ZETEC
THE INSPECTION ADVANTAGE

TOPAZ®16

Best in Class Fully Integrated 16 Channel Phased Array UT Device

SMALL SIZE
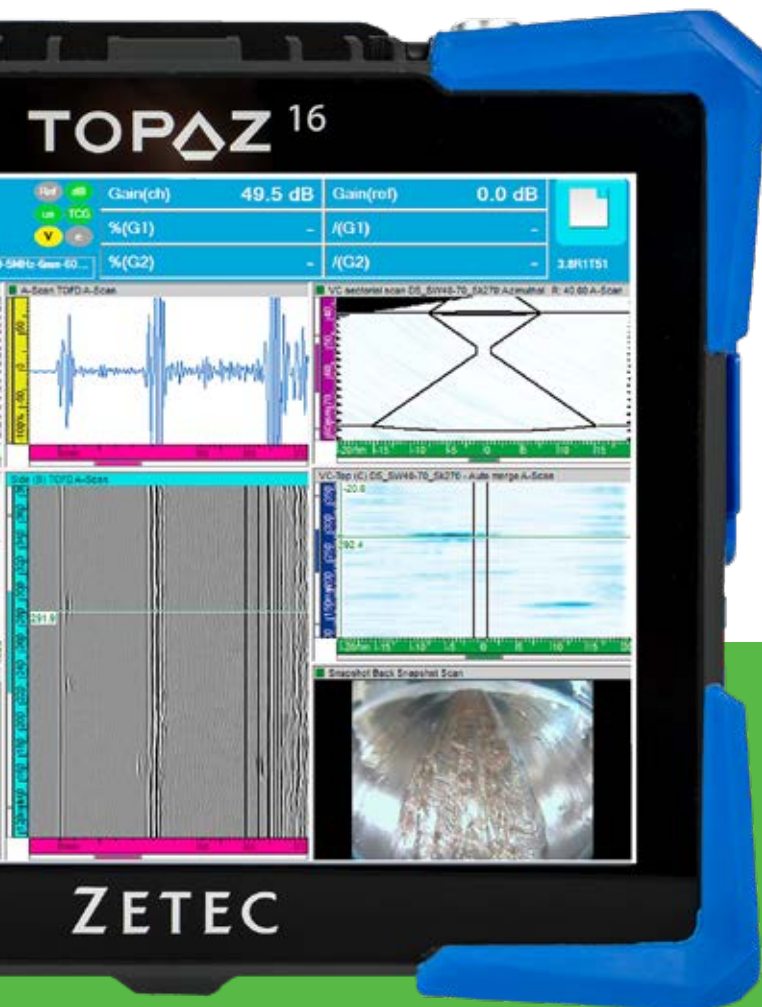## BIG VALUE

TOPAZ 16

ZETEC

Best in Class Productivity

Since its launch, TOPAZ® has set a new standard for portable Phased Array unit performance. Now the TOPAZ family gets bigger. Introducing TOPAZ[16], the best in class, fully integrated 16 channel phased array UT device. TOPAZ[16] delivers big value in a small footprint offering best-in-class features including:

ULTRAVISION
COMPLETE UT AND PHASED ARRAY INSPECTION PACKAGE

- **UltraVision® Touch software embedded.** TOPAZ[16] includes UltraVision Touch software onboard. Leverage one single software platform across the entire family of UT products. Benefit from powerful features including:

  - Embedded advanced focal law calculator with visual feedback
  - Onboard volumetric merge and measurement tools
  - Interactive help onboard the instrument
  - Remote control capability with UltraVision Touch

- **Best in class operating temperature range for added flexibility.** TOPAZ[16] is built to meet your specific demands regardless of the environment.

- **Multi-probe and multi-group support.** With the 16/64 or 16/128 version, weld inspections are easy by simply adding a probe splitter accessory.

- **10.4" high resolution multi-touch display.** TOPAZ[16] features a very wide, highly responsive multi-touch screen that offers the best resolution in its class.
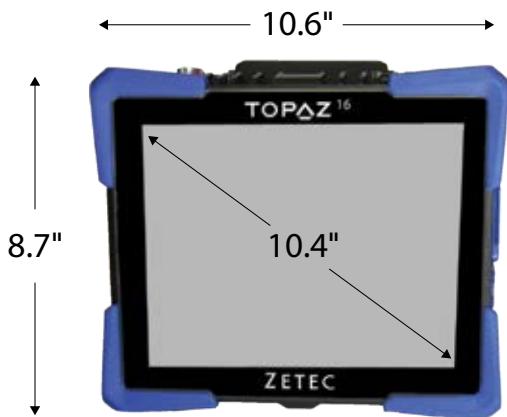
HANDLES APPLICATIONS WITH EASE

TOPAZ[16] is sized for convenience and built to perform. With proven Zetec quality and innovation, TOPAZ[16] is ideal for the most common inspection applications including:

- Weld inspection
- Corrosion mapping
- Encoded or manual inspection
- Inspection of complex components and more

Unmatched Value

← 10.6" →

8.7"

10.4"

Big Screen. Small Footprint.

