United States District Court,
S.D. California.

MULTIMEDIA PATENT TRUST,
Plaintiff.
v.
MICROSOFT CORPORATION, et al,
Defendants.
And Related Claim,
And Related Claims.

No. 07-CV-0747-H (CAB)

July 23, 2008.

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Edward Charles Donovan, Kirkland and Ellis, Washington, DC, for Plaintiff/Defendants.

CLAIM CONSTRUCTION ORDER FOR UNITED STATES PATENT NUMBERS: 5,136,377 AND 5,500,678

MARILYN L. HUFF**, District Judge.**

The Court has reviewed the parties joint claim construction worksheets, joint claim construction charts, simultaneous opening briefs, simultaneous responsive briefs, and supporting declarations and exhibits. (*See, e.g.,* Doc. Nos. 193, 196, 200-01.) On July 10, 2008, the Court provided the parties with a tentative claim construction. (Doc. No. 205.) The Court held a hearing on this matter on July 18, 2008. Edward Donovan, Paul A. Bondor, Ephraim Starr, and D. Sean Trainor appeared for plaintiff Multimedia Patent Trust ("MPT"). Roger Denning, Justin Barnes, Thomas Millikan, and Nicholas Martini appeared for defendant Microsoft Corporation ("Microsoft").

The Court has considered the authorities, evidence, and arguments offered by the parties and prepared constructions for the claim language at issue. The Court adopts the constructions attached as Appendices A and B. The bracketed comments are not part of the Court's construction. The Court provides the comments only to aid the parties in understanding the ruling. Unless the Court orders otherwise, the comments shall not be presented to the jury.

Where the Court provides both "function" and "structure" headings within an entry, the Court construes the language as a "means-plus-function" element in accordance with 35 U.S.C. s. 112 para. 6. Where the Court indicates "no construction necessary," the Court concludes both that the patent uses the term in a manner consistent with its ordinary meaning and that the term does not appear to require construction. *See, e.g.,* Biotech Biologische Naturverpackungen GmbH & Co. KG v. Biocorp, Inc., 249 F.3d 1341, 1349 (Fed.Cir.2001) (holding that district court did not fail to uphold its duty to construe claim language when the meaning of "melting" did not "appear to have required 'construction,' or [departed] from its ordinary meaning."). Unless otherwise indicated, the Court only construes language once for a given patent and

intends that the language shall be construed consistently throughout that patent.

Attachments:

APPENDIX A '377
APPENDIX B '678

IT IS SO ORDERED.

APPENDIX A ('377 Patent)

Claim 1 (terms for which at least one party proposes further construction in **bold**):

An **encoder** including a **coder** for developing **encoder output signals** from frame difference signals, **prediction means responsive to said encoder output signals for predicting a next frame's signals,** and **means for developing said frame difference signals from applied next frame signals of an image frame and from output signals of said prediction means,** the improvement comprising:

said coder including **controllable quantizer means that quantizes said difference signals in accordance with a quantization schema that varies with the dictates of a control signal;** and

said coder including **means, responsive to said applied next frame signals, to develop said control signal, which control signal varies throughout said applied next frame with changes in at least one selected characteristic of said applied next frame signals.**

Claim Language	**MPT**	**Microsoft**	**Court's Construction**
"encoder"	No construction necessary.	This language renders the claim invalid due to indefiniteness.	No construction necessary
	Alternatively: hardware and/or software that includes a coder	Alternatively: a device that encodes signals	
"coder"	hardware and/or software that changes a video signal from one form of representation to another	This language renders the claim invalid due to indefiniteness.	hardware, which may include a general-purpose processor programmed with appropriate software, that changes a video signal from one form of representation to another
		Alternatively: a device that includes a controllable quantizer means and a means to develop a control signal	[COMMENT-The patent consistently describes elements of the invention with terms like "mechanism," "circuit," and "processor." The specification is consistent with a general purpose processor running software, but not with software independent of any hardware.]
"encoder output signals"	No construction necessary. Alternatively: signals that have been encoded	This language renders the claim invalid due to indefiniteness. Alternatively: the output of Quantizer Vector Selector 38	No construction necessary

