Basix Plus
Heart Rate Monitor

Instruction Manual
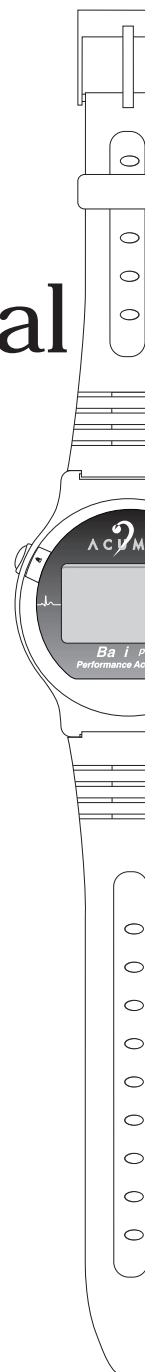
ACUMEN

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Congratulations!

Welcome to the future of wireless heart rate technology! Your purchase today shows that you are serious about your exercise and are committed to achieving your best. Today, getting the most from your exercise doesn't necessarily mean you have to spend longer periods of time to achieve those goals. With Target Heart Rate Training, you will increase the effectiveness of your workout by monitoring and quantifying your results every step of the way. For most individuals as little as 20 minutes in your target heart rate zone each session is enough to achieve substantial health improvements. The Acumen Basix^{plus} will act as your personal coach and guide you to your fitness goals more effectively.

Mission Statement

At Acumen we have listened to what people such as yourself have been asking for in a heart rate monitor and are committed to your satisfaction. We know you will enjoy the all of the added features, along with those never found before in other heart rate monitors,and the ease of use incorporated into our products. If you ever have any questions, comments or suggestions, please write or call our staff. We greatly value your feedback and look forward to continuing to provide you with products and support that's second to none. Thank you for your purchase and anticipated support.

Product Development Team

1 Year Limited Warranty

This product is warranted by Acumen, Inc. for a period of one year from date of original purchase (with the exception of batteries and elastic chest strap) under normal use, to be free from defects in material and workmanship. This warranty does not cover damage caused by accidents, misuse, abuse, tampering or disassembling of the product. Acumen, Inc. reserves the right to determine the cause of malfunction and will repair or replace your Acumen HRM at no charge except for shipping and handling. For warranty service, you must provide proof of purchase & date of purchase, along with a check or money order for $7.50 to cover the costs of shipping and handling. For service, please see the insert attached at back of the user's manual. Warranty is voided if repairs have been made by individuals not authorized by Acumen, Inc..

No responsibility is assumed for any incidental or consequential damages, including but without limitation damages or injuries resulting from possible measurement inaccuracies or malfunctions.

Basix^{plus} Features Include:

- Shock resistant design
- Water resistant to 30 meters
- Nite Site Electroluminescent Night Light
- EZ-Set Target Zone Pat Pend automatic programming
- Target Zone (TZ) audible and visual alarm indicators
- Wireless ECG accurate heart rate chest belt
- 12/24hr Time/Date display with daily alarm
- Quick Release Bike Mount Design (Optional)
- Memory Recall of Time in Target Zone, Calories & Fitness Index.

Basix^{plus}

If you purchased the Slide Mount Basix*plus* your package includes:

A.) Pulse watch receiver with detachable face
B.) Chest transmitter
C.) Adjustable elastic strap with EZ-Fit Belt Clip
D.) Acumen Bike Mount
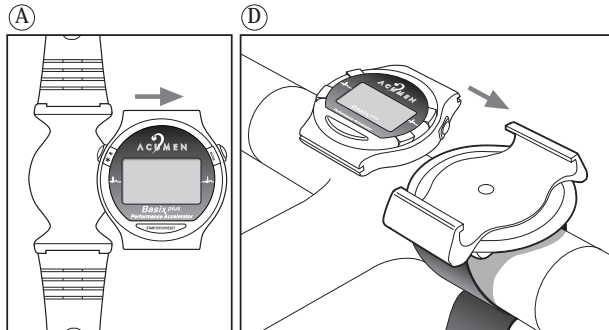
Buttons And Functions

• MODE/SET- Press momentarily to change modes. Press & hold for SET.

