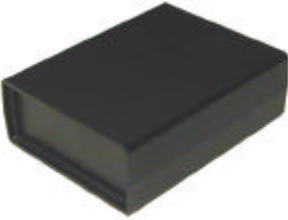










Bod-eComm A/WL Owners Manual

Appearance and Part Names

		
Interface Box	Light Wand	AC Adapter
		
Optical Standard	Light Shield	RS-232 Cable
		
RS-232 Cable	Biceps Locator	Fitness Wheel

The Bod-eComm A/WL should include all of the components identified in the above photographs.

There are three models of the Bod-eComm available for estimating percent body fat in humans:

Bod-eComm XL

Estimates the body fat of adults ages 18 and above.

Bod-eComm A/ZL:

Estimates the body fat of:

1. Adults 18 and above
2. Adolescent Children (ages 13-17)
3. Pre-Adolescent Children (ages 5-12)

Bod-eComm A/WL:

Estimates the body fat of:

1. Adults 18 and above
2. Adolescent Children (ages 13-17)
3. Pre-Adolescent Children (ages 5-12)
4. Athletes (ages 13-23)

This manual is for use only with the Bod-eComm A/WL

How to Setup Your Bod-eComm with the PC

Minimum PC Requirements

- 166 Mhz Pentium II or Equivalent Processor
- Windows 95/98/Me/XP
- 32 mb RAM
- RS-232 port or USB port with RS-232 adapter

PC Connection

The Bod-eComm communicates with your PC via an RS-232 serial cable. Simply connect the RS-232 cable to the serial connection on your PC. Then plug the connector on the opposite end of the RS-232 Cable into the Bod-eComm interface box.

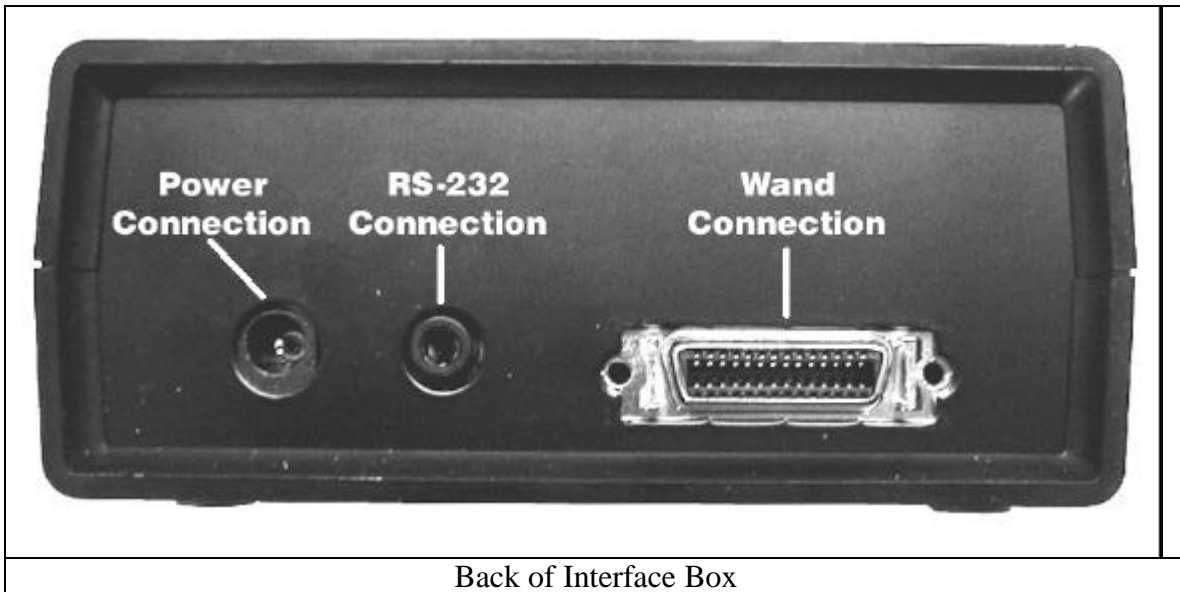
Note: If you are using the optional USB connection, you must first install the optional USB converter on your computer. Then connect the RS-232 cable to the optional USB converter.

Light Wand

Attach the Light Wand to the Bod-eComm interface box. It is recommended that the Light Wand always remain attached to the Interface Box. This will help to avoid accidental damage to the Light Wand.

