



ULTRAVISION

COMPLETE UT AND PHASED ARRAY INSPECTION PACKAGE

Release of UltraVision®

Version 3.6R5

ZETEC has just released UltraVision 3.6R5. This product bulletin gives an overview of the features offered in this version.

This bulletin also shows how to download the new version and the related documentation from our website. The document is intended for DYNARAY, ZIRCON and Z-SCAN UT product line users.

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PURPOSE OF ULTRAVISION 3.6R5

UltraVision 3.6R5 is intended to be a standard upgrade for user currently working with a previous version of UltraVision 3 (3.5R10 or earlier).

Zetec's hardware and software development process is performed according to a quality system that is certified ISO 9001-2008.

With this certified software development process, Zetec guarantees that the changes between UltraVision 3.5R10 and 3.6R2 to UltraVision 3.6R5 have no consequences on the sensitivity and the accuracy of the signal amplitude and flight time outputs displayed, recorded or automatically processed by the software. This includes additions of mathematical modules used for the positioning of indications or for geometric conditions adjustments.

ADDITIONAL FEATURES OF ULTRAVISION 3.6R5

Compared to the previous release version, UltraVision 3.6R5 offers the following additional features:

- UltraVision Basic, Advanced and 3D:
 - Improved Probe Detection User Interface;
 - Adding of Slide Report feature;
 - Detection Gate Location Synchronization;
 - Tapered pipe specimen management;
 - HAZ evaluation tool;
 - Adding of Polar view data presentation;
- Improvements to the Advanced Focal Calculator:
 - Probe database available in Basic version;
 - Contact Probe automatic configuration;
 - Conventional probes support;
 - PA TOFD Probe support;
 - Multichannel display;
- Weld Scanner support, including ZMC4 motor controller and camera in all desktop versions.
- UltraVision 3D also includes:
 - Improvements to the Advanced Focal Calculator for Tandem probe configuration;
 - Support of the import of DXF files as Weld;
- 3D Ray Tracing tool new features:

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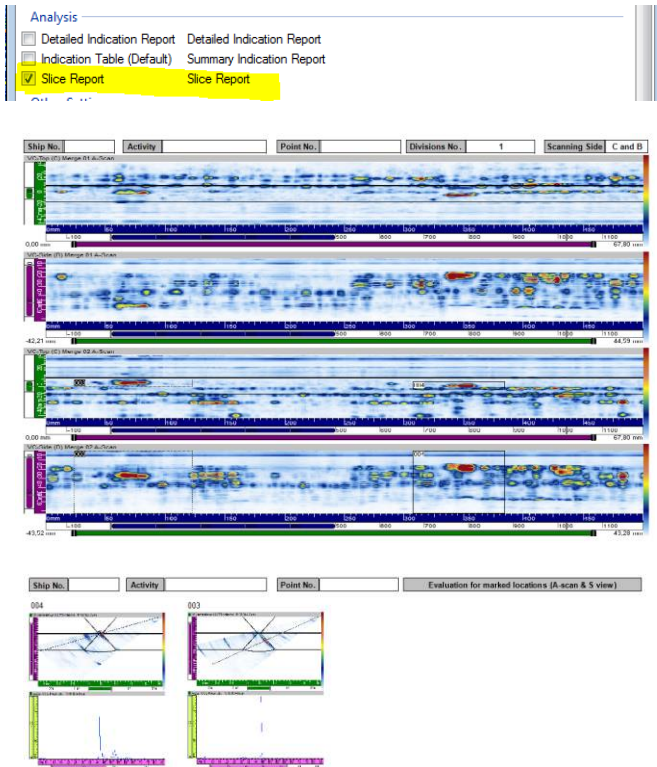
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- Automatic finding of Start Point to Minimize Detection Radius;
- Creation of ray from defect center.
- Multilanguage support:
 - Support of French Language;
 - Support of Chinese Language;
 - Support of Russian Language.

