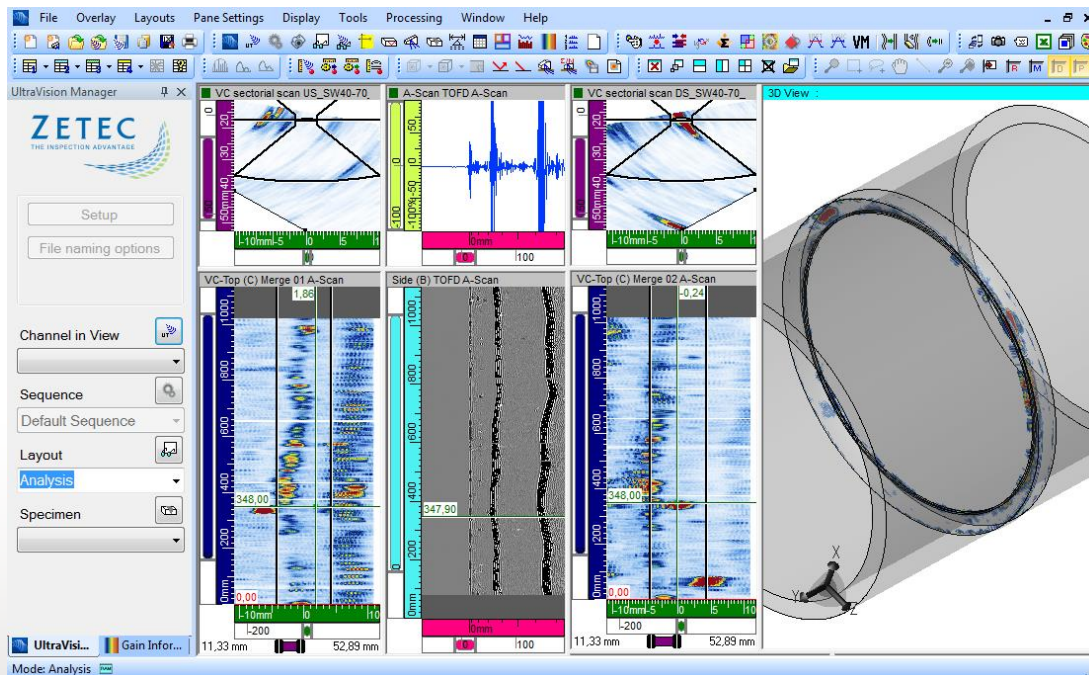


# UltraVision 3.10R7

## Classic and Touch versions

### Product Bulletin



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## UltraVision Touch 3.10R7

Zetec has just released UltraVision Touch version 3.10R7. This software version can be used on the TOP $\Delta$ Z, TOP $\Delta$ Z<sup>16</sup>, TOP $\Delta$ Z<sup>32</sup> and TOP $\Delta$ Z<sup>64</sup> models as well as on a PC running Windows® 10 or Windows 7.

This product bulletin presents an overview of the new features and changes that are included in the new UltraVision Touch 3.10R7 software release.

UltraVision Touch 3.10R7 is available in three embedded versions for the TOP $\Delta$ Z product family:

- **Topaz 3.10R7** for TOP $\Delta$ Z instruments
- **Topaz16 3.10R7** for TOP $\Delta$ Z<sup>16</sup> instruments
- **Topaz32 3.10R7 (x64)** for TOP $\Delta$ Z<sup>32</sup> instruments
- **Topaz64 3.10R7 (x64)** for TOP $\Delta$ Z<sup>64</sup> instruments

As well, UltraVision Touch 3.10R7 is available in two PC versions:

- **UltraVision Touch 3.10R7** for 32-bit version environments
- **UltraVision Touch 3.10R7(x64)** for 64-bit version environments

To download UltraVision Touch 3.10R7 or any other UltraVision version, and to obtain access to the latest software documentation, please visit [www.zetec.com](http://www.zetec.com)

## Purpose of UltraVision Touch 3.10R7

UltraVision Touch 3.10R7 is Zetec's latest upgrade for Zetec's UltraVision software. This software release includes several new features and improvements. Zetec's hardware and software development process is performed according to a quality system that is certified ISO 9001-2015.

