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 CLAIMMEANING AS DECIDED INELEMENTFN2MARKMAN HEARING

FN2. A11 terms which are bold-faced in the verbatim column are clarified and/or defined in the corresponding "meaning" column.

Claim 1	
A method of processing an ordered time <b>sequence</b> of <b>audio signals</b> partitioned into a set of ordered blocks, each said block having a <b>discrete frequency spectrum</b> comprising a first set of <b>frequency</b> <b>coefficients</b> , 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) <b>grouping</b> said first set of	(a) grouping (collecting) said first set of frequency coefficients into at
frequency coefficients into at least	least one group (collection), each group comprising at least one
one group, each group comprising at	frequency coefficient;
least one frequency coefficient;	
(b) generating at least one	(b) generating (producing) at least one tonality value (Value that
tonality value, each group having	reflects the tone like or noise-like nature of a signal), each group
an associated tonality value, said	having an associated tonality value, said at least one tonality value
at least one tonality value	reflecting the degree to which said time sequence of audio signals
reflecting the degree to which	comprises tone-like quality (tonality value reflects the tone-like or
said time sequence of audio	noise-like nature of the ordered time sequence of sound signals)
signals comprises tone-like	
quality;	

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

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

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

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

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

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

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

#### 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

S.D.Cal.,2004. Lucent Technologies, Inc. v. Gateway, Inc.

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