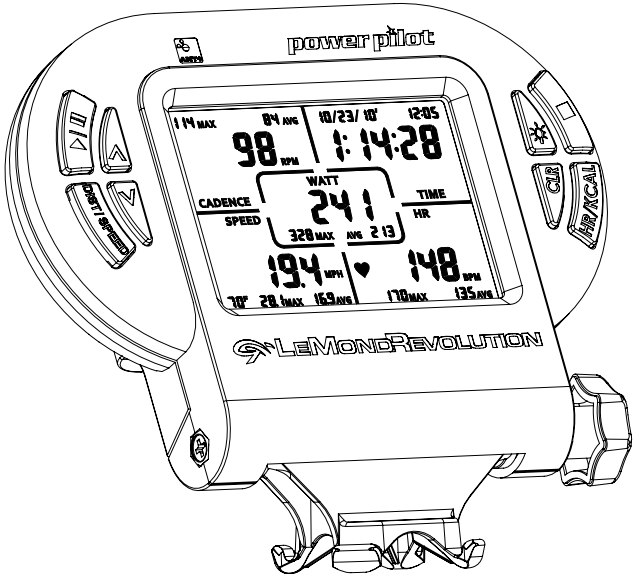
LEMOND POWER PILOT™

Wireless Power Meter for the LeMond Revolution™ Trainer



LeMond® Fitness Inc.

LeMond® Power Pilot™

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The Power Pilot is a power meter that works with the LeMond Fitness Revolution Bike trainer, enabling users to measure cadence, heart rate, watts, calories, speed and distance during their workouts. Workout data is saved to a date/time-stamped .csv file and can be downloaded to a computer via USB or to ANT+-enabled watches. Unlike other power meters, the Power Pilot allows coaches to review workout data and upload customized training programs to the console, enabling athletes to meet their training goals.

Please read all these instructions before using your Power Pilot.

It is always important to consult a physician for a complete physical examination before starting any exercise program. Beyond identifying any risk factors you may have, your health professional can assist you in developing a exercise program which establishes the frequency and intensity appropriate for your age and current health status.

Your LeMond Power Pilot will help you to reach your fitness goals, but be sure to follow the guidance of your physician and your trainer to maintain an effective exercise regimen.

Be sure to read all instructions and warnings included with your LeMond Revolution Bike Trainer before using this equipment.

The Power Pilot is designed for indoor use only. Be sure to remove the pilot from your bike before riding outdoors.

WARNING: If at any time during a workout, you experience pain or tightness in the chest, an irregular heartbeat, shortness of breath, feel faint or severe discomfort of any kind, STOP exercising immediately. Consult your physician before continuing your program.

The following items are included with your LeMond Power Pilot:

1. Power Pilot Console
2. 5.3 kHz HR Monitor
3. Velcro Lanyard
4. Pulley Sensor
5. Cadence Sensor
6. Crank Magnet
7. Mounting Accessories

Owner's Manual (not shown)

All Batteries Included

Check to make sure you have all the parts pictured and listed above before beginning installation.

Four items must be installed on your bike and Revolution Trainer for the Power Pilot console to function. If any of these items are not installed the Power Pilot will not work as intended.

Note: *If your Power Pilot console does not receive a signal from both the Cadence Sensor and the Pulley Sensor it will not record any data from your workout. To make sure that your Power Pilot receives signals from both sensors follow the instructions below completely.*

PULLEY SENSOR INSTALLATION

The pulley sensor is installed on the body of your Revolution Trainer. The magnet to trip the sensor was installed in your Revolution at the factory.

1. Locate the two installation tabs next to the pulley on the top side of the Revolution. (Figure 1.1)

2. Using the included hex screws and hex wrench, install the pulley sensor onto the installation tabs. Use caution not to over tighten the screws as it can damage the sensor case. (Figure 1.2)

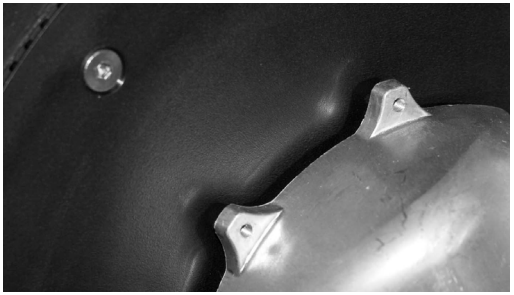


FIGURE 1.1

FIGURE 1.2

CRANK MAGNET INSTALLATION

The crank magnet is installed on the left crank (opposite the chain) and triggers the cadence sensor as it passes. Installing the magnet before the sensor will ensure proper location of the sensor.

