

# THE PVX

## Ultrasonic Precision A-Scan Thickness Gauge

The physical size, weight, and display resolution are just a few of the benefits of the PVX

- R** Adjustable square wave pulser provides the flexibility necessary for both high resolution and penetration requirements.
- R** Selectable viewing options provide the user with additional flexibility during operation: (RF waveform, +/- Rectified waveform, and Large Digits with Scan Bar.
- R** Time based B-Scan feature displays a cross section of the test material. Displays the profile of the opposite surface of the material.
- R** Adjustable resolution settings add to the PVX's flexibility.
- R** 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).
- R** Hardware AGC gain control for multiple echo and thru-paint measurement.
- R** Multiple calibration options: One-Point, Two-Point, or selection from a Material List.
- R** 16 factory setups and 48 user-defined setups. User-defined setups can be edited for custom applications.
- R** PVX is equipped with an alpha-numeric data logger to provide increased versatility for those custom reporting needs.
- R** 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.
- R** Visual and audible alarm with Hi and Lo limit settings for specific application tolerances.
- R** Auto Find feature locates the detection point(s) and adjusts the display settings to bring the waveform into view.
- R** PVX comes complete with our Windows PC software for transferring data to and from a PC.
- R** 2 year limited warranty.

## 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 140°F (-10°C to 60°C)

**Case:**

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

**Data Output:**

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

**Display:**

1/8in. VGA grayscale display (240 x 160 pixels). Viewable area 2.4in. x 1.8in. (62m. x 45.7mm). EL backlit (on/off/auto).

### Ultrasonic Specifications

**Measurement Modes:**

Pulse-Echo (Precision—General purpose).  
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 with ultra low power 8 bit digitizer.

### Warranty

2 year limited



### Power Source

Three 1.5V alkaline or 1.2V NiCad AA cells.

Typically operates for 150 hours on alkaline and 100 hours on NiCad (charger not included.)

Auto power off if idle 5 min.

Battery status meter.

### Measuring

**Range:**

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

**Echo-Echo Mode: Steel** .006in.–.500in. (1mm–12.7mm).

**Pulse-Echo Contact:** Steel .040in.–10.0in. (1mm–254mm).  
Plastics from .010" (.254mm).

**Echo-Echo Contact:** Steel thru-paint .100in–3.0in. (2.54mm–76.2mm).

**Resolution** (selectable):  
+/- .001 in. (0.01 mm)  
+/- .0001 in. (0.001 mm)

**Velocity Range:**

.0492 to .5510 inches/μs  
1250 to 9999 meters/sec

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 in. (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.

### Data Logger (Internal)

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 interface-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.

### Certification

Factory calibration traceable to national standards.