UltraVision TOUCH 3.8R30
(PC and TOPAZ versions)

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1. Specimen settings

1.1 Custom Overlay

To use a Custom Overlay on a specimen:

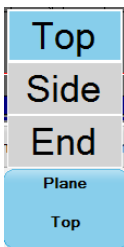1. From the **Specimen** menu, select the **Custom Overlay** tab.
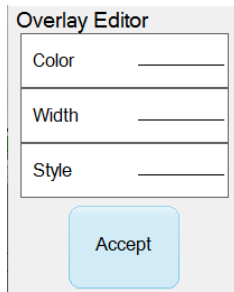

2. Tap **Overlay**.

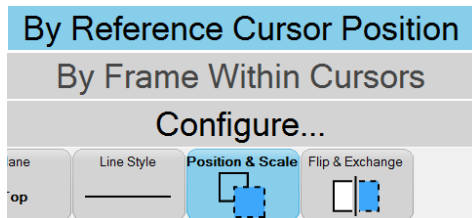3. Load a DXF custom overlay.

4. Select the view on which the 2D profile overlay should be displayed and tap **Plane**.

5. Select **Top**, **Side** or **End** if you want the selected view to be the TOP, the SIDE or the END of the overlay.
6. The **Overlay Editor** allows you to modify the color, width and style of the **Custom Overlay**. Select **Line Style**.

7. Tap **Position & Scale**.

- **By Reference Cursor Position** will position the origin of the 2D profile at the intersection of the reference cursors.
- **By Frame Within Cursors** will position and size the 2D profile in the frame contained within the reference and measurement cursors.
- **Configure…** allows you to manually enter the **Scan** and **Index** positions of the origin, and the scale of the 2D Profile.

8. Tap **Flip & Exchange**
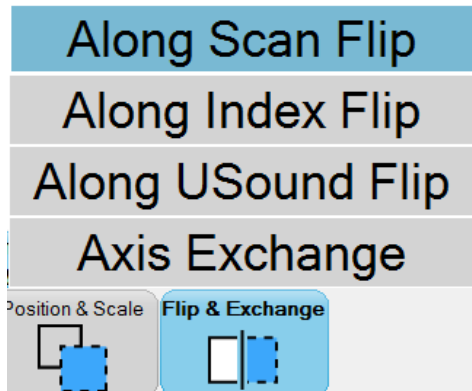
This button allows flipping the custom overlay along the selected axis and exchanging the axis on the active view.

1.2   Specimen edition in Analysis

In analysis mode, Specimen settings can be changed. Collected data is not affected. Changing the specimen settings can help modifying the overlay for analysis purposes.

2   Setup creation

2.1   Number of rebounds inside specimen

UltraVision now allows you to control the number of rebounds displayed in the **Calculator** view.

To use the tool:

1. From the **Channels** menu, select **Configuration,** and then select the **Calculator** tab.
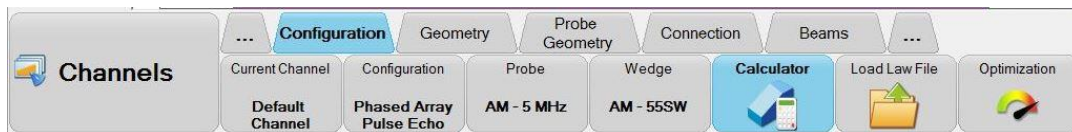
2. The **Calculator Information** menu opens.

When **Display Rebound** is set to **Auto**, the beam will use the minimum number of rebounds to reach the focal point, all the while staying inside the specimen.