		[Microsoft modified this proposal in its opening brief.]	
"prediction means responsive to said encoder output signals for predicting a next frame's signals"	Function: to predict a next frame's signal	*Function:* predicting a next frame's signals	*Function:* predicting a next frame's signals
	Structure: motion compensator 43 and all equivalents.	*Structure:* *For Embodiment 1 [Figures 1 and 2]:* The structure that performs this function is the following (as shown in Figures 1 and 2 and as described at 4:33-5:59 (description of Figure 1); 5:60-7:20 (description of Figure 2); see also 7:23-14:62; 18:35-68: The forward estimation section of the encoder (Fig.1), namely: motion vector generator 13; motion vector selector/encoder 14; motion compensator block 16; buffer 17; buffer 50; and buffers 31 and 52 and including all inputs, outputs, and interconnections of these elements. The following components from Fig. 2: buffer 55; adder 41, subtracters 44 and 54; multiplier 45; motion compensator 43; previous frame buffer 42; inverse quantizer 39; inverse DCT 40; buffer 48, and including all inputs, outputs, and interconnections of these elements. *For Embodiment 2 [Figures 16 and 2]:* The structure that performs this function is the following (as shown in Figures 16 and 2 and as described at 4:33-5:59 (description of Figure 1); 5:60-7:20 (description of Figure 2); see also 7:23-14:62; 18:35-68: The forward estimation section of the encoder (Fig.16), namely: motion vector generator 13; motion vector selector/encoder 14; motion compensator block 16; buffer 17 and including all inputs, outputs, and interconnections of these elements. The following components from Fig. 2: buffer 55; adder 41, subtracters 44 and 54;	*Structure:* As shown in Figure 2 and as described in those portions of 5:60-7:20 describing these elements: adders 41 and 54; subtracter 44; multiplier 45; motion compensator 43; inverse quantizer 39; inverse DCT 40; and including all inputs, outputs, and interconnections of these elements necessary to the claimed function. [COMMENT-The Court concludes that two buffer elements from the tentative claim construction are not necessary to the function.]

		multiplier 45; motion compensator 43; previous frame buffer 42; inverse quantizer 39; inverse DCT 40; buffer 48, and including all inputs, outputs, and interconnections of these elements.	
"means for developing said frame difference signals"	*Function:* to develop frame difference signals.	None. Microsoft proposes instead to construe a larger portion of the text (see below).	None.
	Structure: subtracter 36 and all equivalents.		[COMMENT-The Court instead construes the entire phrase as shown below.]
"means for developing said frame difference signals from applied next frame signals of an image frame and from output signals of said prediction means"	None. MPT proposes instead to construe a shorter portion of the text (see above).	*Function:* developing the frame difference signals mentioned earlier in the claim from applied next frame signals of an image frame and from output signals of said prediction means.	*Function:* developing the frame difference signals mentioned earlier in the claim from applied next frame signals of an image frame and from output signals of said prediction means.
		Structure: *For Embodiment 1 [Figures 1 and 2]:* The structure that performs this function is the following (as shown in Figures 1 and 2 and described at 4:52-58; 5:6-14; 5:60-6:2): buffers 12, 18, 19, and 51, and subtracters 35 and 36 and including all inputs, outputs, and interconnections of these elements. *For Embodiment 2 [Figures 16 and 2]:*	*Structure:* As shown in Figure 2 and described at 5:63-6:3: subtracters 35 and 36, and all inputs, outputs, and interconnections of these elements necessary to the claimed function
		The structure that performs this function is the following (as shown in Figures 16 and 2 and described at 4:52-58; 5:6-14; 5:60-6:2; 14:17-25): buffers 12, 18, and 19, and subtracters 35 and 36 and including all inputs, outputs, and interconnections of these elements.	
"applied next frame signals"	No construction necessary.	input frame signals app lied to the encoder as I(t) on line 10 of Fig. 1 or, alternatively, as I(t) on line 10 of Fig. 16.	No construction necessary.
	Alternatively: input video signals to the encoder that can be used to develop frame difference signals		