With this certified software development process, Zetec guarantees that the changes between the previous UltraVision Touch versions (3.5R10, 3.6R1, 3.6R5, 3.7R1, 3.7R21, 3.8R7, 3.8R11, 3.8R13, 3.8R16, 3.8R30, 3.9R9, 3.9R20 and 3.10R2) to UltraVision Touch 3.10R7 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 also includes additions of mathematical modules used for the positioning of indications or for geometric conditions adjustments.

## UltraVision Classic 3.10R7

UltraVision Classic 3.10R7 can be used on PC running Windows® 10 (or Windows 7) and is available in two versions:

- **UltraVision 3.10R7** for 32-bit version
- **UltraVision 3.10R7(x64)** for 64-bit version

## Purpose of UltraVision Classic 3.10R7

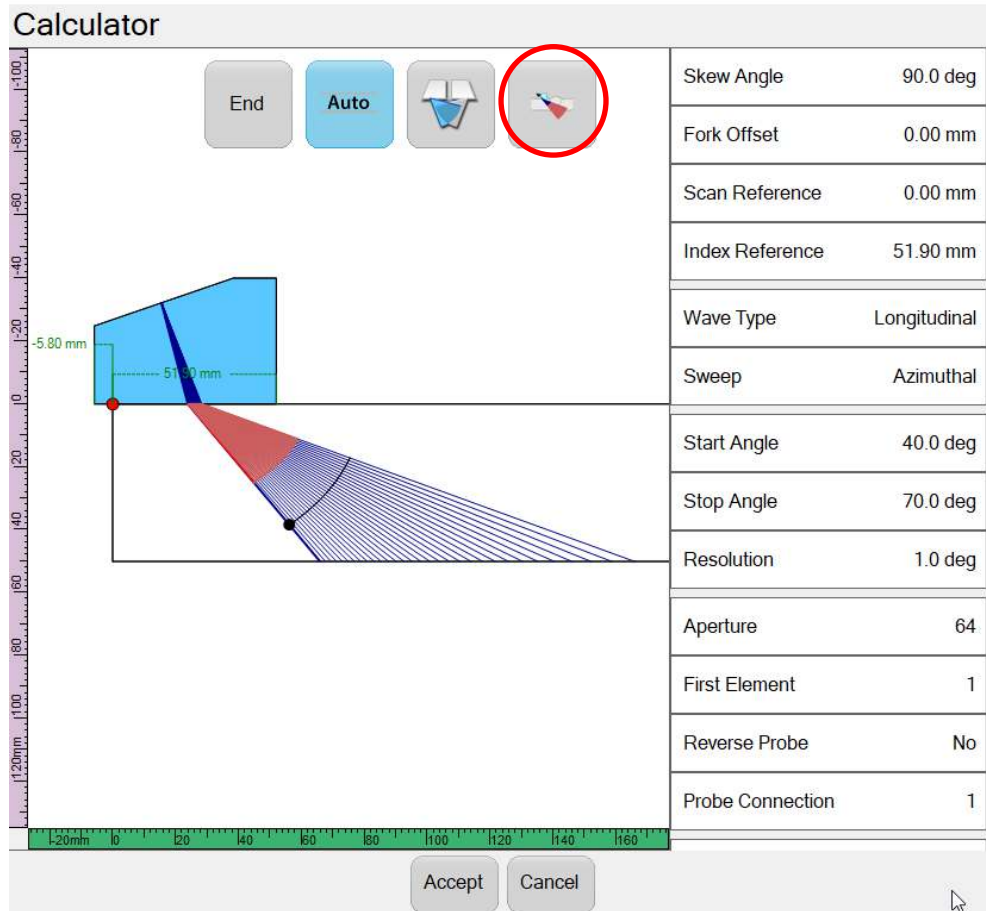
UltraVision 3.10R7 is Zetec's latest upgrade for Zetec's UltraVision software. This software release includes several new features and improvements. Zetec's hardware and software development process is performed according to a quality system that is certified ISO 9001-2008.

