VivoMetrics®
Government Services
MONITORING LIFE®

The VivoResponder™
System Manual

VivoMetrics®

Welcome to the VivoResponder™ System

Congratulations!

You have purchased the world's most advanced life-sign monitoring system. Follow these easy steps to set-up and start gathering real-time life-signs.

Administrators

Read the entire Set-Up Guide to learn how to install VivoCommand Software and the VivoResponder™ Network.

Users

If you only need to learn how to put on a VivoResponder™ System:
- » Check the contents of your Kit on the next page, then
- » Skip to **page 11**- Put on the VivoResponder™

VivoMetrics Customer Support

Telephone:	800-631-4445 (inside U.S.A.)
	805-667-2225 (outside U.S.A.)
Fax:	805-667-6646
Email:	help@vivometrics.com

⚠️ CAUTION: If user has a pacemaker, it is necessary to consult with his/her physician and/or the pacemaker manufacturer prior to use of the VivoResponder™ to ensure that it will not interfere with the proper functioning of the pacemaker.

⚠️ CAUTION: If user has a pacemaker, pacemaker pulses will count as heartbeats.

NOTE: The VivoResponder™ is not for use in medical applications. Before starting any strenuous exercise, user should always consult his/her physician.

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Government Services
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Set-Up Guide

The VivoResponder™ Kit

**VivoResponder™
Attaché Case**

**VivoResponder™
Chest Strap**

**VivoResponder™ Base Station USB RX
with USB Cable**

**VivoResponder™ Sensor
Module RX**
(Shipped INSIDE the Holster)

Holster with Belt Clip

Battery Charger

**VivoResponder™
Shoulder Strap**

Wash Bag

Polar Wearlink *(removable)
Factory-installed
in the Chest Strap*

CD and Set-Up Guide

VIVORESPONDER™

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ADMINISTRATOR—STEP 1: Software Installation

1. To use the VivoResponder™ System, you will need a PC running Windows 2000 or XP.

2. Locate the Installation CD that came with your kit and insert it into your disc drive. (*If you do not have a disc drive, please call customer service at 800-631-4445 and let them know that you need to perform your VivoResponder™ installation without the CD.*)

3. The Installation CD will contain files to be used in Steps 2 and 3 of this guide.

4. VivoMetrics sent you a username and password via email. This information can be used to access the VivoMetrics Software Download Site (www.vivometrics.com/downloads) and to receive periodic software and /or reference manual updates.

   You will be notified by VivoMetrics via email when to visit the site for updates. If you have not received your welcome email or if you have misplaced your user name and password please call Customer Service at 800-631-4445.

5. Now you are ready to set-up the VivoResponder™ System in four simple steps:

   Step 2: Set-Up Base Station USB RX

   Step 3: Install VivoCommand Software

   Step 4: Put on the VivoResponder™

   Step 5: Collect Life-Sign Data

STEP 2: Set-Up Base Station USB RX

Real-time life-sign data from the VivoResponder™ System is transmitted to a Base Station that is connected to your PC using a USB or ethernet port. If you are using ethernet skip Step 2 and contact your IT group.

USB Connector

Base Station RX Connector
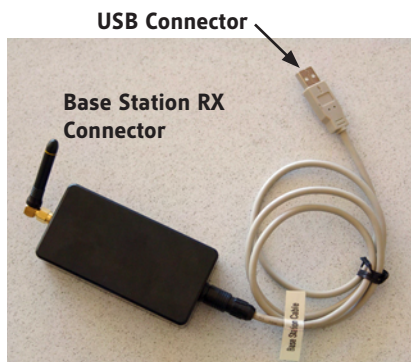
INSTALL THE USB DRIVERS:
This is a <u>one time only</u> procedure.

1. If the Base Station is plugged into a USB port on your computer unplug it.

2. Close all open applications on your computer.

3. On the CD, there is a file called "USB Drivers" with a version number. Double click on it and accept prompts to install, clicking **<next>** or **<OK>**.

