United States District Court,
C.D. California.

David H. SITRICK,
Plaintiff.
v.
DREAMWORKS, LLC; New Line Productions, Inc.; New Line Home Entertainment, Inc.; Warner Music Group, Inc.; Warner-Elektra-Atlantic Corporation; and Warner Home Video d/b/a Warner Reprise Video,
Defendants.

No. CV 03-4265-SVW (AJWx)

July 20, 2006.

Keith V. Rockey, Rockey Depke Lyons and Kitzinger, Maurice E. Teixeira, Thomas C Elliott, Jr, Bell Boyd & Lloyd, Chicago, IL, Peter W. James, Baker & Hostetler, Los Angeles, CA, for Plaintiff.

David L. Ter Molen, Richard Francis O'Malley, Sidley Austin Brown & Wood, Chicago, IL, Jeffrey M. Olson, Samuel N. Tiu, Sandra S. Fujiyama, Paul D. Tripodi, II, Sidley Austin, Los Angeles, CA, for Defendants.

ORDER GRANTING DEFENDANTS' MOTION FOR SUMMARY JUDGMENT [150][153][158][159] [160][161][162][165][166][184]

STEPHEN V. WILSON**, District Judge.**

I. INTRODUCTION

This patent infringement case involves technology that, simply put, should allow a user's image (either visual or aural) to be seamlessly incorporated into video games or movies. The Plaintiff, David Sitrick ("Sitrick" or "Plaintiff"), alleges infringement of two patents, U.S. Patent No. 5,553,864 (issued Sept. 10, 1996) (the " '864 patent") and U.S. Patent No. 6,425,825 (issued July 30, 2002) (the " '825 patent"). The allegedly infringing product FN1 is the ReVoice Studio ("ReVoice"), used by Defendants Dreamworks L.L.C.; New Line Productions, Inc.; New Line Home Entertainment, Inc.; Warner Music Group Inc.; Warner Bros. Records Inc.; Warner-Elektra-Atlantic Corporation; Warner Home Video, d/b/a Warner Reprise Video; Warner Bros. Entertainment Inc.; and Warner Bros. Pictures (collectively, the "Defendants").

FN1. Sitrick originally alleged infringement by Defendants' Make-A-Movie technology. That argument was abandoned during the pendency of this motion.

Plaintiff alleges infringement of Claims 54 and 56 of the '864 patent and of Claims 1, 20, 49, 57, 58, 62, 64,

and 69 of the '825 patent. Defendants moved for summary judgment on a number of grounds: invalidity under 35 U.S.C. para. 1; invalidity under 35 U.S.C. para. 2; noninfringement and/or invalidity under 35 U.S.C. s. 102; and unenforceability, invalidity and intervening rights in light of Sitrick's improper payment of small entity fees and false declarations to the Patent and Trademark Office ("PTO"). Additionally, Defendants filed a motion for the claims to be construed and the parties filed cross-motions to strike portions of witness declarations and expert reports. The parties agreed to a Special Master and the Court engaged him. The Special Master issued a report on each of these motions (hereinafter "SMR").

The Court rejects the bulk of the Special Master's conclusions. As more fully described below, the Court finds that

-> Claim 54 of the '864 patent is invalid for lack of enablement and in any case not infringed by ReVoice;

-> Claim 56 of the '864 patent is invalid for lack of enablement;

-> Claim 1 of the '825 patent is invalid for lack of enablement and for indefiniteness;

-> Claim 20 of the '825 patent is invalid for lack of enablement and for indefiniteness;

-> Claim 49 of the '825 patent is invalid for lack of enablement and for indefiniteness;

-> Claim 57 of the '825 patent is invalid for lack of enablement and for indefiniteness;

-> Claim 58 of the '825 patent is invalid for lack of enablement and for indefiniteness;

-> Claim 64 of the '825 patent is invalid for lack of enablement and for indefiniteness; and

-> Claim 69 of the '825 patent is invalid for lack of enablement and for indefiniteness.

The lack of enablement finding is specifically with respect to using the patented invention with motion pictures. No findings are made as to whether the patents are enabled with respect to video games, the preferred embodiment (and an irrelevant embodiment for purposes of this litigation).

The parties also filed cross-motions to strike. Both of these motions are GRANTED in part and DENIED in part.FN2

FN2. Thus, all of the motions were addressed, in full or in part, except the motion with respect to intervening rights. However, the Court only those portions of the motions that were necessary to dispose of the case.

II. FACTS

The '864 patent claims an invention that allows a user's image (which can be a visual/graphic image or an audio image) to be substituted for an image in a video game or other audiovisual presentation. In a simplistic example, the image of a user's face could be stored on a storage card. If this were a video game, an interface adaptor would select Character *X*.' s face as the character function to be replaced by the user

image (the user's face). The video game apparatus (such as a Nintendo) would send requests for certain character functions (including the face of a character). Because the face of character *X* had been selected as the character feature that would be replaced with the user's image, the interface adaptor would intercept the request for the face and redirect that request to the storage box housing the user image. The signal sent back to the video game apparatus would thus carry the user's face, not the predefined character's face. The user's face would then be incorporated in place of the pre-existing face of Character *X*. In addition to visual user images, the invention can also incorporate aural user images into pre-existing displays. This can be accomplished either by a direct playback of the words spoken by the user or by a device extracting voice parameters from a sample of the user's voice so that the user's voice can be modeled to say anything.

The '825 patent is essentially the same as the '864 patent except that it discusses other embodiments, such as using the technology in an amusement park and even having amusement park patrons carry a storage card with their image data to various stations within the amusement park. The '825 patent, while still using the video game as its preferred embodiment, appears more focused on other types of presentations, such as motion pictures, than was the '864 patent.