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NEW FEATURES PREVIEW



1. New “Slice” Report format

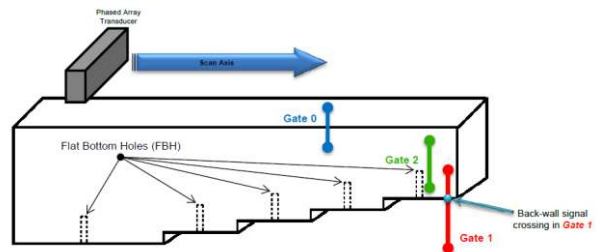
This new report type allows creating data slices from a single inspection scan for easier data presentation and interpretation.

Each data slice overlaps with the previous and following ones and one dedicated report page is created. For each data slice, the most relevant (severe) signals for each indication are presented as additional information.

2. Detection gate location synchronization

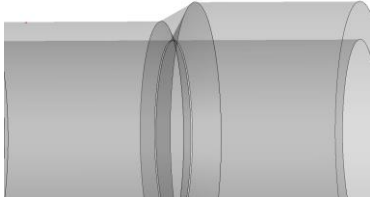
Detection gate start position can be synchronized with other gate, allowing the inspection gate to follow the inspected piece shape.

This feature allows “cascade” gate synchronization which simplifies the setting up of certain complex geometries.



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3. Tapered pipe specimen

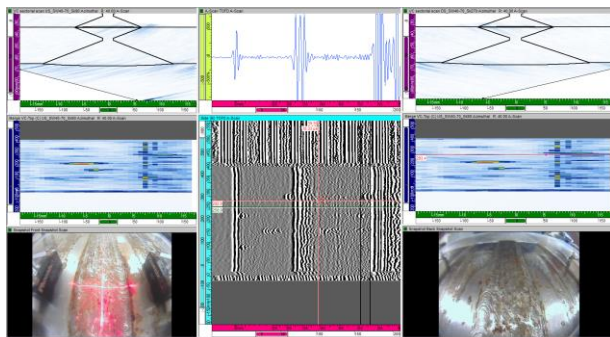
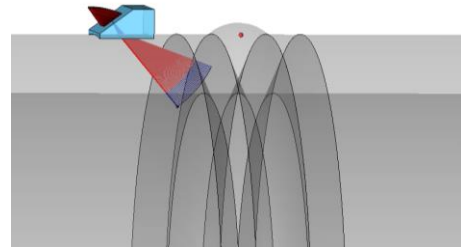
Tapered pipe specimens are now available as part of the standard specimens library.

The creation of a tapered pipe specimen requires entering only a few parameters without the need of importing the geometry from an external source.

4. HAZ evaluation tool

UltraVision 3.6R5 allows defining a configurable HAZ region around the weld that can be displayed in all 2D and 3D views.

Several geometrical configurations for the HAZ are available according to the specific needs of each inspection configuration.



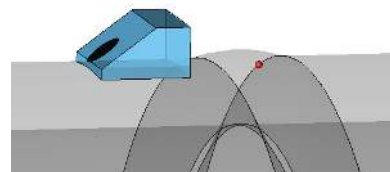
5. Weld Scanner integration in desktop version

UltraVision 3.6R5 now supports the ZMC4, Weld Scanner and cameras features only supported in UltraVision Touch version before.

Therefore it is now possible to perform a scanner inspection including all accessories using the desktop UltraVision with its full analysis power.

6. Focal Law Calculator - Conventional Probes support

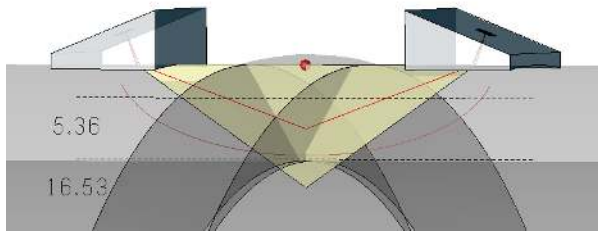
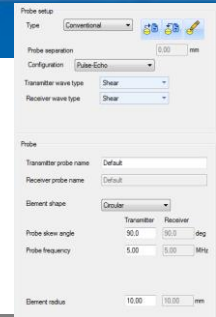
Focal Law calculator now supports



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conventional probes. Conventional probes can be used in any of the modes already supported by the Phased Array probes.