4. Check the Base Station USB RX and make sure the USB cable is connected to it.

5. Plug the USB connector into any available USB port on your PC.

6. The Add New Hardware Wizard occurs twice during this step. This is correct.

    A. When your PC senses the new hardware, the Add New Hardware Wizard will open.

        1. Select *no, not this time* click **<next>**

        2. Select *install* from list or specific location click **<next>**

        3. Check *include this location in the search* and browse to: c:\Silabs\MCU\CP210x\WIN2k_XP, click **<next>**

        4. Click **<finish>**

    B. When the Add New Hardware Wizard opens for a second time repeat the same steps:

        1. Select *no, not this time* click **<next>**

        2. Select *install* from list or specific location click **<next>**

        3. Check *include this location in the search*. It should auto-fill to: C:\Silabs\MCU\CP210x\WIN2k_XP click **<next>**

        4. Click **<finish>**

**You have completed the Base Station USB RX set-up.**

Operation Complete 👍

STEP 3: Install VivoCommand Software

1. VivoCommand Software can be installed on any PC running Windows 2000 or XP.

2. Close all open windows on your computer.

3. On the CD there is a file called "VivoCommand 300" with a version number. Double click on it.

4. Follow the prompts to install.

5. When VivoCommand installation is completed, an icon is placed on the Desktop. Double click on it. The program takes a moment to load.
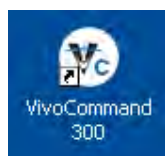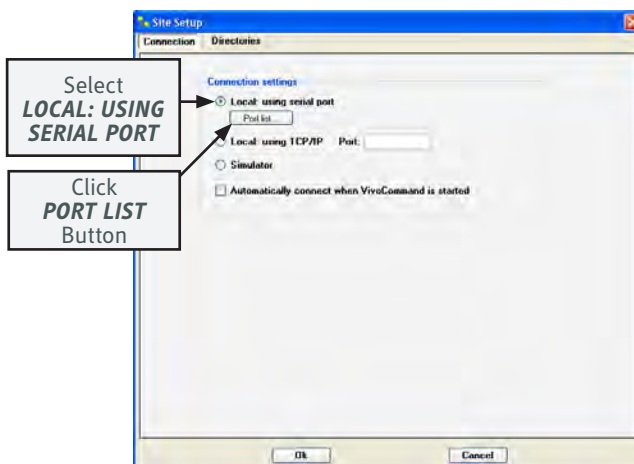

6. The *Main Session* screen will open and looks like the picture below.
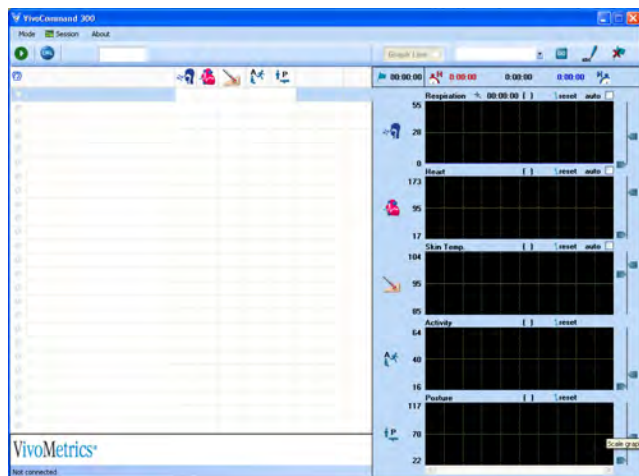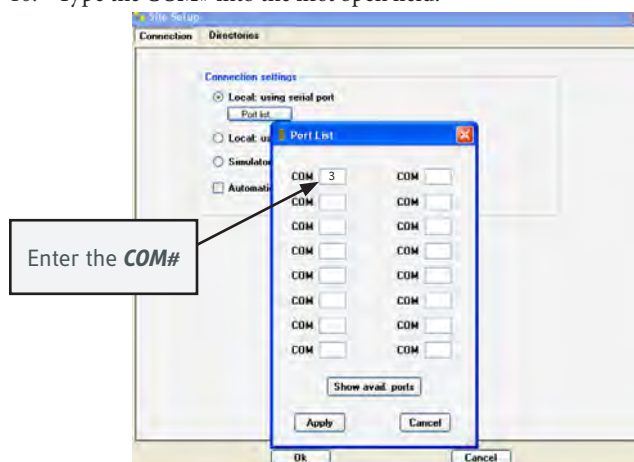

7. Click on **<Mode>**, then on *Site Setup*.
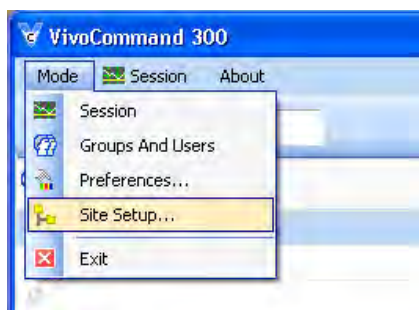
8. The *Site Setup* pop-up will appear in the middle of the screen. The *Connection* tab will be displayed. Select *Local: using serial port*. Click the **<Port List>** button.