ReVoice Studio is used by Defendants on a number of DVDs, among them *Shrek*. Revoice allows a user to record his voice saying the line said by the character in the movie. That recording is then integrated into the movie, so that the character's voice is now the user's voice. ReVoice adapts the timing of the words said by the user so that they match the timing of the actual line said by the character. ReVoice only plays back what is said.

Defendants' experts are Tim McGovern ("McGovern"), Dr. Richard Parent ("Dr.Parent"), and Dr. Richard Phillips ("Dr.Phillips"). McGovern has worked in the fields of computer animation and visual effects for the past twenty-four years. He has won numerous industry awards for his work in movies and commercials. Dr. Parent has a Ph.D. from the Computer and Information Science Department at Ohio State University, majoring in Artificial Intelligence. He is an Associate Professor in the Computer Science and Engineering Department of Ohio State University. Dr. Phillips has written textbooks on computer graphics and has over forty years of experience in programming.

Plaintiff's expert is Dr. Andre Vacroux ("Dr.Vacroux"). Dr. Vacroux has a Ph.D. in mechanical engineering and has worked in electrical and computer engineering. He was a Professor of Electrical Engineering and Dean, School of Engineering & Applied Science at Southern Methodist University. He has also worked in the telecommunications industry with Bell Labs and at one time was a Director of the Illinois Institute of Technology's Telecommunications Systems Center. He does not have a background in the motion picture industry.

III. ANALYSIS

A. Claim Construction

Claim construction is a matter of law. Markman v. Westview Instruments, Inc., 52 F.3d 967, 977-79 (Fed.Cir.1995). Courts may use intrinsic or extrinsic evidence to interpret the claims, but intrinsic evidence is highly preferred. Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed.Cir.1996). Intrinsic evidence includes the claims, the specifications, and the prosecution history (the record of the inventor's efforts to have the patent issued). *Id*. Extrinsic evidence consists of expert testimony, treatises, dictionaries, etc. Markman, 52 F.3d at 980.

The cardinal rule of claim construction is to define the terms of the claim in the way that someone skilled in the art relevant to the patent would define the terms, in light of the context of the entire patent (that is, not just defining the terms or reading the claims in a vacuum). Phillips v. AWH Corp., 415 F.3d 1303, 1313 (Fed.Cir.2005). To the extent that extrinsic evidence assists the Court in so construing the claims, the Court is encouraged to consult extrinsic evidence. However, extrinsic evidence that contradicts the meaning given a term or claim based on the intrinsic evidence should be disregarded. Vitronics, 90 F.3d at 1583. A term used in a claim may be given a different meaning than that generally ascribed to it by people skilled in the relevant art if that different meaning is laid out in the specification of the patent. Id. at 1582. This is known as the inventor or patentee being his own lexicographer. *Id*. While the specification should not be used to read limitations into the claims that do not exist (for example, reading the specific embodiments to be the only covered embodiments), the specification can be used to better understand and define terms used in the claims. Phillips, 415 F.3d at 1323. The specification is often referred to as the single best source of the meaning of the claims. *See* id., 415 F.3d at 1320-21; Vitronics, 90 F.3d at 1582.

Courts generally first construe the claims and then apply the construction to the facts of the case (that is, to the allegedly infringing product). To literally infringe a patent, the infringing product must infringe each and every independent claim in the allegedly infringed patent. *See generally* Ethicon Endo-Surgery Inc. v. United States Surgical Corp., 149 F.3d 1309, 1315-20 (1998).

The Special Master construed all of the claims under dispute. The parties do not dispute some of the Special Master's findings and to that extent the Court adopts the Special Master's findings.FN3

FN3. Following are undisputed constructions, which the Court adopts:
-> The teaching of the patents clearly provides for application for movies as well as video games. Thus, Defendants' request that the patents be construed to only be applicable to video games is rejected.
-> The Special Master construes "video interface system" from Claim 56 of the '864 patent as an intermediary that connects to an existing video system and the storage means, allowing for communication between then existing video system and storage means. Neither party disputes this construction and the Court adopts it.
-> The Special Master construes "storage means being removable and transportable from the video interface system" from Claim 56 of the '864 patent as any device for holding digital data which is removable and transportable, with the words "removable and transportable" having their ordinary meaning. Neither party disputes this construction and the Court adopts it.
-> The Special Master construes "means for analyzing the requests for predefined images" from Claim 56 of the '864 patent as a means-plus-function clause in which the function is analyzing requests for predefined images to identify a request for a selected predefined image and the means are the adapter interfaces 110 and 180 and the controller circuit 260. Neither party disputes this construction and the Court adopts it.
-> The Special Master construes "means for intercepting the requests for the selected predefined image and substituting the data for the user image in place of the predefined data" from Claim 56 of the '864 patent as a means-plus-function clause in which the function is to intercept requests for the selected predefined image and substitute the data for the user image in place of the predefined image; and the means are the adapter interfaces 110 and 180 and the controller circuit 260. Neither party disputes this construction and the Court adopts it.
-> The Special Master construes "user image" from the '825 patent as both visual data and aural data, including data representing the characteristics of a user's voice. Neither party disputes this construction and the Court adopts it.
-> The Special Master construes "means for selecting" a character function from the '825 patent as a means-

plus-function clause in which the function is selecting one of the character functions within the background image to be the selected predetermined character function; and the means are the various devices described as user controller 147, such as joysticks or keyboards. Neither party disputes this construction and the Court adopts it.

