United States District Court,
N.D. California.

Richard W. BLOOMSTEIN,
Plaintiff.
v.
PARAMOUNT PICTURES CORP., a Delaware Corporation, and Lucas Digital Ltd., doing business as Industrial Light and Magic,
Defendants.

No. C-95-1864 MHP

May 6, 1996.

MEMORANDUM AND ORDER

PATEL**, District Judge.**

Plaintiff Richard W. Bloomstein filed this action against defendants Paramount Pictures Corporation ("Paramount") and Lucas Digital Ltd. ("Lucas"), doing business as Industrial Light and Magic, alleging that special effects "morphing" techniques used in the movie "Forrest Gump" infringed United States Patent Nos. 4,600,281 ("the '281 patent") and 4,827,532 ("the '532 patent"), issued to Bloomstein. Bloomstein asserts claims 1 and 6 through 10 of the '281 patent and claims 1 through 3 of the '532 patent at this time.

Now before the court are the parties' memoranda concerning claim construction, which is a matter of law pursuant to Markman v. Westview Instruments, Inc., 52 F.3d 967, 979 (Fed. Cir. 1995), *aff'd,* No. 95-26, 1996 WL 190818 (U.S. Apr. 23, 1996). Having considered the parties' arguments and submissions, and for the reasons set forth below, the court enters the following memorandum and order.

LEGAL STANDARD

A patent infringement determination involves two steps: the first step is to construe the claims, and the second step is to decide whether the accused device includes each limitation in the properly construed claims. *E.g.,* Fonar Corp. v. Johnson & Johnson, 821 F.2d 627, 631 (Fed. Cir. 1987), *cert. denied,* 484 U.S. 1027 (1988).

Interpretation of patent claims is a question of law for the court. Markman, 52 F.3d at 979. To ascertain the meaning of the claim language, the court considers the claims themselves, the specification, and the prosecution history. Id. at 980. The court may also consider extrinsic evidence in the form of expert testimony or otherwise. *Id.* However, the specification, prosecution history and extrinsic evidence are to be used only to help define or ascertain the meaning of the terms of the claims, and not to expand or diminish coverage by varying or contradicting the claim language. *Id.* at 979-81.

The patent holder "is free to be his own lexicographer" by clearly defining claim language in the specification. *Id*. at 980. Absent such a clear definition, however, claims terms are construed according to their ordinary meaning to one skilled in the relevant art. Carroll Touch Inc. v. Electro Mechanical Systems, Inc., 15 F.3d 1573, 1577 (Fed. Cir. 1993). A given term used more than once in the claims is to be construed uniformly throughout the claims. *See* Southwall Technologies Inc. v. Cardinal IG Co., 54 F.3d 1570, 1579 (Fed. Cir.), *cert. denied,* 516 U.S. 987, 116 S. Ct. 515 (1995).

BACKGROUND

Plaintiff Bloomstein filed suit against defendants Paramount and Lucas alleging that techniques they used to digitally alter facial features in the movie Forrest Gump infringed Bloomstein's '281 and '532 patents.

Bloomstein's two patents essentially describe the same invention. FN1 When one wishes to dub a new soundtrack containing a new language over the original soundtrack of a motion picture ("unaltered film"), the differences in the languages may be significant enough to make the lip movements of the faces in the unaltered film fail to conform to the new, dubbed language. Bloomstein invented a process by which the lip movements of a face in the unaltered film ("foreign face") could by digitized and altered to conform to the new language.