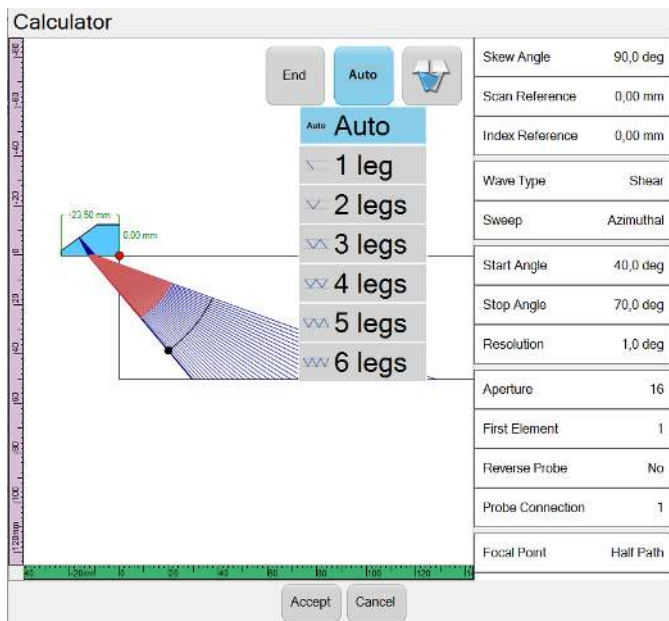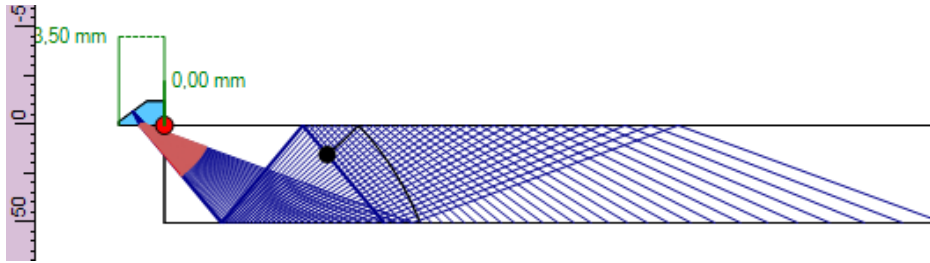The **Display Rebound** option also allows you to select the number of rebounds displayed in the **Calculator** view up to six rebounds.

3 Inspection tools

3.1 AWS Information Fields

3.1.1 Understanding AWS readings

The American Welding Society Structural Welding defines in Code section D1.1 a technique for classifying discontinuities in welds according to a "D rating" that is calculated based on three different parameters A, B and C.

The procedures and standards set forth in Code D1.1 Part F typically apply for the UT inspection of groove welds and HAZs between the thicknesses of 8 mm and 200 mm (5/16 in and 8 in) inclusive.

A is the indication level in dB (calculated using the Autoset Target set for calibration (Tools -> Options -> Amplitude menu)
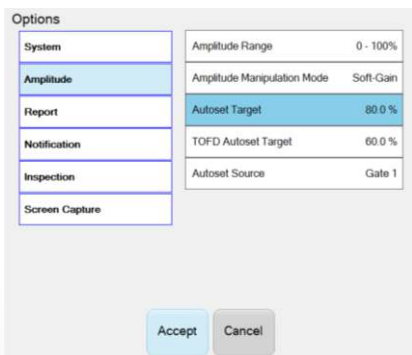
B = Reference indication level in dB (Reference Gain)

C = Material attenuation factor expressed in dB calculated as *(2x [sound-path length in inches – 1 in.])* if using the U.S. Customary Units **or** *(2x [sound-path length in mm – 25mm] x 0.08* if using the SI Units

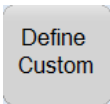The indication rating D is calculated as $D = A - B - C$

AWS information fields are found under the Statistics category.

