

# ***PowerGlove™ Personal Fitness Assistant (PFA)***

***User Manual***



***"Fitness at your Fingertips"***

**Impact Sports Technologies, Inc.**

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**WARNING!**

The *PowerGlove™* is not a medical device. The *PowerGlove* is intended for recreational use only and no claims are made or implied in the results obtained by the use of our equipment. Consult your doctor before undertaking any exercise using the *PowerGlove*.

**Do not** submerge the *PowerGlove* in water (see "Cleaning and Maintenance" section of this manual for washing instructions). **Do not** leave the *PowerGlove* in a heated car or locations above room temperature. **Do not** puncture or otherwise damage the battery compartment of the *PowerGlove*. If such damage occurs do not continue to use the *PowerGlove*. The *PowerGlove* is not intended for children under the age of 13.

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***Introduction to the PowerGlove™ Personal Fitness Assistant (PFA)***

Congratulations! You have purchased the Impact Sports Technologies *PowerGlove Personal Fitness Assistant*, one of the most innovative, convenient and useful fitness, calorie counting, and exercise feedback tools available today. This guide provides information on how to achieve the most benefit from your *PowerGlove* as you use your *Personal Fitness Assistant (PFA)* in a variety of activities to “Put Fitness at Your Fingertips.”

The *PowerGlove* provides immediate, continuous, and convenient feedback during most forms of exercise using the same technology found in hospital heart rate monitors. You will be able to immediately view your heart rate and exercise time. By inputting a few elements of essential personal data you will also be able to view exercise calories burned, total daily calories burned, and total daily exercise calories burned based on your heart rate. Since the *PowerGlove* calculates information based on your personal data, it will also calculate and display appropriate heart rate levels for fat burning and heart strengthening levels of activity. It features an easily seen Light Emitting Diode (LED) display that can be read day or night (in very bright direct sunlight simply tilt your wrist toward you for ease of viewing). The display is bright enough that it also provides a degree of extra visibility during nighttime activities such as running or walking.

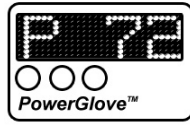
See Appendix A of this User Manual for more

information on the importance of monitoring your heart rate, aerobic activities, muscle strengthening exercises, and hints on how to use the *PowerGlove* to support a weight monitoring or weight loss program.

### **Getting Started**

(charge it, put it on, turn it on...and use it!)

### **Controls**



**Middle Button:** On/Off, Enter Personal Data, and Select

**Left Button:** Display Calories Burned, total exercise time and Reset

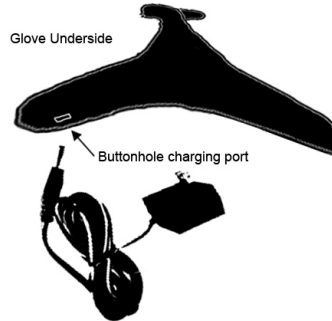
**Right Button:** Display all other *Power Glove* fitness monitoring features

### **Step 1. Charge Your *PowerGlove* before Use**

Always supercharge your *PowerGlove* for at least **twelve hours** before first use or after any complete discharge which results in the glove turning itself off. After the initial charge then recharge it daily just like you do your cell phone. Typical recharge time is three hours, but you may

want to simply leave the glove on the charger when not in use to ensure that it is always ready for operation between exercise sessions.

- Plug your charger into the connector behind the buttonhole as shown in the diagram.
- If the *PowerGlove* turns on when you plug it in, turn it off while it is charging.
- The *PowerGlove* will operate for two to three hours in the default “Continuous” display mode and up to nine hours in the “Demand” display mode on a single charge (see User Manual for more details on how to set display modes).

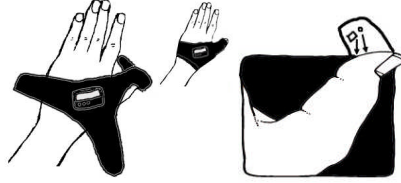


### Step 2. Put Your *PowerGlove* On

- The *PowerGlove* is designed to be worn on the **left hand** as shown in the following diagrams.
- Position the sensor on the fleshy **tip of your thumb** opposite your fingernail as shown below, and secure snugly (but not tightly) with

the Velcro strap. An **alternate position** is at the base of the thumb or base of the index finger. The Velcro may now be trimmed to fit your thumb size.

- Now comfortably fasten the wrist Velcro.
- Your hand should be at or near room temperature for best results. If your hand is very cold it may take longer for your heart rate to appear so be patient. Your *PowerGlove* is operating normally.
- When using the *PowerGlove* make sure that your hand is relaxed.