Select *LOCAL: USING SERIAL PORT*

Click *PORT LIST* Button

9. A window will open as shown below. Click **<Show avail ports>** which will open a pop-up. Jot down the COM#(s) then click **<OK>**.

Click *SHOW AVAIL PORTS* to find open *COM#(s)*

COM#(s)
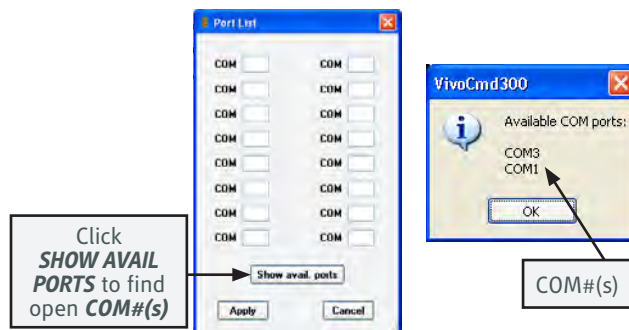
10. Type the *COM#* into the first open field.

Enter the *COM#*

11. Click **<Apply>**, then **<OK>** to save the Port List.

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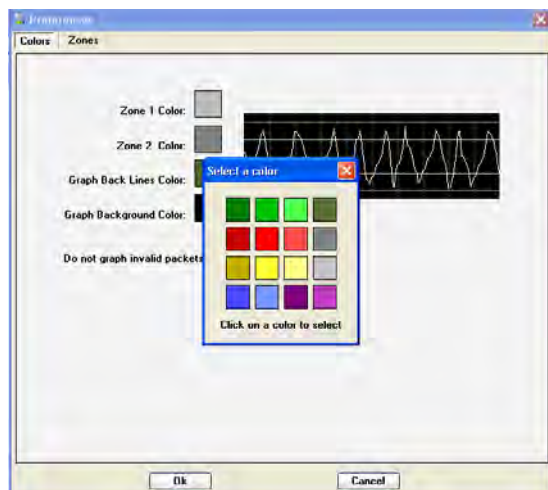# STEP 3: Install VivoCommand Software

12. Click on **<Mode>** on the *Main Session* screen and then choose *Preferences.*
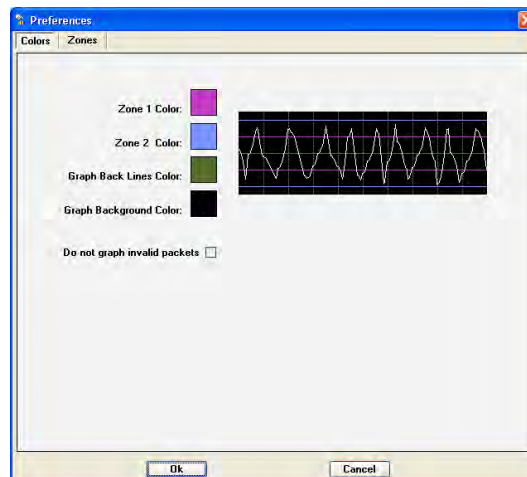

13. Click the **<Colors>** tab. The default Zone colors are light and dark gray.
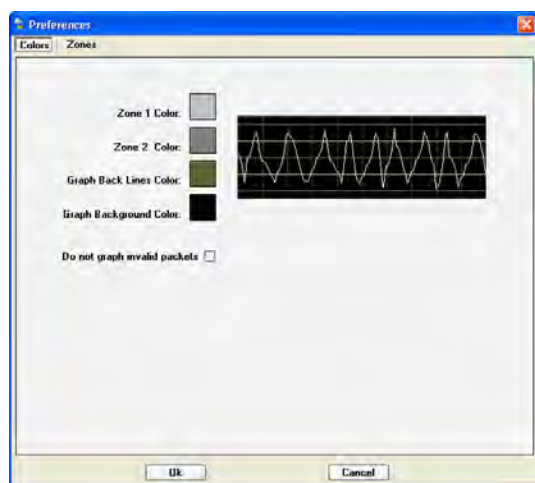
14. To change the Zone colors, click on the gray square and a pop-up will appear. Choose desired Zone colors. *Graph Back Lines* and the *Graph Background Color* can also be customized.