"controllable quantizer means that quantizes said difference signals in accordance with a quantization schema that varies with the dictates of a control signal"	MPT argues that this language should not be construed under 35 U.S.C. s. 112 para. 6. It only proposes construction of individual terms (see below).	*Function:* quantizing the difference signals mentioned earlier in the claim in accordance with a quantization schema that varies with the dictates of a control signal.	Function: quantizing the difference signals mentioned earlier in the claim in accordance with a quantization schema that varies with the dictates of a control signal
	Alternatively, should the Court treat this as a means-plus-function element, MPT proposes the following for "controller quantizer means" only:	*Structure:* (as shown in Figures 2, 9 and 10 and described at 5:60-6:12 (Fig.2); 14:66-15:56; 15:57-16:38 (Fig.9); 16:39-17:34 (Fig.10); 17:35-18:17): discrete cosine transform 37, quantizer vector selector 38; divider 90; quantizers 81; subtracter 83; quantizer decoder 82; multiplier 78; subtracter 84; accumulator 85; rate calculator 86; buffer 178; differential error calculator 80; selector block 79; codebook vector block 87; combiner circuit 88; threshold circuit 89; degradation decision circuit 115 and including all inputs, outputs, and interconnections of these elements.	*Structure:*
	Function: quantizing difference signals		Quantizer vector selector 38 ("QVS"). The QVS is shown in context in Figure 2, and its general role is described at 5:60-6:12. (The other elements cited in this passage are not part of the corresponding structure for this element.) The internal circuitry of the QVS is shown in Figures 9 and 10, and described at 15:57-17:34. The elements shown in Figures 9 and 10 are part of the overall corresponding structure for this element. Certain components in the QVS are described further at 17:34-18:16. (The variable length encoders 46 and 47 discussed in this passage are not part of the corresponding structure for this element.)
	Structure: Quantizer vector selector 38 and all equivalents		[COMMENT-MPT has not overcome the presumption that s. 112 para. 6 should apply, given that "means" language is used. The Court recognizes that the patentee apparently attempted to claim various individual aspects of QVS 38

			in later dependent claims. Nevertheless, in this instance the Court determines that the doctrine of claim differentiation does not overcome the statutory requirements of s. 112 para. 6. In contrast, the Court concludes that it is possible to construe the "means ... to develop said control signal ..." in a manner consistent with both s. 112 para. 6 and the doctrine of claim differentiation (see below).]
"quantization schema"	a way of quantizing	multiple algorithms (or sets of rules) for vector quantizing 8x8 sets of coefficients	a way of quantizing
		[Microsoft modified this proposal in its opening brief.]	
"control signal"	*Agreed:* Plain meaning		No construction necessary.
"means, responsive to said applied next frame signals, to develop said control signal"	*Function:* to develop a control signal	None. Microsoft proposes instead to construe a larger portion of the text (see below).	None.
	Structure: perceptual coder 49 and all equivalents.		[COMMENT-The Court instead construes the entire phrase as shown below.]
"means, responsive to said applied next frame signals, to develop said control signal, which control signal varies throughout said applied next frame with changes in at least one selected characteristic of said applied next frame signals"	None. MPT proposes instead to construe a shorter portion of the text (see above).	*Function:* develop control signals based on perception threshold signals and frequency domain scale factors.	*Function:* developing the control signal, which varies throughout the applied next frame with changes in at least one selected characteristic of the app lied next frame signals
		Structure:	*Structure:* perceptual coder 49 (as shown in Figure 2) including at least one of the