Glove Placement

Sensor Placement

You may wear the wristband loosely to allow more airflow, or wear it tighter, depending on your personal preference.

**Performance Tip:** When using the *PowerGlove* during walking or running, keep your hand relaxed and naturally rest the tip of your index finger lightly on the tip of your thumb to achieve maximum performance.

**Alternate Position:** For some types of activity, the *PowerGlove* may be worn at the base of the thumb or base of the index finger. Since, performance will vary from person to person, based on their physiology, the recommended placement is on the tip of the thumb.

**Step 3. Turn the *PowerGlove* On by Pressing the Center Button for 1 Second and Releasing**

You will first see a bouncing ball as the *PowerGlove* searches for your pulse, but within seconds a display as shown below will appear and will alternate between your current Pulse, exercise Calories Burned and Current Exercise Time for this *PowerGlove* exercise session.



**Pulse Display    Calorie Display    Time**

(Each time you use the *PowerGlove* it automatically stores your calories burned and exercise time and adds them to your daily exercise calories burned and total calories burned until you choose to reset.)

**Step 4. For Personalized Caloric Burn Information, Enter the Personal Data Menu by Pressing the Middle Button for 3 Seconds and Releasing**

You will be entering your Gender (Gndr), Age (Age), Weight in Pounds (lbs), Height in Inches (Hgt), and Resting Heart Rate (RHr). Resting



Heart Rate is currently preset but for more information on calculating Resting Heart Rate see the note below.

1. Press the middle button to select Gndr.
2. Push the right or left button to scroll to the correct option or value.
3. Press the middle button again to save your input and move to the next category of personal data.
4. Repeat this process until you have entered all your personal data. The display will then automatically return to Heart Rate and Current Calories Burned.

**Note: The resting heart rate is preset based on averages for men and women. Unless you know your resting heart rate it is recommended that you use the preset value until you use your *Power Glove* for a while and become familiar with your resting heart rate. At that time you can re-enter the Personal Data function and modify your resting heart rate. Resting heart rate (the number of beats per minute) should be taken a few minutes after a good night's sleep, and before you get out of bed. Your *PowerGlove* allows you to conveniently accomplish this measurement.**


### Display Summary Calorie Information with the Left Button

1. During exercise, press the left button to show a stored summation of the Exercise Calories you have burned and your total exercise time while using the *PowerGlove* over the course of the day.
2. Press the left button again and the *PowerGlove* displays the Total Calories you will normally burn per day based on the personal data you entered in the *PowerGlove* **plus** the additional Exercise Calories you have burned.
3. Press the left button again to return to Heart Rate, Current Calories and Current Exercise Time.

### Caloric information Displays



Total Stored Daily Exercise Calories



Total Daily Calories (BMR plus Exercise Calories)



Total Daily Exercise Time

### Daily Reset

- Hold the left button down for 3 seconds to reset all exercise calorie counts, exercise times, stored avHr, mnHr, and mxHr, to zero.

**Press the Right Button to Scroll through the other *PowerGlove* Features**

- Press the middle button to select and view any of the following:
  - BMR: Basal Metabolic Rate
  - avHr: Average Heart Rate
  - mnHr: Minimum Heart Rate
  - mxHr: Maximum Heart Rate
  - fatB: Fat Burn Heart Rate Target Zone
  - cardi: Cardio Burn Heart Rate Target Zone
  - cals: Summary of Daily Calories Burned

**To automatically return to your heart rate scroll to the end of the feature list using the right button.**

**Menu System Key**

**tCal:** Displays your daily total calories.

**dCal:** Displays your daily exercise calories.

**Gndr:** Your gender.

**Age:** Your age.

**lbs:** Your weight in pounds.

**Hgt:** Your height in inches.

**rHr:** Your resting heart rate in beats per minute.

**view:** Your display mode, either Continuous or On-Demand.

**BMR:** Shows your Basal Metabolic Rate (estimated Daily Caloric Burn).

**avHr:** Displays your average heart rate since last reset.

**mxHr:** Displays your maximum heart rate since last reset.

**mnHr:** Displays your minimum heart rate since last reset.

**fatb:** Displays your fat burning zone.

**crdi:** Displays your cardio training zone.

**Cals:** Displays dCal and tCal since the last reset.

**ver:** Displays *PowerGlove* software version.

## **Other *PowerGlove*™ Functions**

### **Basal Metabolic Rate (BMR)**

Your BMR is an estimate of the total calories you will burn in a day without exercise based on your personal data.