Delivers a Fully Integrated Inspection Process. TOPAZ[16] is capable of handling all steps in an inspection process helping to lower costs:

Preparation: Specimen editor and focal law calculator means easy setup

▼

Acquisition: Features that deliver a highly efficient data acquisition process

▼

Analysis: Full suite of basic and advanced analysis tools onboard

▼

Reporting: Ready to print standard or custom reports in a touch

Built to Go Anywhere. TOPAZ[16] is compact and lightweight in a robust aluminum casing with no air intake. The full metallic housing improves robustness, thermal transfer efficiency and weighs only 4.5 kg (10 lb).

1 Dedicated UT Channel. A separated conventional UT channel offers 200V (at 50Ω) pulser and works in P/E or P/C configurations for TOFD examinations.

More Uptime with a Hot Swap Battery Capability. Designed to accommodate two batteries in a hot swappable sequential discharge configuration.

Fast and Safe Data Transfer. TOPAZ[16] features an internal solid state drive (SSD) for quick, reliable data transfer and storage during operation.

High Signal Quality and Less Chance of Saturation. Digitizing up to 800% and 16-bit amplitude resolution.

Easy, Seamless Setup with Zetec Probes and Scanners. When any Zetec scanner such as NDT PaintBrush, Weld Crawler or probe is connected, TOPAZ[16] automatically recognizes and preconfigures the inspection sequence accordingly, saving valuable time. Also works with other scanners and probes.

More Flexibility to Meet Your Needs. TOPAZ[16] offers multiple scanning configurations: sector, linear and compound.

Numerous Connectivity Options. TOPAZ[16] has the Network Connectivity Options you Need.

- 1 USB 3.0 (10x faster than 2.0), 2 USB 2.0 and gigabyte LAN, HDMI
- UT channel: 1 high-quality UT channel for conventional UT (pulse echo, pitch-and-catch or TOFD)
- Quality PA UT connector with a solid probe latch
- IPEX and ZPAC connector options available

Adaptable to Meet Your Needs

TOPAZ[16] Accessories

Probe Splitter: connect two PA probes at the same time for dual probe weld inspection configurations. The probe splitter is available in three different versions: IPEX, ZPAC and Omni type probe connectors.

Fan Kit: extends the temperature operation range of the unit enabling TOPAZ[16] to fully operate in environments where no other instrument in its class can.

Available in Two Versions

- **TOPAZ[16] 16/64P**
- **TOPAZ[16] 16/128P**

TOPAZ[16] is future proof: Upgradeable from 16/64 to 16/128 through a software update. No need to send the product to Zetec.

	Feature	16/64	16/128
Configuration	Conventional UT	Simultaneous	Simultaneous
	TOFD		
	Phased Array		

Specifications

FEATURE	TOPAZ 16
Size (H × W × D)	221 × 271 × 120 mm (8.7 × 10.6 × 4.7 in)
Weight (including one battery)	4.54 kg (10.0 lb)
Multi-Touch Display	10.4 in. - 1024 x 728 pixels
Air Intake	No
Battery Operation	Yes
Phased Array Connector	ZPAC or IPEX
Phased Array Channels	16/128 or 16/64
UT Channels	1 P/E or 1 P/C
Amplitude Resolution	16 bits
Measurement Gates	4 + 1 synchronization gate
Data Interfaces	Ethernet 1000 Base-T 1 x USB 3.0 2 x USB 2.0
Maximum PRF	12 kHz
Data Compression:	1, 2, 4, 8, 16
Max. Pulser Voltage (Open Circuit)	105V PA UT / 215V UT
Max. Applied Voltage (50 ohms)	75V PA UT / 200V UT
Bandwidth (-3 dB)	from 0.5 to 18 MHz
Rectification	Digital
Filtering	Analog / Digital (FIR)
Smoothing (Video Filter)	Digital
Self-Check	Yes
Automated Probe Detection	Yes (with Zetec probe ID chip)
Automated Scanner Detection:	Yes (with Zetec probe ID chip)
# Focal Laws	256
Maximum Number of Samples	8,192
Maximum Data File Size	300 MB for 16/64 700 MB for 16/128
Encoder Interfaces	2 quadrature-type
Onboard Software	UltraVision Touch embedded
Serves as Protection Key	License for UltraVision Touch
Data Acquisition & Analysis (for remote data acquisition or off line postprocessing)	UltraVision Touch UltraVision 3
Embedded Hard Drive	256 GB SSD
Video Output	HDMI
Instrument Calibration	Compliant with ISO 18563-1 / EN 12668-1
Ingress Protection Rating	Designed for IP66