In general, the process consists of recording a moving image of a person (the "translator/actor") speaking the new language to be dubbed over the original soundtrack. Data from the lip movements of the translator/actor are recorded from periodic frames of the moving image to obtain a digital representation of the lip positions corresponding to the new language. Similar lip position data is collected from corresponding frames of the foreign face. In addition, "control points" are recorded from extreme lip positions of the foreign face, such as mouth fully open or fully closed. These control points are strategically chosen by an operator to define the "standard curves" of the foreign face's lip configuration. The lip positions of the foreign face are then compared to the corresponding lip positions of the actor/translator speaking the new language. This provides a measure of the *amount* the lip position must be changed to conform to the new language. To maintain a realistic portrayal of the face, however, the *shape* of the foreign face must remain consistent with the standard curves. To accomplish this, a computer is used to digitally calculate "working curves," which represent stretched or compressed standard curves, until the lip position corresponds to the new language. Ultimately, the pixels in the digitized, unaltered film are altered to portray the new working curves with the correct lip positions.

For the sake of efficiency, the lip position in every frame need not be empirically determined. Instead, key frames are calculated from lip position measurements, and computer algorithms are applied to "interpolate" the lip positions in the intervening frames. The specification also contemplates interpolation of data between control points along standard and working curves to define the intervening points along the curves. Joint Memorandum, Ex. A at column 9:64-67.

DISCUSSION

I. *Claim Construction*

A. *The* '281 Patent

1. *Claim 1*

Claim 1 of the '281 patent states in its entirety (with disputed terms highlighted):

A method of altering a cinematic work by substituting a second animated facial display for a first animated facial display and in which the displays have lip movements corresponding to the languages used and wherein the languages of the two displays are sufficiently different to result in different lip movements for each display, comprising:

generating data in digital form representing the configuration of the second facial display over a plurality of cinematic frames,

generating data in digital form representing the configuration of the first facial display over a plurality of cinematic frames, and

altering under the control of both sets of said data and a programmed digital computer the configuration of said first facial display to produce substantially the configuration of the second facial display.

The parties do not dispute the following interpretations, and the court construes these terms accordingly. "Display" means a visual display. "Plurality" means more than one. "Computer" means a programmable electronic device that can process data.

a. *Cinematic Work*

The parties' first disagreement is over the meaning of "cinematic work." The defendants argue that a cinematic work must be an entire motion picture, not just a portion as Bloomstein contends. The defendants reason that the Bloomstein claims' focus on efficiency and periodic references to dubbing foreign films supports the interpretation that the invention must apply to the entire film.

The most applicable plain meaning of a "work" is "something produced by the exercise of creative talent or expenditure of creative effort: artistic production." Webster's New Collegiate Dictionary 1350 (1977). This definition does not clearly limit an artistic work to the entire artistic endeavor. Furthermore, even if the claims should be limited to the context of dubbing a foreign language to a native one, it is possible that the process described in the claims would be applied to dub only portions of the motion picture, leaving other portions in the unaltered language and appearance. *See* Joint Memorandum, Ex. A at column 8:12-15, column 12:28-32. In light of the plain language of the claims and specifications, the court determines that "cinematic work" is not limited to an entire motion picture, but may be only a portion of a motion picture.

b. *Animated Facial Displays*

The parties also dispute the scope of the terms "first animated facial display" and "second animated facial display." The defendants would limit the definitions to a foreign actor displayed in the motion picture on one monitor, and the film of the target actor speaking a translated dialogue displayed on another monitor, respectively. Bloomstein takes the far broader view that each is merely a visual display that depicts a face.

Because Bloomstein's proposed definition comports with the plain meaning of the terms, the defendants'

definition must fail unless supported by other language in the claims and specification or by the prosecution history or extrinsic evidence. To support their argument, the defendants point to the next clause in claim 1: "the displays have lip movements corresponding to the languages used ...." Of course, this only supports the defendants' interpretation if the term "languages" is construed as a foreign tongue and a translation of that tongue into the "target" tongue. The defendant also points to the specifications which describe and depict an actor in a foreign film providing the "first animated display" and the target actor/translator providing the "second animated facial display." *See* Joint Memorandum, Ex. A at column 4:15-31, column 4:61-5:4, column 5:41-50, and Figure 2. However, the patent expressly states that the "invention is applicable to works using live actors as well as for animated cartoons." Thus the first animated facial display need not be a depiction of an actor's face. In light of the specifications and a contextual analysis of the claims, the "first animated facial display" is construed to mean a depiction of a face in a cinematic work speaking one "language." "Second animated facial display" is construed to mean a depiction of second face, an actor's, speaking a different "language." Neither display must appear on a "monitor device."

