

**Keywords:** claim construction, real-time data

**General:** A judgment of non-infringement is vacated based upon a modification of the district court's construction of several claim terms including "displaying real-time data".

*Paragon Solutions v. Timex*  
No. 2008-1516 (Fed. Cir. May 22, 2009)

**I. Facts**

Paragon Solutions filed suit against Timex, alleging that certain Timex products infringed Paragon's U.S. Patent No. 6,736,759 (hereinafter, the "'759 patent"). The '759 patent discloses an exercise monitoring system including a "data acquisition unit" and a "display unit". The "data acquisition unit" itself contains both a physiological monitor to retrieve physiological data such as heart rate and blood oxygen level and an electronic positioning device to retrieve at least one of the user's location, altitude, velocity, pace, or distance traveled. Data from the "data acquisition unit" are provided to the "display unit" to be displayed to the user in "real time".



The '759 patent contains two independent claims. Claim 1 recites, in relevant part:

1. An exercise monitoring system, comprising:
  - (a) a *data acquisition unit* comprising an *electronic positioning device* and a *physiological monitor*, said data acquisition unit configured to be worn by a subject performing a physical activity; and
  - (b) a *display unit* configured for displaying *real-time data* provided by said electronic positioning device and said physiological monitor, said display unit separate from said data acquisition unit...

(Emphasis added). Of particular importance to the case is the physical relationship between the electronic positioning device and physiological monitor as part of the data acquisition unit and the construction of the terms "display unit" and "real-time data".

Prior to amendment, claim 1 recited, in relevant part:

1. An exercise monitoring system, comprising:
  - (a) an electronic positioning device;
  - (b) a physiological monitor, and
  - (c) a display unit configured for displaying data provided by said electronic positioning device and said physiological monitor;

Op. at 5. In response to a rejection, the claim was amended to incorporate the data acquisition unit and to display real-time data. Applicants stated that the claim was amended “to require that the electronic positioning device and physiological monitor are provided as a data acquisition unit which is configured to be worn by a subject performing physical activity” and “...to require that the display unit is separate from the data acquisition unit and is configured to display real-time data.” *Id.* at 6. The claims were allowed as amended.

The district court construed the relevant terms as:

“Data acquisition unit” – one structure that includes the electronic positioning device and the physiological monitor;

“Display unit” – a unit for displaying real-time data provided by the data acquisition unit;

“Displaying real-time data” – displaying data substantially immediately without contextually meaningful delay so that the information is displayed in a time frame experienced by people.

Following claim construction, the parties stipulated to non-infringement subject to Paragon’s right to appeal the district court’s construction. *Id.* at 9.

## II. Issues

- A. Did the district court err in its construction of “data acquisition unit”?
- B. Did the district court err in its construction of “display unit”?
- C. Did the district court err in its construction of “displaying real-time data”?

## III. Discussion

- A. Yes. On appeal, “data acquisition unit” was construed as “a structure or set of structures that includes at least the electronic positioning device and the physiological monitor.” *Id.* at 15.

Because the parties stipulated that for all of the allegedly infringing products the electronic positioning device and physiological monitor were separate physical structures, Paragon appealed the district court’s construction that the data acquisition unit was one structure. The Federal Circuit court found support for Paragon’s position in the claim language, specification, and prosecution history.

First, the court found support for Paragon’s position in multiple dependent claims which recited a GPS device as the electronic positioning device and described the GPS device and physiological monitor as being “removably secured” to a support member. The “removably secured” language supported a finding that the electronic positioning device and the physiological monitor could be separate structures. Furthermore, the second independent claim recited a physiological monitor separately from the data acquisition unit.

Next, the court found support for Paragon’s position in the specification. A key sentence of the specification stated that “the data acquisition component of a monitoring system according to the present invention may even comprise multiple structures which are physically separate from each other.” *Id.* at 12. Additionally, Figure 1 showed three separate structures (the electronic positioning device, the physiological monitor, and the display unit) with no mention of the data acquisition unit.

Finally, the Federal Circuit court disagreed with the district court’s reliance on the amendment to claim 1 as embracing a single structure unit concept. The Federal Circuit court claimed that the amendment was directed at separating the display and data acquisition units rather than incorporating the electronic positioning device and physiological monitor into a single unit.

- B. Yes. Because the district court's construction was based on a unitary data acquisition unit, the Federal Circuit court reversed, construing "display unit" as "a structure or set of structures, separate from the data acquisition unit, for displaying real-time data provided by both the electronic positioning device and the physiological monitor independently or over a common transmission path." Op. at 18.
- C. Yes. The Federal Circuit court construed "displaying real-time data" as "displaying data without intentional delay, given the processing limitations of the system and the time required to accurately measure the data." *Id.* at 28.

As an alternative basis for affirmance, Timex argued against the district court's construction in favor of a stricter interpretation of "real-time" as immediate.

The court initially noted that the claim language itself prohibited a reading of "real-time" as instantaneous. Because the data acquisition unit and display unit were physically separate, transmission of the data necessarily required some non-zero amount of time. Further, because location, altitude, and distance traveled require positioning signals, receiving and processing the signals necessarily took some amount of time. Moreover, velocity and pace require a sufficient amount of time to elapse for the data to be meaningful. Similarly, heart rate requires at least the passage of time between successive heartbeats.

Timex relied heavily on Paragon's criticism in its specification of prior art that did not provide instantaneous feedback. The court overlooked this stating that the criticism was directed at systems that did not provide any feedback during the course of the physical activity. Timex additionally relied upon the specification's references to providing data at "any given moment." The court rejected the argument stating that "any given moment" is as ambiguous as "real-time".

The court found additional support against an "instantaneous" interpretation in the specification's statement that the invention could be practiced using commercially available technology and providing for rate data.

The Federal Circuit, however, rejected the district court's construction of "contextually meaningful delay" stating that it introduced a use dependence into the claim. "The wide variety of contexts disclosed as suitable uses for the claimed exercise monitoring system would render it nearly impossible to determine in advance whether the delay in a particular system would be sufficient to avoid infringement." *Id.* at 24. Furthermore, "[c]onstruing a non-functional term in an apparatus claim in a way that makes direct infringement turn on the use to which an accused apparatus is later put ... is inconsistent with the notice function central to the patent system." *Id.* at 25.

The Federal Circuit court additionally objected to a dictionary definition used by the district court as providing a definition that was too vague. The Federal Circuit court cited multiple sources which defined "real-time" based upon the availability of data in guiding the process. The court finally reached the construction incorporating the "intentional delay" language.

#### IV. Conclusion

Based upon a modification of the district court's construction of several claim terms, the Federal Circuit court vacated the district court's judgment of non-infringement and remanded for further proceedings.