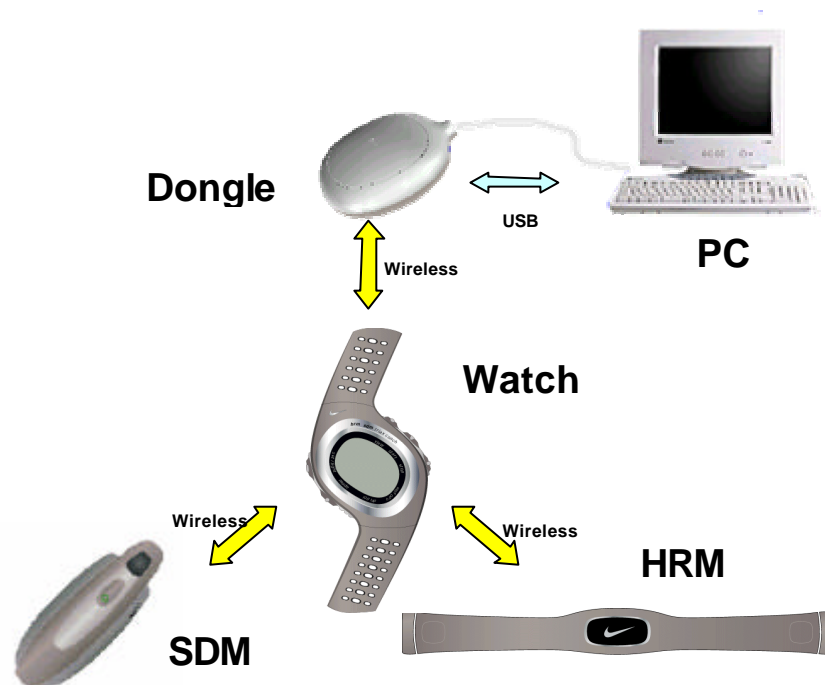# 1.1 General Description

The Coach Watch is the central equipment in the Coach system. This Watch has an internal 916.5MHz RF transceiver, and is able to send and receive data from SDM(speed distance meter)/HRM(heart rate monitor). The Watch is also able to upload and download information with a PC via a Dongle (USB Link to PC), which also contains an RF transceiver.

The Watch has 16KB of non-volatile EEPROM, which is used for storing data logs of information received from the modules for uploading later to the PC. Also, the Watch configuration can be modified via a PC application and downloaded to the Watch (this configuration is stored in Main IC RAM). The configuration will enable/disable individual modes in the Watch (i.e. PACE, FOOTSTRIKE COUNT, CHRONO 2, etc.), as well as set some global variables, such as whether distances are displayed in kilometers or miles. Workout 'scripts' can also be custom-configured by the user on the PC and downloaded to the Watch.

The primary COACH product objectives include the following:

- Provide a device that provides essential information (heart rate, pace etc) while running and stores the above data for future reference
- Allow users to transfer, store, view, and visualize the above workout data on a computer
- Allow the user to program and customize their watch via an intuitive software interface
- Enable a more precise, planned and regimented workout program by allowing users to easily apply and/or build training scripts

In summary, COACH enables "precision training" and brings the benefits of personalized coaching to a broader audience. Unlike the technological tools that are currently available, COACH will provide a platform that is simple, motivational, and is as applicable to the average athlete as it is to the hardcore competitor.

Technical Specification
      Radio Device   TR-1000 Transceiver Module (RFM)
      Carrier Stability   916.5MHz +/- 200 kHz
      Modulation   ASK 100% modulation depth (OOK)

      Transfer Baud Rate 9600bps
      Clock Drift   +/-100ppm/sec Max (X'tal)
      Serial Frame   1 Start Bit, 8Bit Data, Non Parity, 1 Stop Bit
      Error Detection   CRC8 (Synchronous Communication)
                          CRC16 (Bulk Communication)