To setup AWS information fields:

1. Tap the **Information Group** display.

Gain(ch)	12,0 dB	Gain(ref)	0,0 dB
%(G1)	-	/(G1)	-
%(G2)	-	/(G2)	-

2. Select **Define Custom**.

Define
Custom

3. In the **Custom Group Editor**, tap Category to open the list.

Custom Group Editor

-	-
-	-
-	-

Delete

Category   Settings

Gain(ch	Settings	hannel
Gain(re	Cursors	hannel
Channe	Cylindrical Correction	
Law	Thickness	
Scan O	Statistics	
Index C	Drop Sizing	
Skew(p	Gates	nel
R angle	FFT	ocal law/beam
	DAC	

Accept   Cancel
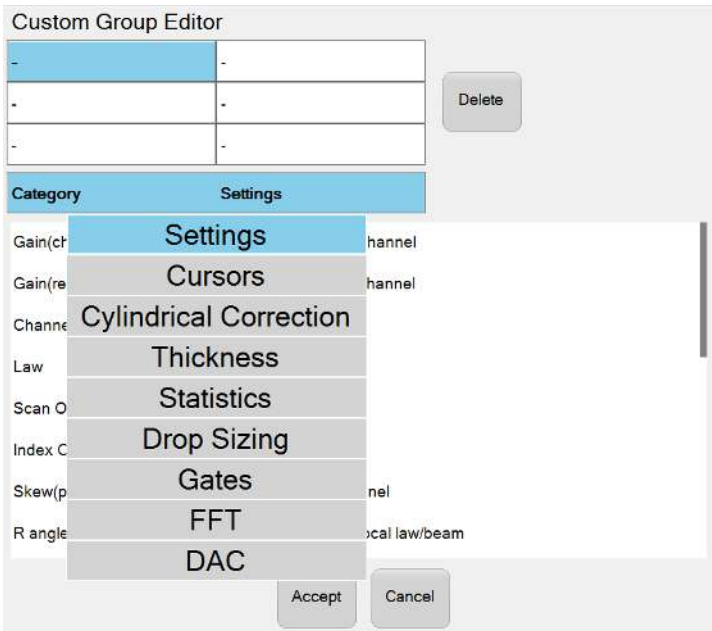
4. Select the **Statistics Category**.

Custom Group Editor

-	-	
-	-	Delete
-	-	

Category	Statistics
Missed Pts Ratio	The ratio between the quantity of missed acquisition point and all the acquired points.
Max Cons. Missed Pts	The biggest quantity of consecutive missed acqusition points.
A	Discontinuity indication level in dB
B	Reference indication level in dB
C	Material attenuation factor in dB
D	D rating

Accept   Cancel

5. Select the A, B, C and D information fields.

Custom Group Editor

A	B
C	D
-	-
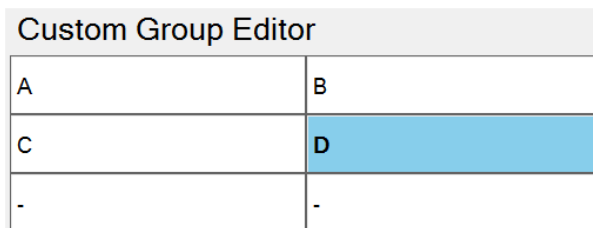
6. Position your reference and measurement cursors on each side of the indication signal.

A will determine the amplitude level of the highest peak between both cursors.

B indicates the total gain applied on the current law (Hard Gain + Law Gain).

C information calculates the material attenuation using the AWS code formula.

D = A − B - C

3.2   Thickness Evaluation helper

Thickness Evaluation helper tool simplifies finding the points of minimum wall thickness on a C-Scan or on a contour box within a C-Scan.

1. From the **Analysis** menu, select the **Thickness** tab.

2. Select a Position C-Scan view and click **Find Min**.
   The Data cursor intersection is positioned over the sample of minimum thickness.

3. Draw a contour Position C-Scan view and click **Find Min (C).**
   The Data cursor intersection is positioned over the sample of minimum thickness within the contour.

3.3   Noise Recording Gates

Noise Recording Gates is a new addition to our corrosion inspection tools. These gates can be activated in **Setup** and **Inspectio**n modes and can also be created offline.