With this certified software development process, Zetec guarantees that the changes between the previous UltraVision Classic versions (3.5R10, 3.6R1, 3.6R5, 3.7R1, 3.7R21, 3.8R7, 3.8R11, 3.8R13, 3.8R16, 3.8R30, 3.9R9 and 3.9R20) to UltraVision Classic 3.10R7 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 also includes additions of mathematical modules used for the positioning of indications or for geometric conditions adjustments.




# UltraVision Touch New Features and Improvements

## Acoustic Field Tool

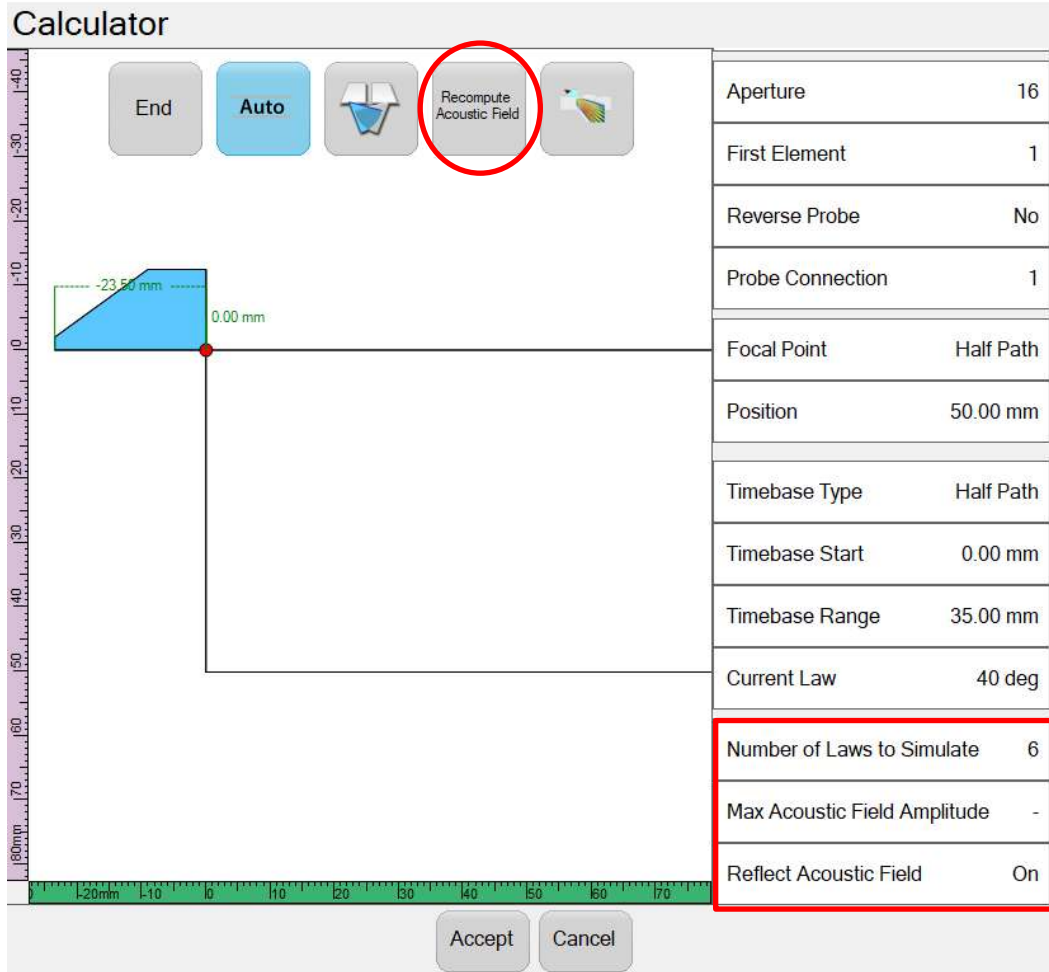
With UltraVision Touch 3.10R7, you can now access the new acoustic field tool onboard any Topaz. This tool is available thru the calculator; a new button is accessible in the top right:



