

Copyright Information

Version 70305 Copyright© 2007 Intelametrix™

All rights reserved. No parts of this book may be reproduced in any form by electronic or mechanical means, including information storage and retrieval systems, without the permission of the publisher.



BodyMetrix 2D

Users Guide

IMPORTANT SAFETY INSTRUCTIONS

The intended use of the BX2000 device is to measure the thickness of tissue layers when plugged into a standard USB computer port. The BX2000 should not be used for anything other than its intended use.

Environment

Operating Temperature: 0 to 60 degrees Celsius
Operating Humidity: 5% - 95%
Operating Altitude: 0 – 3500 meters

Power Requirements

5V at 500 mAmps

Table of Contents

Copyright Information	2
Table of Contents	3
About Us:	4
Contact Information:	4
System Requirements	5
Installing the BodyView™ 2D Software	6
Using BodyView 2D Software.....	7
Getting Started	7
Example Screen and Features	8
Interpreting the A-Scan Graph.....	9
Interpreting the B-Scan Image.....	10

About Us:

The Intelametrix Mission

Intelametrix™, Inc. is a technology company whose mission is to design, develop and market state-of-the-art assessment tools for the health, fitness and wellness industries to promote healthier lifestyles for everyone.

Intelametrix History

Intelametrix is the result of the dedication of its founders to health and fitness and the belief that technology and innovation in measuring and monitoring health not only allows for timely intervention, but will motivate and sustain a long term commitment to physical activity, proper nutrition and healthier lifestyles.

Intelametrix Future

Intelametrix is dedicated to the research, development and manufacture of wellness products and is currently working on other exciting innovations utilizing technology for the fitness, wellness and weight loss industries. **Intelametrix** has plans to introduce new **BodyMetrix™** products in the near future, such as, medically-based, PDA-based and home versions."

Contact Information:

Intelametrix

Intelametrix Inc.
6246 Preston Ave.
Livermore, CA 94551
Tel: +1 (925) 606-7044
Fax +1 (925) 371-3903
Visit Our Web Site: www.intelametrix.com
For Information E-mail: info@intelametrix.com

System Requirements

- Windows XP operating system
- Minimum of 256 MB of RAM, 512 MB recommended
- 1024 x 768 display
- CD ROM Drive
- 1 USB port

Installing the BodyView™ 2D Software

Turn your computer on and wait for the Windows XP operating system to complete initialization. Insert the BodyView™ CD into the CD tray and wait for the Setup Wizard to appear. If the Setup Wizard dialog does not appear, click on the CD to open it and launch Autorun.exe by double clicking on the icon.



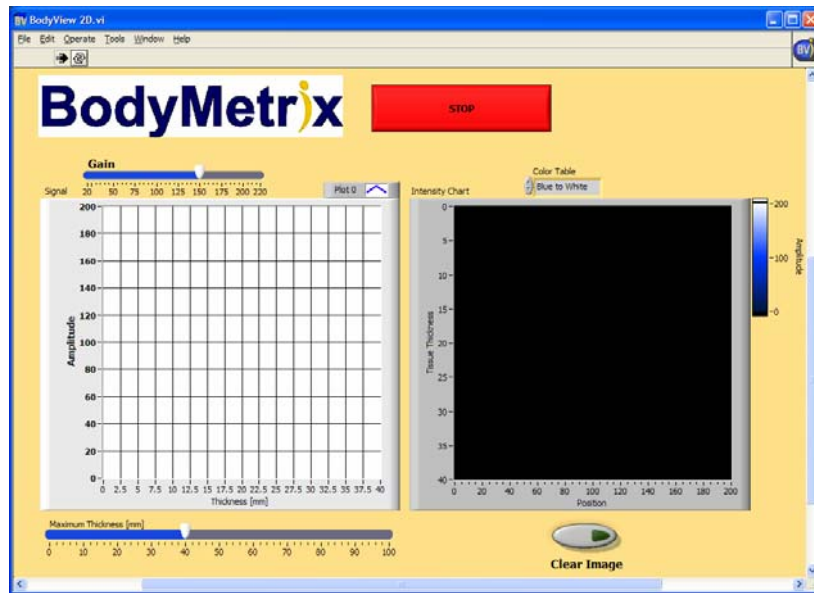
When you launch the software you may come across an “Open File – Security Warning” go ahead and click “Run” to continue.



Using BodyView 2D Software

Getting Started

Plug the BX2000 device into the USB port and Launch BodyView 2D by selecting the BodyView 2D program in the Windows XP Start Menu. The **following** screen will appear and you are ready to begin.

