ePulse®²

USER MANUAL

THE ONLY
TRULY STRAPLESS
CONTINUOUS
HEART RATE
MONITOR

You can record a log, similar to the one below, of your daily calories burned and consumed using data from your ePulse2 Personal Fitness Assistant to support your exercise or calorie counting program.

DATE	Calories Burned	Calories Consumed	Net Calorie Loss / Gain

TRADEMARKS

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CONTACT

www.impactsports.com
support@impactsports.com
1-888-537-9763

WARNING!

The ePulse2 is not a medical device. The ePulse2 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 ePulse2. The ePulse2 is not intended for children under the age of 10.

Do not submerge the ePulse2 in water (see "Cleaning and Maintenance" section of this manual for washing instructions).

This product contains a rechargeable lithium battery that should only be removed and replaced by a professional. Battery can explode or leak and cause injury if removed by the user and crushed, installed backwards or exposed to excessive heat. Keep out of reach of children and dispose of properly. If swallowed promptly contact a doctor and call your local poison control center.

calories burned and the calories you burn during various types of exercises as you use your ePulse2. Doing this and comparing these feedback numbers against calories consumed will assist you in managing your program. This log can also help you implement 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. 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 ePulse2.

Visit http://caloriecount.about.com to find out how many calories are in each of the foods you consume.

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 ePulse2 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 ePulse2 makes it an ideal complement to in-home or fitness center activities for muscle strengthening activities.

CALORIE COUNTING
The ePulse2 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

INTRODUCTION TO THE EPULSE®2 PERSONAL FITNESS ASSISTANT (PFA)

Congratulations! You have purchased the Impact Sports Technologies ePulse2 Personal Fitness Assistant, the second generation of the world's first armband Continuous Heart Rate Monitor. ePulse2 is one of the most innovative, convenient and useful fitness tools available today. This guide provides information on how to achieve the most benefit from your ePulse2.

The ePulse2 provides immediate, continuous, and convenient feedback during nearly all forms of exercise using similar technology to that found in hospital heart rate monitors. You will be able to immediately view your HEART RATE and by inputting a few elements of essential personal data you will also be able to view EXERCISE CALORIES BURNED based on your heart rate. Since the ePulse2 calculates information based on your personal data, it will also calculate and display appropriate TARGET HEART RATE LEVELS for fat burning and heart strengthening ac-

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 ePulse2 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 ePulse2 will provide you with a more complete and accurate picture of the benefits of your fitness activity.

By using the ePulse2 during exercise activity you can set and monitor goals for duration, intensity and frequency of activity to achieve desired results. The ePulse2 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 ePulse2 allows you to

APPENDIX 1: Importance of Monitoring Fitness Activity and Hints for Using your ePulse2 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 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 ePulse2 provides target heart zone (cardio and fat burning) information, while for less intense exercise, the ePulse2 shows calories burned based on heart rate activity and your personal data. By simply slipping on the ePulse2

tivity. This feature also provides a dynamic display on the state of the art full color graphical Organic Light Emitting Diode (OLED) display to alert you when you are exercising in these zones. The ePulse2 OLED display can be read day or night with no backlight and can be customized by the user. The display is bright enough that it also provides a degree of extra visibility during nighttime activities such as running or walking.

See Appendix 1 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 ePulse2 to support a weight monitoring or weight loss program.

GETTING STARTED

Before first use, charge your ePulse2 for 12 hours or until the display shows "charge complete," using the enclosed wall charger. After initial use, charge for 3 hours or until the display shows "charge complete" for 5 minutes and turns off .

The micro USB connector on the device is located on the right side of the ePulse2. The dust cap must be removed for access to the charging port. Keep the cap in place when not using the charger.

ePulse2. You may email us at the address below if you purchased your product directly from ImpactSports.com.

To Receive a Return Materials Authorization (RMA) Number please email support@ impactsports.com or call 1-888-537-9763.

affect your caloric burn results since they are averaged over time. Also, see the previous discussion of light leaks.

UNCONDITIONAL 30-DAY MONEY BACK GUARANTEE
Your ePulse2 comes with a thirty (30) day money back guarantee from the date of purchase if bought directly from Impact Sports. Please save your receipt as proof of purchase.