This button gives access to three options:

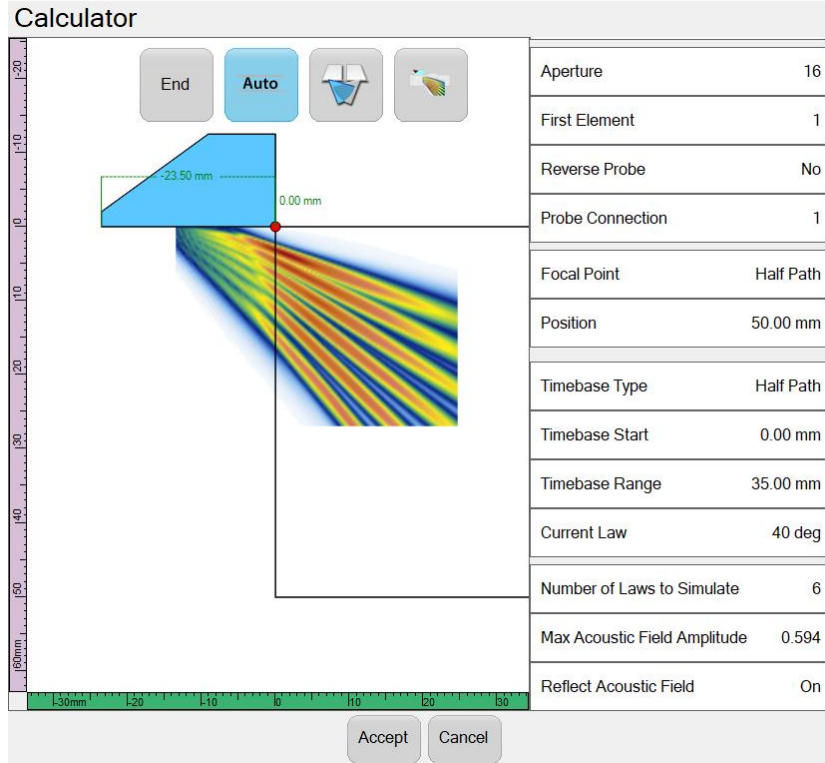
-  **Focal laws**
-  **Single law acoustic field**
-  **All laws acoustic field**

- Focal Laws: Standard ray tracing
- Single Law Acoustic Field: Acoustic field of the current (selected) focal law
- All Laws Acoustic Field: Acoustic field of multiple focal laws