A/C Adapter

Connect the A/C Adapter cable to the Power Connection located at the end of the Interface Box. Then plug the A/C adapter into a standard wall socket to provide power to the Interface Box.



Back of Interface Box

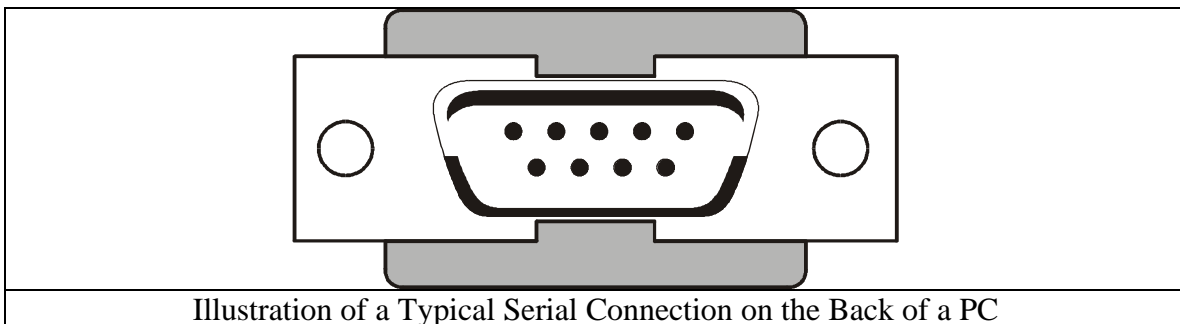


Illustration of a Typical Serial Connection on the Back of a PC

Percent Body Fat Measurement

Zero Adjusting the Bod-eComm A/WL

Prior to beginning body fat estimation, the Bod-eComm must be Zero Adjusted:

- Insert the Light Wand into the Optical Standard as shown in Illustration 1.
- Be sure that the silver stripe on the Light Wand is aligned with the silver stripe on the Optical Standard.

Important note: The Light Shield must not be on the Light Wand when Zero Adjusting the Bod-eComm.

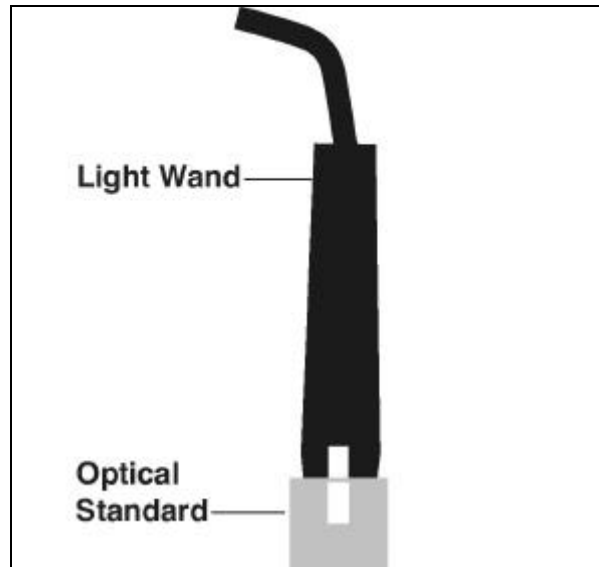


Illustration 1

- Click the “Zero Adjust” Button on the screen, and follow the on-screen prompts.

Entering Client Information for a New Measurement

- Click the “New Reading” button. The *Client Management* window will appear. At this point you may select a client that is already in the system, or you may enter new client data.

Add A New Client

- Click the “Add a New Client” button. The “Client Data” Window will appear
- Fill in the name, age, sex, weight, and height fields
- When evaluating an adult (age 18 or higher), the Bod-eComm A/WL requires you to enter the F.I.T. Value – The F.I.T. procedure provides a quantitative method to determine a subject’s Physical Activity Rating.
Note: If the test subject is between the ages of 5 and 17, or if you select “Athletic 1-Site,” or Athletic 3-Site” measurement type (available for age ranges of 13-23) the Bod-eComm A/WL will “dim out” the F.I.T. values, as they are not required for this age range.

The F.I.T. value is a function of the following three parameters:

Exercise Frequency – How often meaningful physical activity is performed

Exercise Intensity – How much energy is expended during exercise

Exercise Time – How many minutes the activity is performed during each session.

The F.I.T. value is calculated by multiplying all three parameters

$$\text{F.I.T.} = \text{Frequency} \times \text{Intensity} \times \text{Time}$$

The FIT values help to account for the long term effects of physical activity.