• LIGHT (☀)/ALARM (ᵒⁱ))
  - Press momentarily to light display 3 sec. Press and hold to keep light on longer & hold 3 sec. to toggle alarm ON/OFF for the current mode displayed.
• START/STOP/RESET- Press momentarily for START/STOP. Press & hold to RESET stopwatch.
Note: All buttons produce one short beep when pressed. Press and hold commands also produce another beep.

Modes Of Operation

To switch through different modes, click the MODE button.
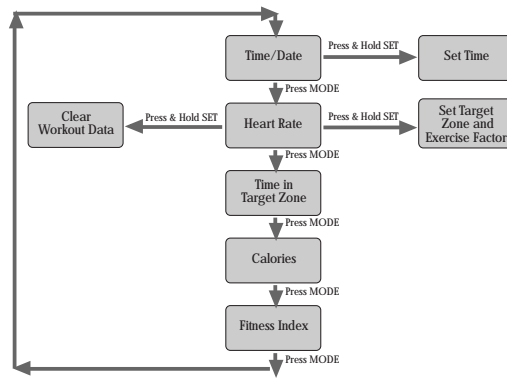
Basic Use Of Setting Modes

The two setting modes are accessed from the Time of Day & HR/Stopwatch modes.
- Press & hold the SET button to enter setting mode.
- Adjust blinking digits with the RESET or ALARM buttons.
- Press RESET to increase the digits. Press ALARM to decrease the digits. Press and hold changes the digits fast.
- Proceed to the next setting option, with the SET button.
- To exit setting mode when finished, just press and hold the SET button.

Note: If no button is pressed for 1 minute the watch will automatically exit the setting mode.

Setting the Clock

Start from the Time-of-Day mode.

1. Press & hold the SET button to enter the time setting mode.

2. Hour (blinking) - set using the RESET or ALARM button. Press the SET button to proceed to the next item.

3. Minutes (blinking) - set using the RESET or ALARM button. Press the SET button to proceed to the next item.

4. 12/24hr. time display(blinking) - set using the RESET or ALARM button. Press the SET button to proceed to the next item.

5. Year (blinking) - set using the RESET or ALARM button. Press the SET button to proceed to the next item.

6. Month (blinking) - set using the RESET or ALARM button. Press the SET button to proceed to the next item.

7. Day (blinking) - set using the RESET or ALARM button. Press the SET button to input information and proceed to Alarm settings.

8. Daily Alarm (blinking) - set on or off with the RESET or ALARM button. Press the SET button to proceed to the next item.

8:00

SL OFF
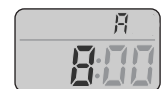
a moderate to high-effort level range. Select a number based on how hard you plan to exercise for a given activity and set your unit accordingly. (See Setting instructions on page 7.) We've highlighted the most common activities. If you do not find the particular activity you are looking for, refer to one that's similar.

Table of Exercise Factor Settings

Exercise	Intensity Level		
	Light	Medium	High
Aerobics	6	7	9
Basketball (game)	7	8, 9	10, 11,12
Bowling	2	3	4
Cycling	3-5	6-8	9,10
Dancing	3	4-6	7, 8
Football	6-7	8	9, 10
Golf (walking w/bag)	4	6	7
Jumping Rope	8	9, 10	11, 12
Running	8-10	11-15	16, 17
Skating (Ice/Inline)	5	6	7, 8
Skiing (Cross-Country)	6-7	8-10	11,12
Skiing (snow/Water)	5	6	7, 8
Stair Climbing	4	5,6	7, 8
Swimming	4	5-7	8-10
Tennis	4-5	6-7	8, 9
Volleyball	3	4	5, 6
Walking	3	4, 5	6, 7
Weight Training	3-4	5-8	9, 10

Determining Your Target Zone

What is Target Zone Heart Rate Training? In order to benefit the most from your workout, you need to become familiar with your heart rate training zone. By working within the correct range, you will achieve your fitness goals and strengthen your cardiovascular system in less time. Here is basically how it works.

Effective conditioning requires that you maintain your heart rate at the proper level for at least 20 minutes per workout (or per day). At too high of a heart rate your activity can become counter effective. For most people, as your heart rate exceeds 85% (the upper limit), your body begins to become anaerobic and produce acids. This also burns less fat which can begin to burn and strain muscles, and even start storing fat. As for the Lower limit, this number tells you when you have reached a level of intensity that is productive. A heart monitor will tune you into your body's internal activity level and helps prevent injury or worse.

