

## DAKOTA DFX-8 DFX-8 Multi-Mode Ultrasonic Thickness Gauge

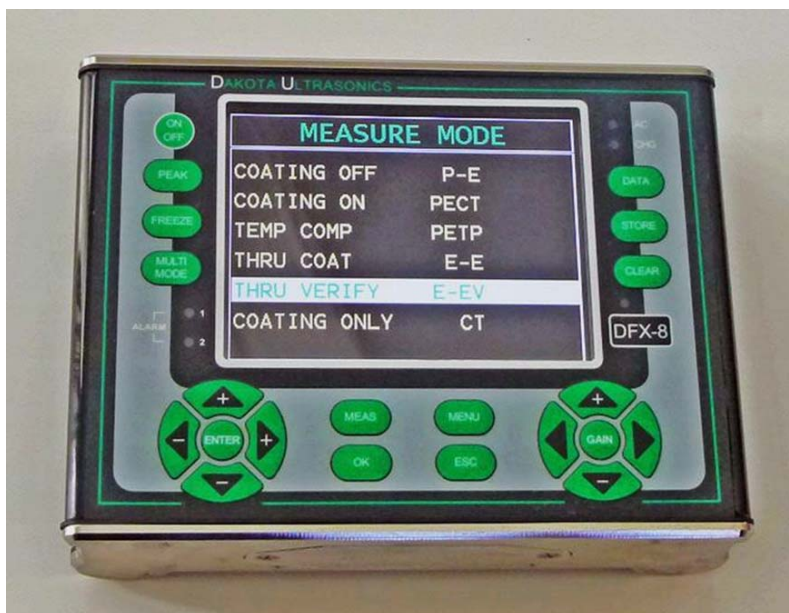


Figure 1 Multi Thickness Modes

P-E

**Pulse - Echo Mode (PE)**

The normal display mode, measures the total thickness from the base of the transducer probe to the material density boundary (typically the back wall). Ideal for pit and flaw detection.

PETP

**Pulse - Echo Temp Comp Mode (PETP):**

Similar to the PE mode, PETP takes into account and compensates for the variations in measurement caused by temperature variations.

E-E

**Echo - Echo Mode (EE):**

Also known as the ThruPaint™ Mode, EE ignores the coating thickness, displaying the material thickness from the top surface of the material to the material density boundary.

E-EV

**Echo - Echo Verify Mode (EEV):**

The echo-echo verify mode measures by comparing the values between 3 reflections and is mainly used to eliminate errors from surface coatings and to make measurements in multiple layered materials.

CT

**Coating Only Mode (CT):**

Displays the thickness of the coating applied to the material.

PECT

**Pulse - Echo Coating Mode (PECT):**

Displays both the material thickness (PE) and the coating thickness (CT) at the same time.

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P-E Pulse Echo for uncoated (bare) material



Figure 2 Pipe with severe thinning

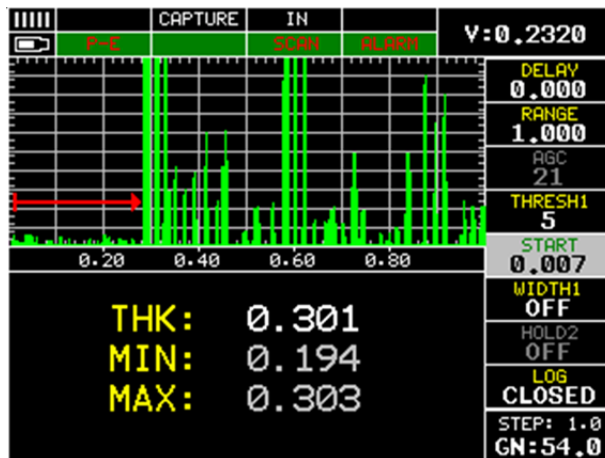


Figure 3 Pipe Bottom - uncorroded

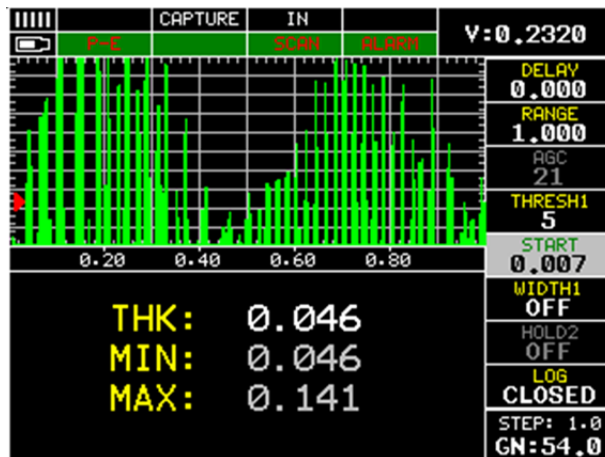


Figure 4 Top of Pipe - Showing Severe Thinning

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Sample for rejected pressure vessel, measured ~ 0.25" with D-Meter

