

## Z-Scan UT™

### High Performance Conventional UT

#### Features & Benefits

- **Up to 8 channels**  
8 standard ultrasound channels with linear and logarithmic amplifiers
- **Dual operation mode**  
Up to 16 channels using two Z-Scan UT units controlled by the same workstation
- **Real-time data compression**  
Reduce file size without sacrificing detection capability
- **Increase speed**  
High pulsing rate and data throughput
- **Flexible**  
Easy interface to scanners and manipulators
- **Controlled by UltraVision®**  
Controlled by either UltraVision 1 or 3, it offers real-time imaging and advanced analysis of UT signals



#### Conventional UT going *forward...*

Zetec's Z-Scan UT is the system of choice for any UT inspection application requiring power and portability. The Z-Scan UT is a flexible, high performance UT data acquisition system with easy interface to scanners and manipulators. It is the system of choice for conventional UT and TOFD applications with manual encoded scanners or fully automated robotics.

The Z-Scan UT features real-time data compression and signal averaging. This acquisition system interfaces with Zetec scanners and is driven by the UltraVision software for outstanding data acquisition and analysis capabilities. The Z-Scan UT sealed enclosure is easier to use and maintain in contaminated areas.

The dual operation mode allows the simultaneous use of two Z-Scan UT controlled from a single workstation. The result is a high-performance, 16 channel inspection system driven by UltraVision that keeps the same data throughput.

Many data processing functions are available with the Z-Scan UT : averaging, rectification, smoothing, data compression, and multi-peak operation. These functions work in combination and perform in real-time without any loss to the global system performance.

Zetec's PC-based UltraVision software manages acquisition and analysis of UT signals by providing real-time imaging of UT signals during the inspection, as well as offline analysis of previously acquired data. The new UltraVision 3 software can also drive the Z-Scan UT system with advanced data acquisition and analysis functions. This software offers a 3D 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 Gigabyte Ethernet link can be used to control Zetec's Z-Scan UT.

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## High Performance Conventional UT

Feature	µTomoscan	Tomoscan III	Z-Scan UT
UT channels	1, 2, 4, 8	8, 16, [24, 32]	2, 4, 8
Digitizer (A/D)	8 bit, 100 MHz	8 & 12 bit <sup>1</sup> , 100 MHz	8 & 12 bit <sup>2</sup> , 100 MHz
A-scan length (points)	32 to 8,096	20 to 16,328	20 to 16,328
Rectification	Analog	Digital	Digital
Smoothing (video filter)	Analog	Digital	Digital
Global data rate	600 KB/sec	> 5 MB/sec	> 5 MB/sec
<b>Recording rate</b>			
A-scan	1,200 8-bit A-scan/s <sup>2</sup>	4,800 12-bit or 9600 8 bit A-scan/s <sup>2</sup>	4,800 12-bit or 9600 8 bit A-scan/s <sup>2</sup>
Peak data	5,000 peak/s	35,000 peak/s	35,000 peak/s
C-scan	20,000 C-scan pnts/s	35,000 C-scan pnts/s	35,000 C-scan pnts/s
Real-time data compression	N/A	Yes	Yes
Real-time averaging	1, 4, 8, 16	1, 2, 4, 8, 16	1, 2, 4, 8, and 16
<b>Dynamic range (gain 0 dB)<sup>3</sup></b>			
Linear	48 dB	54 dB	54 dB
Logarithmic	74 dB	74 dB	74 dB
Pulse output voltage	1 - 300 V	1 - 300 V	1 - 300 V
Encoder interfaces	2 quadrature-type <sup>5</sup>	6 quadrature-type <sup>4</sup>	2 quadrature-type <sup>5</sup>
<b>Software</b>			
Data acquisition	UltraVision® 1	UltraVision® 1	UltraVision® 1 & 3
Data analysis	UltraVision® 1	UltraVision® 1	UltraVision® 1 & 3
Network interface	10BaseT	100BaseT	100BaseT
Vortex cooling system for contaminated areas	N/A—not required, sealed containment	Yes	N/A—not required, sealed containment
Weight	17.6 lb (8.0 kg)	44.1 lb (20.0 kg)	26.0 lb (12 kg)

### GENERAL SPECIFICATIONS

Dimensions (W × H × D)	11.8 x 8.7 x 17.7 inches ( 30 x 22 x 45 cm)
<b>Power Supply</b>	
Voltage	120 VAC or 230 VAC
Frequency	50 HZ to 60 Hz
Maximum power	250 VA, Fuse 250 V slow blow: 2.5 A at 230 V, 5 A at 120 V
<b>Environment</b>	
Operating temperature	41°F to 113°F (5°C to 45°C)
Storage temperature	-4°F to 140°F (-20°C to 60°C)
Relative humidity	95%, non-condensing
European directives and standards	The CE mark approves the conformity with all applicable directives and standards of the European community: electrical safety (EN61010-1, EMC (EN61326). The Z-Scan UT 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**

#### Z-Scan UT 2 ch.

2 conventional UT channels (2 pulsers and 2 receivers) with Lemo00 or BNC connectors

#### Z-Scan UT 4 ch.

4 conventional UT channels (4 pulsers and 4 receivers) with Lemo00 or BNC connectors

#### Z-Scan UT 8 ch.

8 conventional UT channels (8 pulsers and 8 receivers) with Lemo00 or BNC connectors

#### Notes:

<sup>1</sup> The digitizing resolution (8 or 12 Bit) can be chosen per channel.

<sup>2</sup> A-scan of 512 points.

<sup>3</sup> RMS value without averaging. Applying an average figure of, for instance, 4 will increase the given values by 6 dB.

<sup>4</sup> Each encoder interface may be configured as either quadrature-type, up/down counters or clock/direction type. A total of 6 encoders can be permanently connected to the system. Three of them can be active simultaneously (in this case, the information of the third encoder is stored in the data file and can be accessed using specific application-related software).

<sup>5</sup> Each encoder interface may be configured as either quadrature-type, up/down counters or clock/direction type.



ZETEC holds ISO 9001:2008 and ISO 17025:2005 certifications

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