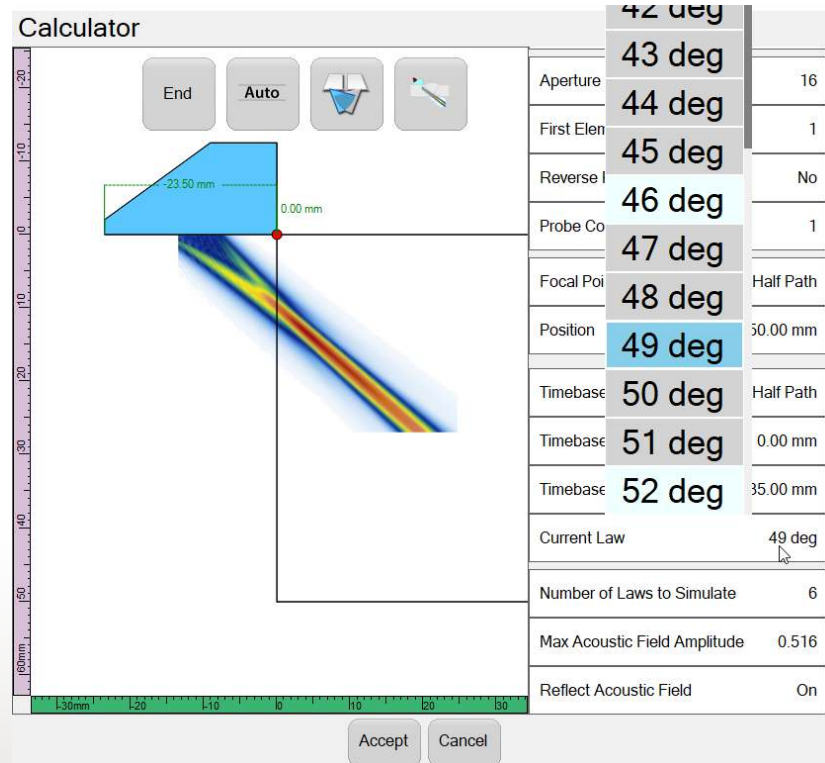


After a parameter change, the acoustic field can be recomputed using the button in the top right of the calculator views. New menu options are also available:

- Number of laws to simulate: Select the number of focal laws to simulate with the All laws acoustic field
- Max Acoustic field Amplitude: Relative value of the maximal amplitude calculated in the acoustic field (no units)
- Reflect Acoustic Field: Activate (or not) the beam reflection in the acoustic field calculation

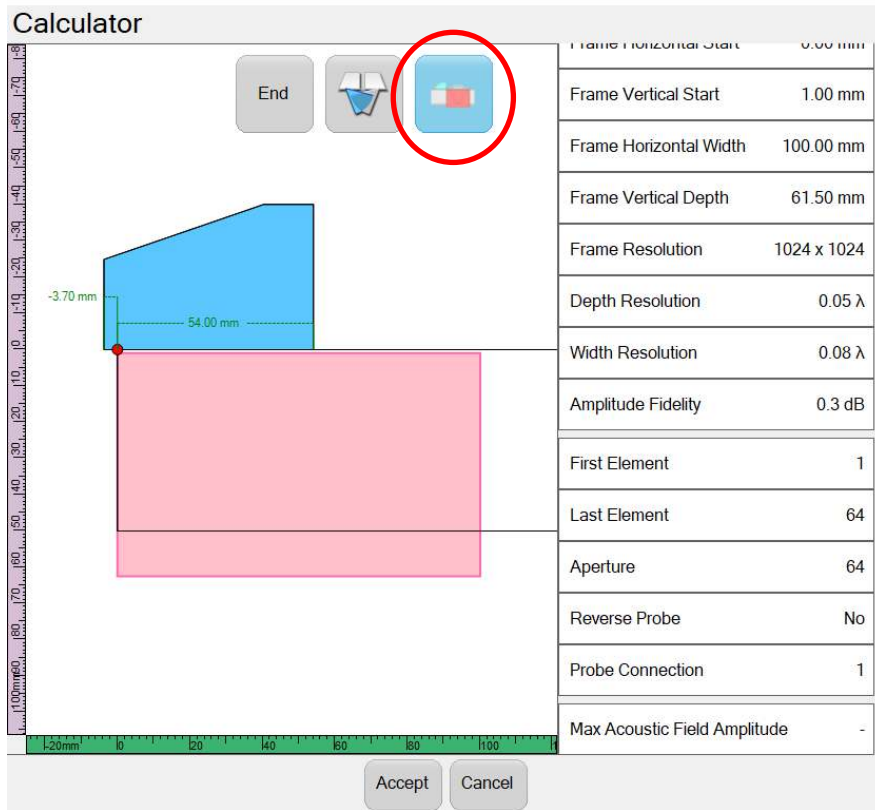




When only one focal law acoustic field is selected, user can select which focal law is displayed by using the Current Law menu item:



The acoustic field tool is also available for TFM configurations:


Calculator




End  

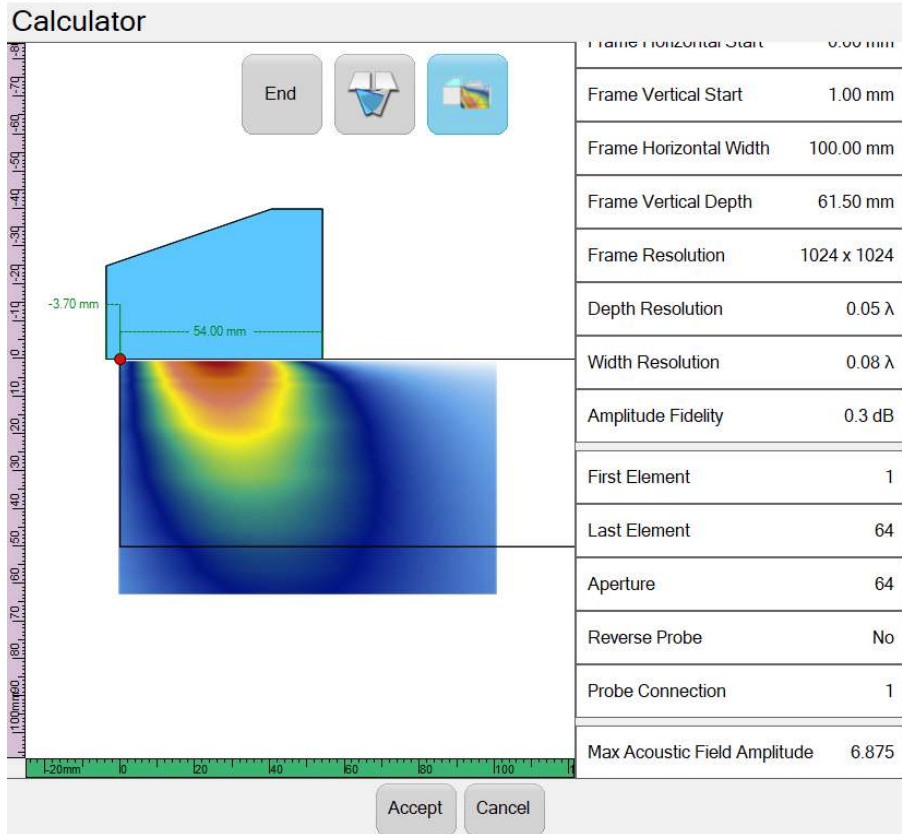
Frame Horizontal Start	0.00 mm
Frame Vertical Start	1.00 mm
Frame Horizontal Width	100.00 mm
Frame Vertical Depth	61.50 mm
Frame Resolution	1024 x 1024
Depth Resolution	0.05 $\lambda$
Width Resolution	0.08 $\lambda$
Amplitude Fidelity	0.3 dB
First Element	1
Last Element	64
Aperture	64
Reverse Probe	No
Probe Connection	1
Max Acoustic Field Amplitude	-

Accept Cancel

 TFM Frame

 TFM acoustic field





## Mouse Usage

With the new UltraVision Touch 3.10R7, a new “mouse mode” is available to facilitate the use of a computer mouse without the touchscreen. When the “mouse mode” is activated, all views will behave accordingly to these mouse actions:

- Single click and drag
  - o Drag cursors below the mouse pointer
  - o Display “Green” zoom area and zoom thereupon mouse click release
- Double left click: position red cursor at the pointer
- Double right click: position blue cursor at the pointer
- Double middle click: position data cursor at the pointer

Furthermore, the following keyboard shortcuts are also available with the “mouse mode”:

- Arrow button will move reference cursor
- SHIFT+Arrow button will move measurement cursor
- CTRL+Arrow button will move data cursor

## Clicker Indexer Improvements

With the new UltraVision Touch 3.10R7 software version, you can now use the clicker indexer to increment or decrement the index value according to your needs.



## Individual Preset

With the new UltraVision Touch 3.10R7 software version, you can now go in the inspection menu and click the Preset button to select one of the three following options:

- Preset all Encoders
- Preset Scan
- Preset Index

These options will preset the selected encoders to the define value of the mechanical setting without resetting the data. Additionally, preset values can now be edited or modified even after a scan is started.