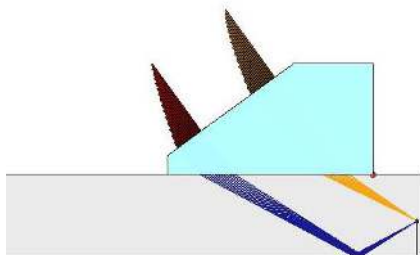
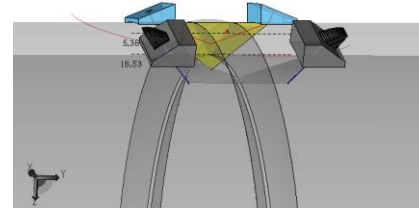


7. Focal Law Calculator - 3D PA TOFD Probe support

TOFD configurations can now fully calculated using the Focal Law Calculator tool. 2D and 3D views are fully supported for TOFD probes configuration.

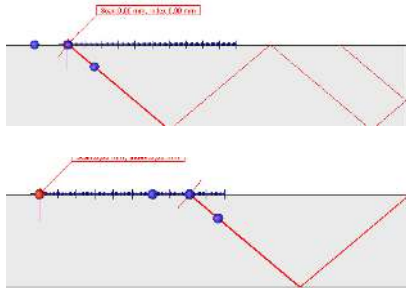
8. Focal Law Calculator - Multichannel support

Focal Law Calculator can now display a multi-probe configuration in 2D and 3D. Any type of probe used in a setup can be combined on the same view.



9. Focal Law Calculator - Tandem Probe configuration

Tandem probe configuration is now supported for both single and dual probes configurations. Tandem probe configuration can be used with any of the available probe types (Conventional, 1D or 2D arrays or Custom).



10.3D Ray Tracing tool: Automatic finding of the start point to Minimize Detection Radius

Within a predefined scanning range, UltraVision 3.6R5 can automatically find the optimum acoustical path for reflection based on the shortest path.

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HOW TO DOWNLOAD AND INSTALL ULTRAVISION 3.6R5

1. Determine the configuration of your computer (32 bits or 64 bits).
2. [Download](#) the right version from the installer according to your system (
 - a. For 32 bits systems use **32 bits: UltraVision version 3.6R5 (ZIP – 330 megabytes)** and
 - b. For 64 bits systems use **64 bits: UltraVision version 3.6R5 (ZIP – 362 megabytes)**.)
3. Unzip file.
4. Install the reporting engine software (if not already installed on your computer). CrystalReportsRuntime.msi (Reporting engine redistributable) installation file is included in your downloaded package.
5. Run the installation file (*UltraVision 3.6R5.exe* for 32 bits computers or *UltraVision 3.6R5 (x64).exe* for 64 bits computers)
6. Verify that an appropriate hard key is installed on your computer.

In a sub-folder named “Document”, you can find the following documents:

- ✓ 10027456-R03_UltraVision 3_Getting Started User Manual (ENG)_Distribution.pdf
- ✓ 10031080-R03_UltraVision 3_Setup&Inspection User Manual (ENG)_Distribution.pdf
- ✓ 10031082-R03_UltraVision 3_Analysis&Reporting User Manual (ENG)_Distribution.pdf
- ✓ UltraVision36R5_Limitation and Remaining Anomalies_revA.pdf
- ✓ 1010694-A_UltraVision34R5_Technical Guidelines.pdf
- ✓ 1007439-C_Zetec Bootp Service_Verification Procedure.pdf