1. Using one of the included zip-ties attach the crank magnet to the inside of the left crank arm. Choose a place where the magnet will not slide when tightened. It may be helpful to pass the zip-tie through the slots in the magnet prior to trying to position it on the crank. Be sure that the magnet faces toward the frame of your bike before tightening the zip-tie. (Figure 1.3)

FIGURE 1.3

CADENCE SENSOR INSTALLATION

The cadence sensor is installed on the frame of your bicycle to record your pedal RPM. The cadence sensor should be installed in a place adjacent to the crank magnet to ensure proper function.

1. Choose an installation location on the frame (seat tube or chain-stay) adjacent to the crank magnet near the crank arm.

2. Using the included zip-ties install the cadence sensor to the frame of your bicycle. Be sure to place the included rubber cushion between the sensor and your bike frame to prevent any paint damage. Leave the zip-ties loose to allow for fine-tuning of the sensor location. (Figure 1.4)

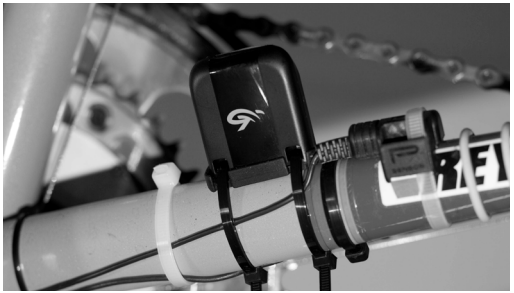


FIGURE 1.4

3. There is a tick mark on the corner of the cadence sensor that indicates the best place for the magnet to pass it. Make sure that this part of the sensor is as close as possible to the crank magnet without interfering with pedaling. (Figure 1.5)

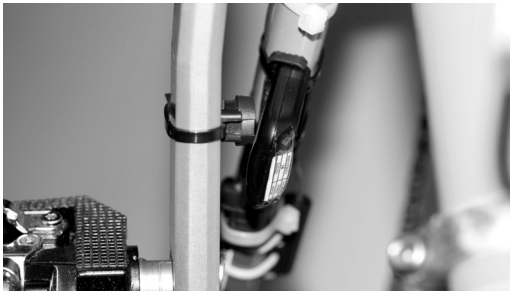


FIGURE 1.5

Note: *Do not fully tighten the zip-ties until you have installed the Power Pilot console and tested that the cadence sensor reads properly.*

POWER PILOT CONSOLE INSTALLATION

The Power Pilot console is designed to be mounted in one of three places; the handlebar, the stem, or the tire. The included mounting accessories will enable you to install the console in any of these locations. Choose a location that will not interfere with any of your components and will not alter your normal riding position.

Note: *We included two sizes of rubber o-ring to help you get the most secure mounting possible.*

Handlebar Mounting

FIGURE 1.6

1. Place the rubber foot on the handlebar in the desired location.

2. Fit the console base onto the rubber foot and use the included rubber o-rings to secure the console to the handlebar. It is best to loop the o-rings diagonally around the bar to get the most secure fit. (Figure 1.6)

3. Adjust the angle of the screen by loosening the thumb screw on the right side of the console. Re-tighten the thumb screw when the desired viewing angle is achieved.

Stem Mounting

1. Place the rubber foot on the stem in the desired location.

2. Fit the console base onto the rubber foot and use the included rubber o-rings to secure the console to the stem. It is best to loop the o-rings diagonally around the stem to get the most secure fit. (Figure 1.7)

3. Adjust the angle of the screen by loosening the thumb screw on the right side of the console. Re-tighten the thumb screw when the desired viewing angle is achieved.

FIGURE 1.7

Tire Mounting

WARNING: IF YOU ARE GOING TO MOUNT THE CONSOLE TO YOUR TIRE BE SURE TO USE THE VELCRO LANYARD (FIGURE 1.9) TO SECURE YOUR FRONT WHEEL BEFORE MOUNTING.

1. Place the rubber foot on the tire in the desired location.

2. Fit the console base onto the rubber foot and use the included rubber o-rings to secure the console to the tire. It is best to loop the o-rings diagonally around the tire to get the most secure fit. (Figure 1.8)

3. Adjust the angle of the screen by loosening the thumb screw on the right side of the console. Re-tighten the thumb screw when the desired viewing angle is achieved.

FIGURE 1.8

VELCRO LANYARD INSTALLATION

The velcro lanyard is included with the Power Pilot to secure the front wheel to prevent shifting of the console when mounted to the tire, and to make the handlebars more stable during your workout.