1. '864 Patent

a. Claim 54

Claim 54 of the '864 patent reads in relevant part: "*A method of integrating a user voice image into a presentation output, the method comprising the steps of:*

sampling a user's voice;

analyzing a sampled user's voice to provide user voice parameter data representative of the user voice image; storing the user voice parameter data;

synthesizing and interjecting the user's voice into the presentation output responsive to the user voice parameter data comprising the step of associating a particular predefined character image within the presentation with the user's voice so that when the particular predefined character is speaking, the user voice parameter data is input as a model to a voice synthesizer that effects the integration of the user's voice into the presentation output as associated with the predefined character image." ('864 patent at 35:32-47.) As the bolded words indicate, the parties dispute the meaning of the terms "sampling a user's voice," "voice parameter data," and "voice synthesizer." The Special Master's construction, the parties' arguments regarding the Special Masters' construction, and the Court's conclusions are detailed below.

"*Sampling a User's Voice*." The Special Master, relying primarily on a dictionary definition of "sample" found that "sampling a user's voice" means to examine a small sample or amount of the voice. The Special Master rejected Defendants' further restriction of the phrase that the sample is taken to assess the tonal quality and pitch distinctive to the user.

While Plaintiff seems satisfied with the Special Master's definition, Defendants argue that the Special Master's construction is too unbounded in terms of the amount needed and proposes this definition: "taking a small portion of the user's voice sufficient to obtain user voice parameter data for correct modeling of the user's voice." Defendants rely on a recent opinion by the Federal Circuit in which the Federal Circuit stated that the context of the claim is properly taken into account when construing the words or phrases in that claim. Medrad, Inc. v. MRI Devices Corp., 401 F.3d 1313, 1320 (Fed.Cir.2005). Here the claim context is that the sample is being taken in order to allow data from the voice to be analyzed and modeled. Plaintiff makes a weak attempt at arguing that *Medrad* is inapplicable because the construction rejected by the *Medrad* court did not make sense in the context of the claim. What Plaintiff does not address is that the construction accepted by the *Medrad* court did take into account the context of the claim and the *Medrad* court specifically approved that method of construction. It does not make sense to construe "sample" without taking into account the purpose of the sample when that purpose is stated in the same claim. The Court adopts Defendants' proposed definition: "taking a small portion of the user's voice sufficient to obtain user voice parameter data for correct modeling of the user's voice."

"*Voice Synthesizer*." This is the issue of greatest dispute in this claim. The Special Master found "voice synthesizer" to mean any computerized electronic apparatus for the production and control of a voice sound. The Special Master rejected Defendants' proposal that the phrase be construed to cover only synthetically

generating new speech (speech not originally uttered by the user) with a voice sounding like the user or distinctive of the user's pitch and tonal qualities. Defendants' relied on their expert, Dr. Parent, for this interpretation. The Special Master noted that Dr. Phillips, another of Defendants' experts, testified that the creation of an artificial voice is merely one example of voice synthesis. Accordingly, the Special Master found Dr. Parent's testimony to be contradicted by Dr. Phillips'. The Special Master's construction came from a general usage dictionary.

Defendants argue that the Special Master's construction read out an express limitation of the claim and that it relied too much on a general usage dictionary, to the exclusion of the intrinsic evidence and expert testimony. A court "must give meaning to all words in [the] claims." Exxon Chemical Patents, Inc. v. Lubrizol Corp., 64 F.3d 1553, 1557 (Fed.Cir.1995). A court "can neither broaden nor narrow claims to give the patentee something different than what he has set forth." Texas Instruments, Inc. v. U.S. Int'l Trade Comm'n, 988 F.2d 1165, 1171 (Fed.Cir.1993).

The limitation that Defendants argue the Special Master read out of the claim through his construction is that the synthesizer must "model" the inputted voice sample that is, the proper definition is any computerized electronic apparatus for the production and control of a voice sound that synthetically generates new speech using user voice parameter data as a model. Defendants find support for this construction in both the intrinsic evidence and in expert opinions. Defendants properly note that the Federal Circuit in *Phillips* indicated that, while dictionaries could be used in claim construction, their general definitions should not trump the specific usage of a term in the patent. Phillips, 415 F.3d at 1318-21.

Intrinsic Evidence. In the description of the invention, the '864 patent states:

Audio signals go beyond simple spoken words and phrases, or explosions or other sounds. Audio signals can be analyzed and processed to generate voice parameters which are then used by the system to synthetically generate a voice corresponding to and sounding like the audio signals from which the voice parameters were modeled (e.g., the actual user's voice, tonal quality, pitch, etc.).

('864 patent at 6:3-9.) According to Defendants, this description distinguishes between the initial utterance by the user and what is generated by the invention, which is a voice that sounds like the user's because of the data mined from the audio sample that is then translated into a synthetic voice. In other words, what the user actually said is immaterial-it is the extraction of the voice parameters from that utterance and the translation of those parameters into a voice that can say anything and can sound like the user's voice (based on the analysis of voice parameters). This interpretation is persuasive.

The only thing the Court clarifies regarding Defendants' proposed definition is that the synthetic voice could say precisely what the user had said in the sample, and this would be within the claim, as long as the voice was not simply a playback of the user's sample but was generated from the sample and the extracted voice parameters.

Extrinsic Evidence. Defendants' expert, Dr. Parent, found "that this claim refers to [the] process of synthetically generating new speech." His conclusion was based on an examination of the specifications and the claim language, as well as an understanding of the science of the voice. The Special Master rejected Dr. Parent's conclusion because the Special Master did not find support for that conclusion in the specification (a finding that, as discussed above, the Court rejects) and because the Special Master interpreted the testimony of another of Defendants' experts, Dr. Phillips, to directly contradict Dr. Parents' conclusion. This

supposed contradiction is actually a red herring.