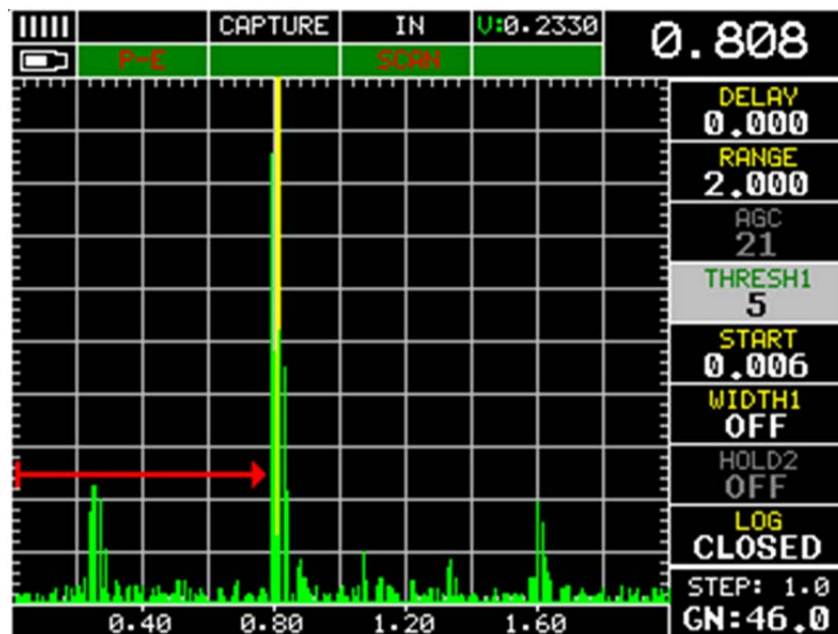


Figure 5 Signals from plate with inclusion

A-Scan display allows inclusions to be identified as they typically do not block the signal from the back wall echo

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## P-E CT Mode:

Proprietary mode from Dakota Ultrasonics that provides:

- Pitting Detection of P.E. Mode.
- Measurement of Coating Thickness
- Measurement of Material Thickness



