UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

BIOSIG INSTRUMENTS, INC.,

Plaintiff,

-against-

NAUTILUS, INC.,

Defendant.

SUMMARY ORDER MEMORIALIZING COURT'S PATENT CLAIM TERM CONSTRUCTIONS AFTER A MARKMAN HEARING

10 Civ. 7722 (AKH)

ALVIN K. HELLERSTEIN, U.S.D.J.:

On August 11, 2011, the parties appeared before me for a hearing on the construction of claim terms in the patent-in-suit, U.S. Patent No. 5,337,753 ("'753 Patent"), pursuant to the United States Supreme Court's decision in Markman v. Westview Instruments, Inc., 517 U.S. 370 (1996). Having considered the parties' written briefs and heard oral argument, I construe the '753 Patent's claim terms as indicated on the record, memorialized in the chart appended to this order.

If the parties wish to file dispositive motions in response to my rulings, such motions shall be filed no later than November 10, 2011; opposition papers shall be filed no later than December 1, 2011; reply papers, if any, shall be filed no later than December 8, 2011.

SO ORDERED.

Dated: September 28, 2011
New York, New York

ALVIN K. HELLERSTEIN
United States District Judge

BIOSIG INSTRUMENTS, INC. v. NAUTILUS, INC.
CHART CONSTRUING DISPUTED CLAIM TERMS

U.S. PATENT NO. 5,337,753	
CLAIM TERM	**COURT'S RULING**
[1] "A heart rate monitor for use by a user in association with exercise apparatus and/or exercise procedures, comprising";	The phrase does not require any construction;
[1] "an elongate member";	The term "elongate member" means a cylindrical bar sufficiently long so that a person whose heart rate will be monitored can grip the cylindrical bar on both sides;
[1] "electronic circuitry including a difference amplifier having a first input terminal of a first polarity and a second input terminal of a second polarity opposite to said first polarity";	The phrase means electronic circuitry to cancel similarities and amplify differences between each of two inputs on the cylindrical bar;
[1] "said elongate member comprising a first half and a second half";	The phrase means that said cylindrical bar comprises a first half and a second half;
[1] "a first live electrode and a first common electrode mounted on said first half in spaced relationship with each other; a second live electrode and a second common electrode mounted on said second half in spaced relationship with each other; said first and second common electrodes being connected to each other and to a point of common potential";	The phrase means that each side of the cylindrical bar has two electrodes: one live electrode and one common electrode; The term "electrode" means a conductor through which electricity can flow; The term "live electrode" means an electrode connected to an input of the difference amplifier; The term "common electrodes" refers to two electrodes connected to each other and to a common voltage, such as ground;

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	The term "in spaced relationship with each other" means there is a defined relationship between the live electrode and the common electrode on one side of the cylindrical bar and the same or a different defined relationship between the live electrode and the common electrode on the other side of the cylindrical bar;
[1] "said first live electrode being connected to said first terminal of said difference amplifier and said second live electrode being connected to said second terminal of said difference amplifier";	The phrase means the two live electrodes are electrically connected to input terminals of the difference amplifier;
[1] "a display device disposed on said elongate member";	The phrase means there is a display arranged on the cylindrical bar for showing the user's heart rate;
[1] "wherein, said elongate member is held by said user with one hand of the user on said first half contacting said first live electrode and said first common electrode, and with the other hand of the user on said second half contacting said second live electrode and said second common electrode";	The phrase means the cylindrical bar is held by the user with her left hand contacting the electrodes on the left side of the cylindrical bar and her right hand contacting the electrodes on the right side of the cylindrical bar;
[1] "whereby, a first electromyogram signal will be detected between said first live electrode and said first common electrode, and a second electromyogram signal, of substantially equal magnitude and phase to said first electromyogram signal will be detected between said second live electrode and said second common electrode";	The term "electromyogram signal" means an electrical signal produced by muscles other than the heart; Viewing the electromyogram signal as a wave on a coordinate plane, the term "magnitude" refers to the size of the wave; Viewing the electromyogram signal as a wave on a coordinate plane, the term "phase" refers to one repetition, in a series of repetitions, as the wave moves forward through time, starting at or near the x-axis, rising above the x-axis,

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CLAIM TERM	**COURT'S RULING**
	crossing the x-axis, falling below the x-axis, and then returning to the x-axis to begin a new repetition. If one were to annotate Figure 3 of the '753 Patent, with the letter "A" above the first peak from the left, and with the letter "B" above the second peak from the left, from "A" to "B" would represent the phase;
[1] "so that, when said first electromyogram signal is applied to said first terminal and said second electromyogram signal is applied to said second terminal, the first and second electromyogram signals will be subtracted from each other to produce a substantially zero electromyogram signal at the output of said difference amplifier";	The phrase does not require any construction;
[1] "and whereby a first electrocardiograph signal will be detected between said first live electrode and said first common electrode and a second electrocardiograph signal, of substantially equal magnitude but of opposite phase to said first electrocardiograph signal will be detected between said second live electrode and said second common electrode";	The term "electrocardiograph signal" means an electrical signal produced by the heart;

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CLAIM TERM	**COURT'S RULING**
[1] "so that, when said first electrocardiograph signal is applied to said first terminal and said second electrocardiograph signal is applied to said second terminal, the first and second electrocardiograph signals will be added to each other to produce a non-zero electrocardiograph signal at the output of said difference amplifier";	The phrase does not require any construction;
[1] "means for measuring time intervals between heart pulses on detected electrocardiograph signal";	This is a means-plus-function element construed under 35 U.S.C. § 112, ¶ 6; Function: Measuring time intervals between heart pulses on detected electrocardiograph signals; Structure: The structure for this element is a microprocessor programmed with an algorithm for measuring the time intervals between pulses as disclosed in the '753 Patent at 4:4–12 and Figures 4-1 and 4-2 and equivalents under 35 U.S.C. § 112, ¶ 6;
[1] "means for calculating the heart rate of said user using said measure[d] time intervals";	This is a means-plus-function element construed under 35 U.S.C. § 112, ¶ 6; Function: Calculating the user's heart rate using said measured time intervals; Structure: The structure for this element is a microprocessor programmed according to the algorithms in Figures 4-3 to 4-7 and in column 4, lines 13–28, and equivalents under 35 U.S.C. § 112, ¶ 6.

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CLAIM TERM	**COURT'S RULING**
[1] "said means for calculating being connected to said display device";	The phrase means the structure for calculating the user's heart rate is connected to the heart rate display;
[1] "whereby, the heart rate of said user is displayed on said display device."	The phrase means the display shows the heart rate calculated for the user;
[11] "A monitor as defined in claim 1 wherein said elongate member is mounted on an exercise apparatus; said electronic circuitry being mounted in said exercise apparatus."	The phrase means that the cylindrical bar with the electrodes is mounted on the exercise machine, and the electronic circuitry, including the difference amplifier, is mounted in the exercise machine.