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)

Feb. 25, 2004.

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

ORDER CONSTRUING CLAIMS FOR UNITED STATES PATENT NUMBER 5,341,457

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

Before the Court is the matter of claims construction for U.S. Patent Number 5,341,457 ("the Hall '457 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 Hall ' 457 Patent on February 9-11, 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 f i l ed 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 Hall '457 Patent. Additionally, the Court and the parties prepared a "case glossary" for terms found in the claims and the specification for the Hall '457 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 Hall '457 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

VERBATIM CLAIM ELEMENT[FN2]	***MEANING AS DECIDED IN MARKMAN HEARING***
Claim 1	
A method of processing an ordered time **sequence** of **audio signals** partitioned into a set of ordered blocks, each said block having a **discrete frequency spectrum** comprising a first set of **frequency coefficients,** the method comprising, for each of said blocks, the steps of:	A method of processing an ordered time sequence (succession) of audio signals (sound signals) partitioned into a set of ordered blocks, each said block having a discrete frequency spectrum (distinct, noncontinuous set of amplitudes and/or phases of the frequency components that make up the sound signal) comprising a first set of frequency coefficients (the components of a sound signal that together with their corresponding frequencies, characterize the signal), the method comprising, for each of said blocks, the steps of: **Sequence**-succession **Audio Signals**-sound signals "**Discrete Frequency Spectrum**"-distinct, non-continuous set of amplitudes and/or phases of the frequency components that make up the sound signal
	"**Frequency Coefficients**"-means the components of a sound signal that together with their corresponding frequencies, characterize the

	signal.
(a) **grouping** said first set of frequency coefficients into at least one **group,** each group comprising at least one **frequency coefficient;**	(a) grouping (collecting) said first set of frequency coefficients into at least one group (collection), each group comprising at least one frequency coefficient;
(b) **generating** at least one **tonality value,** each group having an associated tonality value, **said at least one tonality value reflecting the degree to which said time sequence of audio signals comprises tone-like quality;**	(b) generating (producing) at least one tonality value (Value that reflects the tone like or noise-like nature of a signal), each group having an associated tonality value, said at least one tonality value reflecting the degree to which said time sequence of audio signals comprises tone-like quality (tonality value reflects the tone-like or noise-like nature of the ordered time sequence of sound signals)

	"**tonality**"-means the tone-like or noise-like nature of a signal.
(c) **generating** at least one **noise masking threshold,** each said at least one noise masking threshold being based upon at least a portion of said at least one **tonality value;** and	(c) generating at least one noise masking threshold (an estimate of the maximum amount of noise that can be added to a sound signal before the noise can be heard), each said at least one noise masking threshold being based upon at least a portion of said at least one tonality value; and

	Masking refers to one sound signal making another sound signal inaudible.
(d) **quantizing at least one frequency coefficient** in said at least one group, said quantizing based upon said at least one **noise masking threshold.**	(d) quantizing at least one frequency coefficient (assigning a frequency coefficient a specific value chosen from a limited number of levels or steps) in said at least one group, said quantizing based upon said at least one noise masking threshold.
Claim 2	
The method of claim 1 wherein said **discrete frequency spectrum** further comprises a second set of **frequency coefficients,** said first set of **frequency coefficients** in combination with said second set of **frequency coefficients** representing all frequencies present in each said block.	The method of claim 1 wherein said discrete frequency spectrum (distinct, non-continuous set of amplitudes and/or phases of the frequency components that make up the sound signal) further comprises a second set of frequency coefficients (the components of a sound signal that together with their corresponding frequencies, characterize the signal), said first set of frequency coefficients in combination with said second set of frequency coefficients representing all frequencies present in each said block.
Claim 3	
The method of claim 1 wherein each said group in said at least one group comprising more than one **frequency coefficient** comprises more than one contiguous **frequency coefficient.**	The method of claim 1 wherein each said group in said at least one group comprising more than one frequency coefficient comprises more than one contiguous frequency coefficient.
Claim 5	