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MAIN ULTRAVISION FUNCTIONS

	<i>License</i>	Basic	Advanced	3D
Setup & Acquisition				
Z-Scan UTTM (single or dual operation mode)		✓	✓	✓
ZIRCON®		✓	✓	✓
DYNARAY® and DYNARAY® Lite		✓	✓	✓
Basic Self-Diagnostics for DYNARAY®, DYNARAY® Lite and ZIRCON®		✓	✓	✓
Multi-channel operation		✓	✓	✓
Firing Sequencer		✓	✓	✓
DDF with DYNARAY®, DYNARAY® Lite and ZIRCON®		✓	✓	✓
Linear mode		✓	✓	✓
Full Matrix Capture (FMC)				✓
Position Dependent Focal Laws with DYNARAY® product line				✓
Automated UT & Phased Array UT Calibration and TGC		✓	✓	✓
Position encoding via Ethernet		✓	✓	✓
Polar inspection sequence		✓	✓	✓
Analog inputs		✓	✓	✓
General outputs		✓	✓	✓
Alarms		✓	✓	✓
Link with Magnify™ (from Eddyfi™ - ECT)		✓	✓	✓
Detection Gates		✓	✓	✓
Online differential Gates (GateX – GateY)		✓	✓	✓
Detection Gate location synchronization (Gate homing)		IMPROVED	IMPROVED	IMPROVED
User Rights management		✓	✓	✓
Operation logging function		✓	✓	✓
Dynamic Polar view		✓	✓	✓
Predefined Layouts (for setup, inspection and analysis)		✓	✓	✓
Predefined Information Fields (for setup, inspection and analysis)		✓	✓	✓
Information Fields for sizing of corrosion type defects		✓	✓	✓
Automatic Probe Detection		IMPROVED	IMPROVED	IMPROVED
Weld Scanner and ZMC4 in desktop version		NEW (R5)	NEW (R5)	NEW (R5)

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<i>License</i>	Basic	Advanced	3D
Advanced Focal Law Calculator			
Focal Law Calculation with graphical feedback on flat & cylindrical specimens	✓	✓	✓
Focal Law Calculation with graphical feedback on plate & pipe butt-welds specimens		✓	✓
Focal Law Calculation with graphical feedback on complex geometry in a 3D environment			✓
Focal Law Calculation using linear 1d array	✓	✓	✓
Focal Law Calculation using matrix 2d array		✓	✓
Focal Law Calculation using flexible 1D and 2D array, including custom shaped wedge			✓
Focal Law Calculation using custom array probe			✓
Acoustic Beam simulation		✓	✓
Probe database	New	✓	✓
Multichannel probe display	New	New	New
Conventional probe support	New	New	New
Contact probe automatic configuration	New	New	New
PA TOFD configuration support	New	New	New
Tandem Probe configuration support			New

<i>License</i>	Basic	Advanced	3D
Specimen Management & Overlay			
Surface profiling with manual tool (Specimen Generator Tool)			✓
ID surface profiling from ID C-Scan data			✓
Specimen overlay (DXF file) in VC-Top, VC-Side & VC-End views	✓	✓	✓
Definition and support of flat, cylindrical, plate and pipe butt-weld, pipe axial weld specimens (with 3d view)	✓	✓	✓
3D specimen definition & support (predefined & custom)			✓
Support of ES Beam Tool custom drawn welds	✓	✓	✓
3D Ray Tracing with postulated defects			✓
Scanner creation tool			✓
3D Drawing tools			✓
Polar coordinate system for 3D views			✓
Tapered pipe specimen	New	New	New
HAZ evaluation	New	New	New
Polar View	New	New	New
DXF Files import as Weld			New
3D Ray Tracing: Automatic finding of Start Point to Minimize Detection Radius			New
3D Ray Tracing: Creation of ray from defect center			New

