

Technique for setting up the TD Pocket-Scan for Corrosion Mapping.

1. Calibration of probe

- a. Connect Probe to unit.
- b. Open the Collection Hardware Setup Window (**Setup – Collection hardware**)
- c. Select or fill in the appropriate **Hardware, Probe, Gate & Filter** settings.
- d. Select the **Probe** button to display the **Probe** page.
- e. Set the **Probe Delay** to zero and the units to **MM**.
- f. Open the **A-scan Display Cursor** window (Click on the **Cur** button near the bottom right of the A-scan window)
- g. Place the probe on a calibration block of a known thickness and ensure that the backwall response is visible in the A-scan window.
- h. Move one of the cursors to either the peak or flank (whichever you prefer) of the backwall echo.
- i. Move the other cursor to the position that corresponds to the actual thickness of the calibration block. The difference between the two cursor positions is the probe delay.
- j. Click the **Set P-Del** button on the **A-scan Display Cursor** window.
- k. The above action places the probe delay into the probe window. The calibration can be verified by checking that the cursor reading on the backwall echo has now changed to the correct wall thickness and by placing the probe on different known thicknesses & checking the cursor positions. (**NB**. Remember with a twin crystal probe it is impossible to get an accurate calibration using only one thickness and multiple echoes. Slight manual adjustments may need to be made by placing the probe on at least two different thicknesses within the test range)
- l. Close the **A-scan Display Cursor** window, the calibration is now complete.

2. Video Tracking

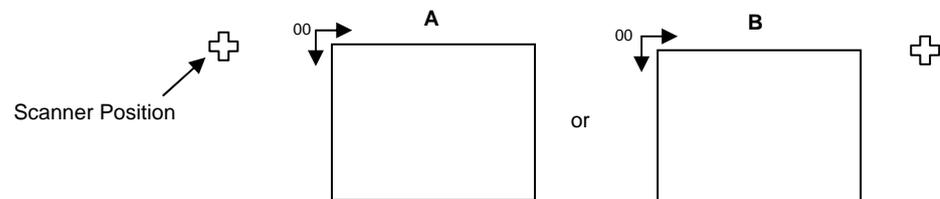
- a. Connect the Camera & LED to the encoder socket of the TD Pocket-Scan using the supplied umbilical cables.
- b. Open the **Scanner Setup** window (**Setup – Scanner**)
- c. Select the **Video Tracking** tab.
- d. Select **L.E.D.** in the **Tracking Mode** box and set the scanner parameters as desired.
- e. Calibrate the positional tracking by following this procedure:
 - i. Position the camera about 500mm from the scanning surface and adjust the focus & aperture to ensure that the camera tracks the LED.
 - ii. Place the probe/LED on the surface beneath the camera.
 - iii. Click the **calibrate** button in the **Primary Axis** area.
 - iv. Fill in the chosen calibration distance (300mm is convenient)
 - v. With the probe at '0', click the **Clear Count** button and move the probe/LED the chosen calibration distance.
 - vi. While holding the probe/LED steady at the calibration distance, click **OK**. The **Pulses per millimetre** are entered automatically. The calibration is now complete. Check the calibration by clicking **Zero** in the **Current Position** area and moving the probe/LED a known distance within line of sight of the camera.
- f. Repeat the above process for the **Secondary Axis**.

3. Arm Scanner

- a. Connect the arm scanner to the encoder socket of the TD Pocket-Scan.
- b. Open the **Scanner Setup** window (**Setup – Scanner**)
- c. Select the **Arm Scanner** tab.
- d. Select **Potentiometer** in the **Tracking Mode** box and set the scanner parameters as desired.
- e. Calibrate the positional tracking by following this procedure:
- f. Position the probe end of the arm
 - i. Click the **calibrate** button in the **Radius Axis** area.
 - ii. Fill in the chosen calibration distance (arm in-out direction).
 - iii. With the probe at '0', click the **Clear Count** button and move the probe/arm the chosen calibration distance.
 - iv. While holding the probe/arm steady at the calibration distance, click **OK**. The **Pulses per millimetre** are entered automatically. The calibration is now complete. Check the calibration by clicking **Zero** in the **Current Radius** area and moving the probe/LED a known distance in the same direction.
 - v. Click the **calibrate** button in the **Theta Axis** area.
 - vi. Fill in the chosen calibration angle (circumferential axis).
 - vii. With the probe at '0°', click the **Clear Count** button and move the arm the chosen calibration distance (e.g. 180°).
 - viii. While holding the probe/arm steady at the calibration angle, click **OK**. The **Pulses per degree** are entered automatically. The calibration is now complete. Check the calibration by clicking one of the **SET x°** buttons in the **Current Angle** area and moving the probe/arm and checking the entry below the compass diagram.

g. **Notes:**

- i. When defining the scan area, the 00 position must always be at the top left of the block e.g.



- ii. The **Current Radius** is the distance from the pivot point to the 00 position (always +) & the **Origin** is the distance from 00 to the pivot point, therefore **A** would have a + radius & a – offset and **B** would have a + radius & a + offset.