When entering the FIT values, you should consider what the individual's average Frequency, Intensity and Time have been over the past six months.

For example, if an individual has not been particularly active for a short period of time (i.e. several weeks), but had been previously training for competitive athletics, you should take that previous training regimen into account for the FIT values. Conversely, if an individual has been training hard for a short time (i.e. several weeks), but was much less active previously, you should take the previous light activity into account for the FIT values.

Frequency: 5 – Daily or almost daily (6 or 7 times per week)
4 – 3 to 5 times per week
3 – 1 or 2 times per week
2 – a few times per month
1 – no meaningful activity

Note: The frequency value should be evaluated independently of the intensity of the activity. For example, a person who walks in the evening every day will have a frequency rating of 5 even though the intensity of the activity will be low

Intensity: 5 – Heavy Activity – Body Building, Running, Distance Cycling
4 – Moderately Heavy – Weight Training, Jogging Basketball
3 – Moderate – Speed Walking, Light Weight Training
2 – Light Moderate – Brisk Walking, Hiking, Golfing
1 – Light – Normal Walking, Gardening

Time: 4 – Over 30 minutes
3 – 20 to 30 minutes
2 – 10 to 20 minutes
1 – Less than 10 minutes

- Select Body Frame size (Small, Medium, or Large)

Note: If the test subject is between the ages of 5 and 17, , or if you select “Athletic 1-Site,” or Athletic 3-Site” measurement type (available for age ranges of 13-23) the Bod-eComm A/WL will “dim out” the Body Frame question as this data is not used in the evaluation of subjects using those calibrations.

*The Body Frame size **does not impact the body composition result.** The Body Frame is utilized to help determine the individual’s hydration estimation.*

There are many methods for estimating Body Frame Size. Futrex does not recommend any specific method, but does offer two techniques often used for determining frame size:

- Ankle Girth –measure the ankle girth at the smallest point above the ankle. Pull the tape measure as snug as possible.

	Small Frame	Medium Frame	Large Frame
Men	Less than 8 inches (Less than 20 cm)	8 to 9.25 inches (20 to 23.5 cm)	Greater than 9.25 inches (Greater than 23.5 cm)
Women	Less than 7 inches (Less than 18 cm)	7.5 to 8.75 inches (18 to 22 cm)	Greater than 8.75 inches (Greater than 22 cm)

- Wrist Girth – Place your left thumb and forefinger around your right wrist and gently squeeze your fingers together:
 - Small Frame: Fingers overlap
 - Medium Frame: Fingers touch
 - Large Frame: Fingers do not touch

Note: If you have long fingers, this method may underestimate your frame size.

Once all information is entered, click “OK,” and you will see the client management window.

Selecting the Measurement Site

Prior to conducting the actual body composition analysis, you should locate the proper measurement site at the biceps of the dominant arm.

1. Have the test subject hold his/her arm straight out, with the elbow locked, and the palm of the hand facing up towards the ceiling.
2. Using the Biceps Locator (shown in Illustration 2), find the “halfway point” between the armpit and the inside of the elbow, where the elbow bends (i.e. the acromion). As

shown in Illustration 3, place the end marked “To Underarm” at the point marked “A.” The end marked “To Elbow” should extend past the bending point of the elbow towards point marked “B” in Illustration 3.