c. *Languages*

The crux of the parties' dispute as to claim 1 is the definition of "languages." Bloomstein argues that languages can mean two different dialogues in the same tongue, such as English. The defendants counter that considering the absence of a clear definition to the contrary in the claims or specification, the court should construe languages as two different tongues, such as English and Japanese, according to the ordinary meaning of the term.

As a preliminary matter, the first definition of "language" is "the words, their pronunciation, and the methods of combining them used and understood by a considerable community." Webster's New Collegiate Dictionary 646. Subsequent meanings include "audible, articulate, meaningful sound as produced by the action of the vocal organs." Id. The defendants argue in essence for the first definition, while Bloomstein espouses the latter.

However, the definition championed by Bloomstein cannot be pluralized without losing meaning. The claims require that "languages of the two displays are sufficiently different to result in different lip movements." At first glance, even one skilled in the art would wonder why Bloomstein used the plural "languages" instead of the singular "language" if he intended the claim to encompass different dialogues within the same tongue. FN2 In that case, the proper usage would be "the language of the two displays is sufficiently different to result in different lip movements." Bloomstein may be correct that the process disclosed in the specification could be used to "dub" one English dialogue to another, but he simply did not claim his invention that broadly. *See* Markman, 52 F.3d at 979-81 (specification should not be used to expand the scope of the claims).

In addition, the specification is rife with evidence that Bloomstein intended "languages" to mean a foreign tongue and a target tongue. Bloomstein argues that his repeated use of "foreign" should be discounted because he occasionally surrounded it by quotation marks. However, the use of quotation marks is not a clear definition contradicting the ordinary meaning of "languages." Bloomstein points to no affirmative language in the specification that clearly overcomes the ordinary meaning of "languages." FN3 Absent a showing that Bloomstein "act[ed] as his own lexicographer," the ordinary meaning prevails and "languages" means two different tongues. *See* Id. at 980.

d. *Generating Data in Digital Form*

The defendants support a narrow definition of "data in digital form," limiting it according to the specification to "measurement data," or numbers taken from measurements of the lip positions of the foreign face and the actor/translator's face. FN4 This argument encompasses two purported limitations: first, that the data is derived from manual measurements, and second, that the "control points" which define the standard curves are not included in the definition. Bloomstein argues that limitations of the preferred embodiment should not be imported into the claims so the data need not have been developed from manual measurements, and that data in digital form includes control points.

The Federal Circuit has held that "[p]articular embodiments in a specification will not be read into the claims when the language is broader than such embodiments." Electro Medical Sys. v. Cooper Life Sciences, Inc., 34 F.3d 1048, 1054 (Fed. Cir. 1994). Absent ambiguous language in the claims that lends itself to the defendants' narrow construction, the court declines to limit "data in digital form" to data developed from manual measurements (or automated measurements, for that matter). The defendants argue, and Bloomstein does not dispute, that the only preferred embodiment disclosed uses manual measurements to record the lip movements of both the face in the unaltered cinematic work and the face of the translator/actor. However, the claim language is unambiguously broader than the embodiment described in the specification, so the court declines to read the limitations of the specification into the claim. "Data in digital form" should not be limited to data derived from measurements of the foreign face or the actor/translator's face. The question remains, however, whether "control points" are included in the definition of data in digital form.

The language of the claim itself is ambiguous as to whether control point data is included in the definition. Claim 1 begins by describing a method for altering a motion picture to conform to a new facial display with "lip movements" significantly different from the original. The specification consistently uses the term "lip movements" to refer to the lip positions, not the control points of the standard or working curves. However, the subsequent language refers more broadly to the "configuration" of the facial displays. The ordinary meaning of "configuration" is "a relative arrangement of parts." Webster's New Collegiate Dictionary 237. This definition could easily include both the lip movements and the standard curves of the foreign face's lips, which are represented by control points.