The method of claim 1 wherein each said block is representable by a number of bits, said number of bits having a predetermined range, said **quantizing** is based on said number of bits.	The method of claim 1 wherein each said block is representable by a number of bits, said number of bits having a predetermined range, said quantizing is based on said number of bits.
Claim 6	
The method of claim 5 wherein said step of **quantizing said at least one frequency coefficient** in said at least one group comprises quantizing all **frequency coefficients** in said first set of **frequency coefficients** and wherein said method further comprising, for each block, the steps of:	The method of claim 5 wherein said step of quantizing said at least one frequency coefficient (assigning a frequency coefficient a specific value chosen from a limited number of levels or steps) in said at least one group comprises quantizing all frequency coefficients in said first set of frequency coefficients and wherein said method further comprising, for each block, the steps of:
(a) **generating** an amount of bits needed to represent said first set of **frequency coefficients** in a quantized form;	(a) generating (producing) an amount of bits needed to represent said first set of frequency coefficients in a quantized form;
(b) comparing said amount of bits to said number of bits;	(b) comparing said amount of bits to said number of bits;
(c) adjusting each said at least one noise masking threshold; and	(c) adjusting each said at least one noise masking threshold; and
(d) repeating set (d) of claim 1 and steps (a) through (c) until said amount of bits is within said predetermined range of said number of bits.	(d) repeating set (d) of claim 1 and steps (a) through (c) until said amount of bits is within said predetermined range of said number of bits.
Claim 7	
The method of claim 1 wherein said ordered time **sequence** of **audio signals** represents a first channel and a second channel of a stereo signal, the method further comprising, for each of said blocks, the steps of:	The method of claim 1 wherein said ordered time sequence (succession) of audio signals (sound signals) represents a first channel and a second channel of a stereo signal, the method further comprising, for each of said blocks, the steps of:
(a) **generating** a first **power spectrum,** said first power spectrum being representative of said first channel;	(a) generating (producing) a first power spectrum (power distribution with respect to frequency), said first power spectrum being representative of said first channel;
(b) **generating** a second power spectrum, said second power spectrum being representative of said second channel;	(b) generating a second power spectrum, said second power spectrum being representative of said second channel;
(c) adding said first power spectrum to said second power spectrum prior to said determining at least one **noise masking threshold;** and	(c) adding said first power spectrum to said second power spectrum prior to said determining at least one noise masking threshold (an estimate of the maximum amount of noise that can be added to a sound signal before the noise can be heard); and

(d) applying each of said at least one **noise masking threshold** to said first channel and said second channel.	(d) Using each of said at least one noise masking threshold to quantize in the first and second (audio) channels, as described in step (d) of claim 1.
Claim 8	
The method of claim 7 wherein the first channel is L and the second channel is R.	The method of claim 7 wherein the first channel is L and the second channel is R.
Claim 9	
The method of claim 7 wherein the first channel is LR and the second channel represents a difference between L and R.	The method of claim 7 wherein the first channel is LR and the second channel represents a difference between L and R.
Claim 10	
A storage medium manufactured in accordance with a process comprising the steps of:	A storage medium manufactured in accordance with a process comprising the steps of:
(a) processing an ordered time **sequence** of **audio signals** partitioned into a set of ordered Blocks, each said block having a **discrete frequency spectrum** comprising a first set of **frequency coefficients;** and	(a) processing an ordered time sequence (succession) of audio signals (sound signals) partitioned into a set of ordered blocks, each said block having a discrete frequency spectrum (distinct, noncontinuous set of amplitudes and/or phases of the frequency components that make up the sound signal) comprising a first set or frequency coefficients (the components of a sound signal that together with their corresponding frequencies, characterize the signal); and
(b) for each of said blocks:	(b) for each of said blocks:
(1) **grouping** said first set of **frequency coefficients** into at least one group, each group comprising at least one **frequency coefficient;**	(1) grouping (collecting) said first set of frequency coefficients into at least one group, each group comprising at least one frequency coefficient;
(2) **generating** at least one **tonality value,** each group having an associated tonality value, **said at least one tonality value reflecting the degree to which said time sequence of audio signals comprises tone-like quality;**	(2) generating (producing) at least one tonality value (value that reflects the tone like or noise-like nature of a signal), each group having an associated tonality value, said at least one tonality value reflecting the degree to which said time sequence of audio signals comprises tone-like quality (tonality value reflects the tone-like or noise-like nature of the ordered time sequence of sound signals);
(3) **generating** at least one **noise masking threshold,** each said at least one noise masking threshold being based upon at least one **tonality value;**	(3) generating at least one noise masking threshold (an estimate of the maximum amount of noise that can be added to a sound signal before the noise can be heard), each said at least one noise masking threshold being based upon at least one tonality value;
(4) **quantizing at least one frequency coefficient** in said at least one group resulting in a set of quantized **frequency coefficients,** said quantizing based upon said at least one **noise masking threshold;**	(4) quantizing at least one frequency coefficient (assigning a frequency coefficient a specific value chosen from a limited number of levels or steps) in said at least one group resulting in a set of quantized frequency coefficients, said quantizing based upon said at least one noise masking threshold;

