

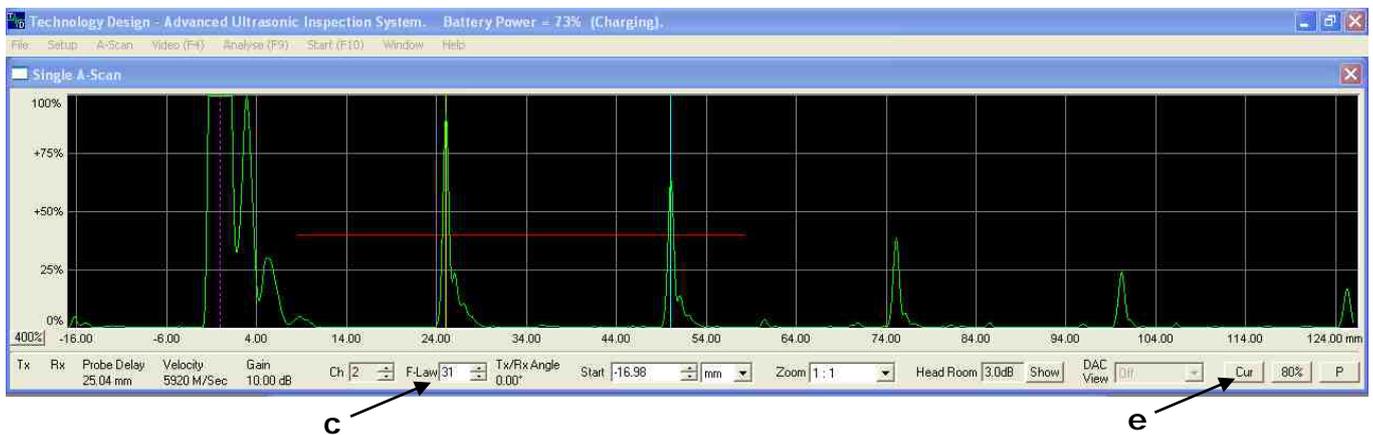
Distance Calibration using a TD Focus-Scan®

Calibrating the probe delay with the TD Focus-Scan Instrument follows roughly the same procedure as any digital flaw detector and is similar for both phased array and pulse echo:

- maximise a signal from a known depth
- place a cursor on the signal
- place another cursor at the graticule position that corresponds to the depth of the known target
- the difference between the two cursor positions is the probe delay

Here is the procedure for calibrating a phased array probe set to produce a sectorial scan from -30° to 30° , without a wedge, in compression mode:

- Adjust the **Collection Hardware Setup** for the UT mode and probe to be used.
- Place the probe on a block of known thickness e.g. 25mm side of an IIW V1 block.
- Adjust the **F-Law** control on the A-scan window to 0° and adjust the **Zoom** control to show multiple echoes.



- Click the **Probe** button in the **Collection Hardware Setup** window and set **Probe Delay** to zero (make sure the delay is set to **mm** & not **µs**).
- Click the **Cur** button on the A-scan window to activate the **A-scan Display Cursors** window.

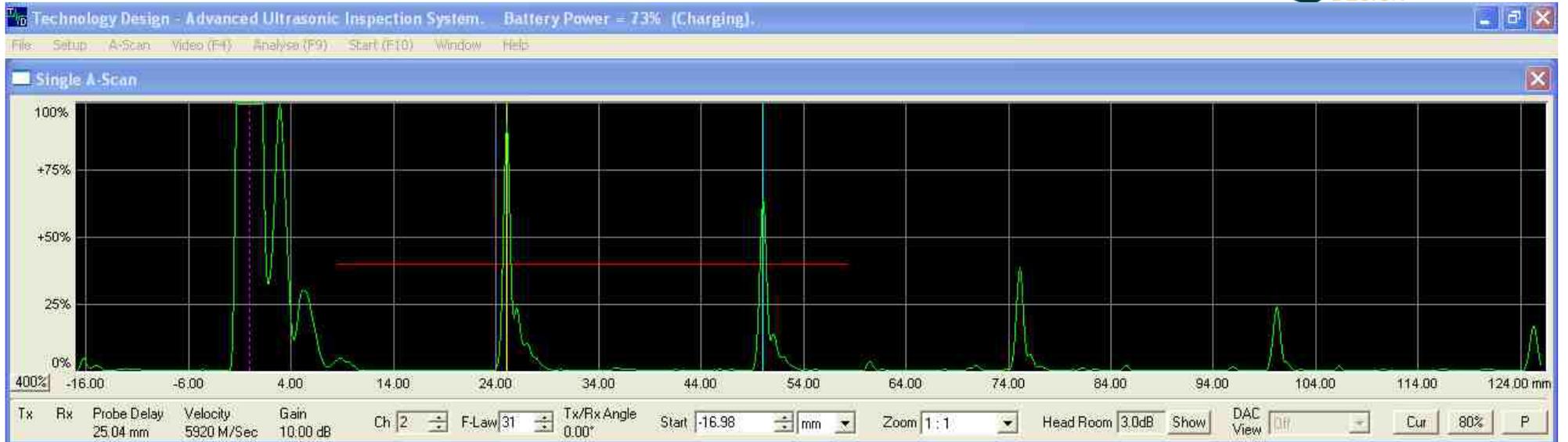


- Place one of the cursors on either the flank or peak of the first signal from the backwall (I chose yellow).
- Place the other cursor (turquoise) at the expected position of the backwall (in this case 25mm)
- The difference as stated under the cursor controls is the probe delay. Click the **Set P-Del** button and the delay is transferred automatically to the **Probe Delay** dialogue box in the **Probe** page.

- i) Notice that the yellow cursor position has now changed to 25mm (or very close). test the calibration by typing 50 into the other cursor control box and pressing enter. The turquoise cursor will move to the position of the second backwall echo.
- j) The calibration is now complete. The system will automatically adjust all other focal laws into calibration.

Note: if calibrating a sectorial scan using an angled wedge, use the same procedure on the focal law closest to zero e.g. 40° to 70° - calibrate on 40°.

If there are any questions contact Mark Nel – mark.nel@agr.com or +44(0) 1606 59 0123



Collection Hardware Setup

A-Scan Display Cursors.

Cursor 1	Cursor 2	Cursor 3	Cursor 4	Help
24.98 mm	49.99 mm	46.00 mm	69.68 mm	Reset
Difference: 25.010 mm		Difference: 23.680 mm		Close
Set P-Del: On		Set P-Del: Off		

Array Geometry: Linear [Configure]

Wave Type: Compression

Ultrasonic Velocity: 5920 M/Sec

Probe Delay: 25.04 mm

Direction (Skew): 0.000000 [Show]

Type: [] Zone: [] Enabled: []

Stream: [] Label: [] Edit Labels

Material Thickness: [] mm

Geometry: []

Offsets:

Horizontal Offset: 0.0 mm

Vertical Offset: 0.0 mm

Balance Elements:

Enable: [] Apodization: None

Balance

Download Focal Laws (F9)

OK Cancel Apply Help

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