Dr. Phillips was asked to define "speech synthesis." Dr. Phillips stated: "Well, when you hear a robotized voice on the telephone sounding very tinny and robotic, that's done by speech synthesis, and that-one way of doing that is to capture some data from an actual human being and build a database through analysis, which can then be used to synthesize a whole variety of words outside of that sample that the user actually spoke." (Elliott Decl. In Support of Def. MSJ, Ex. 3 at 14A.) It is true that this statement by Dr. Phillips indicates that generating a synthetic voice from analysis of a human voice is only one way of creating synthetic speech-his statement indicates that other options exist for creating synthetic speech. But this is not relevant to specifically interpreting the patent: Dr. Phillips was not being asked to construe the specific language of the patent when he answered this question; he was being asked about an exhibit on speech synthesis that he had provided.

Even if Dr. Phillips had been construing the patent, the Court is not required to weigh all expert testimony equally. Claim construction is a matter of law and a Court is as free to reject one expert's opinion as it is to reject all experts' opinions.

The intrinsic evidence and Dr. Parent's testimony supports Defendants' position that the voice synthesizer must generate a voice that is the product of the modeling of the actual voice. Even if voice synthesizing can be done differently, the intrinsic evidence indicates that this is the way the patent contemplates that the synthesizing be done. The Court is both free and encouraged to define terms based on the specific context of the patent rather than their more general usage in the outside world. In a similar situation, the Federal Circuit rejected a patentee's attempt to broaden a device known as "a cyclic redundancy checker" to "any circuitry that performs a cyclic redundancy check," based on a definition found in a computer encyclopedia. Oak Technology, Inc. v. International Trade Commission, 248 F.3d 1316, 1330 (Fed.Cir.2001). The court explained that "not every structure that literally fits the definition of 'cyclic redundancy checker' set forth in [a computer encyclopedia] is covered by the claim." *Id*. "Only those cyclic redundancy checkers which meet the additional interactive limitations explicitly imposed by the claim language are within the properly construed scope of the claim." *Id*. Similarly, the voice synthesizer in the '864 patent cannot be just any voice synthesizer, it must be a voice synthesizer capable of translating voice parameter data from a model of the voice into a synthetic voice that can say more than just what was said in the voice sample.

"*User Voice Parameter Data*." The Special Master found that "user voice parameter data" is data relating to *any physical property* of the user's voice. The Special Master derived this definition from the definition of "parameter": any of a set of physical properties whose values *determine the characteristics* or behavior of something. The Special Master, however, did not import the dictionary definition's requirement of determinative characteristics into his definition of "user voice parameter data."

Defendants argue that the definition of "user voice parameter data" must include these determinative characteristics, so that the proper definition is "the physical properties necessary to determine the characteristics of a particular voice that distinguish that voice from another voice." While not explicitly putting this in their proposed definition, Defendants clearly intend that this definition implicitly mean that, at a minimum, tone and pitch be part of the parameter data. Defendants point to their expert, Dr. Parent, whose declaration states that pitch and tone are defining characteristics of a voice. Additionally, the description of the invention in the '864 patent indicates that parameters will be modeled based on "e.g., the actual user's voice, tonal quality, pitch, etc." ('864 Patent at 6:8-9.) Plaintiff's opposition is not helpful.

The Court views Defendants' proposed definition as too restrictive and as looking at the issue from the wrong perspective. The point of all of this is that the synthetic voice sounds like the voice of the user who input a voice sample; not, as Defendants' definition would have it, that the voice be distinguishable from another voice. It may be that in order for that person's voice to recognizable in a synthetic form, tone and pitch must be tracked. However, that limitation is not clear from the wording of the claim. The specification mentions tone and pitch, but in an exemplary, non-exhaustive list. The Court will not import limitations into the claims from the specification; rather, the specification is there to help inform the meaning of the claims. Here, that meaning is clear: "user voice parameter data" means data relating to physical properties of the user's voice sufficient to make that user's voice recognizable. Whatever data achieves that-whether it be tone, pitch, or something else entirely-would satisfy the claim.

b. Claim 56: "Means for Coupling ..."

Claim 56 of '864 patent reads as follows: "*A video interface system comprising:*

Means for coupling to an existing video system comprising software providing requests for predefined images ...." ('864 patent at 35:52-53.) The fundamental question for construing this claim is determining whether "comprising software providing requests for predefined images" modifies "means for coupling" or "existing video system." The Special Master and Plaintiff take the latter view; Defendants take the former view. First, the Court presents the proper reading of the claim (i.e., what modifies what). Then, the Court discusses the "means-plus-function" interpretation for which Defendants argue. Finally, the Special Master's and the parties' proposed constructions are summarized, followed by the Court's construction.

What Does "Comprising Software" Modify? It is very difficult to figure out what "comprising software ..." is intended to modify. To make this discussion more concrete: if "comprising software" modifies "means for coupling," then that means that the coupling device includes a software component that can request predefined images; whereas if "comprising software" modifies "existing video system," then that means that the video system has the software that can request predefined images. The Special Master found, and neither party challenges, that the "video interface system" refers to an intermediary that connects to an existing video system and the storage means to allow for communication between the two. The Special Master found, and neither party challenges, that "existing video system" means any existing system for displaying a video presentation, whether or not it includes an aural component.