(5) applying a **recording signal** to said storage medium, said recording signal comprising signals representing said set of quantized **frequency coefficients; and**	(5) applying a recording signal (signal to be recorded) to said storage medium, said recording signal comprising signals representing said set of quantized frequency coefficients; and
(6) recording said recording signal onto said storage medium.	(6) recording said recording signal onto said storage medium.
Claim 13	
A method of transmitting **audio signals,** the method comprising the steps or:	A method of transmitting audio signals (sound signals), the method comprising the steps of:
(a) processing an ordered time **sequence** of **audio signals** partitioned into a set of ordered Blocks, each said block having a **discrete frequency spectrum** comprising a first set of **frequency coefficients;** and	(a) processing an ordered time sequence (succession) of audio signals partitioned into a set of ordered blocks, each said block having a discrete frequency spectrum (distinct, non-continuous set of amplitudes and/or phases of the frequency components that make up the sound signal) comprising a first set of frequency coefficients (the components of a sound signal that together with their corresponding frequencies, characterize the signal); and
(b) for each of said blocks:	(b) for each of said blocks:
(1) **grouping** said first set of **frequency coefficients** into at least one group, each group comprising at least one **frequency coefficient;**	(1) grouping (collecting) said first set of frequency coefficients into at least one group, each group comprising at least one frequency coefficient;
(2) **generating** at least one **tonality value,** each group having an associated **tonality value, said at least one tonality value reflecting the degree to which said time sequence of audio signals comprises tone-like quality;**	(2) generating (producing) at least one tonality value (value that reflects the tonelike or noise-like nature of a signal), each group having an associated tonality value, said at least one tonality value reflecting the degree to which said time sequence of audio signals comprises tone-like quality (tonality value reflects the tone-like or noise-like nature of the ordered time sequence of sound signals);
(3) **generating** at least one **noise masking threshold,** each said at least one **noise masking threshold** being based upon at least one **tonality value;**	(3) generating at least one noise masking threshold (an estimate of the maximum amount of noise that can be added to a sound signal before the noise can be heard), each said at least one noise masking threshold being based upon at least one tonality value;

	Masking refers to one sound signal making another sound signal inaudible.
(4) **quantizing at least one frequency coefficient** in said at least one group resulting in a set of quantized **frequency coefficients,** said quantizing based upon said at least one **noise masking threshold;**	(4) quantizing at least one frequency coefficient (assigning a frequency coefficient a specific value chosen from a limited number of levels or steps) in said at least one group resulting in a set of quantized frequency coefficients, said quantizing based upon said at least one noise masking threshold;
(5) **generating** a transmission signal comprising signals representing said	(5) generating a transmission signal comprising signals representing said set of quantized frequency coefficients; and

set of quantized **frequency coefficients;** and	
(6) applying said transmission signal to a transmission medium.	(6) applying said transmission signal to a transmission medium.
Claim 17	
A method for **generating** signals representing an ordered time **sequence** of **audio signals** partitioned into a set of ordered blocks, each said block having a **discrete frequency spectrum** comprising a first set of **frequency coefficients,** the method comprising, for each said blocks, the steps of:	A method for generating (producing) signals representing an ordered time sequence (succession) of audio signals (sound signals) partitioned into a set of ordered blocks, each said block having a discrete frequency spectrum (distinct, noncontinuous set of amplitudes and/or phases of the frequency components that make up the sound signal) comprising a first set of frequency coefficients (the components of a sound signal that together with their corresponding frequencies, characterize the signal), the method comprising, for each said blocks, the steps of:
(a) **grouping** said first set of **frequency coefficients into** a plurality of groups, each group in said plurality of groups representing a **critical band of frequencies** and comprising at least one **frequency coefficient;**	(a) grouping (collecting) said first set of frequency coefficients into a plurality of groups, each group in said plurality of groups representing a critical band of frequencies (a frequency range within which a human's subjective perception of sound remains about the same) and comprising at least one frequency coefficient;
(b) **generating** a **tonality value** for each said group in said plurality of groups of **frequency coefficients, said tonality values reflecting the degree to which said time sequence of audio signals comprises tone-like quality;**	(b) generating (producing) a tonality value (value that reflects the tone-like or noise-like nature of a signal) for each said group in said plurality of groups of frequency coefficients, said tonality values reflecting the degree to which said time sequence of audio signals comprises tone-like quality (tonality values reflect the tone-like or noise-like nature of the ordered time sequence of sound signals);
(c) **generating a noise masking threshold** for each said group in said plurality of groups of **frequency coefficients,** each said noise masking threshold being based upon said **tonality value** for the respective group; and	(c) generating a noise masking threshold (an estimate of the maximum amount of noise that can be added to a sound signal before the noise can be heard) for each said group in said plurality of groups of frequency coefficients, each said noise masking threshold being based upon said tonality value for the respective group; and
(d) **quantizing each frequency coefficient** in said at least one **frequency coefficient** in each said group, said quantizing being based upon said **noise masking threshold** associated with said group and a predetermined number or bits.	(d) quantizing each frequency coefficient (assigning a frequency coefficient a specific value chosen from a limited number of levels or steps) in said at least one frequency coefficient in each said group, said quantizing being based upon said noise masking threshold associated with said group and a predetermined number of bits.

EXHIBIT B

Sequence-succession

Audio Signals-sound signals

Discrete Frequency Spectrum-distinct, non-continuous set of amplitudes and/or phases of the frequency components that make up the sound signal

Frequency Coefficients-means the components of a sound signal that together with their corresponding frequencies, characterize the signal.

Tonality-means the tone-like or noise-like nature of a signal.

Masking refers to one sound signal making another sound signal inaudible.

Noise Masking Threshold-an estimate of the maximum amount of noise that can be added to a sound signal before the noise can be heard

Quantizing said at least one frequency coefficient-assigning a frequency coefficient a specific value chosen from a limited number of levels or steps

Critical Band of Frequencies-a frequency range within which a human's subjective perception of sound remains about the same

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