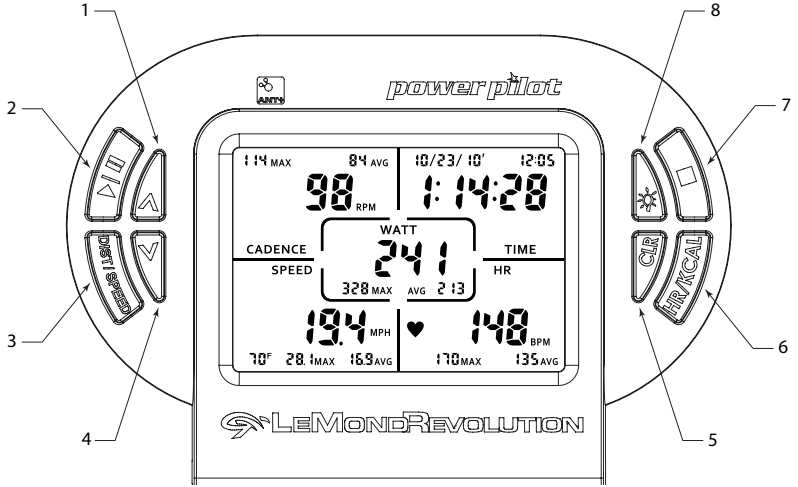
1. Pass the lanyard through a gap in your spokes near the down tube of your bike.

2. Wrap the lanyard around the down tube of your bike and pass the end through the buckle end then back up over the down tube. It is best to place the buckle in the gap between the wheel and the frame.

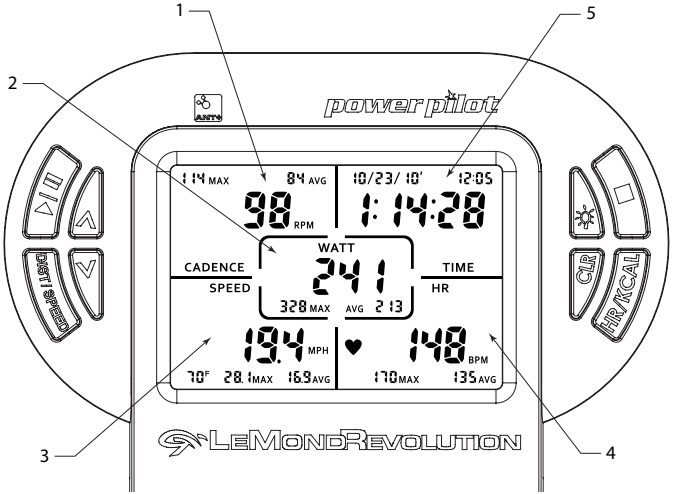
3. While holding the buckle securely in place pull the lanyard tight and secure the velcro around the down tube.

FIGURE 1.9

Note: *Be careful not to inhibit the movement of your brake and shift cables with the velcro lanyard as it may cause premature wear or improper function.*

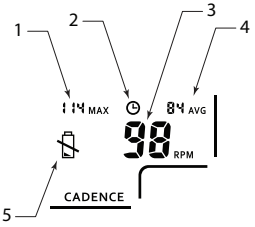


1. Up: Used to navigate through variables. Press and hold (2sec.) enters Training Program Mode.
2. Play/Pause: Starts and pauses workouts and programs.
3. Distance/Speed: Toggles between distance reading and speed reading during a workout. Press and hold (2 sec.) enters Training Menu.
4. Down : Used to navigate through variables.
5. Clear: Clears the current readings on the display in normal mode. Clears programs and data in other menus.
6. Heart Rate/Calorie Button: Toggles between Heart Rate and Calorie readings during normal mode. Press and hold enters System Menu. Functions as an enter key in other menus.
7. Stop: Stops the current workout. Press and hold (2 sec.) powers the unit off.
8. Light: Turns the backlight on. Press and hold (2 sec.) toggles beep alert on and off.



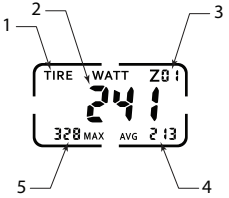
1. Cadence Readout: Displays current, maximum, and average pedal RPM. (See p.15)
2. Power Readout: Displays current, maximum, and average Watt output. (See p.15)
3. Speed/Distance Readout: Displays current, maximum, and average speed or distance. (See p.16)
4. Heart Rate/Calorie Readout: Displays current, maximum, and average Heart Rate (BPM) and Calories expended. (See p.16)
5. Time Readout: Displays date, time, and exercise times. (See p.17)

CADENCE READOUT



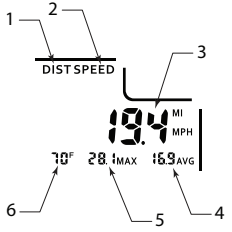
1. Maximum pedal RPM for current workout.
2. Indicates that the console is paired with an ANT+ watch/data receiver.
3. Current pedal RPM for current workout.
4. Average pedal RPM for current workout.
5. Low battery indicator.

