United States District Court,
S.D. California.

LUCENT TECHNOLOGIES, INC,
Plaintiff.
v.
GATEWAY, INC. and Gateway Country Stores LLC; and, Microsoft Corporation; and, Dell, Inc,
Defendants.

Civil Nos. 02CV2060-B(LAB), 03CV0699-B(LAB), 03CV1108-B(LAB)

April 15, 2004.

David A. Hahn, Attorney at Law, San Diego, CA, Edward Charles Donovan, Gregory F. Corbett, Karen Michelle Robinson, Kirkland and Ellis, Washington, DC, Elizabeth T. Bernard, James E. Marina, Jeanne M. Heffernan, John M. Desmarais, Jonas Reale McDavit, Jordan N. Malz, Michael P. Stadnick, Paul A. Bondor, Robert A. Appleby, Tamir Packin, Kirkland and Ellis LLP, New York, NY, Eric D. Hayes, Kirkland and Ellis, Chicago, IL, Kenneth H. Bridges, Kirkland and Ellis, San Francisco, CA, for Plaintiff.

Joseph A. Micallef, John L. Newby, Arnold and Porter, Washington, DC, Ryan M. Nishimoto, Arnold & Porter LLP, Los Angeles, CA, for Dell, Inc.

ORDER CONSTRUING CLAIMS FOR UNITED STATES PATENT NUMBER 4,701,954

RUDI M. BREWSTER**, District Judge.**

Before the Court is the matter of claims construction for U.S. Patent Number 4,701,954 ("the Atal '954 Patent") in the above titled cases for patent infringement. FN1 Pursuant to Markman v. Westview Instruments, Inc., 517 U.S. 370 (1996), the Court conducted a Markman hearing regarding construction of the disputed claim terms for the Atal ' 954 Patent on March 30, 2004 and April 1, 2004. Plaintiff Lucent Technologies, Inc. ("Lucent") was represented by the Kirkland & Ellis law firm, Defendant Gateway Inc. ("Gateway") was represented by the Dewey Ballantine law firm, Defendant Microsoft Corporation ("Microsoft") was represented by the law firm of Fish and Richardson and Defendant Dell, Inc. ("Dell") was represented by the Arnold and Porter law firm.

FN1. Lucent originally filed two separate patent infringement actions, one against Defendant Gateway (02CV2060), and a second against Defendant Dell (03CV1108). Microsoft intervened in the action filed by Lucent against Gateway. Microsoft also filed a declaratory judgment action against Lucent (03CV0699) and Lucent filed counterclaims for patent infringement against Microsoft in that action. On July 7, 2003, the Court entered an order consolidating these three cases. There are a total of 15 different patents involved in these three cases collectively.

The purpose of the Markman hearing was for the Court, with the assistance of the parties, to prepare jury instructions interpreting the pertinent claims for all claim terms at issue in the Atal '954 Patent. Additionally, the Court and the parties prepared a "case glossary" for terms found in the claims and the specification for the Atal '954 Patent, considered to be technical in nature and which a jury of laypersons would not understand clearly without specific definition. As the case advances, the parties may request additional terms to be added to the glossary as to further facilitate the jury's understanding of the disputed claims.

After careful consideration of the parties' arguments and the applicable statues and case law, the Court **HEREBY CONSTRUES** all claim terms in dispute in the Atal '954 Patent and **ISSUES** the relevant jury instructions as written in exhibit A, attached hereto. Further, the Court **HEREBY DEFINES** all pertinent technical terms as written in exhibit B, attached hereto.

IT IS SO ORDERED

EXHIBIT A-Atal '954 Patent

VERBATIM CLAIM LANGUAGE	***COURT'S CONSTRUCTION***
Claim 1	
A method for generating multipulse excitation codes for a speech pattern comprising the steps of:	A method for generating **multipulse excitation codes** [coded representations of excitation (input to a synthesis filter) which consist of a series of pulses, each described with a location in time and magnitude] for a speech pattern comprising the steps of:
partitioning a speech pattern into successive time frame portions;	partitioning a speech pattern into successive time frame portions;
generating a set of predictive parameter signals representative of the speech pattern portion of each successive time frame;	generating a set of **predictive parameter signals representative of the speech pattern portion** [filter coefficients that represent the spectral envelope of the speech pattern portion] of each successive time frame;
producing a signal representative of the predictive residual of each successive time frame speech pattern portion responsive to the time frame speech parameter signals and time frame speech pattern portion; and	producing **a signal representative of the predictive residual** [a signal which represents the speech signal with its formant redundancy removed] of each successive time frame speech pattern portion responsive to the time frame speech parameter signals and time frame speech pattern portion; and
generating a multipulse excitation code having a sequence of n=1, 2, ..., N pulses for each successive time frame to provide prescribed coded speech pattern quality where N is substantially independent of the pitch of the speech pattern by iteratively forming pulses for said time frame, each pulse having a magnitude (beta) and a location m within the frame in N successive iterations and each successive iteration including the steps of;	generating a multipulse excitation code having a sequence of n=l, 2, ..., N pulses for each successive time frame to provide prescribed coded speech pattern quality where N is substantially independent of the pitch of the speech pattern by iteratively forming pulses for said time frame, each pulse having a **magnitude** [a quantitative description of size] (beta) [a mathematical notation for the size of a pulse] and a location **m** [a mathematical notation for the location of a pulse] within the frame in N successive iterations and **each successive iteration including the steps of** [all of the steps following this clause must each be performed in

