	Yes
Phased Array Connector	Custom ZIF with latch	Custom ZIF with latch
Phased Array Channels	32/128PR	32/128PR
UT Channels	2	2
Digitizing Frequency	up to 100 MHz	up to 100 MHz
Amplitude Resolution Phased Array signal	16-bit	16-bit
Network Interface	1000 Base-T	1000 Base-T
Maximum PRF	12 kHz	12 kHz
Global Data Throughput	Up to 10 MB/sec	Up to 10 MB/sec
Max. Pulsar Voltage (50Ω load)	75V PAUT 200V UT	75V PAUT 200V UT
Bandwidth (-3 dB)	0.5 to 15 MHz	0.5 to 15 MHz
Real-time Data Compression	Yes	Yes
Rectification	Digital	Digital
Filtering	Analog	Analog
Smoothing (video filter)	Digital	Digital
Self-Check	Yes	Yes
Automatic Probe detection	Yes	Yes
Dynamic Depth Focusing (DDF)	Yes	Yes
# Focal Laws	1024	1024
A-scan length	Up to 16,328	Up to 16,328
Amplifier	LIN	LIN
Encoder Interfaces	2 quadrature-type	2 quadrature-type
PC Software Control	Yes	Yes
Software control	UltraVision*	UltraVision*
Time Reversal support	No	Yes

## General Specifications

### Power Requirements

- ▶ **Voltage:** 120 VAC or 240 VAC
- ▶ **Frequency:** 50 Hz or 60 Hz
- ▶ **Maximum power:** 75 VA

### Environment

- ▶ **Operating Temperature Range:**  
0°C to 40°C (32°F to 104°F)
- ▶ **Storage Temperature Range:**  
-20°C to 70°C (-4°F to 158°F)
- ▶ **Relative Humidity:**  
95%, non-condensing

CE mark approves the conformity with all applicable directives and standards of the European Community. The ZIRCON is an instrument of Class 1 and installation category II.

### Environmental Tests

As per MIL-STD-810G:

- Cold Storage - 502.5 Procedure I
- Cold Operation - 502.5 Procedure II
- Heat Storage - 501.4 Procedure I
- Heat Operation - 501.4 Procedure II
- Temperature Shock - 503.5 Procedure II
- Vibration - 514.6 Procedure I
- Transit Drop - 516.6 Procedure IV

## Ordering Information

PART #	SHORT DESCRIPTION	DESCRIPTION
10036104	ZPA-RDT-ZIRCON-32/128PR-KIT	PA UT system with up to 32 simultaneous active channels and 128 in total. Can use same 32 channels as transmitters and receivers or 32 channels as transmitters and 32 others as receivers. Custom ZIF connector with latch and 4 Lemo 00.
10050599	ZPA-RDT-ZIRCON-32/128PR-TR-KIT	PA UT system with up to 32 simultaneous active channels and 128 in total - Can use same 32 channels as transmitters and receivers or 32 channels as transmitters and 32 others as receivers - Including Time Reversal (TR) hardware - Custom ZIF connector with latch and 4 Lemo 00. Includes Time Reversal function firmware option.

*Kit includes: 2 batteries, 1 battery charger, 1 carrying case, 1 shoulder strap, 1 power cable NA, 1 power cable Europe, 1 Ethernet cable, 1 AC adapter.*

## 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.



Zetec holds ISO 9001 and ISO/IEC 17025 certifications



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