POWER READOUT



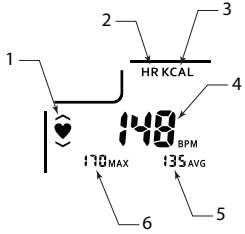
1. Tire Runout indicator. (See System settings on p.23)
2. Current Watt output for current workout.
3. Zone Indicator for program mode.
4. Average Watt output for current workout. Also used to display upper target during program mode.
5. Maximum Watt output for the current workout. Also used to display lower target in program mode.

SPEED AND DISTANCE READOUT



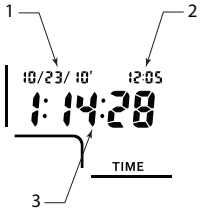
1. Distance Indicator will be illuminated when displaying Distance information.
2. Speed Indicator will be illuminated when displaying Speed Information.
3. Current Speed or Distance for current workout.
4. Average Speed for current workout (not used in Distance mode).
5. Maximum Speed for current workout (not used in Distance mode).
6. Current ambient temperature.

HEART RATE AND CALORIE READOUT



1. Heart Rate Signal Indicator will flash when receiving a signal. Arrows above and below indicate heart rateabove or below HR zone.
2. Heart Rate Indicator (HR) will be illuminated when displaying Heart Rate information.
3. Calorie Indicator (KCAL) will be illuminated when displaying Calorie information.
4. Current Heart Rate or Calories expended for current workout.
5. Average Heart Rate for current workout (not used in Calorie mode).
6. Maximum Heart Rate for current workout (not used in Calorie mode).

TIME READOUT



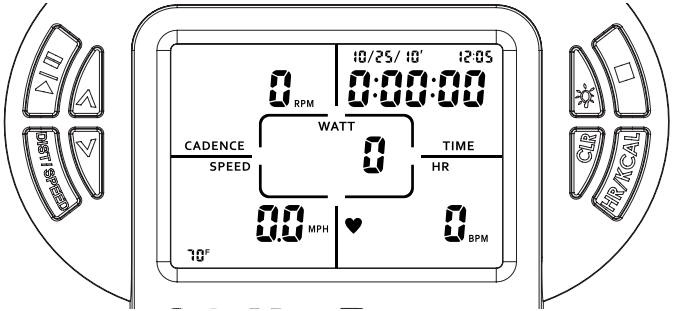
1. Displays the current date.
2. Displays the current time (24 hour) in Normal Exercise Mode and total program time in Training Program Mode.
3. Displays elapsed exercise time in Normal Exercise Mode and counts down the current interval in Training Program Mode.

Your LeMond Power Pilot is designed to perform in two different modes, Normal Exercise Mode and Training Program Mode (p. 32). Normal Exercise Mode allows you to just get on your bike and ride while collecting valuable data about your workout. Training Program Mode allows your trainer or coach to write a program specific to your fitness goals.

- Button presses in these instructions are indicated by light grey buttons: 
- 3 second presses are indicated by dark grey buttons: 

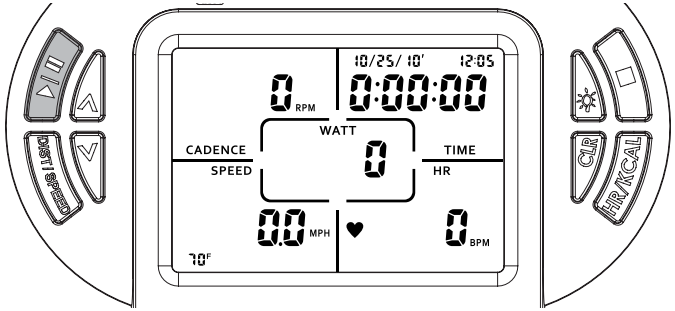
NORMAL EXERCISE MODE

When your Power Pilot is powered on by pressing any key it will be in Normal Exercise Mode:

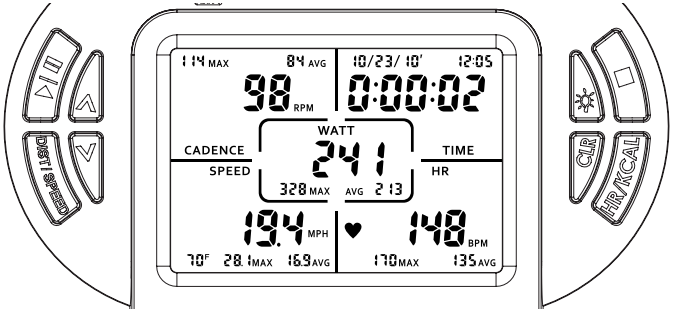


Note: *Before exercising we recommend that you modify the default System Settings to provide accurate exercise data. (See p. 23 for details.)*

To start a Normal Exercise period press the Play/Pause Button:

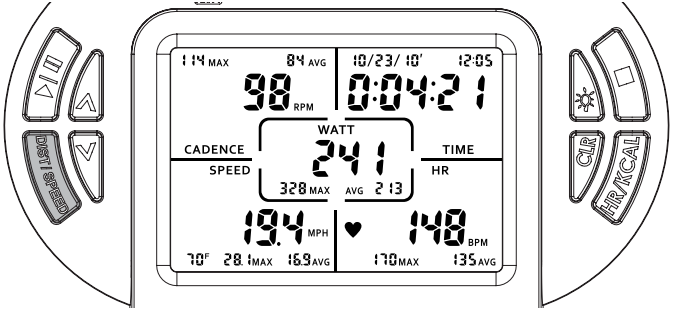


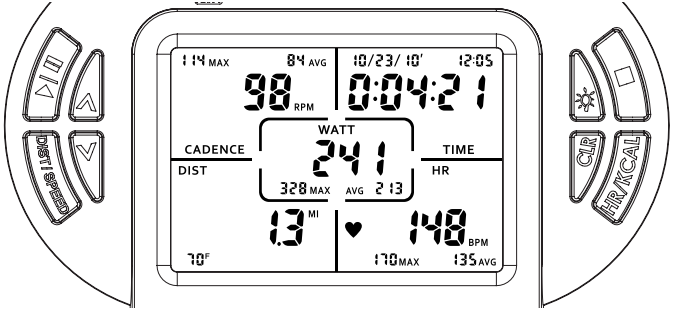
Your Power Pilot will begin an new exercise period and count up the time as you ride while reading the sensors on your bike to record and read out your exercise data:



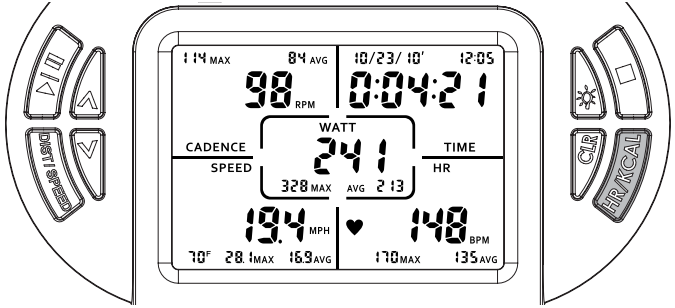
Note: *If both the Cadence and the Pulley sensor are not functioning no data will be displayed. Refer to p. 54 for trouble-shooting.*

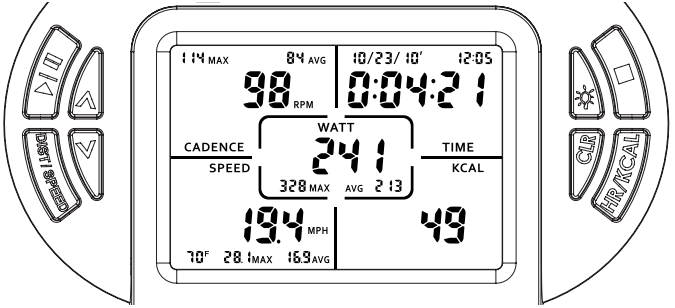
During your exercise period press the DIST/SPEED button to toggle between viewing your speed and the distance traveled during your workout:





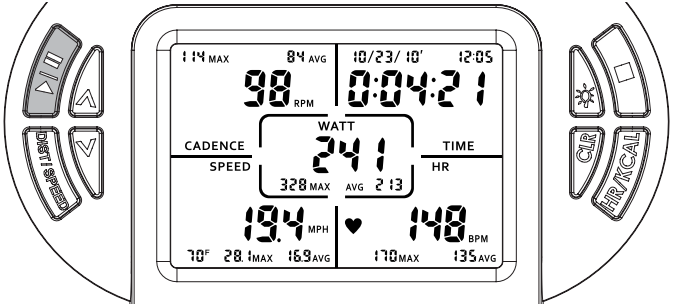
You can also toggle between your heart rate and calories expended by pressing the HR/KCAL button:



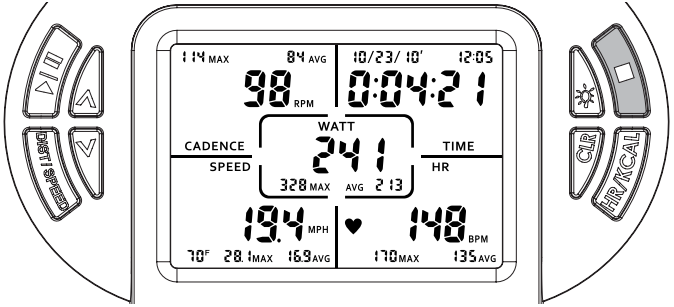


Note: *The heart icon will flash when an HR signal is being received. In addition, the arrows above and below the heart will flash if you are above or below your heart rate limits. Set the minimum and maximum HR in Training Settings. (p. 33)*

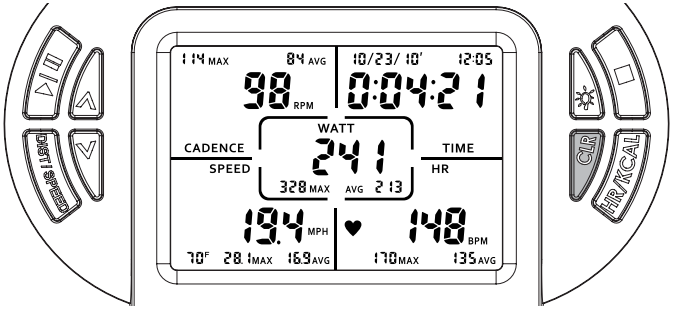
Press the Play/Pause Button during your workout to pause the timer and data collection. If no action is taken while the workout is paused the Power Pilot will power off after one (1) minute and save the current data file and you will need to restart the workout by powering the unit back on and pressing Play/Pause. To resume your workout within one minute press the Play/Pause button:

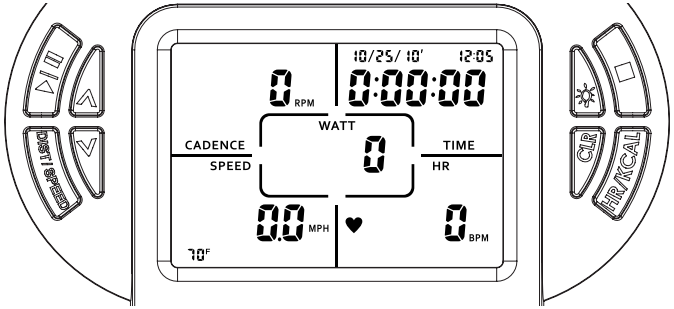


To stop your workout press the Stop Button:



To Clear the data being displayed press the CLR button:

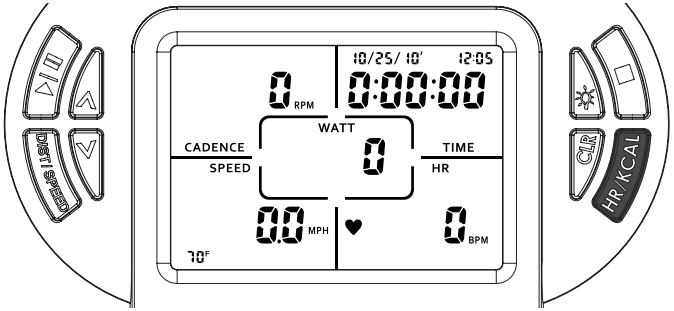


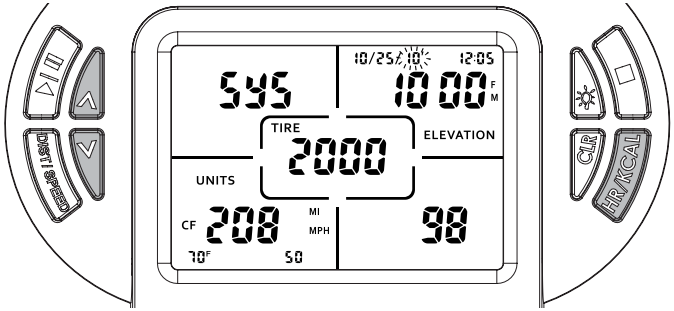


The Light button can be used at any time to turn the backlight on. The backlight will remain on if you are pressing buttons on the Power Pilot, but will turn off after five (5) seconds if no buttons are pressed.