From a textual perspective, the language of the claim is entirely unclear. Looking, then, to the specification, it becomes clear that it must be the video system that is providing requests for predefined images. Specifically, it is the video apparatus (such as a Sega or a Nintendo or a personal computer) that requests the predefined images from the game card. Without the interference of the video interface system (the invention), the game card would simply provide the information that was requested by the video apparatus, including predefined images. What the interface system does is intercept the requests from the video game apparatus, analyze the request to find out if the request is related to the user image data that is to be substituted for the usual images that are stored on the game card, and then, if the data is relevant, the video interface system essentially changes the request going to the game card so that, instead of the game card answering back with the usual predefined images, the storage card answers back with the user defined images. Having described the process, the Court now demonstrates from where in the patent this process information comes.

First, in the Abstract of the patent, it is clear that predefined character images exist in the absence of the

invention (that is, in the absence of the interface). The Abstract states: "an Intercept Adapter Interface Systems [sic] permits the integration of User Images into the audiovisual presentation *in place of and/or in addition to predefined character images otherwise present in the audiovisual presentation*." ('864 patent at Abstract (emphasis added).)

Second, in discussing the interface system, the specification never discusses the interface system *requesting* predefined character images (indeed, that would not make much sense: the invention is about substituting user-created images for the predefined character images, so why would the invention be *asking for* predefined character images?). The following examples are meant to demonstrate that the patent specification does not discuss that the interface system makes requests for predefined character images and also to illustrate how the specification does discuss the interface system:

-> "In accordance with another aspect of the present invention, an adapter interface system couples into the video game apparatus, and provides means for the user to create one or more user images, means for storage of formatted user image data onto a storage medium, and means for interfacing with a video game system to utilize the user image from the storage medium." ('864 patent at 2:43-49.)

-> "such that the intercept adapter interface system intercepts requests for respective predefined character image data which are associated with user images, and substitutes the respective image data for the user images in place of the intercepted images as appropriate, in a manner transparent to the existing software." ('864 patent at 3:3-8 (emphasis added).)

-> "the adapter interface system is comprised of an interface for coupling video source signals from an external video source to the adapter system, a storage medium for selectively storing and selectively outputting user visual image data, a video processing system for converting analog video source signals received from the external video source to a digitized and formatted video information data signal responsive to the rules and instruction data contained in control program storage memory within or associated with the adapter system, where the display of the host video game is responsive to the video information signal to provide an audiovisual presentation representative of a combination of the predefined video imagery segments of the host video game and the external video source based video information signals." ('864 patent at 12:35-49 .)

These quotes demonstrate that the interface is discussed throughout the patent specification as a conduit for the signal from the video game apparatus to the game card or storage card and, when the data requested by the video game apparatus maps onto the user defined image that is to be substituted for the predefined image, the interface acts as a translator or mutator of that signal before it goes to the game card so that the user-defined image, rather than the predefined image, is sent back from the storage card (through the interface) to the video game apparatus.

Third, the figures that diagram the information flow within the interface system confirm what is suggested in the above-quoted parts of the specification. The patent states:

The intercept controller adapter interface system *receives address signals* and control signals *from the video game apparatus and selectively couples these signals to the game cartridge and Storage Card via respective Game Card addresses and control signals and Storage Card address and control signals*. The Game Cartridge or Storage Card responds to the respective address and control signals to provide either game card image data out or Storage Card image data out for coupling to the intercept controller adapter interface

system which provides a "video game data in" output for coupling to the video game apparatus.

('864 patent at 19:26-38 (emphasis added).) "Address" as used in the patent apparently refers to, among other things, "image data for predefined character image segments." ('864 patent at 20:35.) An even clearer statement that the interface is *receiving,* not transmitting, requests for predefined data-and receiving these requests from the video game apparatus-is stated in a description of another figure that demonstrates the signal flow:

Once the video game begins and the Adapter Interface System analyzes signals from VGA [video game apparatus] meant to address the game card[,] a decision is made as to whether the address request to the Game Card is one of those associated with a predefined character image from the Mapping Table Date ... so as to require a substitution. If a substitution is to be made, then the AIS [adapter interface system] accesses the mapping table and outputs a substitute address to the storage card, coordinating complete transfer control of all address and data transfers needed to substitute the user image data for the predefined character image data.

('864 patent at 23:39-51.) In sum, while the plain language of the claim is confusing, the specification clearly demonstrates that it is not the coupling device that has the software making requests for predefined character images. Rather, it is the video game apparatus, to which the coupling device is connected, that makes the requests for predefined character images. The interface then either passes those requests on to the game card or alters the requests so that the request is for user defined images, not predefined character images.

Means-Plus-Function Doctrine. One manner for writing a claim in a patent is known as the "means-plus-function" manner. This comes from 35 U.S.C. s. 112 para. 6:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

35 U.S.C. s. 112 para. 6. As described by a practitioner's guide, a claim for a ceiling fan expressed as " 'a cord coupled to the motor for switching the motor on and off" could alternatively be expressed in a means-plus-function matter as " 'means for switching the motor on and off.' " Federal Judicial Center, *Patent Law & Practice* s. 5.III.C (3d ed.2001). In this claim, the function is switching the motor on and off. To determine what the means is (how the function is accomplished), a court should look to what is disclosed in the specification. 35 U.S.C. s. 112 para. 6. The means disclosed in the specification and the equivalents thereof constitute the means covered by the claim. *Id*. Using "means" in a claim creates a rebuttable presumption of a means-plus-function claim. Kemco Sales v. Control Papers Co., 208 F.3d 1352, 1361 (Fed.Cir.2000). This presumption can be rebutted if the claim describes a sufficiently definite structure or material to perform the claimed function. *Id*. If the claim does not use "means," it may still be a means-plus-function claim if, conversely, the claim does not describe a sufficiently definite material or structure to perform the claimed function. *Id*. This claim includes the word "means," and thus there is a rebuttable presumption that it is a means-plus-function claim.