The defendant's primary contextual argument is that "data in digital form" must mean the same thing when it modifies the "second facial display" as it does when it modifies the "first facial display." In other words, they argue that because "data in digital form representing the configuration of the second facial display" refers only to the measurements of the actor/translator's lip positions, "data in digital form representing the configuration of the first facial display" must be similarly limited to measurements of the foreign face's lip positions and cannot possibly include control point data. Defendant reaches this result only by conveniently truncating the phrases before they diverge and refer to the different facial displays. By identifying the different uses of the two facial displays, the specification contradicts defendant's construction. While the second facial display is used only to calculate the lip position data corresponding to the new language, the first facial display is used to develop both lip position data and control point data for the standard curves. FN5 The court construes "data in digital form representing the configuration of the first facial display" to include both lip position data and control point data. "Data in digital form representing the configuration of the second display" is construed to include only lip position data. FN6

e. *Altering the First Facial Display*

The defendants also argue that the "altering" step of claim 1 must include the use of measurement data. The

claim reads: "altering under the control of both sets of said data and a programmed digital computer the configuration of said first facial display to produce substantially the configuration of the second facial display." "[B]oth sets of data" clearly refers to the two sets of "data in digital form" discussed above. Consistent with the construction of the "generating" steps, therefore, the two "sets of data" refer to the data representing the configuration of the first facial display, which includes both lip position data and control point data, and the data representing the configuration of the second facial display, which includes only lip position data.

Bloomstein's proposed construction is too broad. He contends that the altering step encompasses any manipulation of the pixels in the digitized, first facial display to conform to new and different words. As discussed, the claim language requires that any manipulation be accomplished "under the control of both sets of data." Construed in light of the specification, this requires that the new lip configuration be calculated according to lip position data and control point data. Without such a limitation, the "generating" steps would be wholly superfluous.

The specification supports this interpretation: "While the new and original lip movement measurements will be used to control the amount of alteration of each frame the standard facial curves will control the location of the alterations." Joint Memorandum, Ex. 1 at column 7:32-35. FN7

Finally, the parties dispute whether a "programmed digital computer" must process measurement data. Consistent with its interpretation of the altering step, the court construes "programmed" to mean programmed with algorithms which process the lip position data and control point data, resulting in data representing the new pixel configuration of the altered first facial display.

2. *Claim 6*

Claim 6 of the '281 patent states in its entirety (with disputed terms highlighted):

A method according to claim 1 including storing each of said second plurality of frames as a series of video pixels in digital form and as part of said altering modifying the digital values of selected pixels in accordance with the sets of said data.

The parties do not dispute the following interpretations, and the court construes these terms accordingly. "[S]econd plurality of frames" refers to the frames of the existing cinematic work. "Pixel" or "picture element" means

a finite-sized rectangular region on a video screen, the location of which can be represented by X and Y coordinates. A digital image on a video screen is formed by an array of PIXELS. The numerical values that characterize a PIXEL define its color and intensity.

Joint Memorandum at 5:20-23.

As to the interpretation of the "modifying the digital values" step of claim 6, the parties reprise their arguments regarding the "altering" step of claim 1. Consistent with the court's construction of claim 1, claim 6 requires that the digital values representing the colors and intensities of selected pixels of the first facial display be modified in accordance with the lip position data of both the first and second facial displays and the control point data of the first facial display.

3. *Claim 7*

Claim 7 of the '281 patent states in its entirety:

A method according to claim 1 including combining on an audio visual medium the second display in synchronism with the audio corresponding to the lip movement thereof.

The parties agree that claim 7 adds to the process claimed in claim 1 the step of combining the altered frames of the cinematic work with the new lip movements in synchronization with the new dialogue. The parties do not dispute the meaning of any terms other than those disputed in claims 1 and 6.