90-DAY LIMITED WARRANTY
Your ePulse2 comes with a ninety (90) day limited replacement warranty from the date of purchase. Impact Sports Technologies, Inc. ("IST") warrants to the original end user ("Customer") that new IST branded products will be free from defects in workmanship and materials, under normal use, for ninety (90) days. A replacement free of charge for any defective products. Please save your receipt as proof of purchase.

For a product return, please contact the retailer from whom you purchased your

CONTROLS

HEART BUTTON:
- Click once for ON.
- Click again for OFF.

SELECT BUTTON:
- Click to select settings. Also provides access to "Review Data" and" Enter Data" menus.

UP BUTTON:
- Click to scroll up between views and options.

DOWN BUTTON:
- Click to scroll down between views and options.

DISPLAY LETTER PROMPTS:
- Letter prompts in the corner of various displays help simplify your menu.
- These include "y" for yes; "x" for exit; and "s" for select options.

BATTERY CHARGING AND STATUS INDICATOR

The ePulse2 will typically run for 6.5 hours on a single charge in the normal display mode and 13 hours in the Demand mode.

Your ePulse2 has a rechargeable lithium ion battery and comes with a wall charger. Charge the battery for 3 hours or until the display shows "charge complete" for 5 minutes and turns off.

A charge status indicator is located on the display's upper right corner.
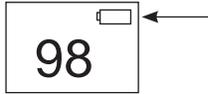
The indicator counts down in segments and will show an outline of the indicator when 25% of charge is left. It will change

inaccurate heart rate persists. Temporary loss of signal will have a negligible effect on the caloric calculation. Also it is important to ensure that the armband fits snugly so that no light leaks into the sensor area, especially when using ePulse2 outdoors in direct sunlight. If there are light leaks the readings will not be accurate.

Symptom: During certain exercises my heart rate seems to be too high or too low. Your ePulse2 has been designed to operate in an exercise environment and under most circumstances and during most activities the ePulse2 is extremely accurate. However, your ePulse2, 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. Try slightly tightening the armband or slightly repositioning the sensor. Also, during running, briefly slow your pace. These excursions are temporary and typically will not exceed 10% error. Once these conditions are corrected or cease, your ePulse2 will quickly recover and display a normal reading. These occasional excursions will not significantly

Due to physical disruption of the sensor while actually lifting you may occasionally note some loss of the heart rate signal but the ePulse2 will quickly recover once you rest or are between sets.

TROUBLESHOOTING

Symptom: My ePulse2 will not turn on.
Your ePulse2 may need to be reset. Simply click the on/off button twice to reset.

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 the upper inner forearm and that it is not too loose. The heart rate display should appear almost instantly although it takes about 25 seconds of resting activity to fully lock onto to your actual heart rate.

Symptom: Sometimes my ePulse2 loses my heart rate. Is this normal?
This is normal. The ePulse2 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 or tightening of the armband is necessary if an

color to red when the battery is within ½ hour of discharging.

Note: Keep your ePulse2 on the charger provided when not in use for optimal performance.

BATTERY REPLACEMENT

Batteries should be replaced by a professional and disposed of properly. The batteries are designed for 500 charge cycles and replacements can be obtained by going to www.impactsports.com or calling 1-888-537-9763.

Important Note: Only use the battery charger supplied with your ePulse2 or your ePulse may be damaged, voiding the warranty.

WEARING THE EPULSE2

ARMBAND PLACEMENT
Loop the strap through the buckle, around your arm and back on itself. Tighten the strap snugly. For smaller arms the strap may be folded back on itself. When participating in high motion activities such as running or tennis, ensure that the strap is extra snug to prevent slippage.

ePulse2 is designed to be worn high on either forearm, with the display in view. For optimal proper performance adjust ePulse2 so that the sensor lies within the area of the upper forearm as shown in the graphic.

for in home use since it is always available to give you feedback on the effectiveness of that equipment.

Q. Can the ePulse2 tell me if I am over training?
A. Since the ePulse2 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 ePulse2 during weight training?
A. Yes. Since it is worn on the forearm, the ePulse2 is very convenient for weight training. It can be particularly useful if you are monitoring your heart rate between sets or when circuit training. 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 (circuit) the ePulse2 will help you keep your heart rate elevated with constant feedback.