### **Average Heart Rate (avHR)**

This feature permits you to see what your average heart rate is between daily resets. Average heart rate can be an overall indicator of fitness. One measure of effectiveness of an exercise program is to see a drop in average heart rate as fitness improves. Average heart rate can also provide an indication of over exercise if it remains 5-10 beats above your normal resting heart rate for an extended period of time.

### **Minimum Heart Rate (mnHr)**

The mode shows your minimum heart rate between daily resets as measured and stored by the *PowerGlove*. Typically your heart rate drops during sleep and periods of physical and mental relaxation.

### **Maximum Heart Rate (mxHr)**

This mode shows your maximum heart rate between daily resets as measured and stored by the *PowerGlove*.

**Target Heart Rates**

Based on your personal data, using your resting heart rate as a variable, your *Power Glove* will automatically calculate and display optimal heart rate exercise zones for you to achieve maximum benefit from your activities.

**Fat Burning Zone (fatB)**

Provided as a low and high range for your heart rate to optimize fat burning during exercise or other activity that elevates your heart rate into this zone which is approximately 45-65% of your maximum heart rate.

**Cardio Conditioning (crdi)**

Provided as a high and low range for your heart rate to optimize cardio conditioning during exercise or other activity that elevates your heart rate into this zone which is approximately 65-85% of your maximum heart rate.

**Calorie Summary (Cals)**

This function displays your total calories (tCal) and stored daily exercise calories (dCal) data.

**View Display Modes**

These modes permit you to see either:

- “Continuous” display of heart rate and calories burned

- “On Demand” display of heart rate and calories burned to extend battery life

Regardless of which display mode you use, the Power Glove is continuously collecting your heart rate and calculating your calories burned.

#### **Continuous Display Mode**

This is the default mode on your *PowerGlove*. You will see a continuous alternating view of current heart rate followed by a number that shows current calories burned and continuous exercise time. This mode will run for two to three hours on a single battery charge.

#### **Demand Display Mode (Power Conservation Mode)**

This mode preserves a single battery charge for up to nine hours. Instead of a continuous display of current heart rate, calories burned and current exercise time, the *PowerGlove* will sparkle until you tap the left button. The tap will result in five continuous displays of current heart rate and exercise calories burned before returning to the sparkle mode.

#### **Care and Maintenance**

While your *PowerGlove*<sup>™</sup> is designed for most types of vigorous activity, care should be taken to avoid striking the display since it could damage

the glove's electronic components. Under normal use the *PowerGlove* requires no regular maintenance beyond recharging and superficial cleansing.

The *PowerGlove* is highly water resistant and made of a fully breathable, dirt-repelling and moisture-wicking material. It may be rinsed under running water or wiped with a damp cloth and cleansed with a gentle detergent such as Woolite. Do not use abrasive cloths or cleaners as these may damage the display. Simply allow the *PowerGlove* to air-dry.

**Do not fully immerse the *PowerGlove* in water. It contains electronic components and this will void your warranty. Do not damage or puncture the battery compartment of the *PowerGlove*. The *PowerGlove* is not intended for children under the age of 13.**

#### **Frequently Asked Questions**

Q. How does the *PowerGlove* differ from the chest strap heart rate monitors that are on the market today?

A. The difference is convenience! The accuracy of the *PowerGlove* is similar to other monitors. Impact Sports Technologies has used proprietary technology to place the sensor that captures heart rate at the thumb tip or base of the index finger on

a lightweight fitness glove instead of requiring a chest strap and special watch. The *PowerGlove* is self-contained and displays your fitness data conveniently right on the back of the glove when and where you need it.

Q. Is the *PowerGlove* only for athletes?

A. Absolutely not! The *PowerGlove* has been designed to monitor heart rate and calories burned for all types of activity ranging from intense aerobics such as running or dancing, to racquet sports such as tennis and everyday activity such as walking around the block or simply going up and down the stairs. The *PowerGlove* makes it possible for anyone to conveniently monitor their activity levels and obtain instant feedback on the benefits.

Q. Does the *PowerGlove* have a time function?

A. Yes. The *PowerGlove* calculates and displays current exercise time and saves and displays total exercise time over all exercise sessions where you use the glove. However, the *PowerGlove* is not designed to be a timepiece or stopwatch. Its lightweight, low profile and easily read day/night display worn on the left hand is designed to complement your watch or sports watch. When you look at your watch, you will be able to simultaneously see your *PowerGlove* readout.