4. *Claim 8*

Claim 8 of the '281 patent states in its entirety (with disputed terms highlighted):

A method of substituting a second language and associated lip movements for a first language and associated lip movements which are in a cinematic work made up of a number of frames and wherein the two languages have different lip movements, comprising:

generating data in digital form representing the lip movements of the respective languages,

transmitting said data to a programmed digital computer, and

under control of said computer, and in accordance with said data, modifying the light intensities at selected areas of the frame to alter the lip movements of the first language to a configuration substantially corresponding to the lip movements of the second language.

"Computer" has the same meaning that the parties agreed to in claim 1.

Also as discussed in the construction of claim 1, "second language" and "first language" refer to different tongues, such as English and Japanese, and cannot encompass two different dialogues in the same language, such as English. "Cinematic work" may be either an entire motion picture of a portion of one.

a. *Generating Data in Digital Form Representing the Lip Movements of the Respective Languages*

In connection with this phrase, the parties reprise their argument from claim 1: defendants contend this step encompasses only the generation of lip position measurement data from the lip movements associated with each language, while plaintiff construes it more broadly as generation of data representative of the lip movements associated with the languages, including both lip position data and control point data.

One notable difference between claims 1 and 8 is that claim 8 drops the language referring to "animated facial displays" and replaces it with "language and associated lip movements". Because Bloomstein uses the term "lip movements," the defendants' argument is stronger than in claim 1, which consistently used the term "configuration." FN8 Throughout the specification, Bloomstein uses "lip movements" to refer to lip positions, as distinguished from control points. *See* footnote 4, supra. In addition, claim 8 contains a single "generating" step for both animated facial displays, unlike claim 1 which claims the generating steps separately for each facial display. Therefore, claim 8 does not *necessarily* contemplate the use of control

points to define curves corresponding to the final lip configuration. The court construes "generating data in digital form representing the lip movements of the respective languages" to mean generating lip position data representing the lip movements that correspond to the two languages. However, consistent with the court's construction of claim 1, the limitation in the specification that the lip position data be "measured" is not read into the claim.

b. ***Transmitting Said Data to a Programmed Digital Computer***

Defendants contend that the "transmitting" step is limited to a process in which data from a source external to a programmed computer is entered into the computer. Bloomstein counters that this step should encompass communicating the data for processing by the computer, including communications from the computer's own memory.

As discussed above, the parties have agreed that a "computer" is a programmable electronic device that can process data. Thus the layperson's definition of a computer, which might include every component within the cabinet, the monitor and the keyboard, is irrelevant to the present inquiry. Indeed, it is clear that many of the components of a given computer system are not indispensable to its data-processing functions. Instead, the question is whether transmitting data from an internal memory location to the data-processing components of a computer system constitutes "transmitting ... data to a programmed digital computer." In other words, the court must decide whether a computer system, minus the internal memory used to store the relevant data, is still a "programmable electronic device that can process data." If so, then a transfer of data from such an internal memory location is still a transfer "to" the computer. The answer is clear. A computer's data processing functions do not depend on the use of internal or external memory. Even a layperson would recognize that a computer's data-processing function proceeds virtually identically regardless of whether the data is retrieved from an external or internal disk drive. The court therefore adopts Bloomstein's construction that the transmitting step includes transmission of data from a memory location for processing.

c. ***Modifying the Light Intensities to Alter the Lip Movements***

Despite the slightly different language in the final step of claim 8, the parties merely refer the court to their arguments regarding the "altering" and "modifying" steps of claims 1 and 6, respectively.