	following sets of internal circuitry:
For embodiment 1 [Figures 1 and 2]:	(1) generator 93 (as shown in Figure 12), where generator 93 includes at least texture processors 96 and 98, combiner 99, and mapping look up table 100 (as shown in Figure 13, and described at 20:32-21:12, 21:42-43, 21:53-22:5), and where texture processors 96 and 98 each include at least look-up table 114 and one of the accumulators 106, 107, or 108 (as shown in Figure 14 and described at 21:43-49);
The structure that performs this function is the following (as shown in Figures 1, 2, 12, 13 and 14 and as described at 5:54-59; 6:63-7:15; 19:1-23:45): mean processor 11, buffers 21, 22, 24, and 25; leak processor 20; subtracters 26, 27, and 28; multiplier 23; DCT transforms 29 and 30; processor 53; buffer 131; perceptual coder 49; perceptual threshold generator 93; rate processor 91; multiplier 92; adder 101; buffer 94; subtracter 95; current texture processor 96; base threshold lookup table 111; brightness correction truncation circuit 97; brightness correction lookup table 110; texture processor 98; combiner 99, mapping look up table 100; look up table 114; selector 105; RawHoriz accumulator 106; RawVert accumulator 107; RawDiag accumulator 108; and combiner 109 and including all inputs, outputs and interconnections.	(2) generator 93 (as shown in Figure 12), where generator 93 includes at least: adder 101, brightness correction truncation circuit 97, and brightness correction look-up table 110 (as shown in Figure 13, and described at 21:27-34, 22:6-10); or
For embodiment 2 [Figures 16 and 2]:	(3) rate processor 91 (as shown in Figure 12 and described at 22:36-23:40)
The structure that performs this function is the following (as shown in Figures 1, 2, 12, 13, 14 and 16 and as described at 5:54-59; 6:63-7:15; 19:1-23:45): mean processor 11, buffers 24 and 25; subtracters 26, 27, and 28; multiplier 23; DCT transforms 29 and 30; processor 53; buffer 131; a subtracter, a threshold device, and a selector (see col. 15:17-25); perceptual coder 49; perceptual threshold generator 93; rate processor 91; multiplier 92; adder 101; buffer 94; subtracter 95; current texture processor 96; base threshold lookup table 111; brightness correction truncation circuit	[COMMENT-The reference to "Figure 14" in the tentative construction was a typographical error that should have read "Figure 13." It was not an indication of intent to include the internal circuitry of Figure 14. The Court tentatively excluded Figure 14 since all three accumulators are not necessary to provide a measure of texture. (Compare claims 4 and 5.) After further examination, the Court includes a portion of the internal circuitry from Figure

		97; brightness correction lookup table 110; texture processor 98; combiner 99, mapping look up table 100; look up table 114; selector 105; RawHoriz accumulator 106; RawVert accumulator 107; RawDiag accumulator 108; and combiner 109 and including all inputs, outputs and interconnections.	14. The Court is not persuaded by Microsoft's argument that the prosecution history requires exclusion of the third alternative involving rate processor 91. As long as the rate processor is responsive to the applied next frame signals, as required by the claim language, it is consistent with the applicants' representations to the PTO. The Court includes LUT 110 in the alternative structure involving brightness.]
"selected characteristic"	No construction necessary. Alternatively: chosen attribute	perceptible feature of the human visual system	Any of the following characteristics of the applied next frame signals, alone or in combination: (1) a measure of texture, (2) a measure of brightness, or (3) a measure of buffer fullness. [COMMENT-The Court makes modifications from the tentative construction to clarify that the characteristic must be "of the applied next frame signals" and that a selected characteristic may be a combination, as in claim 10.]

Claim 4 (terms for which at least one party proposes further construction in **bold**):

The **encoder** of claim 1 wherein said **selected characteristic** is a measure of texture in **applied next frame signals.**

Claim Language	MPT	Microsoft	Court's Construction
"encoder"	Same as "encoder" in claim 1 above.		
"selected characteristic"	Same as "selected characteristic" in claim 1 above.		
"applied next frame signals"	Same as "applied next frame signals" in		

	claim 1 above.		
"means, responsive to said applied next frame signals, to develop said control signal, which control signal varies throughout said applied next frame with changes in at least one selected characteristic of said applied next frame signals" ...	See claim 1 above.	See claim 1 above.	*Function:* developing the control signal, which varies throughout the applied next frame at least with changes to a measure of texture in the applied next frame signals
"wherein said selected characteristic is a measure of texture in applied next frame signals"			*Structure:* perceptual coder 49 (as shown in Figure 2) including at least a generator 93 (as shown in Figure 12), where generator 93 includes at least the following internal circuitry: texture processors 96 and 98, combiner 99, and mapping look up table 100 (as shown in Figure 13, and described at 20:32-21:12, 21:42-43, 21:53-22:5:), where texture processors 96 and 98 each include at least look-up table 114 and one of the accumulators 106, 107, or 108 (as shown in Figure 14 and described at 21:43-49)

