

## TD-Scan v20.01 Overview

Date 06 – July – 2018.

- Strip Scan.
  - Added Calibration Targets used to define amplitude vs indication sizing tables. Each entry in the table can have up to 10 amplitude vs size values, with the table having up to 50 calibration targets. When placing a mark-up box in analysis, the maximum amplitude of the indication is compared with the channel's calibration target, hence the size of the indication is determined. Calibration targets are found in the channel's <Strip Scan> configuration page.

### Example calibration targets:

#	Name	Amp	Size 1	Amp	Size 2	Amp	Size 3	Amp	Size 4	Amp	Size 5	Amp	Size 6	Amp
1														
2	3mm FBH	80.0%	3.0mm	60.0%	2.0mm	40.0%	1.0mm	20.0%	0.5mm					
3	2mm FBH	80.0%	2.0mm	60.0%	1.5mm	40.0%	1.0mm	20.0%	0.5mm					
4														
5														
6														
7														
8														

### Example 1 – Single zone indication:

Channel 7 is configured as having a 3mm FBH calibration target, the values are shown below in the table. A mark-up box is placed over an indication in a single zone. The maximum amplitude of the indication is 66.6%. Using the calibration target look-up table, the height is determined as 2.4mm.

	Amplitude	Size
1	80	3.0
2	70	2.6
3	60	2.4
4	50	2.2
5	40	2.0
6	30	1.8
7	20	1.6
8	10	1.4

#	Zone	Start (mm)	Length (mm)	Gap To Previous (mm)	Amplitude (%)
1	F3	141.0	5.0	-	66.6

Sum of Lengths: 5.0 mm    Start of First to End of Last: 6.0 mm  
 Max. Amplitude: 67 %  
 Defect Height: 2.4 mm  
 Defect Classification: 01. Undefined  
 Status: Ungraded

**Example 2 – Multi zone indication:**

Using the same calibration target as the previous example, channels 6, 7, and 8 are defined as using a 3mm FBH calibration target. A mark-up is placed over the indication which spans 3 zones. The individual heights for each zone are determined from the look-up table and are summed to give the resultant indication height.

Channel	Amplitude	Height	Comment
6	42.8	2	
7	65.5	3	Full height used as flanked on both sides.
8	49.6	2	

Result of defect search

Box Number: 1

Box Length: 38.0 mm

Channel Details: Channel 7, F4, F3, F2

Zone Details: Up Stream, Zone 5 to Zone 7

#	Zone	Start (mm)	Length (mm)	Gap To Previous (mm)	Amplitude (%)
1	F4	45.0	12.0	-	42.8
2	F3	44.0	13.0	-	65.5
3	F2	44.0	13.0	-	49.6

Sum of Lengths: 38.0 mm    Start of First to End of Last: 14.0 mm

Max. Amplitude: 66 %

Beam Spread Compensation: 0.0 mm    ReCalculate

Defect Depth: 15.4 mm     Depth & Height Set Manually.

Defect Height: 7.0 mm

Defect Classification: 01. Undefined

Comment:

Status: Ungraded    OK    Cancel

- The depth is now the maximum indication depth.
- Added configurable limited setup changes when password protect setup is enabled. This feature is enabled/disabled and configured by selecting <Setup>, <Technique>, <Strip Scan Config> tab. Below is the parameter adjustment limits dialog. Here the min/max adjustments are configured.

StripScan Parameter Adjustment Editor

**Tx Control**

First Active: 2

Number of Active: 2

Tx Angle: 1.5

**Rx Control**

First Active: 2

Number of Active: 2

Rx Angle: 1.5

**Gate Control**

Gate Start (mm): 4.97

Gate1 Width (mm): 9.95

Gate2 Width (mm): 9.95

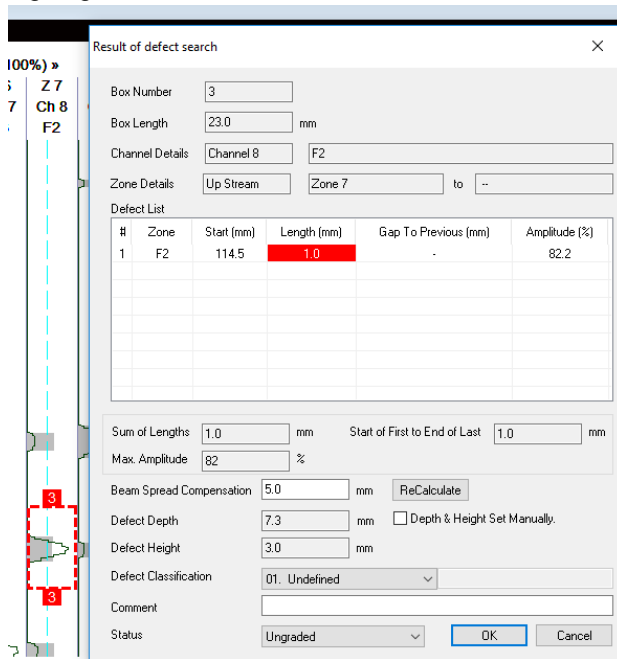
**Gain Control**

Gain: 4.0 dB

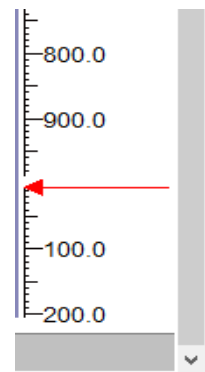
Apply    OK    Cancel

- Skip correction is now enabled in Strip Scan.