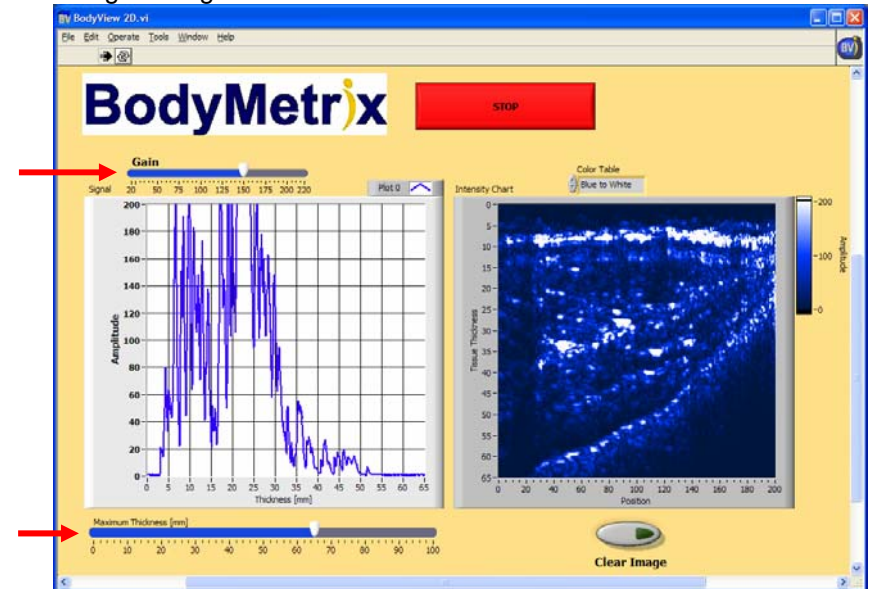


Apply ultrasound gel and spread it over the area that you would like to image. Apply the BX2000 lightly against the tissue and slide the device along the path to be imaged to ensure good contact and smooth motion. Now slide the device to the starting position, press the button on the BX2000 and simultaneously slide the device along the tissue section to image. At this point you should be seeing signal on the A-Scan graph on the left and a cross-sectional image will form on the image on the intensity chart on the right.



Example Screen and Features

The screen image below shows the screen after scanning the device along the thigh of a male.



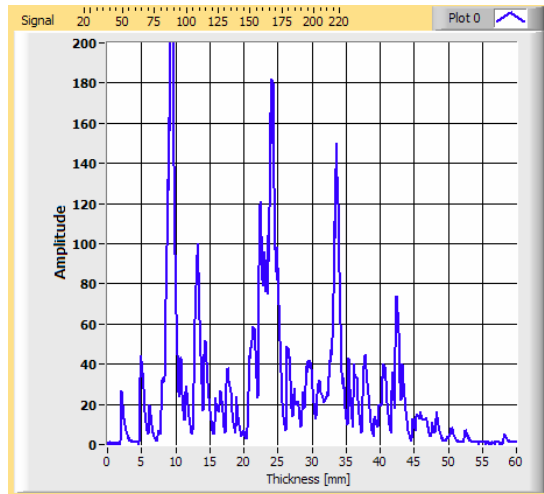
The A-Scan graph on the left shows the ultrasound signal along the ultrasound beam path at the end of the scan. The sharp increase in signal at 5 mm is the fat – muscle interface. On the right side you can see the cross-sectional view along the thigh starting at the center of the thigh and moving towards the knee. See sections below for more explanation.

On the window you will also see two slide controls (→), one for **Gain**, the other for **Maximum Thickness**. The **Gain** control can be used to increase the signal/sensitivity near the skin surface or deep tissue layers, as shown it is set to 150 which is the default. A general guideline is that the gain should be adjusted so that the maximum intensity at the depth of interest is greater than 180. The **Maximum Thickness** control determines the maximum depth that is displayed, as shown it is 65 mm.

Other controls include **Clear Image** button which when pressed clears the cross-sectional image on the right hand side. A **Color Table** control that allows you to change the color scale used in the image. Finally, a **STOP** that should be pressed when you are finished imaging. To close BodyView 2D first press **STOP** and then click on close X on top right corner (or menu).