In light of the court's interpretation of claims 1 and 6 and its interpretation of the generating step of claim 8, the court construes this clause to mean that the digital values representing the light intensities at selected areas of frames of the first facial display are to be modified by computer in accordance with the lip position data of both the first and second facial displays to achieve a configuration substantially corresponding to the lip movements of the second language. A new issue is raised by the fact that the "generating" step of claim 8 does not necessarily contemplate the generation of control point data. The specification discloses only one mode of achieving the *shape* of the final lip configuration: the use of control point data to define standard curves, such as those of the first facial display in claim 1. As noted, the lip position data controls the amount, or extent, of the modification whereas the control point data controls the location, or contour, of the modification. Thus, without some means of defining the contour of the lip curves, the final "configuration" referred to in claim 8 cannot be achieved. However, modifying the frames "in accordance with" the lip position data does not rule out the introduction of additional data into the programmed digital computer. The only possible interpretation, then, is that while claim 8 is not limited to the use of standard curves or control point data, it does not rule out the use of such curves or data, or another means of defining the contour. FN9 In sum, claim 8 clearly contemplates the use of lip position data to define the extent to which the lips part

while speaking, but the shape of the lips may or may not be defined by standard and working curves represented by control points.

5. *Claim 9*

Claim 9 of the '281 patent states in its entirety:

A method according to claim 8 in which the selected areas are constituted of video pixels having numerically represented intensities and locations, the values of which are stored in the computer, and said modifying including changing the numerically defined intensities of selected pixels.

The parties dispute the same terms in claim 9 that they disputed in claims 1, 6 and 8 of the '281 patent. The "modifying" step is construed consistently with the court's interpretation of the modifying steps of claims 6 and 8. Claim 9 therefore implements claim 8 as follows: the numerical values representing the intensities and locations of selected video pixels in selected frames corresponding to the lip positions associated with the first language are stored in a computer and modified by changing the intensities of selected pixels. The location and extent of modifications to particular pixel intensities may also depend on some means of defining a final lip contour, perhaps including the use of standard curves or control points.

6. *Claim 10*

Claim 10 of the '281 patent states in its entirety:

A method according to Claim 8 including combining on an audio-visual medium audio for the second language in substantial synchronism with the lip movements of said second language.

The parties identify no new disputes with respect to claim 10. The court construes claim 10 consistently with the parties' agreement to add to the process claimed in claim 8 the step of combining the altered frames of the cinematic work with the new lip movements in synchronization with the new dialogue.

B. *The* '532 Patent

The parties agree that claims 1, 2 and 3 of the '532 patent are similar to claims 1, 8 and 9 of the '281 patent, except for the language discussed below. Unless otherwise noted, therefore, all terms are construed consistently with the construction given the terms in the '281 patent.

1. *Claim 1*

Claim 1 of the '532 patent states in its entirety (with additional disputed terms highlighted):

A cinematic work having an altered facial display made in accordance with a process that includes substituting a second animated facial display for a first animated facial display and in which the displays have lip movements corresponding to the languages used and wherein the languages of the two displays are sufficiently different to result in different lip movements for each display, and which process further comprises:

generating data in digital form representing the configuration of the second facial display over a plurality of cinematic frames,

generating data in digital form representing the configuration of the first facial display over a plurality of cinematic frames, and

altering under the control of both sets of said data and a programmed digital computer which provides numerical interpolation of lip distance data the configuration of said first facial display to produce substantially the configuration of the second facial display.

The defendants contend that "numerical interpolation of lip distance data" is limited to numerical interpolation of lip distance data to determine "working curves" from "standard curves." Bloomstein contends that the phrase refers both to the interpolation of working curves from standard curves and more generally to the interpolation of lip positions between frames of the cinematic work. The ordinary meaning of "lip distance" could be either the distance a lip moves from one frame to the next, the distances between the lips in a given frame (i.e. height and width), the distance along a lip curve, or some combination of these. The court therefore looks to the specification to resolve the ambiguity.