To make this part easy for you, this monitor automatically sets the correct target zone for you, after you enter in your age in the heart rate setup mode. The internal auto-setting is based on a generally accepted standard range of 65 to 85% of your Max HR (where mHR = 220- Age).

There are many variations of formulas for calculating target zones. In most cases they will come up with a range very close to or the same as the auto-setting of this watch. If you prefer to fine-tune or program your own limits, this can also be done in the HR Setting Mode (see page 7). The internal automatic TZ calculation is based on the following example:

| Target Zone Calculation Formul |
|---|
| 220 - Your Age = Max HR |
| (For a 30 year old, your calculations would be as follows.) |
| 220 - 30 = 190 Maximum heart rate (mHR) |
| 65% of this number = 123.5 |
| 85% of this number = 161.5 |

The calculated exercise range for a 30 year old would be a low of 124 and a high of 162 beats per minute.
(You should never exercise near your maximum heart rate (mHR) for any period of time.)

Basic Fitness Tips And Target Zone Explanation

Depending on your specific goals, individual fitness level or just on how energetic you feel, you may want to modify your range from one day to the next based on the following chart:
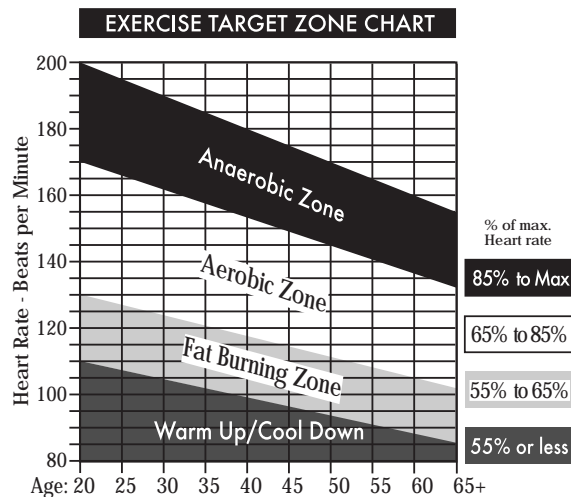
Stretching- Begin and end every workout with stretching. Stretching done before your workout increases flexibility to help prevent muscle strain or injury and stretching after, loosens tight muscles and helps prevent soreness.
- Stretch before warm up & after cool down.
- Stretch slowly & gently, never bounce or stretch to a point of pain.
- Hold each stretch 30-60 sec. & exhale as you extend stretches.

Warm Up & Cool Down, 55% or less - Start every exercise with a slow and gradual warm up and end with a slow and gradual cool down. Smoothly easing into and out of strenuous activity helps your body prepare your metabolism and blood flow to efficiently break down fat and change over from one intensity level to another. Going into your target zone too quickly can cause your heart rate to increase too rapidly causing you to loose your energy too soon, strain yourself or possibly worse.
- Slowly bring your heart rate to a level just below   the lower limit of your target zone.
- Maintain heart rate at this level for 5-10 min.
- Maintain heart rate at this level for 5-10 min.

The Fat Burning Zone, 55-65% -This range is recommended for those who haven't worked out in a long time, are trying to loose weight, those at a high risk for heart problems or if you're just not feeling 100% one day. It is intended for low intensity and/or long duration exercise. The lower intensity helps you maintain your exercise for longer periods of time. When exercising for weight loss or starting a new exercise routine, longer duration is more important and much healthier than higher intensity.
- Build up gradually to 30 to 60 min. per workout.
- Workout 3 or 4 times per week.

The Aerobic Zone, 65-85% - This range is recommended for those in good physical condition who have been exercising on a consistent basis for an extended period of time. Exercising at this range helps improve your fitness level and prevent injury caused from overtraining.

- Duration: 20-30 min. per workout.
- Frequency: At least 3 or 4 times per week.

The Anaerobic Zone, 85%-mHR - To be used by ultra-athletes only and never recommended without close medical approval or supervision. This range is used only for those in extremely good physical condition during races or training for competition. It is typically used for interval training (or short sprints) to help improve or measure endurance levels.

Monitor Your Progress - Track yourself to determine how your overall health and fitness improves and become aware of your various heart rate levels. As your cardiovascular system improves, your normal resting heart rate will decrease. It will take longer to reach your target zone, it will take less and less time for your heart rate to come back down after working out.

