

**GPS:**

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**New sports watches are a matter of timing**

07/23/2002

The Milwaukee Journal Sentinel

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New sports watches are a matter of timing

Knight Ridder News Service

Tuesday, July 23, 2002

Today's sophisticated sports watches are almost like a personal trainer on your wrist, going the distance to help fitness fans stay alert and safe as they strive to achieve personal bests.

Timex has scored several feature firsts through the years with its popular Ironman line of sports watches. Its new Ironman Speed & Distance System lets runners, bikers, skiers, skaters and hikers answer the big questions: How far have I gone? How fast have I traveled?

To achieve such accuracy, the Ironman relies on a Global Positioning System tracking receiver worn on the arm or clipped to the waist like a sports radio. This device beams tracking information to the watch via a low-powered FM radio signal.

Just like GPS systems available in automobiles and hand-held navigational gadgets, the Timex tracker -- made by product pioneer Garmin International -- hones in on signals from U.S. government navigational satellites.

Through a process called triangulation, which measures the relative arrival time of signals from three different satellites, GPS pinpoints your starting location at the push of a button.

As you jog, run, bike or ski, it uses time and geographic changes to gauge speed, distance and pace time.

How accurate is the Timex system? Odometer tracking is calculated to 1/1,000th of a mile or kilometer. Speed is gauged to a tenth of a mile or kilometer per hour, with a maximum measurable speed of 450 mph or 725 kph.

GPS was first developed by the government to help land planes and zero in on missile targets and GPS satellites are equipped with accurate atomic clocks. In the Timex system, any slip in the watch's timekeeping is automatically corrected every time the GPS component is used.

There are some caveats when using the Speed and Distance System. For starters, the GPS device only works outdoors.

The sensitive device can be thrown off by people standing near the person wearing it, so to measure performance in a big race runners first need to step at least six feet away from the crowd to mark their starting spot.

The GPS unit must be positioned within three feet of the watch and functions best when strapped (with its Velcro-type band) to an arm. And while the watch is water-resistant to

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50 meters and the GPS receiver is immersible, someone wearing it can't measure underwater travel.

Color-coordinated with the GPS device, the gray-and-black-trimmed watch is no bigger than other Ironmans.

Fully equipped with conventional watch features -- multiple alarms, dual time zones, Indiglo night light -- you'll want to keep it strapped on even when your only exercise is pushing the chair away from the desk.

The Timex Ironman Speed and Distance System sells for about \$225 (100-lap version) at specialty sporting goods stores. A 50-lap version is coming soon, priced at around \$200.

Suunto's new X6 wrist-top computer might prove to be next best thing to a safety net.

Suunto, a Finnish company, specializes in specialty watches to suit active lifestyles and also makes dive instruments and water sports suits.

The X6's altimeter, measuring in 1 meter (3.3 feet) height intervals, can interact with timer and memory functions to record how fast you're climbing or descending a mountain.

This information can then be downloaded to a Windows PC using the supplied cable and Suunto Activity Manager software to visually plot a route and analyze performance.

Users can go online at [Suuntosports.com](http://Suuntosports.com) to compare results with those of other watch wearers.

For safety's sake, the X6's built-in barometer and temperature gauge measure weather conditions and alert you with an alarm if a severe weather change is imminent. Plus, a compass will help steer you home if you've strayed off course in unfamiliar territory.

More conventional watch features include a calendar, three alarms with a date option, dual time, and chronograph with unlimited split/ lap times. The X6 happily dives to 100 meters, or 330 feet.

Despite its options, the X6 has just five control buttons and a menu-based user interface akin to that seen on mobile phones. Big text and numerals are displayed on its large, backlit screen beneath a sturdy, mineral-crystal face. It costs \$299.

For more information on Timex watches, visit [www.timex.com](http://www.timex.com) or call 800-367-8463. For more information on the Suunto X6 Wristop Computer, see [www.suunto.com](http://www.suunto.com).

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