Interpreting the A-Scan Graph

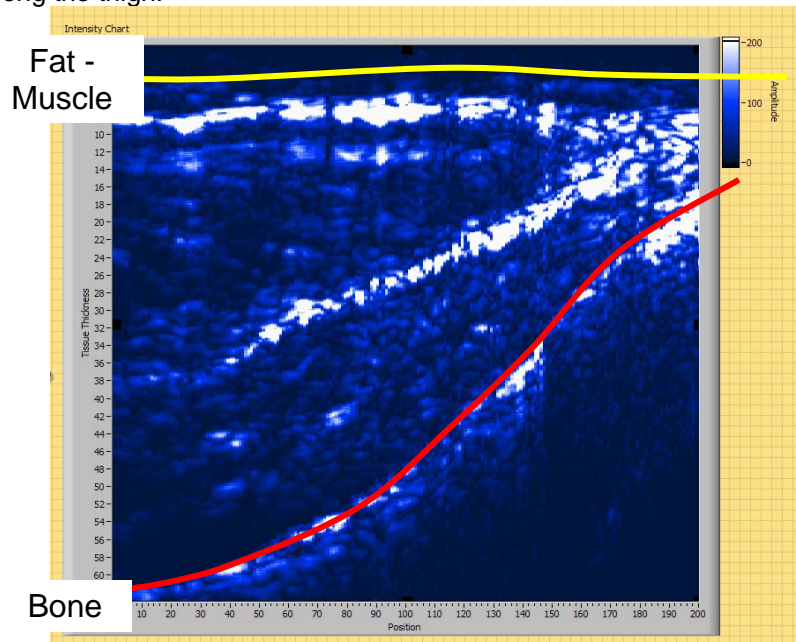
The A-scan graph on the left of the screen shows the ultrasound signal along a straight beam that is emitted by the BX2000. The y-axis is the amplitude of the reflected signal. Strong ultrasound reflections occur when the impedance of tissue changes. For example, at the interface between fat and muscle, or fascia and muscle, or muscle and bone. At the ultrasound frequencies of the BX2000 it is not possible to image into bone so in most cases the last strong signal is the reflection from bone. In the graph below we show the A-scan at the abdomen. The total thickness of fat is approximately 23 mm and corresponds to the 2nd strong peak at 23 mm. The 1st peak at approximately 9 mm corresponds to a thin fascia layer that separates the abdominal fat.



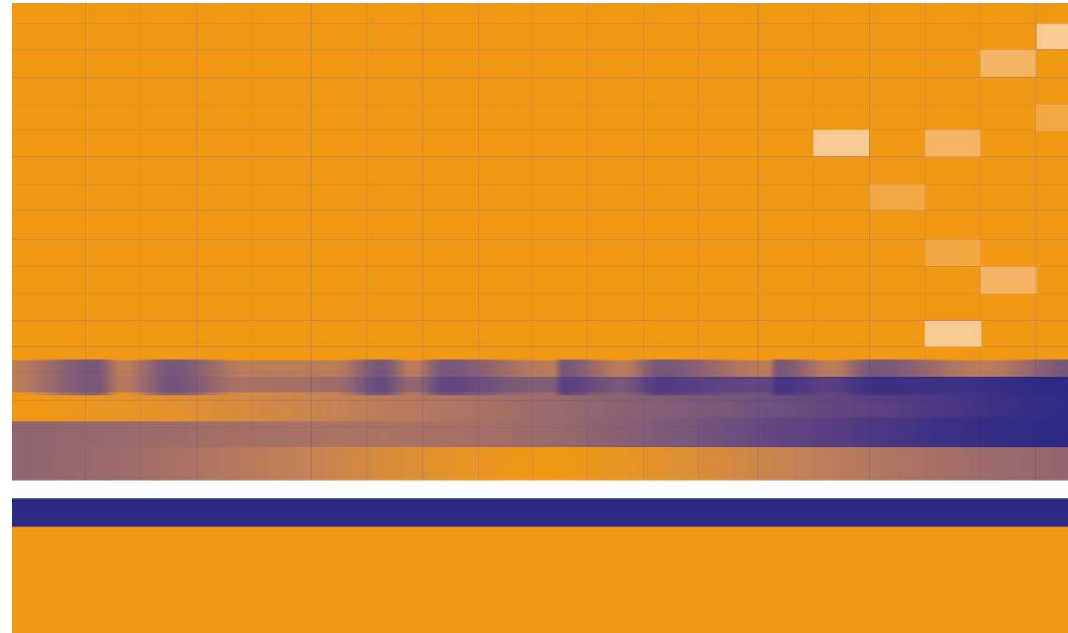
Interpreting the B-Scan Image

The B-scan image is produced by sliding the BX-2000 along the skin with the measure button pressed. Below is an example image taken by sliding the BX-2000 along the thigh of a male. The vertical scale is depth and the horizontal scale is position. Note that the horizontal scale is relative and how linear or accurate it is depends on how uniformly the device is moved along the surface. With practice good images can be produced.

The images should be interpreted as a cross-sectional view through the tissue. In the image below the first bright band at a depth of approximately 8 mm is the interface between the fat and muscle. The bright band that starts at a depth of 63 mm and moves toward 20 mm at the end of the scale is the interface between muscle and bone along the thigh. Note that the final position is near the knee and that is why the total thickness decreases as the device is moved along the thigh.



Notes



IntelaMetrix

Version 70305

IntelaMetrix™ - The Technological Edge in Health and Fitness