	forming each pulse];
combining said time frame predictive parameter signals with said time frame predictive residual signals to form a signal y(n) corresponding to the time frame speech pattern portion,	combining said time frame predictive parameter signals with said time frame predictive residual signals to form a signal y(n) corresponding to the time frame speech pattern portion,
combining the excitation pulse sequence of the preceding iteration with said time frame predictive parameter signals to form a signal z(n) corresponding to the contribution of the preceding iteration excitation pulse sequence to the time frame speech pattern portion,	combining the excitation pulse sequence of the preceding iteration with said time frame predictive parameter signals to form a signal z(n) corresponding to the contribution of the preceding iteration excitation pulse sequence to the time frame speech pattern portion,
forming a signal representative of the differences between said signal y(n) corresponding to the time frame speech pattern portion and said signal z(n) corresponding to the contribution of the preceding iteration excitation pulse sequence to the time frame speech pattern portion,	forming a signal representative of the differences between said signal y(n) corresponding to the time frame speech pattern portion and said signal z(n) corresponding to the contribution of the preceding iteration excitation pulse sequence to the time frame speech pattern portion,
comparing the current time frame signal representative of the differences between the signal y(n) corresponding to the time frame speech pattern portion and said signal z(n) corresponding to the contribution of the preceding iteration excitation pulse sequence to the time frame speech pattern portion with the signal of prescribed preceding time frames representative of the differences between said signal y(n) corresponding to the preceding time frame speech pattern portion and said signal z(n) corresponding to the contribution of the preceding iteration excitation pulse sequence to the preceding time frame speech pattern portion to generate a signal $y_p(n)$ representative of speech pattern portions of said preceding time frames having a predetermined degree of similarity to the speech pattern portion of the time frame, and	comparing the current time frame signal representative of the differences between the signal y(n) corresponding to the time frame speech pattern portion and said signal z(n) corresponding to the contribution of the preceding iteration excitation pulse sequence to the time frame speech pattern portion with the signal of prescribed preceding time frames representative of the differences between said signal y(n) corresponding to the preceding time frame speech pattern portion and said signal z(n) corresponding to the contribution of the preceding iteration excitation pulse sequence to the preceding time frame speech pattern portion to generate a signal $y_p(n)$ representative of speech pattern portions of said preceding time frames having a predetermined degree of similarity to the speech pattern portion of the time frame, and
producing an excitation pulse of magnitude (beta) and location m for the present iteration responsive to the differences between said speech pattern portion representative signal y(n) and the sum of said signal representative of the contribution of the preceding iteration excitation pulse sequence to the time frame speech pattern portion and said signal $y_p(n)$ representative of similar speech pattern portions of said preceding time frames.	producing an excitation pulse of magnitude (beta) and location m for the present iteration responsive to the differences between said speech pattern portion representative signal y(n) and the sum of said signal representative of the contribution of the preceding iteration excitation pulse sequence to the time frame speech pattern portion and said signal $y_p(n)$ representative of similar speech pattern portions of said preceding time frames.
Claim 2	
A method for generating multipulse excitation codes for a speech pattern according to claim 1 further	A method for generating multipulse excitation codes for a speech pattern according to claim 1 further

comprising the step of utilizing said frame multiphase excitation code and said frame predictive parameter signals to construct a replica of said frame speech pattern.	comprising the step of utilizing said frame multiphase excitation code and said frame predictive parameter signals to construct a replica of said frame speech pattern.
Claim 6	
A method for producing a speech message comprising:	A method for producing a speech message comprising:
receiving a sequence of speech message time frame signals, each speech time frame signal including a set of linear predictive speech parameter signals, a first coded excitation signal, and a second coded excitation signal for said time frame; forming a multipulse speech message excitation representative signal for the frame responsive to said first and second coded excitation signals, and	receiving a sequence of speech message time frame signals, each speech time frame signal including a set of **linear predictive speech parameter signals** [linear filter coefficients hat represent the spectral envelope of the input speech], a first **coded excitation signal** [a coded representation of an excitation (input to a synthesis filter)], and a second coded excitation signal for said time frame; forming a **multipulse speech message excitation representative signal** [the decoded input into a synthesis filter for reconstructing speech at a decoder] for the frame responsive to said first and second coded excitation signals, and
generating a speech pattern corresponding to the speech message jointly responsive to said frame linear speech parameter signals and said frame multipulse excitation representative signal;	generating a speech pattern corresponding to the speech message jointly responsive to said frame linear speech parameter signals and said frame multipulse excitation representative signal;
the first coded excitation signal for said frame being formed by the steps of:	the first coded excitation signal for said frame being formed by the steps of:
partitioning a speech pattern into successive time frame portions;	partitioning a speech pattern into successive time frame portions;
generating a set of predictive parameter signals representative of the speech pattern portion of each successive time frame;	generating a set of **predictive parameter signals representative of the speech pattern portion** [filter coefficients that represent the spectral envelope of the speech pattern portion] of each successive time frame;
producing a signal representative of the predictive residual of each successive time frame speech pattern portion responsive to the time frame speech parameter signals and time frame speech pattern portion; and	producing a **signal representative of the predictive residual** [a signal which represents the speech signal with its formant redundancy removed] of each successive time frame speech pattern portion responsive to the time frame speech parameter signals and time frame speech pattern portion; and
generating a multipulse excitation code having a sequence of n=1, 2, ..., N pulses for each successive time frame to provide prescribed coded speech pattern quality where N is substantially independent of the pitch of the speech pattern by iteratively forming a sequence of pulses for said time frame, each pulse having a magnitude (beta) and a location m within the frame in successive iterations and each successive	generating a multipulse excitation code laving a sequence of n=1, 2, ..., N pulses for each successive time frame to provide prescribed coded speech pattern quality where N is substantially independent of the pitch of the speech pattern by iteratively forming a sequence of pulses for said time frame, each pulse having a **magnitude** [a quantitative description of size] (beta) [a mathematical notation