15. In this manual, the colors purple and light blue have been chosen as the default Zone colors. Click **<OK>**.

16. Click on the *Zones* tab in the pop-up window. The maximum and minimum values for each of the five parameters—*Respiration, Heart Rate, Skin Temperature, Activity and Posture*—are the preset *Default Zone Values.*

NOTE: The *Zone Values* input into these fields will automatically be inserted when a new user is added. A user's parameter cell will change color if a defined Zone Value is reached. Zones are described in detail in the VivoCommand Software Manual.

STEP 3: Install VivoCommand Software

To set Zone Values based on an individual's physiologic profile, it is recommended that the following references be consulted:

http://www.acsm.org/Content/NavigationMenu/News/Other-media/BooksCDs/Books_and_Multimedi.htm

ACSM's Guidelines for Exercise Testing and Prescription, Seventh Edition

(ISBN: 0-7817-4506-3)

Recommended for ACSM Certification Examinations!

The single most internationally read and referenced text in sports medicine, exercise science, and health and fitness. This manual succinctly summarizes recommended procedures for exercise testing and exercise prescription in healthy and diseased individuals. The Seventh Edition contains the most current public health and clinical information and state-of-the-art, research-based recommendations. Coverage represents the fundamental knowledge, skills, and abilities (KSAs) that must be mastered by candidates for all ACSM certifications.

Written by international experts in numerous fields, the Seventh Edition covers additional topics including arthritis, osteoporosis, dyslipidemia, immunology, and metabolic syndrome.

To order: Call the ACSM Certification Resource Center at Lippincott Williams & Wilkins at 1-800-486-5643 (outside the U.S. call 410-528-4185)

Also see:

Maryland Fire and Rescue Institute and Center for Firefighter Safety Research and Development report, "Health and Safety Guidelines for Firefighter Safety"

http://www.mfri.org/fireresearch/hsg/healthandsafetyguidelines.pdf

See table on page 63 of the report (page 64 of the PDF)
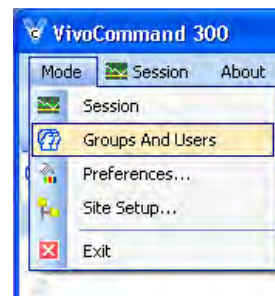
17. In this manual, the following Zone Values have been set and are used as an example of how to set Defaults and Zone Values.

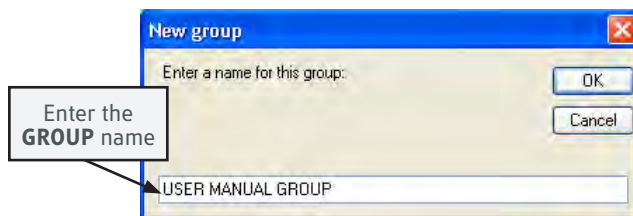Click **<OK>**. Default colors and Zone Values are now set.

18. Click on **<Mode>** on the *Main Session* screen and then choose *Groups and Users*.

19. You are now on the *Groups and Users* screen shown below:
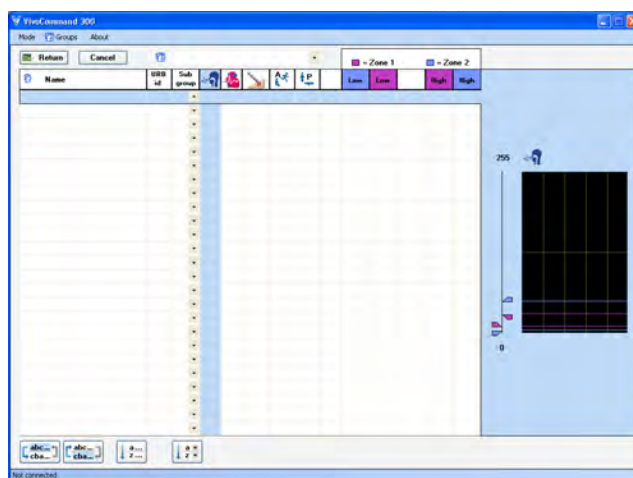
20. Choose **<Groups>** and then *New Group*. A pop-up window appears with a field to enter the name of the group. Enter the *Group* name in the *New Group* popup window, and then click **<OK>**.