Q. What is the advantage of the ePulse2 over the heart rate monitors that are on the handgrips of most exercise equipment at my fitness club?
A. The ePulse2 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 ePulse2 are personally tailored to you and your physiology, making the caloric burn calculations more accurate.

Second, the convenience of the ePulse2 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 ePulse2 adds value to any exercise equipment you use or may have purchased

Display Placement on Inner
Forearm Near Elbow

CLICK THE ♡ BUTTON TO TURN
YOUR EPULSE ON AND REMAIN STILL
Within seconds the display will greet you
and show your Heart Rate.
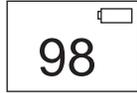
Continue to remain still for about 20-25
seconds until the red heart appears on
the display. This indicates that ePulse2 has
locked onto your heart rate and you may
begin activity.

60 – 70%: Fat Burning / Base Fitness
Goal: Maximized stored fat as calorie /
energy source during workout and to improve
base cardio respiratory health.
Exertion Level: Moderate, sustainable
intensity; Full sweat; some difficulty to
converse; Breathing is somewhat labored and
HR is strong

70 – 80%:   Cardio Conditioning
Goal: Improve fitness & cardio condition.
Exertion Level: High, not sustainable over
long duration; Heavy sweat; Difficulty to
converse; Breathing is labored and HR is fast,
strong and evident.

80 – 100%: Anaerobic / Interval Training
Goal: Push Anaerobic Threshold up toward
max HR. Improve cardio conditioning and
recovery time; minimize fatigue & muscular
lactic acid build up.
Exertion Level: Max – All-out, sustainable
in only limited durations or short bursts.
Breathing and HR are close to or at max;
muscle burn.

exercise, especially those activities associated with cardio fitness.

A lack of physical activity has many serious consequences. People who don't exercise often have higher rate of strokes, type 2 diabetes, osteoporosis, colon and breast cancers and most seriously, death from coronary artery disease.

Q. How high should my heart rate be to begin achieving benefits?
A. The great news is that the benefits of cardio exercise begin with any elevation of one's heart rate. However, there are different benefits with different levels of heart rate (or exercise intensity). Below, find a brief summary outlining some of these benefits.

50 – 60%:   Start Up, Basic Wellness and Daily Activities
Goal: Maintain current state of health and to begin the "getting fit" process.
Exertion Level: Warm-up / Easy pace; Slight sweating; No difficulty to converse; Increase heart rate slightly above normal for a sustained duration.

DISPLAY OPTIONS
Use the scroll buttons to view the basic display options available:
- Heart Rate
- Calories Burned
- Current Exercise Time
- Stopwatch (see instructions below)
- Cardio Zones
- Fat Burning Zones
- Custom Zones (optional)
- Calorie Countdown (optional)

STOP WATCH / SPLIT TIMES
Upper left scroll button starts and stops the stopwatch timer. Lower left scroll button will save and display latest split time and will store multiple split times. (ePulse2 will save up to 64 split times which can be accessed sequentially at the Review Split Time in the Review Data menu). Use the SELECT button to reset the stopwatch time, return to stopwatch or to exit stopwatch.

Note: It is not necessary to enter personal data in order to view basic heart rate. If you choose not to enter personal data, you may immediately proceed with using your ePulse2 and will still see heart rate. ePulse2 will also automatically store Max, Min and Average HR as well as exercise time and these may be accessed via the Display Data Menu.

ENTER PERSONAL DATA
Enter Personal Data menu to automatically calculate your caloric burn, Basal Metabolic Rate and target heart zones for cardio and fat burning workouts by clicking SELECT to access the entry screen then press the lower left SCROLL BUTTON to choose to Enter Data. As each element of personal data appears, press Select again and when the image turns white, use the Scroll buttons to select the proper setting and then press the Select button again to

doubled. It is recommended that ePulse2 be kept on the charger when not in use. The battery is designed for at least 500 charge cycles before it must be replaced.

Q. Why is it useful to know my heart rate?
A.   Your heart rate provides a useful measure of the intensity of your exercise and can be used to calculate your calories burned. By monitoring your heart rate with the ePulse2 you will receive immediate feedback on the quality of your effort, allowing you to regulate the activity intensity to better achieve your specific fitness goals.