Applying the Finding That the Video System Has Software, Not the Means for Coupling. In construing a means-plus-function claim, the Court must identify the claimed function and then determine what structure

disclosed in the specification corresponds to the claimed function. Cardiac Pacemakers Inc. v. St. Jude Med. Inc., 296 F.3d 1106, 1113 (Fed.Cir.2002).

Defendants argue that the "means for coupling" language is a means-plus-function claim. The claim uses the word "means," which creates a rebuttable presumption that means-plus-function is being invoked. Kemco Sales, 208 F.3d at 1361. This presumption cannot be rebutted because the claim does not provide sufficient detail about the coupling for it to stand alone. *See id*. The Special Master found otherwise because he read the claim so that "comprising software ..." modified "means for coupling," and thus the Special Master found that this statement regarding the software adequately described the coupling so as to rebut the means-plus-function presumption. Because the Court reads the claim so that "comprising software ..." modifies "existing video system," however, the Special Master's analysis is irrelevant.FN4 Because the claim uses "means," which creates a rebuttable presumption of a means-plus-function claim, and because that presumption is not rebutted by a definite description of the function, the claim is a means-plus-function claim.

FN4. The question was whether the claim should read:

(1) "a video interface system comprising means for coupling (to an existing video system) comprising software providing requests for predefined images" (the Special Master's reading); or

(2) "a video interface system comprising means for coupling (to an existing video system comprising software providing requests for predefined images)" (the reading adopted by the Court).
The Special Master construed the "means for coupling ..." so that, if the claim were found to be a means-plus-function claim, then "[t]he claimed function is to use software providing requests for predefined images to couple to an existing video system, and the disclosed structure is the software." (SMR at 17.) As discussed above, this interpretation represents a false understanding of the meaning of the claim and is rejected.

Under the proper reading of the claim, "means for coupling" is defined so that the function is to connect the video interface system to an existing video system, such existing video system having software that provides requests for predetermined images.

2. '825 Patent

The Special Master construed numerous terms and phrases from the '825 patent. While these terms and phrases show up throughout the claims in the ' 825 patent, almost all of them are present in claim 1. Thus, the Special Master used Claim 1 as his jumping off point for claim construction of the ' 825 patent. The only other claim that must be extensively quoted is Claim 20. Claim 20 is quoted in the section specifically construing Claim 20. Claim 1 reads in relevant part:

A system comprising:

a source of a first video image signal representative of a plurality of background images of which at least two of which [sic] are comprised of at least one common predetermined character function there within having a recognizable video *presentation within the background images*.

('825 patent at 41:43-49 (emphasis added).) As the bolded words indicate, the parties dispute the meaning of the terms "plurality of background images," "common," "character function," and "video." The Special Master's construction, the parties' arguments regarding the Special Masters' construction, and the Court's ultimate outcome are detailed below. First, however, the doctrine of invalidity for indefiniteness is discussed.

Invalidity for Indefiniteness. Because the Court finds both "plurality of background images" and "video" to be indefinite under 35 U.S.C. s. 112, paragraph 2, this order now discusses that doctrine. The statutory requirement is that "[t]he specification ... conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." 35 U.S.C. s. 112, paragraph 2. The Federal Circuit has construed this statutory requirement to mandate that the claims set forth with sufficient definiteness the scope of the invention so that a person skilled in the relevant art would be on notice regarding what would infringe the patent. Default Proof Credit Card System, Inc. v. Home Depot U.S.A., Inc., 412 F.3d 1291, 1302-03 (Fed.Cir.2005). Finding a patent invalid is disfavored. The finding must be made with clear and convincing evidence and any uncertainty with respect to the finding of indefiniteness should be resolved in favor of the patentee. Bancorp Services, L.L.C. v. Hartford Life Ins. Co., 359 F.3d 1367, 1371 (Fed.Cir.2004); Honeywell Int'l, Inc. v. Int'l Trade Comm'n, 341 F.3d 1332, 1337 (Fed.Cir.2003). In order to find indefiniteness, the Court must do more than just find that the claim construction is difficult:

In determining whether [the definiteness] standard is. met ... we have not held that a claim is indefinite merely because it poses a difficult issue of claim construction. We engage in claim construction every day, and cases frequently present close questions of claims construction on which expert witnesses, trial courts, and even the judges of this court may disagree. Under a broad concept of indefiniteness, all but the clearest claim construction issues could be regarded as giving rise to invalidating indefiniteness in the claims at issue. But we have not adopted that approach to the law of indefiniteness. We have not insisted the claims be plain on their face in order to avoid condemnation for indefiniteness; rather, what we have asked is that the claims be amenable to construction, however difficult that task may be. If a claim is insolubly ambiguous, and no narrowing construction can properly be adopted, we have held the claim indefinite. If the meaning of the claim is discernible, even though the task may be formidable and the conclusion may be one over which reasonable persons will disagree, we have held the claim sufficiently clear to avoid invalidity on indefiniteness grounds.... by finding claims indefinite only if reasonable efforts at claim construction proved futile, we accord respect to the statutory presumption of patent validity, ... and we protect the inventive contribution of the patentees, even when the drafting of their patents has been less than ideal.

Exxon Research & Engineering Co. v. United States, 265 F.3d 1371, 1375 (Fed.Cir.2001). A finding of invalidity by reason of indefiniteness undoubtedly requires a high degree of confidence that sense cannot be made of a term or terms. In both cases in which the Court makes this finding, it is not simply because the claim construction is difficult; rather, in both cases it is because no one definition makes sense given the way the term is used throughout the patent.

a. "Plurality of Background Images"

The Special Master defined "plurality of background images" to mean a sequential series of more than one screen shots. The Special Master arrived at this definition by first deciding that the phrase "representative of a plurality of background images" modifies the phrase "video image signal," not the phrase "a source," so

that the video image signal is representative of a plurality of background images. Then, the Special Master "consider[ed] the manner in which an audiovisual presentation ... presents the appearance of movement." (SMR at 24.) He stated that "the parties agree that this appearance of movement is provided by providing multiple images and sequence, with the position of the apparently moving character or thing slightly varying in sequential images. An individual one of the sequential images is sometimes called a 'screen shot.' " (*Id*.) Thus came "sequential series of more than one screen shots" as the definition of "plurality of background images."