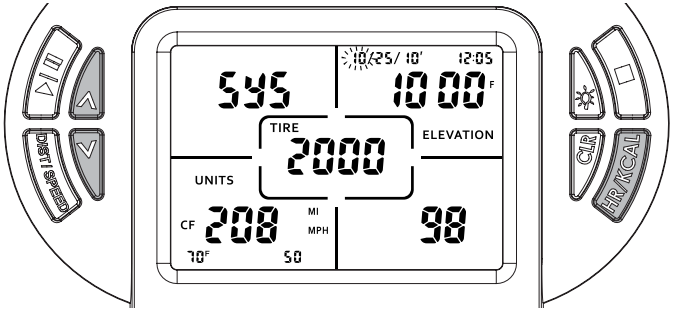
The System Settings menu allows you to set items like the date and time, Metric or Standard unit display, tire runout length, and elevation (used to calibrate the internal power equation).

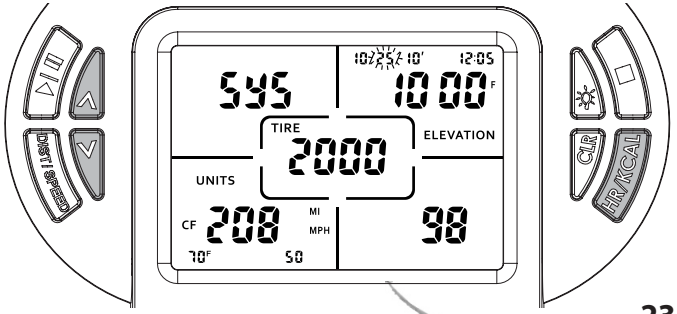
To enter the System Settings press and hold the HR/KCAL button (2 sec.). Then use the Up and Down buttons to adjust the year (blinking) and press the HR/KCAL button to confirm your selection:



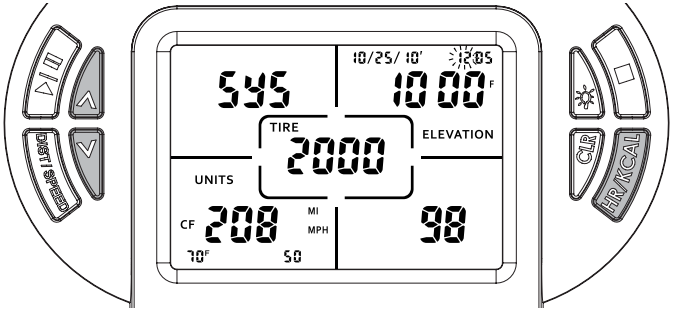


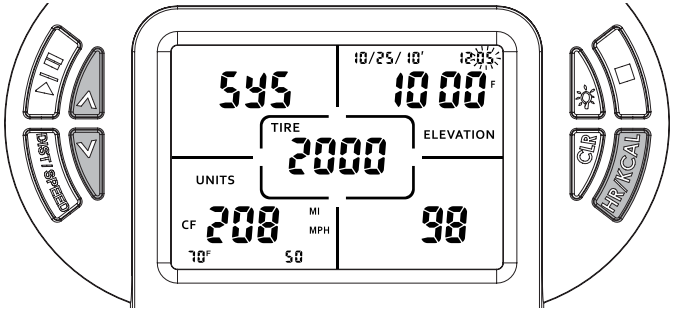
Adjust the month and press the HR/KCAL button, then adjust the day and press the HR/KCAL button:



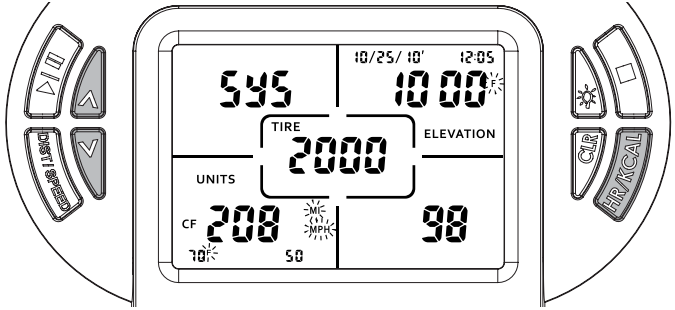


Adjust the hour and press the HR/KCAL button. Then the minutes and press the HR/KCAL button. Note that the clock operates in a 24 hour format.