If you ever notice your resting heart rate to be higher than usual, it may be a good idea to take a rest from exercise, or at least workout easier that day, Similarly, if you notice that your heart rate doesn't come back down as quickly as usual at the end of your workout, it could be an indication that your workout was more (or too) strenuous, or that you haven't recovered well enough from a previous extraneous workout or injury. These signals in your heart rate could also be an indication of an illness coming on, stress, or a good reason for a check up with your doctor.

Enjoy your new heart monitor and have fun! We'll see you at the finish line.

Operating Your Basix^{plus}

Attaching Your Heart Monitor

1.) Attach the adjustable strap to one side of the transmitter. Push the round tab of the belt clip through the back side of the attaching hole on the transmitter and twist it into place (Fig. 1). The unique angled clip is designed to prevent the belt from slipping down your chest. It can be attached in either the up or down position (keeping both the same). Depending on the contour of your torso, one direction may be more comfortable than the other.

2.) Adjust the tension of the strap to fit snugly but comfortably, around your chest. Wrap the belt around your chest as shown (Fig.2).

Fig.1

Patented Angle Design
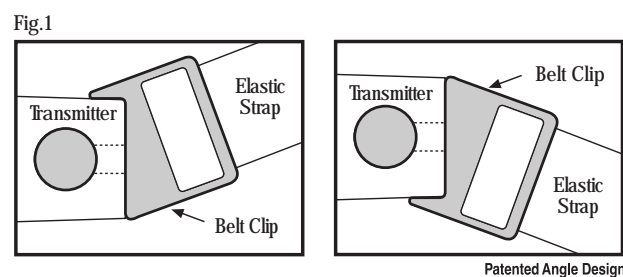
3.) Center and position the belt as shown, at heart level, just below your pectoral muscles or breasts (but not too low) and attach the other end of the strap to the transmitter. The logo should be positioned at the center of your chest.

Fig.2
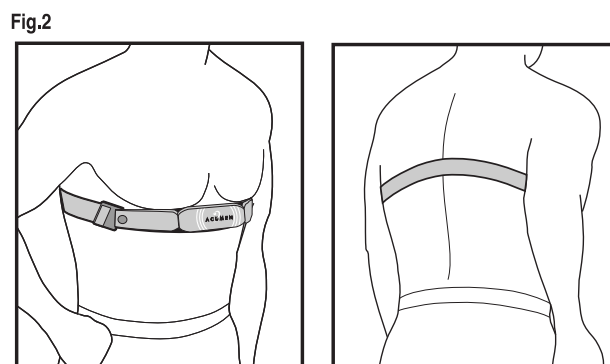
4.) Moisten the transmitter electrodes. For best results, the belt should be worn directly on your skin. A small amount of moisture is needed to assist in conducting the electrical impulses generated from your heart beats to the transmitter. Gently pull belt away from skin and
apply a small drop of water or saline solution to each of the two electrodes (one on each side) (Fig. 3).
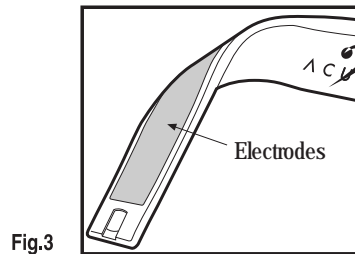

Fig.3

If you prefer to wear your belt over a light shirt you will need to generously moisten the areas of the shirt directly beneath the electrodes in order to insure proper signal pick-up. You may wear as many layers of clothing as desired over the transmitter belt without effecting the operating range.

5.) Put your wrist monitor on. The watch doesn't have to be attached to your wrist to register your heart rate it just has to be within 3 feet of your chest.

Exercising with your Basix^{plus}
6.) Heart Rate -From Time of Day mode click MODE button once to go to Heart Rate mode and begin your exercise. If your transmitter is correctly attached, the running man indicator on the watch display should begin to blink and your current heart rate in beats per minute will come up on the display. If no heart rate is detected for 5 min. the heart rate circuit will switch itself off. The "♥" indicator tells if the heart rate circuit is on. To switch it back on after it has shut off, simply restart the Heart Rate mode by clicking the MODE button.

