

# DAKOTA ULTRASONICS



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## MVX<sub>v2.0</sub>

### A/B Scan Ultrasonic Thickness Gauge

- ▶ Powered by a 100MHz DSP platform using FPGA technology.
- ▶ 1/8" VGA grayscale display (240 x 160 pixels). Screen Refresh rate of 25 Hz.
- ▶ Manual or AGC gain, depending on measure mode selected (50 dB gain range).
- ▶ Linear time dependent gain (TDG). built into each transducer type.
- ▶ Display views: RF, +/- Rectified, B-Scan (cross section), or Large Digits.
- ▶ Two independent gates.
- ▶ Measure modes: (P-E) pulse-echo (flaws & pits) and (E-E) echo-echo (thru-paint).
- ▶ Dual element style transducers.
- ▶ Memory: 4 gigabyte internal SD card.
- ▶ Windows® PC & OSX interface software.
- ▶ USB-C connectivity.

SOUND SOLUTIONS

# MX SPECIFICATIONS

## Physical

### Weight:

13.5 ounces (with batteries).

### Size:

2.5 W x 6.5 H x 1.24 D inches  
(63.5 W x 165 H x 31.5 D mm).

### Operating Temperature:

-14° to 140°F (-10° to 60°C).

### Keyboard:

Membrane switch with twelve tactile keys.

### Case:

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

### 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 (flaws, pits).

Echo-Echo (thru-paint).

### Pulser:

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

### Receiver:

Manual or AGC gain control with 50dB range, depending on mode selected.

### Timing:

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

**Pulse Repetition Frequency** - 250 Hz.

## 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:** Indicates stability of measurement.

## 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:

**Pulse-Echo Mode (P-E)** - (Pit & Flaw Detection) measures from 0.025 in. to 100 ft. (0.63 mm to 30.48 M).

**Echo-Echo Mode (E-E)** - (Thru Paint & Coatings) measures from 0.100 to 6.0 in (2.54 to 152.4 mm). Range will vary +/- depending on the coating.

**Resolution:** +/- .001 inches (0.01 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

## Transducer

### Transducer Types:

Dual Element (1 to 10 MHz).

Locking quick disconnect LEMO "00" connectors.

Standard 4 foot cable.

Custom transducers and cable lengths available for special applications.

## Memory

### Data Structure:

Grid (alpha numeric)

### Screen Capture:

Bitmap graphic capture for quick documentation (.tif).

**OBSTRUCT** to indicate inaccessible locations.

### Capacity:

4 Gb internal SD card.

### Data Output:

USB-C 1.1 to PC & OSX connectivity.

## Features:

### Setups:

64 custom user-definable setups; Factory setups can be edited.

### Selectable Transducers:

Selectable transducer types with built-in dual path error correction for improved linearity.

### 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.

## Certification

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

## Warranty

2 year limited



MADE IN THE USA

Distributed By:

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