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<i>License</i>	Basic	Advanced	3D
TOFD (Time-Of-Flight Diffraction)			
Signal calibration on flat and cylindrical surfaces	✓	✓	✓
Signal processing (Lateral wave synchronization & removal, SAFT)	✓	✓	✓

<i>License</i>	Basic	Advanced	3D
Analysis & Reporting			
Basic analysis features (cursors, volumetric contour...)	✓	✓	✓
Advanced analysis features (indication table...)	✓	✓	✓
Volumetric merge function	✓	✓	✓
3d volumetric merge with data visualization in 3d specimens			✓
3d rendering tools			✓
Beam forming in Post-Processing (for Full Matrix Capture data)			✓
Assisted analysis module with enhancement for position C-Scan data		✓	✓
Geometrical echo removal tool		✓	✓
Enhanced indication contour management	✓	✓	✓
Code related RF frequency and time domain analysis	✓	✓	✓
Polar View and features (volumetric merge, rebounds)	✓	✓	✓
Offline Hysteresis (backlash) correction	✓	✓	✓
Offline creation of C-Scan data (Soft C-Scan)	✓	✓	✓
C-Scan data processing		✓	✓
Logarithmic to linear data converter	✓	✓	✓
Export of data as text file	✓	✓	✓
Reporting features	IMPROVED	IMPROVED	IMPROVED

<i>License</i>	Basic	Advanced	3D
Data Files			
Up to 20 GBytes data files	✓	✓	✓
Fast screening mode for large data files	✓	✓	✓
Data file splitter	✓	✓	✓
Data file merger	✓	✓	✓
Retrieval and visualization of Tomoscan *.DAT files	✓	✓	✓
Retrieval and visualization of *.RDT files	✓	✓	✓
Retrieval and visualization of UltraVision 3 *.UVDATA files	✓	✓	✓
Retrieval and visualization of OmniScan *.OPD, *.OUD files	✓	✓	✓

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<i>License</i>	Basic	Advanced	3D
Software Development Kit (SDK)			
Open architecture / Software Development Kit (SDK) ¹		✓	✓

<i>License</i>	Basic	Advanced	3D
Miscellaneous			
Operation Modes: Simplified or Regular	✓	✓	✓
Touch-screen interface for Tablet PC	✓	✓	✓
Data selection using the Data cursor (improvement for single line inspection)	✓	✓	✓
Color Palette modification (Palette Editor)		✓	✓
Creation of discrete Color Palettes for thickness C-scan data		✓	✓
Soft Gain (Gain Information)	✓	✓	✓
Soft Gain and Color Palette control on 3d Views and beam simulation		✓	✓
Soft Gain; Auto Contrast and Data distribution histogram	✓	✓	✓
Information fields link with Excel	✓	✓	✓
Bubble notes for comments in views	✓	✓	✓
User defined information fields	✓	✓	✓
Site license support	✓	✓	✓
French language support	New	New	New
Chinese language support	New	New	New
Russian language support	New	New	New

<i>License</i>	Basic	Advanced	3D
Operating Systems			
Compatibility with Microsoft Windows XP	✓	✓	✓
Compatibility with Microsoft Windows VISTA	✓	✓	✓
Compatibility with Microsoft Windows 7 (32-bits edition)	✓	✓	✓
Compatibility with Microsoft Windows 7 (64-bits edition)	✓	✓	✓

¹ The SDK is a development tool must be separately purchased. Software modules generated with this tool can be used with an Advanced or 3D license of UltraVision 3. The SDK package includes all documentation, 40 hours of mandatory training to be held at ZETEC facility in Québec City (Canada), and a 16-hour bank for remote support.

Legend:

Features marked "✓" are available in UltraVision 3.6R5.
Features marked "New" are introduced with UltraVision 3.6R5.

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Quality

All work is done in accordance with ZETEC Quality standards program, which complies with 10CFR50 Appendix B, ISO 9001:2008 and ISO/IEC 17025:2005.



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