Enter the **GROUP** name

STEP 3: Install VivoCommand Software

21. Double click on the top cell below the NAME cell and enter name. (Default physiological thresholds automatically appear when you enter name.) Press **<Enter>** on your keyboard.


Enter name in the **NAME** cell

Group Name

Zone Values
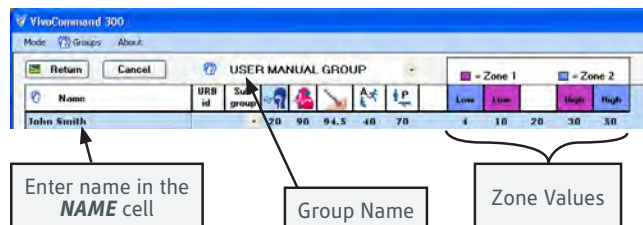
22. Enter the URB id – the radio identifier printed on the outside of the Sensor Module RX.

URB id is on back of Sensor Module RX

Enter URB id found on back of Sensor Module RX
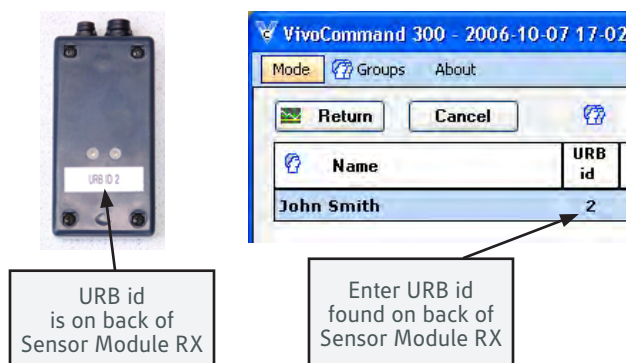
23. Click the **<Return>** button in the upper left corner to go back to the Main Session screen. Information is saved automatically.
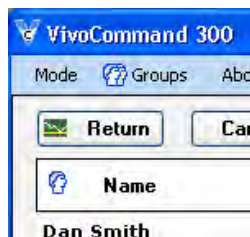
24. You are now on the *Main Session* screen.

Red Dot and no Data indicates **NOT** recording
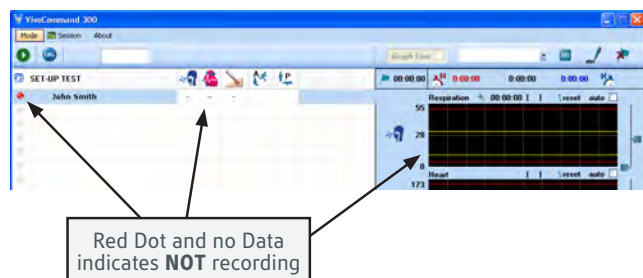
You can return to *Groups and Users* and enter the rest of your team, or continue to set-up the System.

The VivoCommand Software is set-up. You can leave the program open while the user puts on the VivoResponder™ Chest Strap.
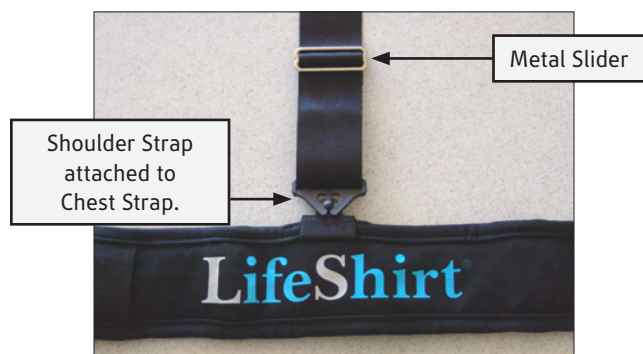
Operation Complete ☝