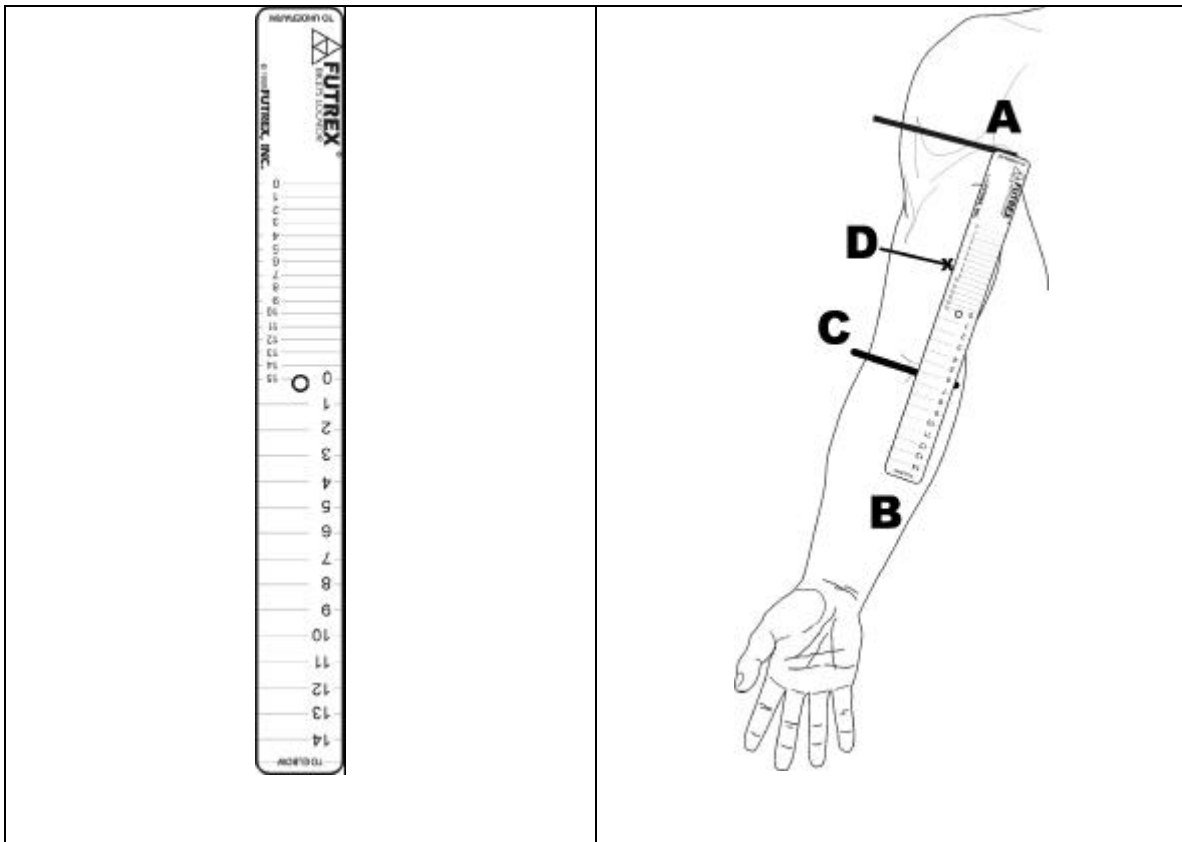


Illustration 2
Biceps Locator

Illustration 3
Locating The Measurement Point

3. Once the Biceps locator is in place as described in step 2, identify the number on the Biceps Locator that crosses the point “C” on the arm. Point “C” is the place where the elbow bends.
4. Locate the corresponding number identified by point “D” in Illustration 3 (e.g. if the number at point “C” is “6,” then find the corresponding “6” at point “D.”) This is the midpoint, or the “belly” of the biceps.
5. It is recommended that you mark this spot by placing a small line just to the inside or outside of the spot with a highlighter or washable marker.

Selecting the Triceps Measuring Site

(for use with 3-site test using the athletic calibration)

1. Have the test subject bend his/her arm at a 90 degree angle, then using a tape measure or ruler of adequate length, measure from the top of shoulder to the tip of elbow.
2. The measurement point will be half way between these two points. For example, if the distance from the top of the shoulder to the tip of the elbow is 16 inches, then the measurement point will be at the 8 inch mark.
3. It is recommended that you mark this spot by placing a small line the spot with a highlighter or washable marker.

Selecting the Thigh Measuring Site

(for use with 3-site test using the athletic calibration)

1. Have the test subject sit down, then using a tape measure or ruler of adequate length, measure from the groin line to the top of the patella (knee).
2. The measurement point will be half way between these two points. For example, if the distance from the groin line to the top of the patella (knee) is 20 inches, then the measurement point will be at the 10 inch mark.
3. It is recommended that you mark this spot by placing a small line on the spot with a highlighter or washable marker.

Performing The Body Fat Evaluation

From the “Client Management” window, select the client you wish to measure and click “Select Client,” or simply “Double Click” the client name. A “Summary Window” will appear that shows the client’s name and physical information. If previous measurements have been conducted, the results of the previous body fat evaluation will also be displayed.

Click the “Scan Now” button and the following instructions will be displayed: “Position the probe on the test site and press the probe button.”

Place the Light Shield on the Light Wand as shown in Illustration 3, aligning the white stripe on the Light Shield with the silver stripe on the Light Wand. Be sure that the Light Wand protrudes approximately 1/8” (3 mm) past the bottom of the Light Shield.