iteration including the steps of:	for the size of a pulse] and a location **m** [a mathematical notation for the location of a pulse] within the frame in successive iterations and **each successive iteration including the steps of** [all of the steps following this clause must each be performed in forming each pulse]:
combining said time frame predictive parameter signals with said time frame predictive residual signals to form a signal y(n) corresponding to the time frame speech pattern portion,	combining said time frame predictive parameter signals with said time frame predictive residual signals to form a signal y(n) corresponding to the time frame speech pattern portion,
combining the excitation pulse sequence of the preceding iteration with said time frame predictive parameter signals to form a signal z(n) corresponding to the contribution of the preceding iteration excitation pulse sequence to the time frame speech pattern portion,	combining the excitation pulse sequence of the preceding iteration with said time frame predictive parameter signals to form a signal z(n) corresponding to the contribution of the preceding iteration excitation pulse sequence to the time frame speech pattern portion,
forming a signal representative of the differences between said signal y(n) corresponding to the time frame speech pattern portion and said signal z(n) corresponding to the contribution of the preceding iteration excitation pulse sequence to the time frame speech pattern portion,	forming a signal representative of the differences between said signal y(n) corresponding to the time frame speech pattern portion and said signal z(n) corresponding to the contribution of the preceding iteration excitation pulse sequence to the time frame speech pattern portion,
comparing the current time frame signal representative of the differences between said signal y(n) corresponding to the time frame speech pattern portion and said signal z(n) corresponding to the contribution of the preceding iteration excitation pulse sequence to the time frame speech pattern portion of the current time frame with the signal of prescribed preceding time frames representative of the differences between said signal y(n) corresponding to the preceding time frame speech pattern portion and said signal z(n) corresponding to the contribution of the preceding iteration excitation pulse sequence to the preceding time frame speech pattern portion to generate a signal $y_p(n)$ representative of speech pattern portions of said preceding time frames having a predetermined degree of similarity to the speech pattern portion of the time frame, and	comparing the current time frame signal representative of the differences between said signal y(n) corresponding to the time frame speech pattern portion and said signal z(n) corresponding to the contribution of the preceding iteration excitation pulse sequence to the time frame speech pattern portion of the current time frame with the signal of prescribed preceding time frames representative of the differences between said signal y(n) corresponding to the preceding time frame speech pattern portion and said signal z(n) corresponding to the contribution of the preceding iteration excitation pulse sequence to the preceding time frame speech pattern portion to generate a signal $y_p(n)$ representative of speech pattern portions of said preceding time frames having a predetermined degree of similarity to the speech pattern portion of the time frame, and
producing an excitation pulse of magnitude (beta) and location m for the present iteration responsive to the differences between said speech pattern portion representative signal y(n) and the sum of said signal representative of the contribution of the preceding iteration excitation pulse sequence to the	producing an excitation pulse of magnitude (beta) and location m for the present iteration responsive to the differences between said speech pattern portion representative signal y(n) and the sum of said signal representative of the contribution of the preceding iteration excitation pulse sequence to the time frame

time frame speech pattern portion and said signal $y_p(n)$ representative of similar speech pattern portions of said preceding time frames.

speech pattern portion and said signal $y_p(n)$ representative of similar speech pattern portions of said preceding time frames.

EXHIBIT B-Atal '954 Patent

(beta)-a mathematical notation for the size of a pulse

Magnitude-a quantitative description of size

m-a mathematical notation for the location of a pulse

Multipulse Excitation Codes-coded representations of excitation (input to a synthesis filter) which consist of a series of pulses, each described with a location in time and magnitude

Linear Predictive Speech Parameter Signals-linear filter coefficients that represent the spectral envelope of the input speech

Coded Excitation Signal-a coded representation of an excitation (input to a synthesis filter)

Multipulse Speech Message Excitation Representative Signal-the decoded input into a synthesis filter for reconstructing speech at a decoder

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