Figure 6 Painted Surface Figure 3 Bare Metal Measurement



Figure 7 Back S

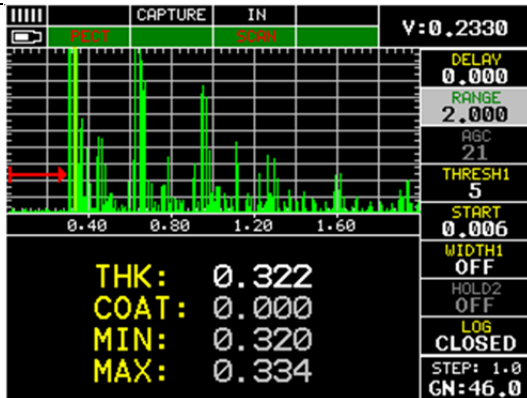


Figure 8 Bare Metal Display

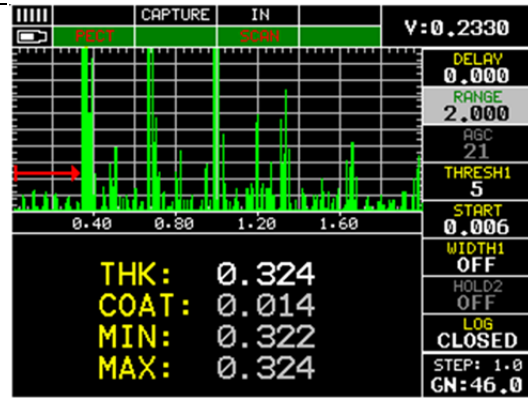


Figure 9 Thru-Coating - Note Coating Measurement

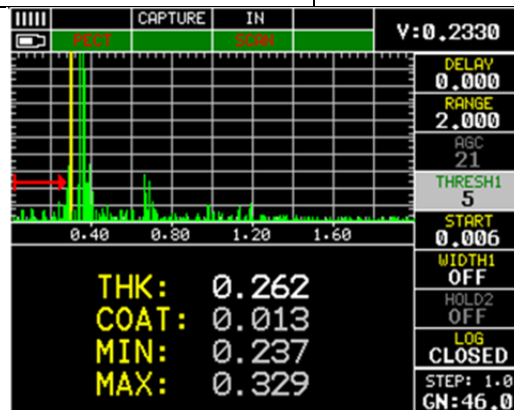


Figure 10 Measurement over drill hole

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CT Mode - Digital Display of Paint Thickness



Figure 11 Painted Sample

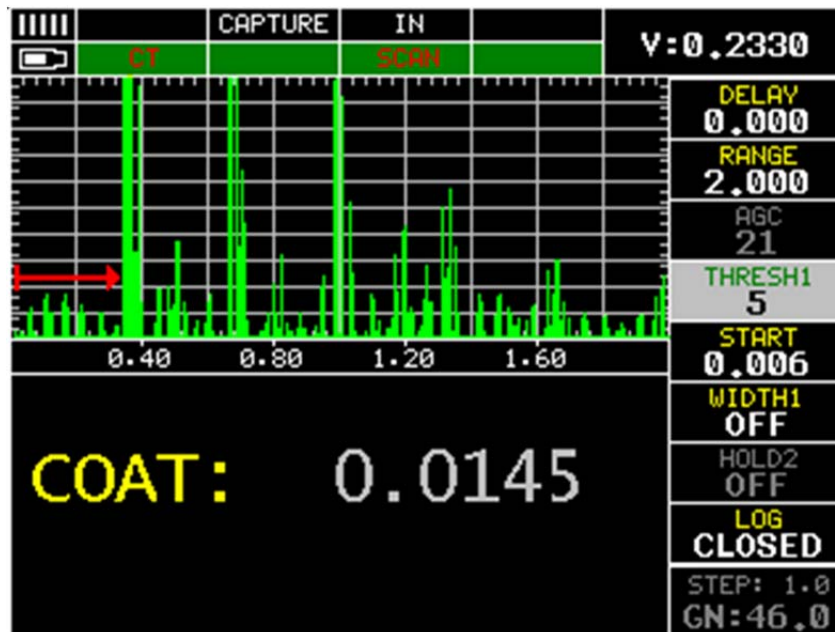


Figure 12 Coating Only Measurement

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## B-Scan Evaluation

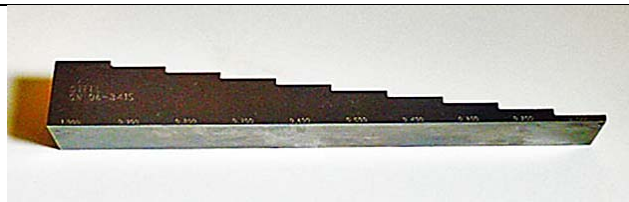
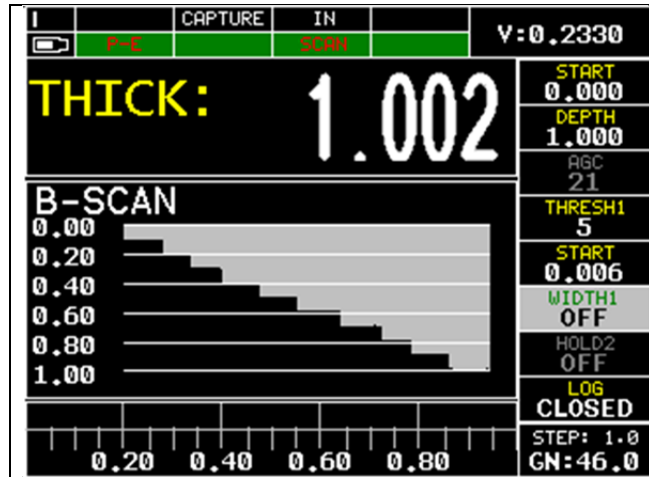