Claim 5 (terms for which at least one party proposes further construction in **bold**):

The **encoder** of claim 4 wherein said measure of texture is a combination of texture measured horizontally, texture measured vertically, and texture measured over a selected area of said image frame.

Claim Language	**MPT**	**Microsoft**	**Court's Construction**
"encoder"	Same as "encoder" in claim 1 above.		
"means, responsive to said applied next frame signals, to develop said control signal, which control signal varies throughout said applied next frame with changes in at least one selected characteristic of said applied next frame signals" ... "wherein said measure of texture is a combination of texture measured horizontally, texture measured vertically, and texture measured over a selected area of said image frame"	See claim 1 above.	See claim 1 above.	*Function:* developing the control signal, which varies throughout the applied next frame at least with changes to a measure of texture in the applied next frame signals, where the measure of texture is a combination of texture measured horizontally, texture measured vertically, and texture measured over a selected area of said image frame *Structure:* perceptual coder 49 (as shown in Figure 2) including at least a generator 93 (as shown in Figure 12), where generator 93 includes at least the following internal circuitry: texture processors 96 and 98; combiners 99 and 109; mapping look up tables 100 and 114; selector 105; and accumulators 106, 107, and 108 (as shown in Figures 13 and 14, and described at 20:32-21:12, 21:42-22:5).

Claim 7 (terms for which at least one party proposes further construction in **bold**):

The **encoder** of claim 1 wherein said **selected characteristic** is a measure of brightness in said applied next frame signals.

Claim Language	MPT	Microsoft	Court's Construction
"encoder"	Same as "encoder" in claim 1 above.		
"selected characteristic"	Same as "selected characteristic" in claim 1 above.		
"means, responsive to said applied next frame signals, to develop said control signal, which control signal varies throughout said applied next frame with changes in at least one selected characteristic of said applied next frame signals" ... "wherein said selected characteristic is a measure of brightness in said applied next frame signals"	See claim 1 above.	See claim 1 above.	*Function:* developing the control signal, which varies throughout the applied next frame at least with changes to a measure of brightness in said applied next frame signals *Structure:* Perceptual coder 49 (as shown in Figure 2) including at least a generator 93 (as shown in Figure 12), where generator 93 includes at least: adder 101, brightness correction truncation circuit 97, and brightness correction look-up table 110 (as shown in Figure 13, and described at 21:27-34, 22:6-10)

Claim 8 (terms for which at least one party proposes further construction in **bold**):

The **encoder** of claim 1 further comprising an output buffer for receiving said **encoder output signals,** and said **coder** comprising **means for receiving signals from said output buffer that indicate the level of buffer fullness of said output buffer.**

Claim Language	MPT	Microsoft	Court's Construction
"encoder"	Same as "encoder" in claim 1 above.		
"encoder output signals"	Same as "encoder output signals" in claim 1 above.		
"coder"	Same as "coder" in claim 1 above.		
"means for receiving signals from said output buffer that indicate the level of buffer fullness of said output buffer"	*Function:* to receive signals from said output buffer that indicate the level of buffer fullness of said output buffer. *Structure:* perceptual coder 49 and all equivalents.	*Function:* receiving signals from the output buffer. *Structure:* (as shown in Figures 2, 12, 13, and 14 and as described at 6:63-7:15; 19:1-23:45): perceptual coder 49, rate processor 91, and all inputs, outputs, and interconnections of these elements.	*Function:* receiving signals from said output buffer that indicate the level of buffer fullness of said output buffer *Structure:* perceptual coder 49, and its interconnection to BFF block 56, as shown in Figure 2