Q. What are the benefits of activity that elevates my heart rate?
A. The benefits are many to include: increased and calorie burning and a more efficient cardio vascular system (better physical endurance). It has also been proven that regular cardio exercise will reduce your chance of coronary artery disease, lower blood pressure, increase good cholesterol (HDL) and decrease the risk of diabetes. Many people report that a marked decrease in anxiety and depression is experienced with

Q. Can the ePulse2 be worn on either arm?
A. The ePulse2 is designed to accommodate both right and left handed people and may be worn on either arm to accommodate racquet sports and to provide the least interference with hand functions.

Q. Can the ePulse2 be worn on the wrist?
A. The ePulse2 is designed to be worn on the forearm. However, it may be worn by some people with good results about two inches above the wrist.

Q. Can I clean my ePulse2 Armband?
A. Yes, it is water resistant. Your ePulse2 armband is designed to be superficially cleaned with mild soap and water. It can be rinsed under running water and laid flat to dry. However, it is not designed to be immersed in water. Do not immerse the main display in water or hold it under running water as this may void the warranty.

Q. How often do I have to recharge the battery and what is battery life?
A. The ePulse2 is designed to operate for up to 6.5 hours on a single charge. By using the "On Demand Mode" the charge time will be

Enter. You will then be automatically taken to the next data element where you will continue with this procedure.

Note: In order to save any items you select you must as a final step use the EXIT function at the end of the Data Entry Menu. This stores and locks-in all of your settings.

DATA ENTRY ITEMS
● *Name* (optional) – Use the scroll buttons to move to each letter and use select button to enter the letter. When finished use the lower right "enter symbol" and Select to enter your name.
● *Gender*
● *Age*
● *Weight*
● *Height* - Height in Inches
● *Resting Heart Rate* - The number of beats per minute should be taken after a good night's sleep, and if possible,

before you get out of bed. Your ePulse2 allows you to conveniently accomplish this measurement.

● Custom Zone – Enabled or Disabled. This feature allows you to set personal upper and lower heart rate limits, and to "enable" or "disable" them. If you select "enable"use the normal data entry method to select the upper and lower Custom Zone limits.

● *Calorie Countdown* - This feature allows you to set a calorie burn target and the ePulse2 will count it down for you automatically.

● *View Display* - You may choose between two viewing modes on your ePulse2

 -*"Continuous" Mode* - This is the default mode on your ePulse2. The display will be on continuously.

 - *"Demand" Mode* - This mode will double battery life but the display will be dark unless you press one of the scroll buttons. The display will light up for 5

designed to monitor heart rate and calories burned for all types of activity ranging from intense aerobics such as running or dancing, to golf and racquet sports such as tennis and everyday activity such as walking around the block or simply going up and down the stairs. The ePulse2 makes it possible for anyone to conveniently monitor their activity levels and obtain instant feedback on the benefits.

Q. Does the ePulse2 have a time function?
A. Yes. The ePulse2 calculates and displays current exercise time and saves and displays total exercise time over all exercise sessions until reset (reset of the data also resets the exercise time). However, the ePulse2 is not designed to be a timepiece. It's easily read day/night display is designed to complement your watch or sports watch. When you look at your watch, you will be able to simultaneously see your ePulse2 readout.

Q. Does the ePulse2 have stopwatch and split time functions?
A. Yes. The ePulse2 has a stopwatch feature and also permits the user to store and retrieve up to 64 split times.

Do not use abrasive cloths or cleaners as these may damage the display. Simply allow the ePulse2 to air-dry.

Do not fully immerse the ePulse2 in water. It contains electronic components and this will void your warranty. The ePulse2 is not intended for children under the age of 10.

FREQUENTLY ASKED QUESTIONS
Q. How does the ePulse2 differ from the chest strap heart rate monitors that are on the market today?
A. The difference is ease of use and convenience! The accuracy of the ePulse2 is similar to other monitors. Impact Sports Technologies has used proprietary technology to place the sensor that captures heart rate on the arm instead of requiring a chest strap and special watch. The ePulse2 is self-contained and displays your fitness data conveniently on the armband when and where you need it.

Q. Is the ePulse2 only for athletes?
A. Absolutely not! The ePulse2 has been

seconds and then go dark until one of the Scroll or the Sel buttons is pressed again. A one-time reminder that you are in the Demand Mode will appear on the screen before it fully goes dark.
● *Display Color* - You may choose between "Normal" multiple colors or "Sunlight" which is all green to allow for better viewing in bright sunlight conditions.
● *Operating Mode* - Default is Mode 1 which accommodates heavy exercise activity. Mode 2 is optional for lighter activity levels and may be more appropriate for some users during all exercises.
● Exit - Returns you to the main heart rate display. NOTE: your settings WILL NOT be saved until you press the SELECT button to Exit the settings area.

