

# DAKOTA ULTRASONICS

## The **PVX** v2.0

### Precision A-Scan Thickness Gauge

#### Highlights:

- ▶ Powered by a 100MHz DSP platform using FPGA technology.
- ▶ Adjustable 200 volt pulser: 100, 150 & 200 volts.
- ▶ Up to 250 Hz pulse repetition rate (PRF).
- ▶ Variable pulse width (spike, thin & wide).
- ▶ 110dB gain range. Manual and Automatic (AGC), depending on measure mode selected.
- ▶ Time dependent gain (TDG), with variable start and slope.
- ▶ Impedance damping options (35, 50, 75, (300, 600 & 1500).
- ▶ 1/8 VGA 16 layer greyscale display.
- ▶ Display refresh rate at 25 Hz.
- ▶ Transducers: Single, Delay Line & Pencil options.
- ▶ Memory: 4 GB internal SD card.
- ▶ USB-C connectivity.
- ▶ 2 year limited warranty.



SOUND SOLUTIONS

# PVX SPECIFICATIONS

## Physical

### Size:

Width (2.5in/63.5 mm)  
Height (6.5 in/165 mm)  
Depth (1.24 in/31.5 mm)

### Weight:

13.5 ounces (with batteries).

### Keyboard:

Membrane switch pad with twelve tactile keys.

### Operating Temperature:

14 to 140F (-10C to 60C)

### Case:

Extruded aluminum body with nickel-plated aluminum end caps (gasket sealed).

### Data Output:

USB-C port. Windows® PC interface software.

### Display:

1/8in VGA grayscale display (240 x 160 pixels); viewable area 2.4 x 1.8in (62 x 5.7mm); EL backlit (on/off/auto invert).

## Ultrasonic Specifications

### Measurement Modes:

**Pulse-Echo (P-E):** Contact transducers.

**Echo-Echo (E-E):** Contact transducers.

**Echo-Echo Verify (E-EV):** Contact transducers.

**Interface-Echo (I-E):** Delay Line & Pencil transducers.

**Interface-Echo-Echo (I-E-E):** Delay Line & Pencil transducers.

### Pulser:

Square wave pulser with adjustable pulse width (spike, thin, wide).

### Receiver:

Manual or AGC gain control with 110dB range, varies with mode selected. Adjustable damping (35, 50, 75, 300, 600 & 1500 ohms).

### Timing:

Precision TCXO timing with single shot 100 MHz 8 bit ultra low power digitizer.

## Power Source

**Line Power:** USB-C to PC or power outlet.

### Batteries:

Three AA cells. Alkaline - 35 hrs, Nicad - 10 hrs and NI-MH - 35hrs.

Auto power off if idle 5 minutes.

Battery status icon.

## Measuring

### Range:

**Interface-Echo Mode:** Steel .050–1.0 inch (1.27–25.4mm); Plastics from .005 inch (.127mm).

**Interface-Echo-Echo Mode:** Steel .006–.500 inch (.152–12.7mm).

### Pulse-Echo Contact:

Steel .040 in. – 30.0 ft. (1mm – 9.14 M).

### Echo-Echo Contact:

Steel .100–3.0 ft. (2.54–91.44 cm).

### Echo-Echo Verify Contact:

Steel .100–6.0 in. (2.54–152.4 mm).

### Resolution (selectable):

+/- .001 inch (0.01 mm).  
+/- .0001 inch (0.001 mm).

### Velocity Range:

0.0122 to 0.7300 inches/ $\mu$ s  
309.88 to 18542 meters/sec.

Single and Two point calibration option, or selection of basic material types.

### Units:

English & Metric

## Display

### Display Views:

**A-Scan:** Rectified +/- (flaw view) RF (full waveform view). Refresh rate at 25 Hz.

**B-Scan:** Time based cross section view. Display speed variable (10 to 200 readings per second).

**Large Digits:** Standard thickness view; Digit Height: 0.700 in (17.78 mm).

**Scan Bar:** Speed 10 Hz. Viewable in B-Scan and Large Digit views.

**Bar Graph:** Measurement stability.

## Memory

**Log Formats:** Grid (Alpha Numeric), or Sequential (Auto Identifier).

**Capacity:** 4 Gb internal SD card.

**Screen Capture:** Bitmap graphic capture for quick documentation (.tif).

OBSTRUCT to indicate inaccessible locations.

## Transducer

### Transducer Types:

Single Contact, Delay Line & Pencil (1 to 25MHz).

Locking quick disconnect LEMO "00" connector.

Standard 4 foot cable, custom transducers and cable lengths available.

## Features

### Setups:

64 custom user-defined setups.

### Gates:

3 adjustable gates, depending on measure mode selected.

### Alarm Mode:

Set Hi and Lo tolerances with audible beeper and visual LEDs.

### Scan Mode:

Takes 250 readings per second and displays the minimum reading found when the transducer is removed.

## Connections

**Output:** Direct USB-C 1.1 PC connectivity.

**Transducer Connector:** LEMO 00

## Certification

Factory calibration traceable to NIST & MIL-STD-45662A.

## Warranty

2 year limited.



# MADE IN THE USA

Distributed by:



## DAKOTA ULTRASONICS

1500 Green Hills Road, #107

Scotts Valley, CA 95066

Ph: (831) 431-9722

Fax: (831) 431-9723

Website: [www.dakotaultrasonics.com](http://www.dakotaultrasonics.com)

Email: [info@dakotaultrasonics.com](mailto:info@dakotaultrasonics.com)