The Special Master rejected Plaintiff's argument that each individual screen shot can be comprised of multiple background images, stating that Plaintiff's construction was inconsistent with the rest of the claim and with the teachings of the patent. Looking to the rest of the claim, the Special Master noted that remainder of the phrase in Claim 1 required that at least two of the background images have at least one common predetermined character function, and that a later paragraph in Claim 1 required that the user image be integrated into that common predetermined character function. If the multiple background images are in the same screen shot, the user image would appear at least twice in the screen shot, which the Special Master rejected as inconsistent with the teachings of the patent.

The Special Master rejected Defendants' argument that "plurality of background images" meant two or more movies or video games. The Special Master stated that "[t]he underlying trouble with this assertion by defendants is that there is nothing in the claim or in the teaching of the patent which requires, or even allows, the use of two or more movies or video games at the same time." (*Id*. at 25.)

Defendants have four arguments against the Special Master's definition of "plurality of background images" as more than one screen shot. First, Defendants assert that no intrinsic evidence supports the Special Master's construction. While it is true that the patent never mentions screen shots *per se,* the wording of Claim 38 can be read to support the implicit finding of the Special Master, which is that the "plurality of background images" language is meant to require movement-that is, the background image is not a still shot-and that the background images come together to make up a video presentation. Claim 38 says: "A method of producing a customized video presentation comprising: providing a signal for a background video representative of a plurality of background images. ..." ('825 patent at 46:28-31 (emphasis added).) This can be interpreted as saying that the background images make up the background video. Because a "common character function" must show up at least twice in the background images, it is a natural reading that the plurality of background images come together to create a moving picture and the same character function must pop up at least twice within the moving picture segment. Thus, the Court disagrees that *no* intrinsic evidence supports the Special Master's construction.

Second, however, Defendants correctly argue that the intrinsic evidence can also be read to contradict the Special Master's construction and thus the intrinsic evidence is internally inconsistent. In Claim 39, a background image "is at least one of a video presentation, an audiovisual presentation, and an audio presentation." This comports with the language of the specification, which frequently defines "background image" as "e.g., a video presentation, an audiovisual presentation, and an audio presentation." ('825 patent at 30:3-5.) One could argue that a video presentation, for example, could be construed as a still visual image, so that a plurality of background images would be more than one still visual images, which could comport with the Special Master's "screen shot" definition. However, this interpretation of "*video presentation*" as a still visual image contradicts the way "video presentation" is used in Claim 38, quoted in the above paragraph, which clearly means to use "video presentation" as a synonym for moving picture.FN5

FN5. The proper interpretation of word "video" is hotly contested and discussed in detail infra.

Third, Defendants argue that in order for "background image" to be used consistently throughout the patent, a "plurality of background images" must mean more than one movie or other type of presentation (because a "background image" is a video presentation, audio presentation, or audiovisual presentation, *see* id.). As the Special Master correctly pointed out, it would be totally contrary to the patent to read "plurality of background images" to mean "more than one movie."

Finally, Defendants argue that "screen shot" makes no sense when referring to an audio presentation, and both the claims and the specification explicitly list "audio presentation" as a possible "background image." Even leaving aside the common usage of "screen shot," which certainly refers to visual images and not to sounds, it is difficult to come up with a functional equivalent in the aural realm for "screen shot." Because by definition in the specification, a "background image" can be an audio presentation, any construction of "plurality of background images" must be consistent with use for an audio presentation.

For his part, Plaintiff purports to adopt wholeheartedly the Special Master's "screen shot" definition but in "explaining" why the Special Master is correct, Plaintiff appears to be actually arguing for the construction Plaintiff presented to the Special Master and which the Special Master rejected. The Special Master's rejection was undoubtedly well reasoned:

Plaintiff appears to argue that each individual 'screen shot' can be comprised of multiple background images. Such a construction is inconsistent with the rest of the claim and with the teachings of the patent. The remainder of the phrase quoted from claim 1 above requires that at least two of the background images are comprised of at least one common predetermined character function, and the latter portions of the claim require the integration of the user image into the background images in place of a recognizable video presentation for the selected character function. If the "at least two" background images are in the same screen shot, then the user image will be integrated into the background images in place of the selected character function, and will appear (or be heard) at least twice in the screen shot. There simply is no such teaching in the patent. Plaintiff's construction is rejected by the Special Master. The term 'background image" means a single screen shot, as it would be if the user image were not integrated into it.

(SMR at 25.) The Court rejects Plaintiff's construction for precisely the reasons stated by the Special Master.