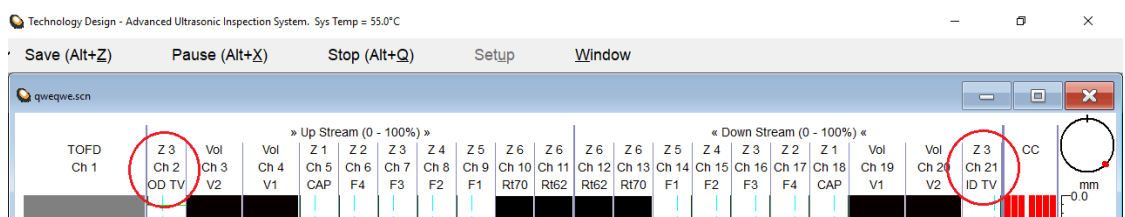
- Added “perpetual scan” feature in Strip-Scan. This feature is accessed by selecting <Setup>, <Technique>, <Strip Scan Config> tab. If enabled, when the programmed amount of data is acquired it is saved to a file with “\_Split\_xxx” appended to the given filename, where xxx is an incrementing number. Whilst collecting data, the current amount of acquired data is displayed in the status bar.
- In analysis, if the weld profile is displayed, the indication from the strip the mouse or cursor is in is now displayed as a slightly larger circle than the other indications which are still square.
- Modified to ensure that the calibration check cursors are within the data area.
- When adding a mark-up box and <Beam Spread Correction> is used, the minimum indication length is now one collection step. If applying the correction would result in a zero or negative length, the software forces the length to one collection step, and that indication is high-lighted in the indication list box.



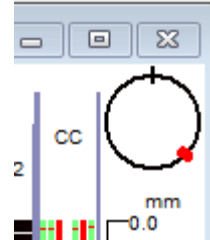
- When the <Circ> option is enabled in the scanner configuration page, the vertical scale showing the scan position re-starts at “start value” at the circumferential distance. This also affects the position displayed when cursors are used, with the maximum difference between cursors being ½ circumference.



- New Strip type call <Transverse> added which is a sub-type of <Zoned>. Up stream Transverse strips are positioned left-most, and down stream positioned right-most.



- Added minimum / maximum temperature limits. If the measured temperature is outside of the set limits, the temperature is displayed in red.
- Removed the display settings from the Scan Start dialog box.
- New display settings dialog now with independent Map View directions for Up/Down stream Zoned and Volumetric channels.
- Added scanner position indicator.  
This also updates with cursor movement in analysis.



- Added colour checking. E.g. if the go / no go colours are too similar a warning is given.
- Fixed issue with ETI temperature sensor under Windows7.
- The amplitude for zoned strips in T & A view is now affected by the <Min. Threshold> which has been renamed <Suppression>. Regardless of the set value, this has a hardcoded maximum of 5% for amplitude suppression.
- The order which the strips are positioned has now been changed to:

	Up Stream			Down Stream		
ToFD	Transverse	Volumetric Cap > Root	Zoned Cap > Root	Zoned Root > Cap	Volumetric Root > Cap	Transverse

- Super View.
  - Added persistence to A-Scan displays.
  - It is now possible to select which leg the overlay will be displayed in for B-Scan and S-Scan images.
  - Improved import of complex overlays from ES Beam Tool (needs Beam Tool version 8.1.1.82 or higher).
  - Fixed issue analysing 14-bit ToFD data.
  - Fixed problem with the initial display area for B-Scan images.
  - Stopped multiple C-Scan image recreation when a data file that contains linked C-Scan images is first opened.
- The A-Scan Display window now has per channel Start & Zoom settings.
- Touch UI. Changed the gain Coarse/Fine button to Modifier (0.1dB, 0.5dB, 1.0dB, 2.0dB, 6.0dB options).
- Touch UI. Added option to show/hide the caption bars on the Hardware Setup & Scanner Setup dialogs. This is accessed by selecting <Setup>, <Configuration>, <Misc> tab.
- The <Theoretical Delay> button in the <Probe> setup page for phased array channels was not disabled off-line.

- Added option to save the channel setup parameters as a spreadsheet. This feature is found in the channel summary dialog.
- On a Handy-Scan, using the top side menu button to open the UT setup dialog causes the software to lock.
- The current setup is saved to a temporary file then the collection hardware dialog is opened. The setup is restored from the temporary file if the <Cancel> button is pressed.
- Updated Chinese user interface for touch screen operation.
- Fixed issue with GPS data. Also added UTC (Universal Time Coordinated) and Date to stored GPS data and made the data stored in the scan file tamper proof.
- Corrected “Equipment” field in all spreadsheet reports when the data is acquired with a Focus-Scan RX.
- Fixed problem where the channel gain is set to maximum if acquisition gain is enabled.