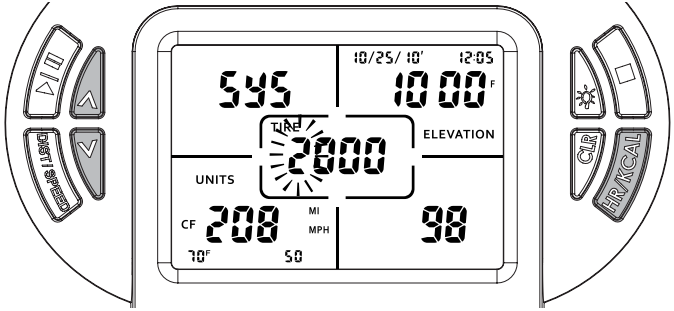




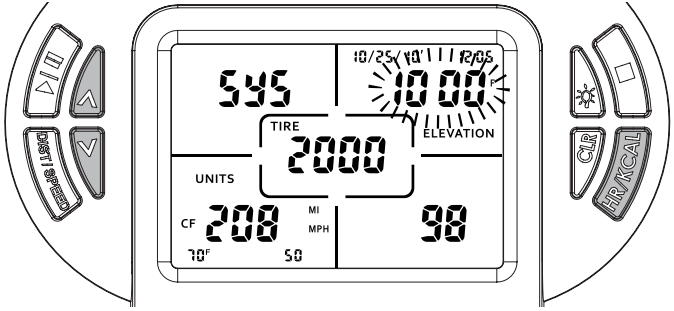
Select the Units you would like to use (Metric or Standard) and press the HR/KCAL button to confirm your selection.



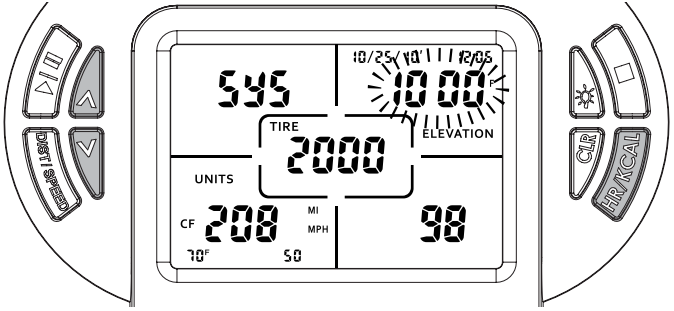
Adjust the Tire Runout setting (mm). Each digit is adjustable individually. This is used to calculate your distance as you exercise. If you are unsure about your tire runout please refer to the table on p. 53.



Adjust the elevation where you will be using your Power Pilot. This variable is used in conjunction with the air temperature and relative humidity to calculate your Power. Confirm your selection with the HR/KCAL button.

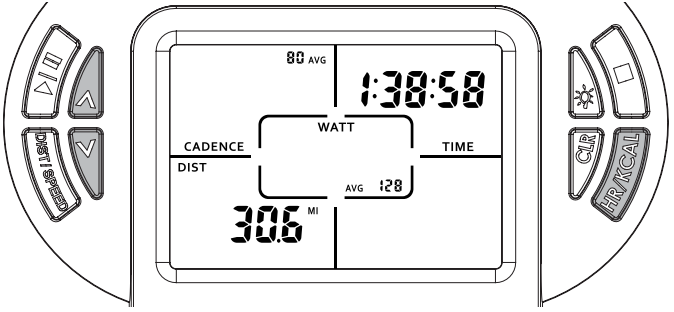


There are four non-adjustable items displayed in the system settings as well. The firmware version is in the lower right corner, the mechanical correction factor (used for calculating your power) is the large number in the lower left section, and ambient temperature and relative humidity are along the left lower edge.



After entering all the variables in System Settings you will be shown a summary screen showing the following items:

- Total exercise time accumulated on the Power Pilot (H:HH:MM)
- Total distance accumulated on the Power Pilot
- Average cadence (pedal RPM)
- Average watt production



The Training Settings are used to create the intensity of your Training Programs. In Training Settings you will set the following:

- Threshold watts
- Watt range for Zones 01-06 (Calculated as a percentage of your threshold watts)
- Threshold heart rate
- Heart rate range for Zones 01-07 (Calculated as a percentage of your threshold heart rate)
- Maximum heart rate limit
- Minimum heart rate limit

The zones are designed as percentages of your threshold for ease of use. This means that the same program can be applied to anyone's Power Pilot and it will then be automatically tailored to that person's fitness goals.

Note: *It is necessary to consult your doctor or fitness specialist to help you set your thresholds and zones.*