The specification expressly contemplates three kinds of interpolation: interpolation of movements for intermediate frames, interpolation of working curves from standard curves according to height and width data, and interpolation of intermediate points on working and standard curves according to control point data. Joint Memorandum, Ex. 1 at column 9:10-10:13. The defendants concede that several types of interpolation are discussed in the specification, but argue that "lip distances" refer only to the four "distances" disclosed in the specification: the upper height, lower height, inner width and outer width pictured in FIGURES 3 and 4. Id. at column 5:10-19. However, the mere reference to "lips" and "distances" in the same paragraph is not a clear enough definition of "lip distances" to further limit the ambiguous claim language.

The defendants also argue that the prosecution history precludes Bloomstein's broad interpretation. Bloomstein originally claimed "curve interpolation which provides numerical interpolation of lip distance data between control curves," but the examiner required the claim be modified to its present, ambiguous form. Defendant's Memorandum, Ex. B. at B-38, B-41. This argument has merit. The only "curves" disclosed in the specification are the standard curves and working curves that define the lip contour. The "distance ... between control curves" can only refer to the heights and widths of the distance between these lip curves. The court agrees with the defendants that the interpolation step of claim 1 refers only to interpolation of working curves from standard curves according to the lip position data.

2. *Claim 2*

Claim 2 of the '532 patent states in its entirety (with additional disputed terms highlighted):

A cinematic work in which a second language and associated lip movements are substituted for a first language and associated lip movements in a cinematic work made up of a number of frames and wherein the two languages have different lip movements, made in a process including

generating data in digital form representing the lip movements of the respective languages,

graphically interpolating lip distance between control data,

transmitting said data to a programmed digital computer, and

under control of said computer, and in accordance with said data, modifying the light intensities at selected areas of the frame to alter the lip movements of the first language to a configuration substantially corresponding to the lip movements of the second language.

Unlike claim 1, claim 2 is not limited to interpolation of distances between "curves" by the prosecution history. Instead, claim 2 uses the terms "lip distance between control *data*." This language is broader than claim 1, and may encompass each type of interpolation disclosed in the specification. FN10

3. *Claim 3*

Claim 3 of the '532 patent states in its entirety:

A method according to claim 2 in which the selected areas are constituted of video pixels having numerically represented intensities and locations, the values of which are stored in the computer, and said modifying including producing changed numerically defined intensities of selected pixels.

The parties agree to, and dispute, the same terms in claim 3 of the '532 patent as they do in claim 2 of the '532 patent and claims 6, 8 and 9 of the '281 patent.

The "modifying" step is construed consistently with the court's interpretation of the modifying step in claim 9 of the '281 patent.

CONCLUSION

As set forth above, the disputed terms in claims 1 and 6 through 10 of the '281 patent and claims 1 through 3 of the '532 patent are hereby construed as a matter of law.

IT IS SO ORDERED.

FN1. The '532 patent was originally rejected by the Patent and Trademark Office for identity-type double-patenting with the '281 patent. Bloomstein amended the '532 patent to include an "interpolation" step, and the examiner allowed claims 1 through 3. The only significant difference between the two patents, therefore, is the presence of the interpolation step in the '532 patent.

FN2. He could also have claimed different "words" or "dialogues," as argued throughout his memoranda, but he did not do so.

FN3. The "Background" portion of the patent describes the invention as "particularly applicable for replacing the sound track of a motion picture with a new sound track of a different language while also modifying the lip movements of the actors in the picture to correspond to the new language to be applied to the sound track." Joint Memo., Ex. A at column 1:16-21. Bloomstein argues that the use of "particularly" implies a broader scope of application than cross-language dubbing. However, this mere suggestion of broader scope cannot overcome the claim language and consistent discussion of cross-language dubbing in the specification.

FN4. The defendants rely on the following language from the specification:
The actor with the new language records the new language on a recording medium 4 ... and at the same time the lip movements and configurations of that actor are video-taped, displayed and measured. This information is converted into digital form. Similarly, the head and lip movements of the actor in the film are measured together with head movements. This information is converted into digital form. The two groups of data are compared in a programmed computer to provide a measure of the amount of correction that must be made to the lip movements of the foreign film actor to bring those lip movements, along with facial movements, into positions which correspond to the new language sound to the new actor.