General Specifications

Voltage: 100 to 240 VAC

Frequency: 50 or 60 Hz

Maximum Power: 100 VA

Operating Temperature Range: -10°C to 45°C (14°F to 113°F)

Operating Temperature Range with External Fan Kit:
-10°C to 53°C (14°F to 127°F)

Storage Temperature Range: -40°C to 70°C (-40°F to 158°F)

Relative Humidity: 80% non-condensing

CE mark is an attestation of the conformity with all applicable directives and standards of the European Community. The TOPAZ[16] 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

Drop Test - IEC61010-1

Ordering Information

10053724 - ZPA-IUT-TOPAZ-16/64P-KIT
Fully integrated portable Phased Array system featuring up to 16 active channels on up to 64 element probes. Phased Array probes are connected on a solid Zero Insertion Force secured connector whereas 2 Lemo 00 connectors can be used for pulse echo or TOFD inspections.

10059845 ZPA-IUT-TOPAZ-16/64P-IPEX-KIT
Fully integrated portable Phased Array system featuring up to 16 active channels on up to 64 elements probe. Phased Array probes are connected on a IPEX connector whereas 2 Lemo 00 connectors can be used simultaneously for pulse echo or TOFD inspections.

10053725 - ZPA-IUT-TOPAZ-16/128P-KIT
Fully integrated portable Phased Array system featuring up to 16 active channels on up to 128 element probes for enhanced inspection capabilities. Phased Array probes are connected on a solid Zero Insertion Force secured connector whereas 2 Lemo 00 connectors can be used simultaneously for pulse echo or TOFD inspections.

10059844 ZPA-IUT-TOPAZ-16/128P-IPEX-KIT
Fully integrated portable Phased Array system featuring up to 16 active channels on up to 128 elements probe. Phased Array probes are connected on a IPEX connector whereas 2 Lemo 00 connectors can be used simultaneously for pulse echo or TOFD inspections.

System purchase includes: TOPAZ[16] unit with UltraVision Touch embedded, 2 batteries, 1 carrying case, 1 power cable (North America), 1 power cable (Europe), 1 AC adapter, 1 Ethernet cable, 1 USB Flash drive and user manual.

Accessories Ordering Information

10053569 – ZPA-ACC-SPLTBOX16-ZPAC-2ZPAC64+2UT
ZPAC SPLITTER for TOPAZ[16] with fast easy attachment system including a solid security latch. It can manage ID data from 2 Phased Array probes allowing UltraVision to track them. It includes one pair of Lemo connectors (individually isolated with switches) to convert Phased Array lines into one Conventional Channel.

10053781 - ZPA-ACC-SPLTBOX16-ZPAC-2OMNI64+2UT
Omni type SPLITTER for TOPAZ[16] with fast easy attachment system including a solid security latch. The splitter includes one pair of Lemo connectors (individually isolated with switches) to convert Phased Array lines into one Conventional Channel.

10059895 ZPA-ACC-SPLTBOX16-IPEX-2IPEX64+4UT
The IPEX SPLITTER for TOPAZ16-IPEX with fast easy attachment system including a solid security latch. It can manage ID data from 2 Phased Array probes allowing UltraVision to track them. The splitter includes two pairs Lemo connectors (individually isolated with switches) to convert Phased Array lines into two Conventional Channels.

10059896 ZPA-ACC-ADPBOX-IPEX-ZPAC
Adapter Box - Connect one ZPAC probe connector (128 con.) to the TOPAZ IPEX (IPEX male to ZPAC female)

10053374 - ZPA-ACC-TOPAZ16-FANEXT-ASSY
Fan Kit for TOPAZ[16]. It extends the instrument operating temperature range. Easily attached at the back of the unit without any tools and automatically controlled by TOPAZ[16].

FOR MORE INFORMATION ABOUT TOPAZ[16] OR OTHER ZETEC PRODUCTS CONTACT US AT info@zetec.com OR VISIT www.zetec.com.

Zetec holds ISO 9001
and ISO/IEC 17025
certifications

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www.zetec.com