Figure 13 Step Block B-Scan

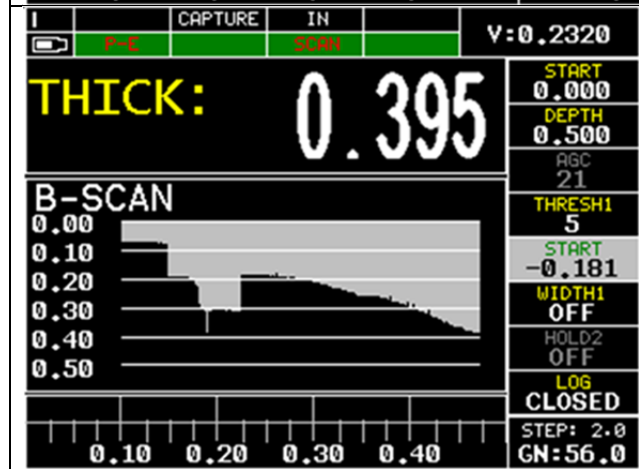


Figure 14 B-Scan Test Block

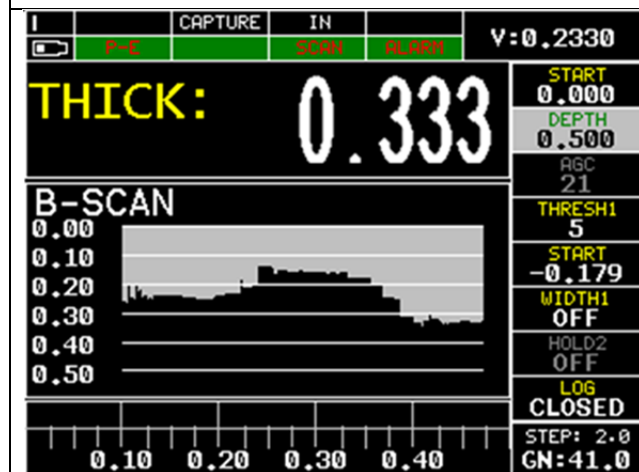


Figure 15 Severe Lake Shaped Pitting

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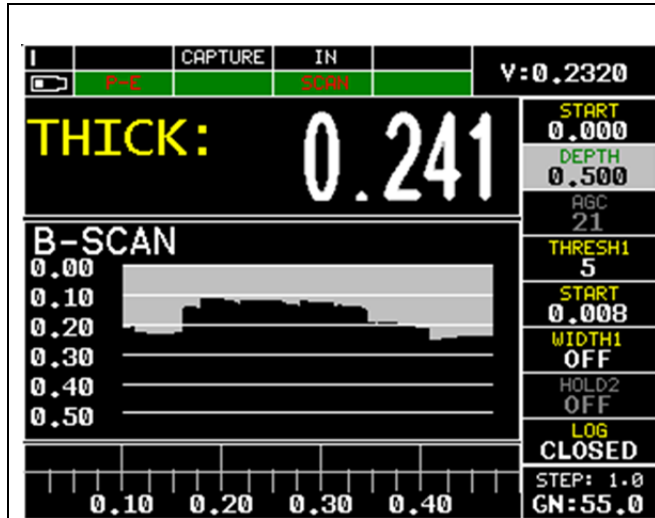