Next, put on the VivoResponder™.
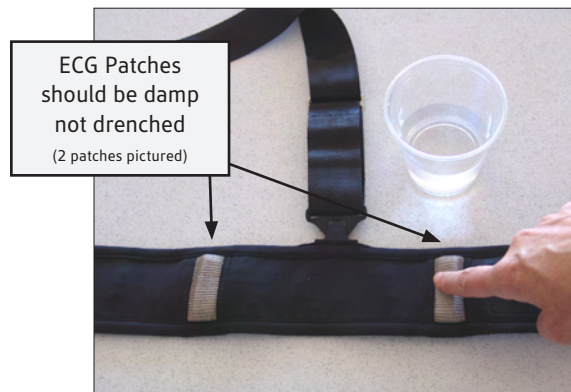
STEP 4: Put on the VivoResponder™

1. Attach the Shoulder Strap

   Snap the Shoulder Strap onto the front and back of the Chest Strap. The metal slider should be closer to the front.

   Metal Slider

   Shoulder Strap attached to Chest Strap.

2. Moisten the ECG Patches

   Moisten your finger with water and wet each of the three raised patches of silver fabric on the back side of the Chest Strap.
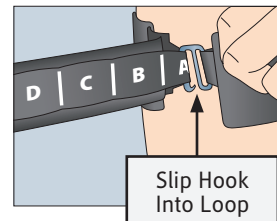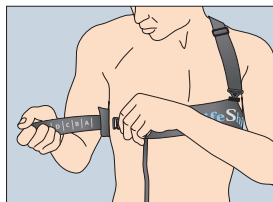

   ECG Patches should be damp not drenched
   (2 patches pictured)

3. Put on the VivoResponder™

   a. Slip the Shoulder Strap *over one shoulder*—**NOT OVER YOUR HEAD**.

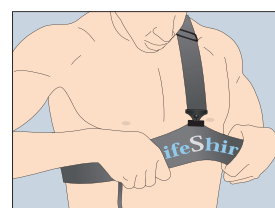   Slip arm through Shoulder Strap
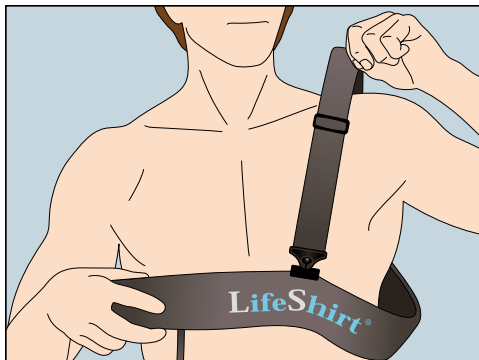
b. Hold the letter end of the Chest Strap and slip the hook through the loop that fits. Chest Strap should be snug, but not too tight. Each letter corresponds to a loop.

   Slip Hook Into Loop

c. Move the Vivo-Responder™ Chest Strap until the "S" in "LifeShirt" on the Chest Strap is centered on your sternum.
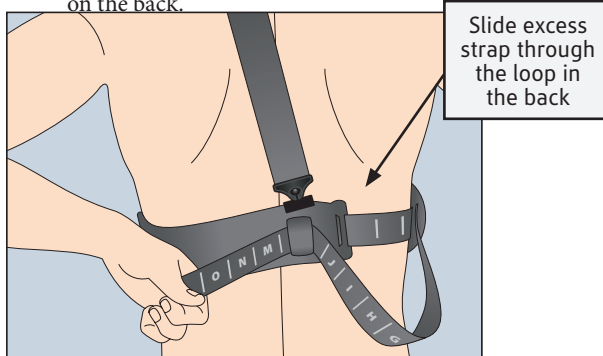

d. If needed, adjust the Shoulder Strap with the slider to hold the Chest Strap in place.
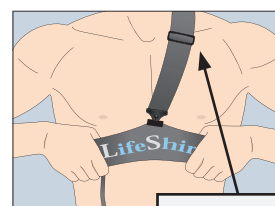
   Adjust the Shoulder Strap with the Slider
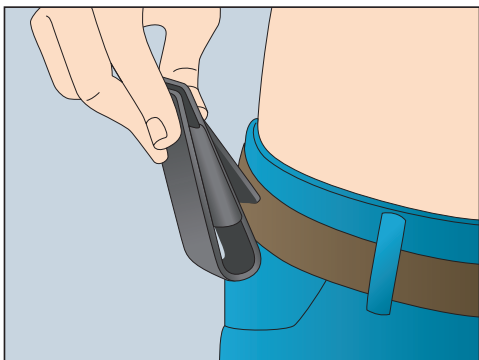
e. The Chest Strap is extra long to accommodate users of various sizes. If there is excess, thread it through the loop on the back.

