

# DAKOTA ULTRASONICS

## 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

- ▶ 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.
- ▶ Adjustable resolution settings add to the PVX's flexibility.
- ▶ 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.
- ▶ Visual and audible alarm with Hi and Lo limit settings for specific application tolerances.
- ▶ Auto Find feature locates the detection point(s) and adjusts the display settings to bring the waveform into view.
- ▶ PVX comes complete with our Windows® PC software for transferring data to and from a PC.
- ▶ 2 year limited warranty.

## 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:  
 14úto 140úF (-10úC to 60úC)  
 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).  
 Pulsar:  
 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 .010ú(.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/úS  
 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- Standar thickness view . Digit Height: 0.400 in. (10mm).  
 Scan Bar Thickness - breadings 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 Type:  
 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.

Distributed by:



## MKCKOREA

#1206, KICOX Venture Center, 188-5 Guro-dong, Guro-gu, Seoul, Korea  
 TEL: 02.804.3600  
 FAX: 02.893.0498  
 WEB SITE: www.mkckorea.com  
 E-MAIL: ndt@mkckorea.com