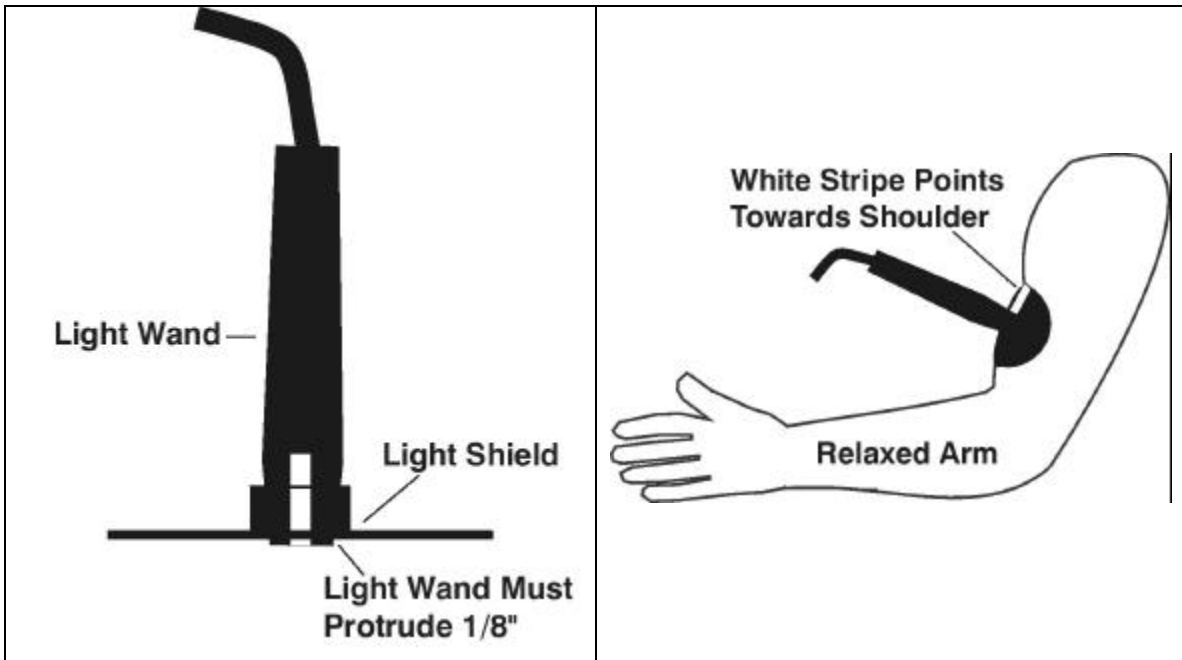


Illustration 3

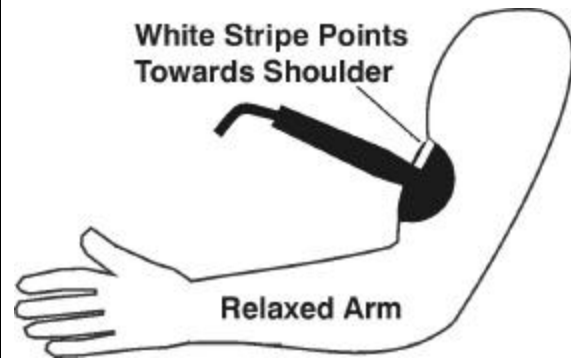
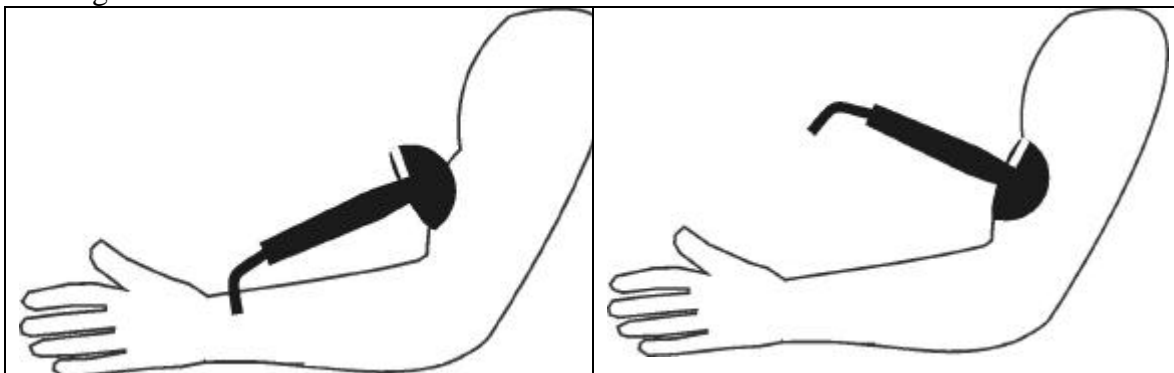