Claim 10 (terms for which at least one party proposes further construction in **bold**):

The encoder of claim 8 wherein said **selected characteristic** is a combination of said buffer fullness of said output buffer, brightness of said **applied next frame signals** and texture of said **applied next frame signals.**

Claim Language	MPT	Microsoft	Court's Construction
"encoder"	Same as "encoder" in claim 1 above.		
"selected characteristic"	Same as "selected characteristic" in claim 1 above.		
"applied next frame signals"	Same as "applied next frame signals" in claim 1 above.		
"means, responsive to said applied next frame signals, to develop said control signal, which control signal varies throughout said applied next frame with changes in at least one selected characteristic of said applied next frame signals" ... "wherein said selected characteristic is a combination of said buffer fullness of said output buffer, brightness of said applied next frame signals and texture of said applied next frame signals"	See claim 1 above.	See claim 1 above.	*Function:* developing the control signal, which varies throughout the applied next frame at least with changes to a combination of said buffer fullness of said output buffer, brightness of said applied next frame signals, and texture of said applied next frame signals *Structure:* perceptual coder 49 (as shown in Figure 2), including all internal circuitry shown in Figure 12 (as described at 19:56-21:23), and where generator 93 includes all the internal circuitry shown in Figures 13 and 14 (as described at 21:24-23:43).

Claim 13 (terms for which at least one party proposes further construction in **bold**):

The **encoder** of claim 1 wherein said **coder** is responsive to **applied scale factor signals** to control the effective range of said quantizer means.

Claim Language	MPT	Microsoft	Court's Construction
"encoder"	Same as "encoder" in claim 1 above.		
"coder"	Same as "coder" in claim 1 above.		
"applied scale factor signals"	signals for scaling frame difference signals prior to quantization	signals used to match a set of standard quantizers to the data, defined as: $S_{ij} = \sqrt{\frac{1}{k_i} \sum_{all\ blocks} S_{ij}^2}$	signals containing scale factors, which are factors used to shift a set of values from one range to another (and possibly back again)

Other claims: The Court's construction applies equally to any other asserted claims not addressed here.

APPENDIX B ('678 Patent)

Claim 7 (terms for which at least one party proposes further construction in **bold**):

A method for **encoding a video signal,** comprising the steps of:

generating a set of **frequency coefficient signals,** the set representing the video signal, **wherein the set corresponds to an NxM matrix and each of the frequency coefficient signals corresponds to a predetermined horizontal coordinate and a predetermined vertical coordinate in the matrix;**

alternatively selecting between a first scanning order and a second scanning order in response to a frame format associated with the video signal;

scanning the set of frequency coefficient signals according to the selected scanning order to create an ordered set of frequency coefficient signals; and

generating an encoded video signal, the encoded video signal including the ordered set of frequency coefficient signals.

Claim Language	**Lucent /Alcatel-Lucent**	**Microsoft**	**Court's Construction**
"encoding a video signal"	No construction necessary.	taking an uncompressed version of a video signal and producing a smaller, compressed version of the uncompressed video signal	No construction necessary.
	Alternatively: transforming a video signal into another form of representation		
"frequency coefficient signals"	No construction necessary. Alternatively, either: components of a video signal that, together with their corresponding frequencies, characterize the signal or	a set of numbers created by applying a DCT to a block of pixels, where each number represents a horizontal and vertical spatial frequency for that block of pixels	signals containing frequency coefficients created by transform coding, such as the discrete cosine transform (DCT)
	the frequency components of a video signal that		