Q. Why is the *PowerGlove* worn on the left hand?

A. The left hand feature is designed to accommodate racquet sports and to provide the least interference with hand functions. It can be used on either hand however.

Q. Can I clean my *PowerGlove*?

A. Yes. Your *PowerGlove* is designed to be superficially cleaned with soap and water. It can be rinsed under running water and laid flat to dry. It is not designed to be immersed in water however.

Q. How often do I have to recharge the battery?

A. The *PowerGlove* is designed to operate for two to three hours in the continuous mode and nine hours in the demand mode on a single charge. Then you simply plug it in like a cell phone to recharge it. Full recharge from total discharge takes twelve hours, but under normal usage a three-hour recharge is usually adequate. Hint: When not in use, keep your *PowerGlove* on the charger, to ensure it is fully charged and ready for your next use.

Q. How much does the *PowerGlove* weigh?

A. The *PowerGlove* is made of a lightweight,

breathable, expanded material. Its total weight, including battery and electronics, is less than one ounce.

Q. Why is it useful to know my heart rate?

A. Your heart rate provides a useful measure of the intensity of your activity during exercise and can be used to calculate your calories burned. By monitoring your heart rate with the *PowerGlove* during daily activities or exercise you will receive immediate feedback on the quality and intensity of your activity.

Q. What are the benefits of activity that elevates my heart rate?

A. The benefits are many, to include increased fat and calorie burning, more efficient cardio vascular system, reduced blood pressure, decreased risk of diabetes and heart disease.

Q. How high should my heart rate be to begin achieving benefits?

A. Typically, once you elevate your heart rate above the resting level you will increase caloric burn. Your *PowerGlove* uses your personal profile to allow you to see and monitor the types of activity that elevate your heart rate and to also see how many additional calories that activity burns.

Q. What is the advantage of the *PowerGlove* over the heart rate monitors that are on the handgrips of most exercise equipment at my fitness club?

A. The *PowerGlove* offers several unique advantages over heart rate monitors found on exercise equipment, which offer just an estimated snapshot of your caloric burn while you are using them.

First, the calculations from the *PowerGlove* are personally tailored to you and your physiology, making the caloric burn calculations more accurate.

Second, the convenience of the *PowerGlove* permits you to wear it during your entire workout as you move from warm-up to each station or exercise to exercise and during cool down when your heart rate and caloric burn remain elevated. This gives you a more dynamic and comprehensive picture of the total end-to-end effectiveness of your exercise session.

Third, the *Power Glove* adds value to any exercise equipment you use or may have purchased since it is always available to give you feedback on the effectiveness of that equipment.

Q. Can the *PowerGlove* tell me if I am over training?

A. Since the *PowerGlove* will allow you to become familiar with your heart rate during all types of activity, including your resting heart rate, you will be able to see a typical sign of over training if your resting heart rate remains 5-10 beats higher than normal for an extended period of time.

Q. Can I use the *PowerGlove* during weight training?

A. Yes. The *PowerGlove* can be particularly useful if you are monitoring your heart rate between sets. For instance if you are power lifting you may want to see your heart rate move back to resting level between sets, while if you are moving quickly from station to station for aerobic or endurance training the *PowerGlove* will help you keep your heart rate elevated with constant feedback. Due to physical disruption of the sensor while actually lifting you may occasionally note some loss of the heart rate signal but the *PowerGlove* will quickly recover once you rest or are between sets.

#### **Troubleshooting**

**Symptom:** *My PowerGlove will not turn on.*

Your glove may need to be recharged. It is designed to turn off if the battery charge falls below a certain point. If this happens the *PowerGlove*<sup>™</sup> automatically stores your personal

data. Be sure to turn the Power Glove off during recharging and if it has discharged keep it on the charger for at least 12 hours to fully recharge the battery.

**Symptom:** *My heart rate does not appear or it takes a long time for it to appear.*

Ensure that the sensor is placed correctly on your thumb tip and that it is not too tight or too loose. You may want to try the alternate position at the base of the thumb or base of the index finger. The heart rate display should appear almost instantly although it normally takes a few beats to stabilize at your actual heart rate. If your hand is very cold, circulation may be reduced which will degrade the sensor's ability to see your pulse. Try warming your hand or even placing it under warm running water. If your hand is very dry, try putting some lotion on your thumb or base of your index finger where the sensor is placed.