Joint Memorandum, Ex. A at column 4:24-37. Bloomstein's identification of the lip movement measurements as "data" after conversion to "digital form" does not compel the conclusion that data in digital form can be comprised only of the measurement data. This excerpt is equally consistent with measurement data being merely a type of data in digital form.
FN 5. It has been found that only a limited number of measurements need be taken on the new language lip movements, as shown in FIG. 3. Generally speaking the measurements taken are upper height 26, lower height 28, inner width 30 and outer width 32.

* * *

The existing or "foreign" head and lip movements on the film are measured by the operator viewing the frames from the film or from the screen projection of a video tape.... Like the lip movements of the new language referred to previously, the existing lip movements are measured to include the same measurements as in FIG. 3.

* * *

Before introducing the data relative to the lip movement measurements shown in FIGS. 3 and 4, the operator identifies and defines control points for standard curves to characterize the actor in the section of the film being processed. *While the new and original lip movement measurements will be used to control the amount of alteration of each frame the standard facial curves will control the location of the alterations*. Only a small number of control points need be defined to characterize the actors [sic] face in the film for resynchronization to the new sound....
The standard curves are defined by measuring and transcribing the X, Y coordinates of operator-selected control points shown for example in FIG. 8 with respect to the open upper lip curve 94. The same procedure is followed with respect to the other [standard] curves. Normally, control points for the lip curves include a blend point at the cheeks 1a, 7a, the corners 2a, 6a, the center 4a and one or two points on either side of the center end corner 3a, 5a....
The operator can measure the X, Y coordinates of the standard curve control points in a manner similar to measuring the head and lip movements earlier described.

Joint Memorandum, Ex. A at column 5:7-11, column 5:41-50, column 7:28-38, column 7:49-57 (emphasis added).
FN6. Contrary to defendants' argument, the court's construction does not attribute two different meanings to the same language. "Data in digital form" is given the same, ordinary meaning in each clause. In other words, that phrase alone could include both control point data and lip position data for both facial displays.

However, the specification clarifies that only the first facial display need be characterized by control point data to define its standard curves. No standard curves are required for the second facial display. The claim clearly allows such a divergence in construction by providing separate "generating" steps for the first and second facial displays.

FN7. Bloomstein submitted an affidavit claiming that his program allows direct entry of control points. *See* Bloomstein Affidavit of February 9, 1996, at para. 3. Defendants dispute that the referenced lines of the program allow direct entry of control points. The court finds that the (English) text of the claims and specification controls and that resort to the computer program is unnecessary and inappropriate.

FN8. Some of the specification language cited by defendants for the proposition that "configuration" and "lip movements" are synonymous actually supports the difference recognized by the court. For example, Bloomstein specifies that "[t]he actor with the new language records the new language on a recording medium 4 ... and at the same time the *lip movements and configurations* of that actor are video-taped, displayed and measured." Joint Memorandum, Ex. 1 at column 4:24-28 (emphasis added). If the two terms were synonymous, Bloomstein would not have included them both, separated by "and." Other language cited by defendants is consistent with the interpretation that lip movements comprise a *part* of the overall configuration, but the two terms are not coextensive. *See* Id. at column 5:13-16.

FN9. At oral argument, Bloomstein argued that "lip movements" in claim 8 included working curves as defined by control points. This argument has been rejected by reference to the specification. The court merely construes claim 8 to allow, but not require, the use of control point data to establish the final lip configuration. In the context of this claim construction order, the court expresses no opinion as to whether the specification is adequately "enabling" as to claim 8.

FN10. The court expresses no opinion at this time as to defendant's argument that the interpolation steps of claims 1 and 2 are fatally indefinite under 35 U.S.C. s. 112(2).

N.D.Cal.,1996.
Bloomstein v. Paramount Pictures Corp.