	characterize the signal		
"NxM matrix"	a rectangular array of elements that has a number of columns and a number of rows	a two dimensional block of elements, at least 8 elements high and 8 elements wide	a rectangular array of elements, at least 2 elements high and 2 elements wide
			[COMMENT-After further review, the Court concludes that its tentative reading of the claims was overly limiting. Instead, the Court concludes that the matrix is only limited to being two dimensional (as opposed to a single element, row, or column).]
"wherein the set corresponds to an NxM matrix and each of the frequency coefficient signals corresponds to a predetermined horizontal coordinate and a predetermined vertical coordinate in the matrix"	No construction necessary.	Microsoft offers construction of two terms, but not the entire phrase:	No construction necessary.
	Alternatively, construe entire phrase as:	*predetermined horizontal coordinate:* a horizontal position which has been selected in advance.	
	wherein each of the frequency coefficient signals in a set takes a position in an NxM matrix as defined by a predetermined column and a predetermined row	*predetermined vertical coordinate:* a vertical position which has been selected in advance.	
"alternatively selecting between a first scanning order and a second scanning ord er in response to a frame format associated with the video signal"	No construction necessary.	Microsoft offers construction of several parts of the phrase:	The Court construes the entire phrase as:
	Alternatively, construe entire phrase as:	*alternatively selecting between a first scanning order and a second scanning order:*	alternatively selecting a pre-determined scanning order in response to whether the video signal is progressive format or interlaced format
	selecting a pre-determined scanning ord er in response to whether the video signal is progressive format	alternatively selecting between one or the other of two predetermined scanning orders	

	or interlaced format		
		[Microsoft modified this proposal in its opening brief.] *a frame format associated with the video signal:* the format of the input video signal- either interlaced (field) format or progressive (frame) format	
		in response to a frame format associated with the video signal: based solely on whether the input video signal is interlaced (field) format or progressive (frame) format	
"scanning order"	No construction necessary.	the order in which a two-dimensional block of quantized frequency coefficients are selected to produce a one-dimensional sequence of quantized frequency coefficient signals	the sequence into which frequency coefficients are organized prior to encoding.
	Alternatively: sequential order of frequency coefficients		
"frame format"	interlaced format or progressive format	Interlaced (field) format or progressive (frame) format	interlaced format or progressive format
"scanning the set of frequency coefficient signals"	No construction necessary.	the reordering of a two-dimensional block of quantized frequency coefficient signals into a one-dimensional string of quantized frequency coefficient signals	organizing the frequency coefficients into a sequence prior to encoding
	Alternatively: sequentially ordering the set of frequency coefficient signals		
"generating an encoded video signal"	No construction necessary.	creating a video signal using a variable length encoder	generating a video signal using variable word length encoding
	Alternatively: variable word length encoding		

Claim 8 (terms for which at least one party proposes further construction in **bold**):

The method of claim 7 in which the first **scanning order** comprises a **zigzag scanning order.**

Claim Language	Lucent /Alcatel-Lucent	Microsoft	Court's Construction
"scanning order"	Same as "scanning order" in claim 7 above.		
"zigzag scanning order"	No construction necessary.	the scanning order depicted in Fig. 3 and conforming to MPEG-1 and CCITT H.261 standards	the scanning order shown in Fig. 3 for an 8x8 block, which may be scaled to fit different block sizes provided that the scanning procedure remains the same as that shown in Fig. 3.
	Alternatively: an ordering of frequency coefficients from approximately the lowest spatial frequency to the highest		[COMMENT-The patent consistently refers to a "zigzag" scan as the "conventional" technique, and never indicates that the patentee contemplated anything else by this term. (See, e.g., 3:24-28 ("The conventional technique for scanning blocks ... is called the zigzag scan.").) The Court modifies its tentative construction to clarify that the zigzag scan may encompass other block sizes, provided that the procedure for zigzag scanning is the same as that shown in Fig. 3.]

Claim 19 (terms for which at least one party proposes further construction in **bold**):

An apparatus for **encoding a video signal,** comprising:

a **discrete cosine transform generator** for generating a set of **frequency coefficient signals,** the set representing the video signal and corresponding to an **NxM matrix, wherein each of the frequency coefficient signals corresponds to a predetermined horizontal coordinate and a predetermined vertical coordinate in the matrix;**

a scan selector for alternatively selecting between a first scanning order and a second scanning order in response to a frame format associated with the video signal;

a **scanner** for **scanning the set of frequency coefficient signals** according to the selected **scanning order** to create an ordered set of **frequency coefficient signals;** and

a means for generating an encoded video signal, the encoded video signal including the ordered set of frequency coefficient signals.

