

# DAKOTA ULTRASONICS

## The PVX

### Precision A-Scan Thickness Gauge

#### Highlights:

- ▶ Adjustable square wave pulser provides the flexibility necessary for both high resolution and penetration requirements.
- ▶ Selectable viewing options provide the user with additional flexibility during operation: (RF waveform, +/- Rectified waveform, and Large Digits with Scan Bar).
- ▶ Time based B-Scan feature displays a cross section of the test material. Displays the profile of the opposite surface of the material.
- ▶ Ability to use a variety of single element transducers for specific applications: Standard Delay Line (acrylic and graphite tips for metals and thin plastics), Pencil Delay Line (tough access areas on thin materials), and Contact transducers (variety of applications).
- ▶ Hardware AGC gain control for multiple echo and thru-paint measurement.
- ▶ Multiple calibration options: One-Point, Two-Point, or selection from a Material List.
- ▶ 16 factory setups and 48 user-defined setups. User-defined setups can be edited for custom applications.
- ▶ PVX is equipped with an alpha-numeric data logger to provide increased versatility for those custom reporting needs.
- ▶ The High Speed Scan feature speeds up the inspection process by taking 32 measurements per second. Remove transducer from the test material and display the minimum measurement scanned.
- ▶ Adjustable resolution settings add to the PVX's flexibility.
- ▶ PVX comes complete with our Windows® PC software for transferring data to and from a PC.
- ▶ Auto Find feature locates the detection point(s) and adjusts the display settings to bring the waveform into view.
- ▶ Visual and audible alarm with Hi and Lo limit settings for specific application tolerances.
- ▶ Multiple language support.
- ▶ 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:

Bi-directional RS232 serial port. Windows® PC interface software.

**Display(Two Options):** 1/8in VGA grayscale display (240 x 160 pixels). Viewable area 2.4 x 1.8in (62 x 45.7mm). EL backlit (on/off/auto). 25 Hz screen refresh rate.

## Ultrasonic Specifications

### Measurement Modes:

**Pulse-Echo** - (General Purpose - uncoated materials).

**Interface-Echo** - (Precision - thick materials).

**Echo-Echo** - (Precision—Thin materials & thru-paint).

### Pulser:

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

### Receiver:

Manual or AGC gain control with 40dB range, depending on mode selected.

### Timing:

40 MHz ultra low power 10 bit digitizer.

## Warranty

2 year limited.



## Power Source

Three 1.5V alkaline or 1.2V NiCad AA cells. Typically operates for 35 hours on alkaline and 10 hours on NiCad (charger not included).

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).

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

### Pulse-Echo Contact:

Steel .040–10.0 inch (1–254mm); Plastics from .010" (.254mm).

### Echo-Echo Contact:

Steel thru-paint .100–3.0 inches (2.54–76.2mm).

### Resolution (selectable):

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

### Velocity Range:

.0492 to .3936 inches/μs.  
1250 to 9999 meters/second.

One and Two Point calibration option, or selection of basic material types.

### Units:

English & Metric

## Display

### Display Views:

**A-Scan** - Rectified +/- (half wave view) RF (full waveform view).

**B-Scan** - Time based cross section view. Display speed of 15 secs per screen.

**Large Digits** - Standard thickness view. Digit Height: 0.400 inch (10mm).

**Scan Bar Thickness** - 6 readings per second; Viewable in B-Scan and Large Digit views.

**Repeatability Bar Graph** - Bar graph indicates stability of reading.

## Memory

12,000 readings and waveforms (alpha numeric storage).

OBSTRUCT to indicate inaccessible locations.

### Memory:

16 megabit non-volatile ram.

## Transducer

### Transducer Types:

Single Element (1 to 20 MHz).

Locking quick disconnect "00" LEMO connector.

Standard 4 foot cable.

Custom transducers and cable lengths available.

## Features

### Setups:

16 factory and 48 custom user-defined setups.

### Gates:

Single gate in contact mode; Single gate with holdoff in inter-face-echo, echo-echo, and plastics mode; Adjustable threshold. Multiple Measurement Modes: Selectable modes for use with a variety of applications.

### Alarm Mode:

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

### Fast Scan Mode:

Takes 32 readings per second and displays the minimum reading found when the transducer is removed. Display continuously updates while scanning.

## Connections

**Output:** RS232 serial interface. PC software & USB converter cable included.

**Transducer Connectors:** Two LEMO 00 connectors.

## Certification

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

MADE IN THE USA

Distributed by:



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