

## The CMX DL+

A/B Scan Material & Coating Thickness Gauges



## The Ultimate in Portable Inspection!

- ▶ Powered by a 100MHz DSP platform using FPGA technology.
- ▶ Display Options: Grayscale 1/8 VGA, or AMOLED color 1/4 VGA.
- ▶ Two Channels—Dual pulsers and receivers.
- ▶ Up to 140Hz pulse repetition rate.
- ▶ Screen refresh: B&W 25 Hz, Color 120 Hz.
- ▶ Adjustable gain: -30 dB to 70 dB range.
- ▶ Automatic gain control (AGC).
- ▶ Time corrected gain (TCG).
- ▶ Massive data storage (32 Megabit of non-volatile RAM).

## Physical

### Size:

Width (2.5 in/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<sup>®</sup> PC interface software.

### Display (Two Options):

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

1/4 VGA AMOLED color display (320 x 240 pixels). Viewable area 1.7 x 2.27 in (43.2 x 57.6 mm). 120 Hz screen refresh rate.

## Ultrasonic Specifications

### Measurement Modes:

**Coating Off:** Pulse-Echo (P-E)

**Coating On:** Pulse-Echo Coating (PECT)

**Temp Comp:** Pulse-Echo Temperature Compensation (PETP)

**Thru-Paint:** Echo-Echo (E-E)

**Thru-Paint Verify:** Echo-Echo Verify (E-EV)

**Coating Only:** Coating (CT)

### Pulser:

Dual square wave pulsers.

### Receiver:

Dual receivers—manual or AGC gain control with 100 dB range. Adjustable damping with color option.

### Timing:

Precision 25 MHz TCXO with single shot 100 MHz 8 bit ultra low power digitizer.

## Warranty

2 year limited

## Power Source

Three 1.5V alkaline or 1.2V NiCad AA cells.

Alkaline: grayscale up to 50 hours, and color up to 25 hours.

Nicad: grayscale up to 25 hours, and color up to 12 hours (charger not included).

Auto power off if idle 5 min.

Adjustable Dim feature for color display only. Power saving.

Battery status icon.

## Measuring

**Pulse-Echo Mode (P-E)**—(Pit & Flaw Detection) measures from 0.025 to 19.999 inches (0.63 to 508 millimeters).

**Pulse-Echo Coating Mode (PECT)**—(Material, Coating, Pit & Flaw Detection): Material: 0.025 to 19.999 inches (0.63 to 508 millimeters). Coating: 0.001 to 0.100 inches (0.01 to 2.54 millimeters).

**Pulse-Echo Temp Comp Mode (PETP)**—(Pit & Flaw Detection) Auto temperature compensation -measures from 0.025 to 19.999 inches (0.63 to 508 millimeters).

**Echo-Echo Mode (E-E)**—(Thru Paint & Coatings) measures from 0.050 to 4.0 inches (1.27 to 102 millimeters). Range will vary +/- depending on the coating.

**Echo-Echo Verify (E-EV)**—(Thru Paint & Coatings) measures from 0.050 to 1.0 inches (1.27 to 25.4 millimeters). Range will vary +/- depending on the coating.

**Coating Only Mode (CT)**—(Coating Thickness) Measures from 0.0005 to 0.100 inches (0.0127 to 2.54 millimeters). Range will vary +/- depending on the coating.

**Resolution:** +/- 0.001 inches (0.01 mm)

**Velocity Range:**  
0.0492 to 0.5510 in/ms  
1250 to 13995 meters/sec

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

**Units:** English & Metric

## Certification

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

## Display

**Large Digits**—Standard thickness view. Digit Height: 0.700 inches (17.78 millimeters). Color 0.565 in (14.35 mm).

**A-Scan**—Rectified +/- (flaw view) RF (full waveform view).

**B-Scan**—Time based cross section view. Adjustable display speed.

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

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

**Feature Status Bar**—Indicates features currently active.

## Data Storage

### Log Formats:

Grid (alpha numeric)  
Sequential (auto identifier)

### Cell contents:

**Graphics On:** Grayscale 16,000 & Color 8,000 readings, A/B Scan image, & gauge settings for every reading.

**Graphics Off:** 210,000 readings (coating, material, min & max)

OBSTRUCT to indicate inaccessible locations.

## Transducer

### Transducer Types:

Dual Element (1 to 10 MHz).  
Flaw Prove Up (1 to 10 MHz).

LEMO "00" connectors.

Standard 4 foot cable.

Custom transducers and cable lengths available for special applications.

## Additional Features

Auto probe zero, recognition and temperature compensation.

64 custom setup configurations.

High speed scan up to 50 readings per second.

Audible alarm with hi/lo limits.

Built-in differential mode for QC inspections..



MADE IN THE USA

Distributed by:



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