Claim Language	Lucent /Alcatel-Lucent	Microsoft	Court's Construction
"encoding a video signal"	Same as "encoding a video signal" in claim 7 above.		
"discrete cosine transform generator"	hardware and/or software for creating frequency coefficient signals corresponding to	a device that takes a block of pixels, applies a discrete cosine transform to the block of pixels and outputs DCT coefficients	hardware, which may include a general-purpose processor programmed with appropriate software,

	discrete cosine transform coefficients		that uses a discrete cosine transform to create frequency coefficients
"frequency coefficient signals"	Same as "frequency coefficient signals" in claim 7 above (in both instances).		
"NxM matrix"	Same as "NxM matrix" in claim 7 above.		
"wherein each of the frequency coefficient signals corresponds to a predetermined horizontal coordinate and a predetermined vertical coordinate in the matrix"	Same as "wherein each of the frequency coefficient signals corresponds to a predetermined horizontal coordinate and a predetermined vertical coordinate in the matrix" in claim 7 above.		
"a scan selector for alternatively selecting between a first scanning order and a second scanning order in response to a frame format associated with the video signal"	No construction necessary.	Construe the phrase in parts:	The Court construes the entire phrase as:
	Alternatively, construe the entire phrase as:	*scan selector for alternatively selecting between a first scanning order and a second scanning order:*	hardware, which may include a general-purpose processor programmed with appropriate software, that alternatively selects a pre-determined scanning order in response to whether the video signal is progressive format or interlaced format
	hardware and/or software that selects a pre-determined scanning ord er in response to whether the	a device that alternatively selects between one or the other of two pre-determined scanning orders.	

	video signal is progressive format or interlaced format		
	[MPT also incorporates its related proposals from claim 7.]	[Microsoft modified the above construction in its opening brief. Microsoft also incorporates its related proposals from claim 7, including the phrase "in response to ..."]	
"scanner"	No construction necessary.	a device that reorders a two-dimensional block of quantized frequency coefficient signals into a one-dimensional string of quantized frequency coefficient signals	No construction necessary.
	Alternatively: hardware and/or software that sequentially orders frequency coefficient signals		
"scanning the set of frequency coefficient signals"	Same as "scanning the set of frequency coefficient signals" in claim 7 above.		
"scanning order"	Same as "scanning order" in claim 7 above.		
a means for generating an encoded video signal, the encoded video signal including the ordered set of frequency coefficient signals	*Function:* generating an encoded video signal, the encoded video signal including the ordered set of frequency coefficient signals."	*Function:* generating an encoded video signal, the encoded video signal including the ordered set of frequency coefficient signals	*Function:* generating an encoded video signal, the encoded video signal including the ordered set of frequency coefficient signals
	Structure: variable length encoder 990 and all equivalents.	*Structure:* frame/field formatter 905, including all inputs and outputs (as shown in Fig. 9 and as described at 6:57-64); DCT and Quantizer 910, including all inputs and outputs (as shown in Fig. 9 and as described at 6:62-7:6); Scan Selector 915, including all inputs and outputs (as shown in Fig. 9 and its internal circuitry as shown Figs. 3, 6, and 7 and as described at 7:5-17, 3:28-40, and 4:46-5:28); Variable Word Length Encoder 990, including all inputs and outputs (as shown in Fig. 9 and as described at 7:13-37).	*Structure:* variable word length encoder 990 (as shown in Fig. 9 and as described at 7:13-37)
	[Parties also incorporate proposed constructions of "generating an encoded video signal" from	[Parties also incorporate proposed constructions of "generating an encoded video signal" from claim 7.]	[COMMENT-The Court concludes that its tentative construction was based on an overly restrictive view of the function, particularly in light of the parties'

claim 7.]	agreement that "generating an encoded video signal" in claim 7 is addressed to variable length encoding.]

Other claims: The Court's construction applies equally to any other asserted claims not addressed here.

S.D.Cal.,2008.
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