

**Quick Start Guide**

**EHC-09B/EHC-09/EHC-09DL  
Ultrasonic  
Thickness Gages**

**Software version 1.0**



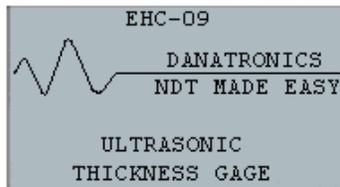
## 1. Installing Batteries

In order to install batteries in any of EHC-09 series unit, open the battery door at the bottom left of the unit. Slide in two AA batteries with positive terminal of both batteries facing towards top of the unit. Close the battery door tight enough so that the batteries make contact with both the battery terminals.

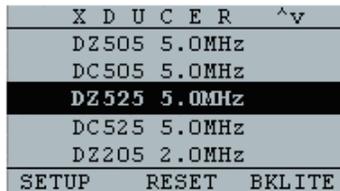
## 2. Powering ON/OFF

To power ON the unit press and hold the F1 key for about three seconds. The LCD will display the company information briefly and then go to transducer selection screen. These two screens are as shown below. To turn off the unit press and hold the F1 key for about three seconds. The LCD will briefly display the company information with a 'counting down' clock and then turn off.

NOTE: If the gage is set up for right hand operation, the F1 and F3 display prompts will be reversed.



Company information screen

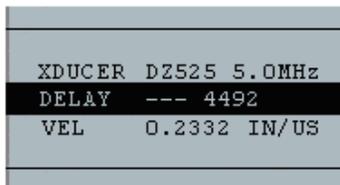


Transducer selection screen

## 3. Selecting transducer and performing Auto Zero

A new transducer can be selected from the Transducer selection screen which appears after the device powers on. The transducer selection screen can also be accessed from the Measure mode by pressing Menu/OK key and then selecting the Setup option using the up and down arrow keys. You can then select the Xducer option from the Setup screen and press OK to go to the transducer selection screen.

While in the transducer selection screen, go to the transducer option that matches the part number on the actual transducer by pressing up or down arrow keys. If you are using non-listed vendor transducer at 5.0 MHz, select 'User 5 MHz' option. Then press OK key to select the highlighted transducer. The unit will briefly display a 'Wipe off Couplant' instruction and then perform an Auto Zero. During Auto Zero, the unit will show a 'Performing Auto Zero' sign. It will then briefly display the delay line and velocity values as shown below before going to the Measure mode.



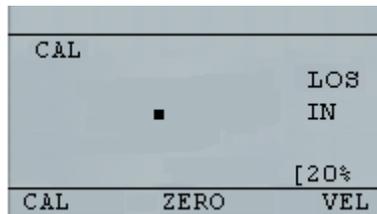
Example of Velocity and Zero values after Auto zero

#### 4. Calibrating the gage

Calibrating is the process of adjusting the gage for a specific material and transducer before testing the material to make sure that all measurements are accurate. You must always calibrate before measuring material for standard accuracy. The following steps show how to perform velocity cal, zero cal, velocity and zero cal and delay-line cal. You will require a test step block of known thicknesses to perform accurate calibration.

##### a. Velocity Calibration Only

To perform any calibration, first go to the measure mode and press Menu/OK. Then go to the Cal option in the Menu screen and press OK. The following Cal mode screen should appear. To exit the cal screen without performing any calibration, press OK. To proceed to velocity cal, follow the following instructions.



Cal screen for non-datalogger version

While measuring the thicker step, select VEL by pressing F3. After selecting VEL, you can take the transducer off the test block. If the displayed measurement is different than the known value of the step, use the up or down arrow key to adjust the displayed value to the known value of the step. Press OK to perform the calibration. The unit will briefly display the calibrated velocity value in the top of the screen and then return to measure mode.

##### b. Zero Calibration Only

To perform a zero calibration, go to the Cal mode as shown in part a. Then while measuring the thinner step, select ZERO by pressing F2. After selecting ZERO, you can take the transducer off the test block. If the displayed measurement is different than the known value of the step, use the up or down arrow key to adjust the displayed value to the known value of the step. Press OK to perform the calibration. The unit will briefly display the calibrated zero value in the top of the screen and then return to measure mode.

##### c. Velocity and Zero Calibration

To calibrate both: velocity and zero at the same time, first go to the Cal mode as shown in part a. While measuring the thicker step, select VEL by pressing F3. After selecting VEL you can take the transducer off the test block. If the displayed value is different than the known value of the step, adjust the value by pressing up or down arrow keys and press F1/CAL. Then while measuring the thinner step select ZERO by pressing F2. After selecting ZERO you can take the transducer off the test block. If measured value is different than the known value of the step, adjust the measured value by pressing up or down arrow key and then press OK. The unit will briefly display the calibrated zero value and then return to Measure mode. Note that the order of Velocity and Zero calibration could be reversed. If Velocity calibration is performed after Zero calibration, the calibrated velocity value will be displayed at the end of the calibration process.

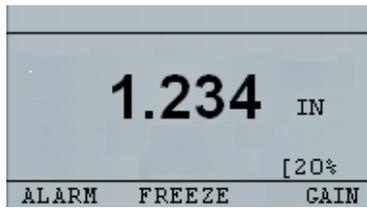
##### d. Delay Line Calibration

Delay line calibration is done every time the thickness gage is powered on and a transducer is selected, or when a different transducer is selected during normal operation. Please see section 3 above for instructions on Delay line calibration which is the same as performing an Auto-zero.

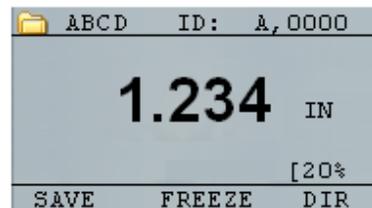
NOTE: Once any of the above calibrations is performed, verify the accuracy of the readings using the test step block.
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## 5. Taking measurements

Once an Auto-zero is performed on the selected transducer, the unit automatically goes to the measure mode as shown below.



Measure mode without datalogger



Measure mode with datalogger

To take thickness readings, the user can simply apply the couplant to the surface and put the transducer to measure thickness. Depending on the parameter settings, the display may show other parameters. For more detailed information on Measure mode, please refer to the EHC-09 series User's Guide on the CD provided with the gage.

## 6. Changing the parameter settings

The following is a list of available parameters:

GAIN	LOW dB
FAST	OFF
BKLIGHT	OFF
ALARM	OFF
VEL	0.2332 IN/US
XDUCER	DZ525 5.0MHz
UNITS	IN
HOLD	OFF
DIFF	OFF
LOCK	OFF
NOTES	OFF
D-BASE	OFF
E-TO-E	OFF
BSCAN	OFF
USER	LEFT HAND
CLOCK	10:10 AM

To change any parameter settings press Menu/OK and then go to the Setup option by pressing up or down arrow keys. Press OK to go to the Setup screen. The Setup screen should list the parameters as shown above. Go to the desired parameter from the list by pressing up or down arrow keys. You can change the settings for that parameter directly from the Setup screen by pressing the left and right arrow keys. Otherwise you can press OK to list all the settings for that parameter on a new screen and then go to the desired setting from the list and press OK. The display will return to Setup screen with the new setting. For more detailed information on parameter settings, please refer to EHC-09 series User's Guide on the CD provided with the gage.