Illustration 4

Place the center of the Light Wand on the Measurement Site (the procedure for locating the measurement site is described under the heading: *Selecting The Measurement Site*). Be sure that the white stripe is pointing directly towards the shoulder as shown in Illustration 4. The arm should be resting on a table top with the elbow bent as shown in Illustration 4. The arm must be relaxed during the measurement. *Note: Always use the Light Shield to block external light.*

Press the push button on the Light Wand. The following message will be displayed: "Remove and replace the probe on the test site. Press the probe button."

Remove the Light Wand by gently rocking the wand off of the arm and then replace it on the same site as shown in the Illustrations 5 & 6. Then again, press the push button on the Light Wand.



Remove
Illustration 5

Replace
Illustration 6

Three Site Athletic Calibration

If you have selected the three site athletic calibration, you will be prompted to place the light wand on the biceps, triceps and mid thigh in that order. The procedure for placing the wand on the triceps and mid thigh measurement sites is the same as that which is shown for the biceps site. Once all three sites have been evaluated, the results will be displayed.

The body composition analysis is now complete. The current results will be displayed in the Summary Window.

Other Options

The Summary Window offers the following options:

Print Summary – This option will generate a printed report the with the same information that appears in the Summary Window.

Print Report – This report is a one page report titled “A Snapshot of Your Health & Fitness.” It provides a detailed description of each component of the evaluation along with charts to help determine which category (i.e., excellent, good, fair, needs improvement, or risky) the individual’s body fat falls within.

Scan History – Provides a list of all previous body composition tests for the individual.

View Graph – Displays a trend graph of the previous body composition tests.

Other Reports

The Bod-eComm software also allows you to provide the following reports:

Fitness Analysis Report – A 2 page report that provides analysis of the body composition reading along with exercise and diet recommendations and information.

Update Analysis – A report comparing the latest body composition analysis with a previous analysis.

Physical Analysis Ratings – A six page report that analyzes a battery of physical fitness and wellness tests. The Futrex PAR Manual is recommended for instructions on how to properly conduct the PAR evaluation (contact Zelcore at 800-576-0295 or 301-791-9220 to order this manual).

Troubleshooting

Problem	Probable Cause(s)	Corrective Measures
Display Shows “TOO LITE”	a) Bad Connection between the Light Wand and the Interface Box. b) Too much/Too little Light	a) Ensure that the Light Wand is securely connected to the Interface Box. b) Ensure that the Light Wand is properly seated in the Optical Standard
Poor Repeatability	a) Inconsistent Measurement Technique b) Incorrect Zero Adjustment Procedure c) Not measuring at the proper location on the arm	a) Ensure that there is enough pressure applied between the light wand and the subject’s arm b) When taking a measurement, ensure that the white line on the Light Shield is pointing towards the subject’s shoulder (the silver stripe on the Light Wand should be aligned with the white stripe on the Light Shield). c) Always use the Light Shield to block external light. d) Avoid taking measurements under strong lights (e.g. direct sunlight) as errors may occur e) When Zero Adjusting, ensure that the silver line on the Light Wand is aligned with the silver line on the Optical Standard. f) When Zero Adjusting, make sure that the Light Shield has been removed from the Light Wand. This is to ensure that the Light Wand is properly seated in the Optical Standard. g) Always use the biceps locator to find the measurement site. Instructions are under the heading: <i>Selecting the Measurement Site.</i>

Problem	Probable Cause(s)	Corrective Measures
Unusually High Body Fat Readings (40% - 50%)	a) Too much light during the reading	a) Do not lift the Light Wand from the subject's biceps during the first reading until the instruction window tells you to do so, or during the second reading until the results are displayed on the PC
Communications Error	a) Loose connection with the PC b) No power to the interface box	a) Check all connections between the Interface Box and the PC. b) Check the connection between the Power Supply and the Interface Box. c) Check the connection between the Power Supply and the wall socket.