7.) The Target Zone -Your watch will provide both a visual indicator (by flashing the heart rate digits) and an audible alarm (beeping) if your heart rate is above or below your set target zone range. The "TZ" indicator with the " ▲ " or " ▼ " will indicate if your heart rate is within, above or below the set target zone, respectively. Press and hold the ALARM button to turn the beeping alarm on or off (indicated by the "•))) " on the display).

8.) The Stopwatch -From the Heart Rate mode simply press the START/STOP button to activate the stopwatch. You can pause and restart by pressing the START/STOP button. You can also press the MODE button to view
the Recall or Time modes without interupting the stopwatch. When you have finished, simply press the STOP button to end the recording. Press the MODE button to proceed to the Recall or Time mode.

*Quick Start -This feature instantly takes you to the Heart Rate/Stopwatch mode and starts or stops the stopwatch and recordings from any mode, at one simple press of the START/STOP button.

9.) Nite-Site night light operation - simply press
the LIGHT button once to light the display for 3 seconds.

10.) Smart-Light between the hours of 6 PM & 6AM any button press will activate the night light for 2 seconds.

Using the Memory Recall Mode
From the Time mode, click the MODE button 2 times to go to the Recall mode. The upper display will show your Total Elapsed Time for your workout and the lower display will show how much time you have spent in your TZ.

*Smart-Recall Display -This feature allows you to view the Recall display in real time while the stopwatch is running. To use of during your workout, switch to the Recall mode.

Using the Fitness Index Recording
This feature is used to monitor your fitness efficiency level by monitoring how quickly your heart rate starts to come back down after your workout. As your cardiovascular system improves it will take less and less time for you heart rate to come back down to a resting level after your workouts. This measurement is automatically activated at the end of your workout when you press the STOP button. To use it correctly, it's best to activate it immediately as soon as you have completed your exercise (or as soon as you finish your cool-down).When you stop the stopwatch, the display will automatically switch to the Fitness Index Mode and begin a 60 sec, countdown timer. During this countdown you should be concentrating on bringing your body down to a comfortable rest, by taking deep slow breaths and relaxing your muscles. When the countdown timer reaches zero, the watch will beep twice and display a number between 0 and 99. The higher this number, the better your recovery rate.

Note: The transmitter belt needs to remain attached to your chest for this feature to work.

Resetting the Stopwatch & Clearing Workout Data
To reset the Stopwatch and clear workout data, press and hold the RESET button for 3 sec, while in the Heart Rate/Stopwatch mode and with the Stopwatch timer stopped. You will hear a second beep and the stopwatch timer display will go to all zeros. This will allow you to record a new workout starting from zero. Keep in mind that the previous data will remain in the memory recall displays until it is replaced with new data by restarting the stopwatch and recording a new workout.

Troubleshooting

•I can't get a Heart Rate reading? -The most common cause for the heart rate not turning on or working erratically is that the belt is not positioned correctly or not moistened properly. Make sure that the belt is positioned high enough on your chest (too high is better than too low) and properly moistened. The tension should be comfortable but it shouldn't be so loose that it slides down the chest. Also make sure that your watch is within the 3ft. transmitting distance of the transmitter and check the angle of its position (at further distances, the watch face should be parallel and facing the transmitter, instead of on an angle).

It is also known that a small percentage of the population may have trouble getting an accurate heart rate reading with this type of device due to the many various intricacies of the heart rate signal. The signal may be too weak on the surface of the skin, stronger in a different location of the chest or irregular in waveform. Also, if the user has had recent heart problems, surgery, or other various differentiatingfactors, they might have irregularities in HR readings. If you are experiencing difficulties in picking up a steady signal, you may want to try your monitor on another person, or try positioning the belt higher on your chest. Shifting it more to the left or right of your chest (instead of centering the logo) might also work.

•I have a blank screen or missing digits? -This can be an indication of mechanical shock damage, a dead battery or possibly moisture damage. If this occurs, you could first try a Global Reset (see below) otherwise send it in for service. Repairs should only be done by Acumen or an authorized Acumen service center.

*Global Reset -If your monitor should ever get stuck or act erratically due to dropping it, static shock or some other unforeseen reason, this feature will allow you to reset the unit and return all settings back to their internal defaults. To perform this function press and hold all 3 buttons at once. Caution: THIS WILL CLEAR EVERYTHING! including all of your personal settings.