Finished! Once you enter personal data, your Basal Metabolic Rate (estimated number of resting calories you will burn a day based on personal data and your target

cardio and fat burn zones will automatically be calculated along with your other settings and will be available in the Review Data menu, which can be accessed per the instructions below.

REVIEW DATA

Review Data by Pressing the Select button and then upper left button to enter the Review Data menu—You can now scroll through your personal settings. To exit at any time and return to the main display simply press "X" button on the upper right. The following features and information are located in Review Data.

• *Daily Reset* - This allows you to clear temporary data stored in Max, Min and Avg. heart rate, CCD, Total Exercise Time, Total Calories and clear stored Split Times. Once in this menu, you must use the appropriate scroll button to clear data.
• *View Split Times* - You may view up to 64

input value.
View Display: Permits Normal or On Demand display functions.
Reset: Resets only temporary data such as Avg./Max./Min HR, Total Calories, and Total Exercise Time.
Operating Modes: Accommodate heavy or light exercise activity.
Ver: Displays ePulse2 software version.

CARE AND MAINTENANCE

While your ePulse2 is designed for most types of vigorous activity, care should be taken to avoid striking the display since it could damage the electronic components. Under normal use the ePulse2 requires no regular maintenance beyond superficial cleansing of the armband and sensor mount.

The ePulse2 armband is water resistant and may be rinsed under running water or wiped with a damp cloth and cleansed with a gentle detergent such as Woolite.

Resting Hr: Your resting heart rate in beats per minute.
Display: Your display mode, either Continuous or On-Demand.
Display Color: Permits user to view display in colors or just green for outdoor use.
View Splits: Permits user to view up to 64 stored split times
Total Exercise Time: Shows total stored exercise time in Hours and Minutes
BMR: Basal Metabolic Rate (estimated Daily Caloric Burn).
No Signal: Sensor is out of position.
Average Hr: Displays your average heart rate since last reset.
Max Hr: Displays your maximum heart rate since last reset.
Min Hr: Displays your minimum heart rate since last reset.
Fat Burn: Displays your fat burning zone.
Cardio: Displays your cardio training zone.
Custom: Displays personalized training zone.
CCD: Calorie count down from a user

stored split times sequentially.
• *Basal Metabolic Rate* - 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* - 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.
• *Minimum Heart Rate* - The mode shows your minimum heart rate between daily resets as measured and stored by the ePulse2. Typically your heart rate drops during sleep and periods of physical and mental relaxation.
• *Maximum Heart Rate* - This mode shows your maximum heart rate between daily resets as measured and stored by the ePulse2.
• *Calorie Summary* - This function displays

your total daily exercise calories.

• *Target Heart Rate Zones* - Based on your personal data, including your resting heart rate, your ePulse2 will automatically calculate and display optimal heart rate exercise zones for you to achieve maximum benefit from your activities. The main display for these features shows a heart that moves between the zones. If you move out of the zone the heart will change color and blink until your heart rate is back in the zone.

• *Fat Burning Zone* - Provided as a low and high range for your heart rate to optimize fat burning during exercise or other activity, which is approximately 60-70% of your maximum heart rate.

• *Cardio Conditioning Zone* - This exercise intensity optimizes cardio-respiratory conditioning which improves your fitness level while burning significant calories. The optimal range for cardio condition to occur is between 70-80% of your max heart rate.

Each of the following features are option and may be turned on or off:

• *Custom Zone* (optional) - This feature allows you to set your own personal HR target zones.

• *Calorie Count Down* (optional) - This feature allows you to set a caloric burn target and the ePulse2 will count it down for you.

• Operational Modes (optional) - Mode 1 (preset) uses an accelerometer for accuracy during heavy exercise. Mode 2 does not use the accelerometer and may be more suitable for some individuals during light exercise.

GLOSSARY OF TERMS

Total Calories: Displays your total daily exercise calories since last reset.
Gender: Your gender.
Age: Your age.
Weight: Your weight in pounds.
Height: Your height in inches.