**Symptom:** *Sometimes my glove loses my heart rate. Is this normal?*

This is normal. The *PowerGlove* is always looking for your pulse and if it loses it for a moment, don't worry, it will reacquire automatically. Sometimes a minor repositioning of the sensor or readjustment of the Velcro strap is necessary. Temporary loss of signal will have a

negligible effect on the caloric calculation.

**Symptom:** *During certain exercises my heart rate seems to be too high or too low.*

Your *PowerGlove* has been designed to operate in an exercise environment and under most circumstances and during most activities the Power Glove is extremely accurate. However, your *PowerGlove*, like all heart rate monitors will sometimes have your pulse masked by a slippage of the sensor, extreme motion or physical pressure on the sensor. These excursions are temporary and typically will not exceed 10% error. Once these conditions are corrected or cease your glove will quickly recover and display a normal reading. These occasional excursions will not significantly affect your caloric burn results since they are averaged over time.

Remember, for best performance, keep your hand relaxed during running or walking and lightly rest the tip of your index finger against your thumb to ensure optimal results.

**Unconditional 30-Day Money Back Guarantee**  
Your *PowerGlove* comes with a thirty (30) day money back guarantee from the date of purchase. Please save your receipt as proof of purchase.

To Receive a Return Materials Authorization (RMA) Number please email:  
[support@impactsports.com](mailto:support@impactsports.com)

**Appendix A-Importance of Monitoring Fitness Activity and Hints for Using your *Personal Fitness Assistant***

**Aerobic Activity** (running, aerobics, dance, kickboxing, treadmill, stair climber, stationary bike, walking) exercises your heart, lungs and circulatory system to process oxygen more efficiently. It also burns fat and increases metabolism. While the American College of Sports Medicine recommends that to achieve maximum aerobic exercise benefit that you elevate your heart rate to 60-90% of its maximum, increased benefits can also be achieved by elevating the heart rate above its normal resting rate.

For optimal exercise, the *PowerGlove* provides target heart zone (cardio and fat burning) information, while for less intense exercise, the *PowerGlove* shows calories burned based on heart rate activity and your personal data. By simply

slipping on the *PowerGlove™* you will have immediate and continuous access to information on how much you are exercising your heart and how much that exercise is burning calories.

The advantage of the *PowerGlove* is that you do not have to remove it if you are involved in a number of different exercise activities. Since your heart rate will generally remain elevated as you move from one activity to another, the dynamic monitoring of the *PowerGlove* will provide you with a more complete and accurate picture of the benefits of your fitness activity.

By using the *PowerGlove* during exercise activity you can set and monitor goals for duration, intensity and frequency of activity to achieve desired results. The *PowerGlove* feedback takes the guesswork out of the benefits being achieved. You will now be able to increase or decrease activity levels to accomplish specific goals for conditioning or calorie counting. The *PowerGlove* allows you to monitor and achieve optional caloric burn by extending the length of a walk or run or by taking a few extra trips up and down the stairs during the course of daily activities.

**Muscle Strengthening Exercises** such as calisthenics, weightlifting or any activity that makes you flex muscles repeatedly makes the body burn more calories. This type of activity



improves bone density, builds muscle and reduces body fat. The *PowerGlove* feedback permits you to monitor your heart rate between repetitions and to monitor progress in terms of shorter recovery time. The convenience and ease of use of the *PowerGlove* makes it an ideal complement to in-home or workout center activities for muscle strengthening activities.

#### **Calorie Counting**

The *PowerGlove* is a powerful feedback tool to assist you in planning and sustaining an effective calorie counting and complementary exercise management program. Use the chart below to log daily calories burned and the calories you burn during various types of exercises as you use your *PowerGlove*. Doing this and comparing these feedback numbers against calories consumed will assist you in managing your program. This log can also help you plan your exercise activities by permitting you to “mix and match” calorie burning exercises of different intensities and time lengths around your personal schedule or meal plans to achieve overall goals. On one day you schedule a two-mile run to burn your target calories, while on another day you may only have time for a 10-minute exercise bike ride. By knowing the typical calories you personally burn for each of these activities, you may now plan your meals and activities accordingly. *Note: Consult your doctor before beginning any exercise routine using the PowerGlove.*

Visit [www.calorielab.com](http://www.calorielab.com) to find out how many calories are in each of the foods you consume.

You can record a log, similar to the one on the next page, of your daily calories burned and consumed using data from your *PowerGlove Personal Fitness Assistant* to support your exercise or calorie counting program.

Date	Calories Burned	Calories Consumed	Net Calorie Loss / Gain