## Splitter Support for TOPAZ32/128TFM

UltraVision Touch 3.10R7 software version now supports the splitter module for the TOPAZ32/128TFM model. User working with the TOPAZ32/128TFM will now be able to connect two probes to the instrument using the splitter module and create configuration with up to 2x 16 elements phased-array probes.

## Alarms tab moved to Inspection Menu

The alarms tab, for alarms configuration, is now available in the inspection menu for all Topaz.



## New Language Packages

UltraVisionTouch now supports 2 new languages: German and Russian. An update to the Japanese translation is also available with UV Touch 3.10R7.

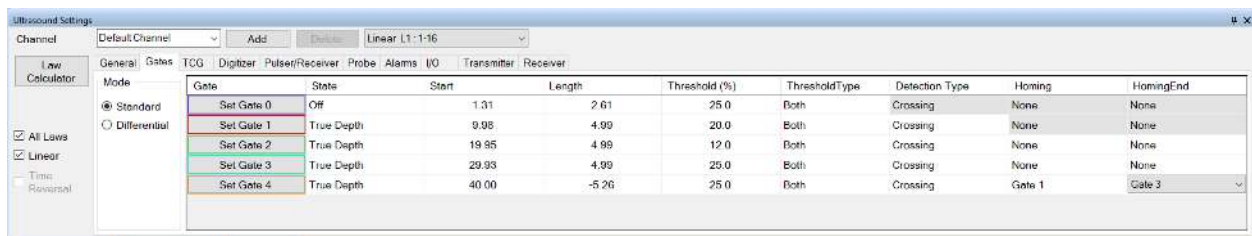
# UltraVision Classic New Features and Improvements

## QUARTZ Homing Gate End function

Homing Gate End function is a dynamic backwall echo tracking function that automatically adjusts the length of another gate in time. This function maintains a constant distance between the backwall echo gate crossing position to the end of a precedent gate that is configured in Homing End tracking mode.

If backwall echo signal does not cross the backwall tracking gate, the Homing End Gate will end at its predefined length.

Homing End gate function is available in QUARTZ when using the Parallel Firing or DDF firmware.



The screenshot shows the 'Ultrasound Settings' window with the 'Gates' tab selected. A table lists the configuration for five gates (Set Gate 0 to Set Gate 4). The 'Homing' and 'HomingEnd' columns are highlighted in grey, indicating the Homing Gate End function is active for Set Gate 4, which is set to 'Gate 1' and 'Gate 3' respectively.

Gate	State	Start	Length	Threshold (%)	ThresholdType	Detection Type	Homing	HomingEnd
Set Gate 0	Off	1.31	2.61	25.0	Both	Crossing	None	None
Set Gate 1	True Depth	9.98	4.99	20.0	Both	Crossing	None	None
Set Gate 2	True Depth	19.95	4.99	12.0	Both	Crossing	None	None
Set Gate 3	True Depth	29.93	4.99	25.0	Both	Crossing	None	None
Set Gate 4	True Depth	40.00	-5.26	25.0	Both	Crossing	Gate 1	Gate 3

## UltraVision Analysis license

A new UltraVision package dedicated for Data Analysis is available with version 3.10R7. This UltraVision package.

This software package includes most of the typically used UltraVision data analysis tools.

It is designed for offline data analysis and as the ideal tool for TOPAZ users that required complex data analysis capabilities.

As a data analysis package, UltraVision Analysis cannot be used for setup creation or data acquisition.