Figure 16 Severe Pitting

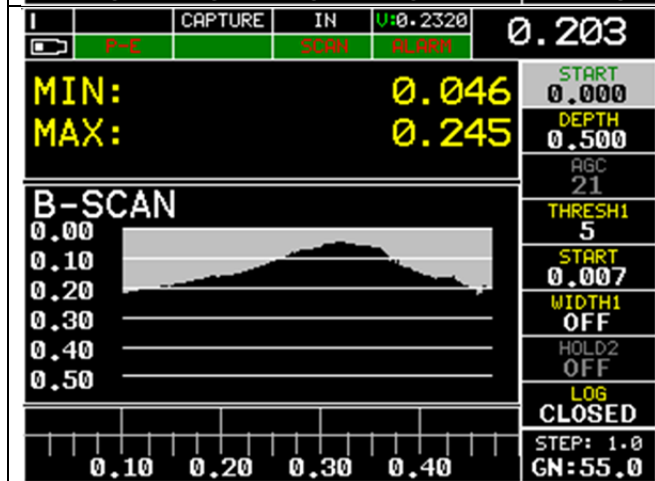


Figure 17 Severe Eroded Pipe Wall

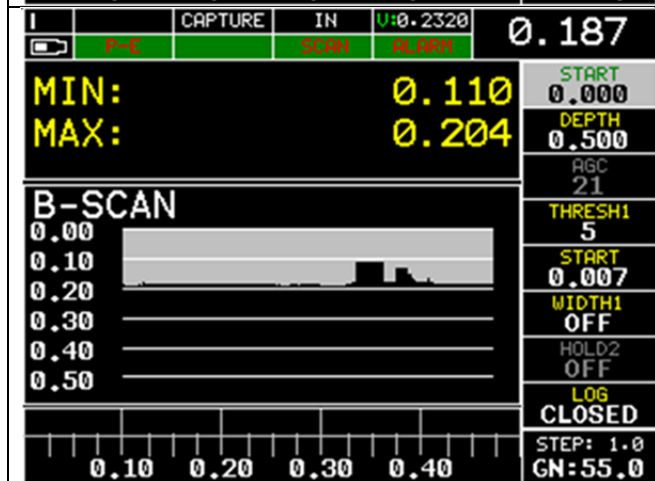



Figure 18 HAZ Erosion

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I	CAPTURE	IN	U:0.2320	<b>0.162</b>	
P-E	SCAN	ALARM			
<b>MIN:</b>		<b>0.152</b>		START	0.000
<b>MAX:</b>		<b>0.344</b>		DEPTH	0.500
B-SCAN				AGC	21
0.00		0.10		THRESH1	5
0.20		0.30		START	0.007
0.40		0.50		WIDTH1	OFF
0.10		0.20		HOLD2	OFF
0.30		0.40		LOG	CLOSED
0.50		0.10		STEP: 1.0	GN:54.0
0.20		0.30			
0.40		0.50			


I	CAPTURE	IN	U:0.2320	<b>0.391</b>	
P-E	SCAN	ALARM			
<b>MIN:</b>		<b>0.191</b>		START	0.000
<b>MAX:</b>		<b>0.510</b>		DEPTH	0.500
B-SCAN				AGC	21
0.00		0.10		THRESH1	5
0.20		0.30		START	0.007
0.40		0.50		WIDTH1	OFF
0.10		0.20		HOLD2	OFF
0.30		0.40		LOG	CLOSED
0.50		0.10		STEP: 1.0	GN:55.0
0.20		0.30			
0.40		0.50			

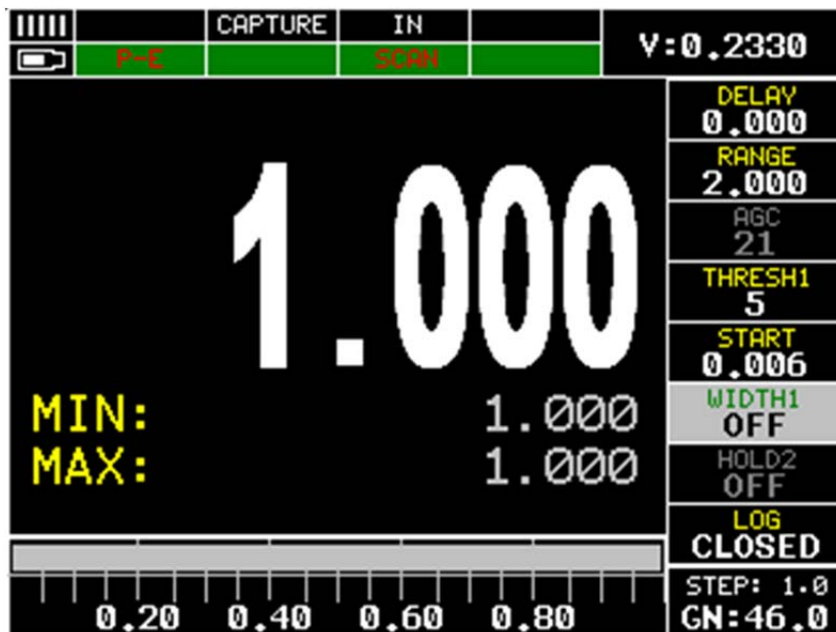
Figure 19 Laminated Pipe Wall

Figure 20 Dirty (inclusions) Steel



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Digits Only Display



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