NR Crossing adds noise recording capability to the Crossing mode gates. **NR Maximum** allows recording noise on when using **Maximum** crossing mode.

1. Open the **UT Settings** menu.

2. Enable Gate 1
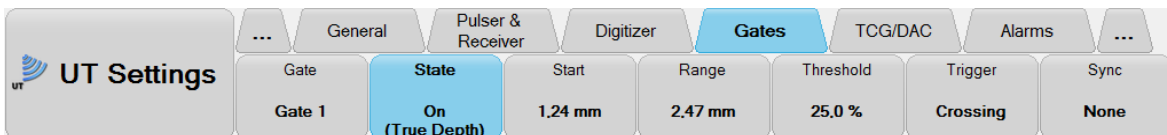
3. Tap **Trigger**.

3.4   New information fields available for thickness evaluation

A new series of info-fields is available for the evaluation of C-Scan thickness information. New info-fields are available under the **Thickness** category

Info-field	Description
ThickAvg (C)	Average thickness in contour
ThickStdDev (C)	Standard Deviation thickness in contour
ThickMin	Minimum Thickness on complete data range
ThickMax	Maximum Thickness on complete data range
TMinSPos	Minimum Thickness position in Scan
TMinIPos	Minimum Thickness position in Index
TMaxSPos	Maximum Thickness position in Scan
TMaxIPos	Maximum Thickness position in Index

Some of the existing info-fields are now dynamic during acquisition mode:
- TMinSPos(C)
- TMinIPos(C)
- TMaxSPos(C)
- TMaxIPos(C)
- ThickMin
- ThickMax
- TMinSPos
- TMinIPos
- TMaxSPos
- TMaxIPos

# 4   File Management

4.1   Batch Volumetric Merge

To set an Automatic BVM (Batch Volumetric Merge), you first need to create a BVM file.

For further information about creating a BVM file, refer to your UltraVision user manual, *Chapter 8.7 Setting Up Batch Volumetric Merges*, page 56.

When an Auto batch-merge is set, the software will automatically look in the folder of a file, at the opening, for an automatic volumetric merge file and execute it. It allows the user to save time and apply the same merge to all files contained in a same folder. As previously stated, the merge will only be executed at the opening of a data file.

To set an auto batch-merge,

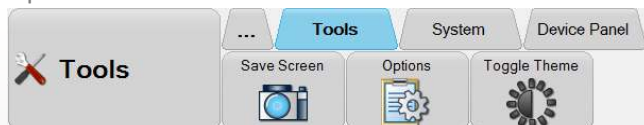1. From the **Analysis** menu, tap **Batch Merge**.
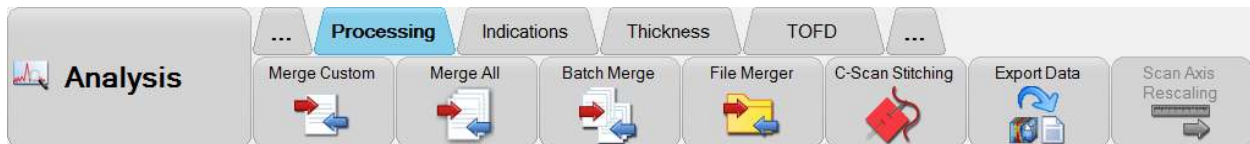
2. Load the VMX or BVM file created.

4.2   Screen Capture Tool

The **Screen Capture Mode** allows to take screen shots of either the **Full-screen** or just the views (**Only data**).

The **Directory** field allows you to select to folder in which to save the screen shot. A USB drive can be chosen as the Directory.

1. Open the **Tools** menu.

2. Tap **Options**.

3. Select **Screen Capture.**

4. Tap **Screen Capture Mode**.

5. Set **Use AutoNaming** to **Yes**.

Use AutoNaming enables the automatic naming of the screen shots. The screen shots will be named according to the **Base Name** and the additional information (date, time or simply an incremental value).

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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