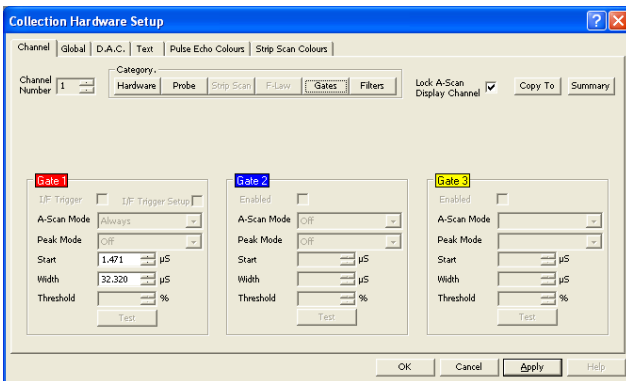


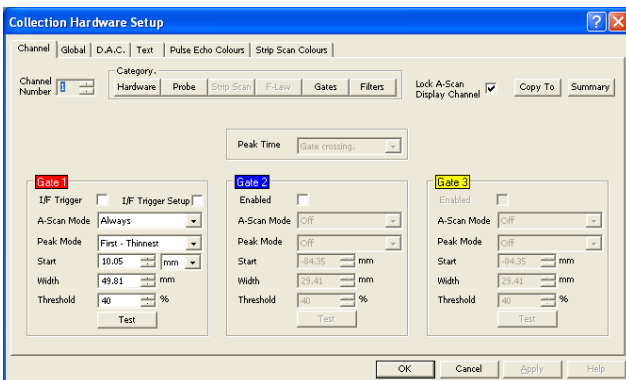
Channel Page – Gates Category - TOFD



TOFD channels only have 1 data collection gate, and are drawn in RED on the A-Scan display.

Start	This is the start of the data collection data	Measured in microseconds(μs)
Width	This is the width of the data collection gate	Measured in microseconds(μs)

Channel Page – Gates Category - Pulse Echo



Enabled	The enabled check boxes have the same functionality in each gate; it enables/disables the given gate. The gates run sequentially, therefore, if gate 2 is disabled, gate 3 is also disabled.	
I/F Trigger (Gate 1 only)	This places gate 1 into interface trigger mode. Under normal operation (not I/F trigger), all timing is referenced from transducer excitation. However, in I/F trigger mode all time is referenced from the first signal that rises above the detection threshold of gate 1. This affects the timing of gates 2 & 3, plus the start of the DAC curve. I/F trigger is used for immersion system only.	Note: There must be a clear separation between the trigger signal and subsequent signals for accurate measurement to be possible. Therefore paint thickness measurement and

		<p>similar thin coating monitoring may not be possible. See 'I/F Trigger Setup' in Appendix B for procedure.</p>
<p>I/F Trigger Setup</p>	<p>When selected, the couplant velocity is used to convert time to distance. The couplant velocity is entered in the Global page.</p>	<p>Useful for emersion testing:</p> <ul style="list-style-type: none"> • When the A-scan window is used to measure the distance to the interface signal through the couplant. • When the data views are set to display the interface. This view could be used for measuring tube ovality when a centrally located internal scanner is used. See 'I/F Trigger Setup' in Appendix B for procedure.
<p>A-Scan Mode</p>	<p>This field controls A-Scan data collection:</p> <ul style="list-style-type: none"> • Off..... A-Scan collection disabled. • Always..... An A-Scan is collected each time the scanner moves by the collection step. 	

	<ul style="list-style-type: none"> • If peak in gate..... 	<p>An A-Scan is collected each time the scanner moves by the collection step if a signal is breaking the gate's threshold.</p>
<p>Peak Mode</p>	<p>The peak mode specifies what peak data the gate is to collect:</p> <p>Off.....</p> <p>All peaks.....</p> <p>First..... ...</p> <p>First – Thinnest...</p> <p>First – Thickest...</p> <p>Between.....</p> <p>Between - Thinnest.....</p>	<p>No peak data is collected.</p> <p>All the peaks in the gate are collected (Max = 16 peaks per gate)</p> <p>The 1st peak in the gate is collected. Subsequent peaks are ignored.</p> <p>The system stores peak data at an operator defined distance increment of the scanner (collection step). However, within the collection step, a particular transducer may have been excited many times, and thus many depth readings taken. In this mode, the software only stores 1 depth reading (the thinnest) within a collection step.</p> <p>Same as First – Thinnest except the thickest reading is stored.</p> <p>The difference between the 1st and 2nd peaks in the gate is calculated and stored as the depth/thickness.</p> <p>The difference between the 1st and 2nd peaks in the gate is calculated and stored as the depth/thickness. (See First – Thinnest).</p> <p>The difference between the 1st and 2nd peaks in the gate is calculated and stored as the depth/thickness. (See First – Thickest).</p>

	<p>Between - Thickest.....</p> <p>Loss of signal</p>	<p>If there is no signal in the gate, the loss of signal colour is drawn in the B, C, and D scan views. (See Pulse Echo Colours page).</p>	
Start	This is the start of the data collection data. ($\mu\text{S}/\text{mm}$)		
Width	This is the width of the data collection gate. ($\mu\text{S}/\text{mm}$)		
Threshold	To be collected as a peak, the signal must rise above the threshold level.		
Test	The test button opens the gate test dialog box.		Provides a table that displays Time, Distance & amplitude for each peak in the gate that breaks the threshold.

xii. Interface Trigger Setup

- Enter all the setup parameters in the **Collection Hardware Setup** windows.
- Ensure that the velocities (including the couplant velocity) are correct. See **How to Measure Velocity in Appendix B** for guidance if required.
- Click the **Gates** button on the **Channel** page.
- Place the transducer in position on the wedge (for contact testing) or immerse in the couplant without a wedge for immersion testing.
- Place **Gate 1** over the *wedge/sample* signal (contact testing) or the *couplant/sample* signal (immersion). **NOTE:** If the near surface of the test item in an immersion bath is uneven, ensure that the interface gate (**Gate 1**) encompasses all these signals. The interface signal can be verified by measuring the path between repeat signals in the water path or repeat wedge signals by enabling the **I/F Trigger Setup** check box: this changes the A-scan measurement from **Test Piece Velocity** to the **Couplant Velocity**.
- Now enable the **I/F Trigger** check box. The first signal that breaks the Interface gate threshold is referenced as **zero**. If the signal drops below the gate threshold, a warning message, **Interface Not Detected**, appears in the A-Scan window.
- When **Gate 1** is designated as the **Interface Trigger** (IF box checked), **Gate 2** automatically becomes the normal measurement gate.
- Any signal that now appears between the interface signal (Zero) and the backwall signal will be measured correctly in range.