   Slide excess strap through the loop in the back

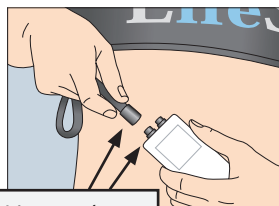**NOTE**: If you are unsure about fit, see Appendix A.

STEP 4: Put on the VivoResponder™

4. Attach the Holster to your belt

5. Plug in the Sensor Module

   a. Line up the white arrows on the strap cable connector and the Sensor Module; snap together. When connected, the LED flashes green on the back of the Sensor Module.

   Line up the WHITE ARROWS

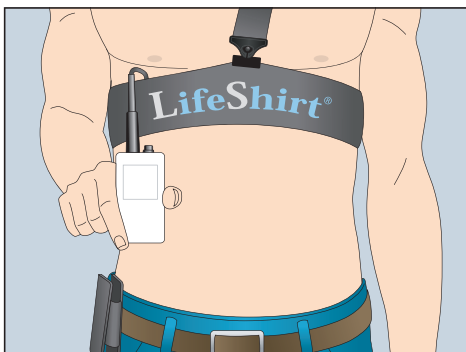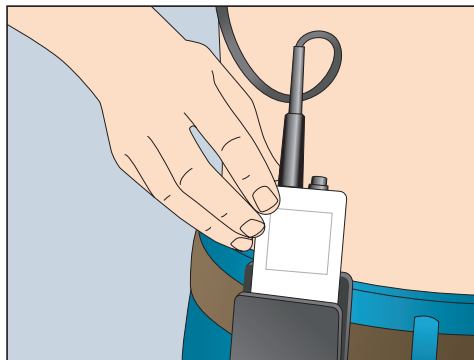   Light on Back of Sensor Module flashes green when connected

   b. Stand upright and hold the Sensor Module upright for 10 seconds.

c. Slide Sensor Module into the Holster in the same upright position.

d. The VivoResponder™ is now calibrated to your body position and is operational. There is no other "On Switch."

Operation Complete 👍

You are now ready to start collecting life-sign data.

STEP 5: Collect Life-sign Data

Make sure that:

- » Base Station USB RX is connected
- » VivoCommand is open and on the *Main Session* screen.
- » The user is wearing the VivoResponder™ and it is connected to the Sensor Module.
- » Light on back of Sensor Module flashes green

1. Click the green **<Record>** button to begin recording life-sign data. The button turns red when recording.

Click the green **RECORD** button to start session

Click the red **RECORD** button to end session
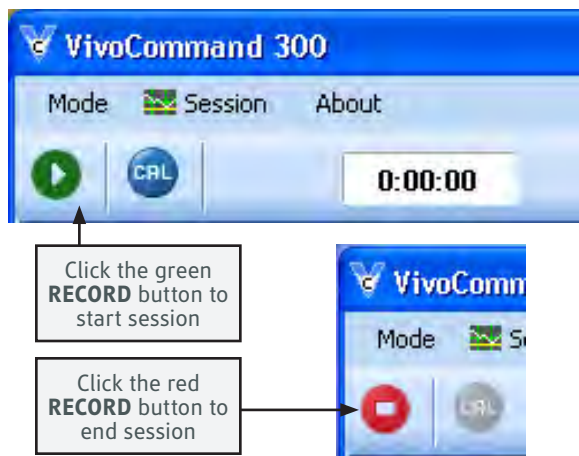
2. You can now view real-time life-sign data as shown below. Watch the data change when user runs in place or sits quietly.