•My heart rate readings act strange while in my car or on an airplane? -Though the Basix is
designed with high integrity interference elimination circuitry, extremely excessive electrical or magnetic fields like those in a vehicle (or on board an aircraft) can cause disturbances in the heart rate readings. When your monitor detects too much interference such as this, it will usually display "00" or "- -" and eventually turn its heart rate circuit off. The " ♥ " indicator tells you if the heart rate circuit is on. In most cases holding the watch within a foot of the front of the chest belt will allow your watch to recieve the signal and display your heart rate accurately.

My Fitness Index Reads Zero or Low-
This feature tracks how quickly your heart rate comes down within one minute's time. If your rate remains the same, increases, or only decreases by a very small amount within that time, it will produce a zero (or a low) reading. To insure a more accurate measurement, it is important to activate this feature at the correct time. If you activate it too soon, such as before you have finishing your exercise, there's a good chance that your heart rate could stay high or increase within that time. If you activate it too late, your heart rate may have already reached it's resting level and therefor could be higher or nearly or same within that time,(which would also produce a zero or low reading). For best results, activate the Fitness Index recording as soon as you stop your activity and try to completely relax during the countdown recording.

Taking Care Of Your Basix^{plus}

Your Acumen Heart Rate Monitor was built with a commitment to quality and dependability. To extend the life of your monitor and keep it operating at its peak, please read your instructions carefully and keep the following tips in mind:

Care & Maintenance
•To maximize the life of your heart monitor it is important that you keep all of its components clean and always dry off any moisture before putting it away. For cleaning, use only mild soap and water. Be careful to never use abrasive cleansers or chemicals as they will cause permanent damage.

•For safekeeping, always store your monitor in its original box and in a safe, mild and dry location. Be sure not to expose it to extreme temperatures such as, leaving it in direct sunlight or in a hot or freezing cold car for extended periods of time.

General Precautions
•Although your Heart Rate Monitor is water resistant, be sure not to operate its buttons under water as pressure can cause them to leak.

•The transmitter will automatically shut itself off once you have disconnected it from your chest. However, it is important to thoroughly dry it off after every use, since moisture on the electrodes can cause it to remain on longer.

• Be sure not to excessively twist or bend the electrode portions of the belt (never bend backwards), especially when storing it. This can permanently damage their
conductivity and cause mechanical damage to the internal circuit.

Battery Replacement
Should your monitor need battery replacement we recommend that you take it to a local jewelry store or an authorized Acumen service center in order to guarantee that it will maintain it's water resistance. Improper battery replacement or service will void the warranty. Repairs should only be performed by an Acumen service center. Refer to the service card in the back of this instruction manual for details.

Technical Specifications

Shock Resistant	Standard shock resistance.
Water Resistance	30 meters. Not intended for diving.
Operating Temperature	0 to 50°C (32 to 122°F)
Battery Type	Watch-Lithium CR2032 Trans.-Lithium CR2032
Battery Life	Approx. 2 years, Avg. HR use of 1 hr/day, 7 days/wk.
Memory Recall Items	Total Elapsed Time, Time in TZ. Calories, Fitness Index.
Time Default Mode	After 5 minutes of no key press, no heart rate and stopwatch not running, watch returns to the time of-day mode (when in Setting Mode it returns after just 1 minute).
Global Reset	This feature will clear all memory data and user settings and return all settings to the default values listed. Press and hold all 3buttons for 2 seconds. (Also happens at battery replacement.)

Technical Display Guide

Display Items	Default Setting	Range
Time	8 AM/12Hr *AM & PM indicators active only in the Setting Mode.*	12/24hr. clock
Alarm Time	8 AM/ OFF	ON/OFF
Date	01-01-1996	to 12/31/2095
Age	30 years	7 - 99
Heart Rate Display		0 (20) - 250 bpm
TZ Alarm	OFF	ON/OFF
Upper Target Zone Limit	162 beats per minute	OFF - 250
Lower Target Zone Limit	124 beats per minute	OFF - 250
Note: TZ High cannot be set less than TZ Low and TZ Low cannot be set greater than TZ High. However, they can be set within 1 beat of each other, or either one can be set to OFF.		
Stopwatch Capacity	23:59.59 (rolls over at 24 hours)	
Exercise Factor	5	0-20
Calorie Display	0-9999kcal.	(rolls over at 10000)
Fitness Index	0	0-99