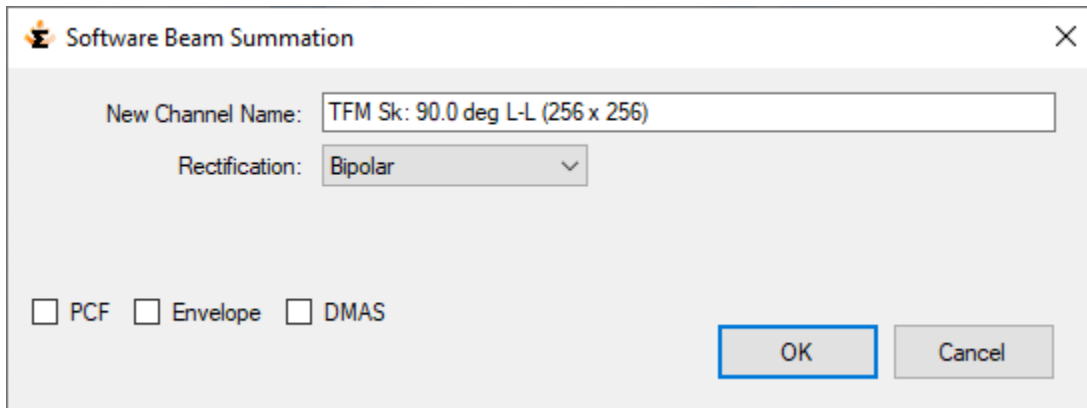
Please contact you closest Zetec representative for more information about UltraVision Analysis package.

## New FMC/TFM reconstruction algorithms

UltraVision Classic and UltraVision Analysis 3.10R7 add the capability of using multiple reconstruction algorithms for FMC elementary A-Scan data reconstruction:

- Phase Coherence Factor (PCF)
- Envelope

- Delay Multiply and Sum (DMAS)



**PCF:** Applies a pixel weighting function based on the coherence factor, which is calculated from the amplitudes of the contributing pulser-receiver A-Scans and is maximized when these are in phase and identical;

**Envelope:** Uses the analytic signal, the real part is the pulser-receiver A-Scan and the imaginary part is the Hilbert transform of this. The pixel value is the magnitude of the summed complex signal. This produces a “smoother” image.

**DMAS (Delay Multiply And Sum):** Sums delayed pulser-receiver A-Scans multiplied by each other. This produces an image with improved quality and narrower main lobe in comparison to DAS (Delay And Sum).

## Downloading and installing UltraVision Touch 3.10R7 for TOPAZ

To upgrade the TOPAZ product family software to the new 3.10R7 version, please download the appropriate UltraVision Touch version according to your instrument model from our website:

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

UltraVision Touch is available in two main versions (embedded or PC-based) and there are several install files available according to the software version and platform:

- *UltraVisionTouch 3.10R7*: Install file of UltraVision Touch for PC in 32-bit version.
- *UltraVisionTouch 3.10R7 (x64)*: Install file of UltraVision Touch for PC in 64-bit version.
- *Topaz 3.10R7*: Install file of UltraVision Touch for TOPAZ.
- *Topaz16 3.10R7*: Install file of UltraVision Touch for TOPAZ<sup>16</sup>.
- *Topaz32 3.10R7 (x64)*: Install file of UltraVision Touch for TOPAZ<sup>32</sup>.
- *Topaz64 3.10R7 (x64)*: Install file of UltraVision Touch for TOPAZ<sup>64</sup>.

To install the downloaded version on your TOPAZ:

1. Save the file and unzip it on a USB drive.
2. Connect the USB drive to your TOPAZ.
3. Go to **TOOLS > SYSTEM** and click on **System Update**.
4. In the dialog, you should already see the TOPAZ 3.10R7 installer from your USB drive, but if not, click on the arrow at the top-right corner of the dialog until you see your USB, and select the TOPAZ 3.10R7 installer.
5. Click **Install**.

## UltraVision PC recommended requirements

The following PC specifications are recommended for running UltraVision software:

- Windows 10 Pro (64 bits edition)
- Microsoft Office Professional 2016
- Quad-core i7 3.6 GHz processor
- Minimum of 16 GBytes RAM
- High-speed (1 Gb/s) Ethernet link
- High performance graphics card (Nvidia® Quadro® M2000M w/4GB GDDR5)
- High performance SSD (Solid State Drive) 256 GB or bigger

## Quality

All work is performed 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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