3. Click the red button to stop recording.

Dot turns GREEN when data streams

View Real-Time Life-sign Data
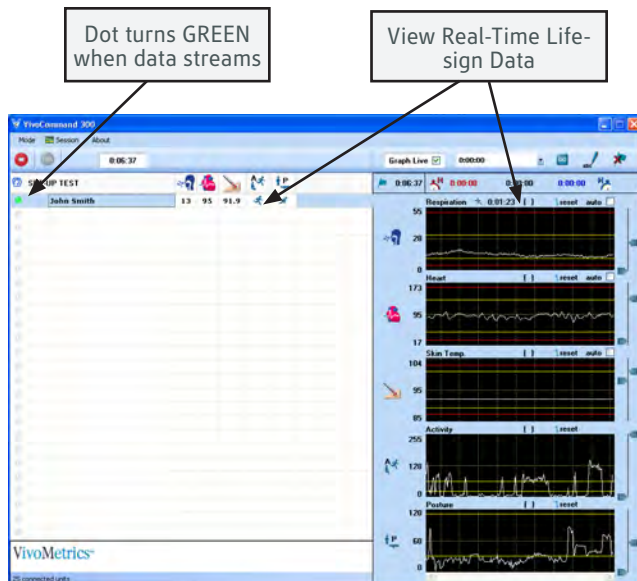
Operation Complete 👍

Congratulations! You have properly installed the VivoResponder™ System. Please continue in the VivoResponder™ System Manual to learn how to analyze data and customize your system.

VIVORESPONDER™

VIVOCOMMAND

BASE STATION USB RX

DATA LOGGER

WARRANTY & DISCLAIMER

Appendix A: Sizing Chest & Shoulder Straps

Sizing the Chest Strap

1. The Chest Strap comes in three sizes:

   A. **Standard**: S thru 3XL (*Provided in the kit.*)

   B. **Petite**: XS
   (*Must be ordered separately or replaces standard strap.*)

   C. **Long Tail**: Cable is extra long
   (*Must be ordered separately or replaces standard strap.*)

2. Use a tape measure to measure chest just below the sternum.

3. Chest measurement determines which Hook Loop to use with the strap. Refer to the chart.

CHEST SIZE (inches)	HOOK LOOP LETTER
32 or less	Petite Strap
33-34	A
35-36	B
37-38	C
39-40	D
41-42	E
43-44	F
45-46	G
47-48	H
49-50	I
51-52	J
53-54	K
55-56	L
57-58	M
59-60	N
61-62	O
63-64	P

4. Using the sizing chart **above**, find the **hook loop letter** that corresponds to **chest size**. If you fall between sizes go to the size below.

HOOK LOOP LETTERS correspond to CHEST SIZE

Sizing the Shoulder Strap

1. The Shoulder Strap is available in three different configurations:

   A. **Standard** (*Provided in the kit.*)

   B. **XL**
   (*Optional; swap the standard Shoulder Strap by contacting VivoMetrics, Inc. Customer Service at 800-631-4445*)

   C. **Velcro** adjustment instead of slider.
   (*Available as an accessory by contacting VivoMetrics, Inc. Customer Service at 800-631-4445*)

Cautions

⚠ Cautions

» Read this manual before using the VivoResponder™ System.

» If you have a Pacemaker, the Sensor Module will count Pacemaker Pulses as heartbeats.

» Consultation with your physician and/or the pacemaker manufacturer prior to use of the VivoResponder™ is necessary to ensure that it will not interfere with the proper functioning of the pacemaker.

» Always follow the recommended washing instructions to clean the Chest Strap in the VivoResponder™ System Manual.

» Do not use the VivoResponder™ System on an airplane. This product has not been tested to FAA guidelines.

» Do not engage in water sports, such as swimming, while wearing the VivoResponder™ System. May cause electric shock.

» Do not use the VivoResponder™ System in extreme environments (below -14°F, or above 158°F).

» Use only approved chargers to charge the Sensor Module battery.

» Do not disassemble the Sensor Module.

» Do not heat the Sensor Module over 163°F or incinerate it.

» Remove the VivoResponder™ System before using a defibrillator. May cause electric shock.

» Arrange all power cords and cables so that they do not constitute a hazard.

Customer Support

VivoMetrics Customer Support

Telephone: 800-631-4445 (inside U.S.A.)
805-667-2225 (outside U.S.A.)

Fax: 805-667-6646

Email: help@vivometrics.com