The Court acknowledges that a patent should not be invalidated merely because it is poorly written. The issue goes beyond simple clarity of phrasing into the fundamental problem that it does not appear possible for any construction of the phrase "plurality of background images" to fully make sense throughout the patent. The patentee almost certainly intended to communicate that the background image must be in motion by using "plurality of background images." And the Special Master's definition of "screen shot" for background image reasonably captures this meaning. However, the Court cannot ignore the explicit definition in the specification and in the claims that "background image" can mean "audio presentation." Any definition of "plurality of background images" must make sense of the explicit definition of "background image." A "screen shot" is meaningless for an audio presentation. Additionally, as discussed above, construing a video presentation to be made up of many background images does violence to the way "video presentation" is used in the claims. The evidence, as set forth above, clearly and convincingly shows that "plurality of background images" is not set forth with enough definiteness to allow someone skilled in the art to understand what behavior would be infringing. The Court finds that "plurality of background

images" is indefinite under 35 U.S.C. s. 112, paragraph 2. Thus, all of the asserted claims in the '825 patent are invalid except for Claim 58.

b. "Common Character Function"

The Special Master construed "common character function" as meaning that the character function appears in or is common to two or more of the plurality of background images. The Special Master rejected both Plaintiff's and Defendants' constructions and relied on the general understanding of the word "common." The Special Master defined character function as all or a portion of the representation of a character (which can be either a person or a thing) appearing in a video presentation.

Defendants do not dispute the Special Master's construction of "character function." However, with respect to *common* character function, Defendants argue that the Special Master's definition is unhelpful because it repeats "common," one of the words that must be construed. In the alternative, Defendants propose the following construction for common character function: a one-time selection of the character and integration of the user image results in at least two or more occurrences of the substitution of the user image in the presentation.

With some minor tweaking, Defendants' proposed construction seems to functionally parallel the Special Master's; it is just better articulated. The Court adopts Defendants' construction except that the definition is adjusted to include integrations of the user image as well as substitutions of the user image. Claims 57, 58, 62, 64 and 69 use "integration" rather than "substitution" and the Court does not find that these two words are used interchangeably, as discussed infra.

c. "Video"

The Special Master found that "video presentation" refers to a presentation having a visual component, and includes as a subset an audiovisual presentation (that is, a visual presentation that includes sound). In coming to this conclusion, the Special Master recognized that those skilled in the art *and* the patent specification regularly differentiate between "video" and "audio," using the term "video" to refer to something visual while using the term "audio" to refer to sound. Nonetheless, the Special Master found that, rather than "video" being a subset of "audiovisual," "audiovisual" is a subset of video, so that "video" refers to both the sight and sound components, not just the sight components. The Special Master said,

a video presentation is still a video presentation even when it has both a visual and an aural component.... in the ordinary world, a video presentation without an aural component is a rarity. Virtually all television shows ... have an aural as well as a visual component. But they are all commonly recognized as being video specific presentations.

(SMR at 21.)

Defendants argue that, having stated that those skilled in the art and the specification both would differentiate between "audio" and "video," such that "video" would only include visual images, the Special Master rejected that interpretation without meaningful explanation, instead relying on a layperson's casual use of the word "video."

Intrinsic Evidence. Looking to the intrinsic evidence, the Court cannot escape the conclusion that the patent was ambiguously drafted, as the intrinsic evidence is internally inconsistent. Within intrinsic evidence, there

is a hierarchy: the claim language itself, the specification, and then the prosecution history. Digital Biometrics, Inc. v. Identix, Inc., 149 F.3d 1335, 1344 (Fed.Cir.1998). Each of these will be discussed in turn. Ultimately, however, video is used so inconsistently in the patent that it is not possible to reasonably conclude whether video is meant to encompass only visual images or to also include aural images.

The claim language is inconclusive. When construing the meaning of a claim, a court is encouraged to look at the context of that claim within the other claims, observing how the same words are used in other claims in the patent and situating the meaning in the context of those other claims. Biagro Western Sales, Inc. v. Grow More, Inc., 423 F.3d 1296, 1302 (Fed.Cir.2005). The same term used throughout the patent is presumed to mean the same thing unless the different uses are clearly explained. Fin Control Sys. Pty, Ltd. v. QAM, Inc., 265 F.3d 1311, 1318 (Fed.Cir.2001). Below, the problems that the Court would confront if the Court construed "video" to mean visual only, and also the problems that the Court would encounter if the Court construed "video" to mean aural and visual, are outlined. As discussed above, based on the internally inconsistent use of "video" throughout the patent, the Court finds "video" as used in the patent to be indefinite.FN6

FN6. The parties argued about the proper construction of the word "video" but Defendants did not move for the Court to declare it indefinite. Under these circumstances the Court would normally request further briefing (though it should be noted that because claim construction is a matter of law, the Court is free to construe a claim in a way differently than the way the parties propose). In this case, however, because "plurality of background images" is invalid for indefiniteness, and the other claims are invalid for lack of enablement, as discussed *infra,* the finding that "video" is indefinite is not necessary to dispose of the case. Nonetheless, the discussion of the meaning of "video" is included for the sake of completeness.

Construing "Video" to Mean VISUAL ONLY. What is most convincing in favor of finding that "video" does not encompass "audio" (to make "audiovisual" a synonym of "video") is the fact that "video presentation" and "audiovisual presentation" are used as alternatives to one another, which precludes them from being the same thing. When two terms are used in close proximity to each other, this creates an inference that the terms have different meanings. *See* Ethicon Endo-Surgery, Inc. v. U.S. Surgical Corp., 93 F.3d 1572, 1579 (Fed.Cir.1996). For example, Claim 30 reads: "The method as in claim 29 [a method for providing a visual display presentation including at least a portion of a person and ancillary attributes], wherein the ancillary data is comprised of at least one of a video and an audiovisual presentation, hairstyle, facial hair, removal of hair, [and] clothing ...." ('825 patent at 44:67-68, 45:1-2.) Claim 39 reads, "the method as in claim 38, wherein the background image is at least one of a video presentation, an audiovisual presentation, and an audio presentation ." ('825 patent at 46:43-45.)

Additionally, the claims discuss the character function and the user image being substituted for that character function as having both *position and timing*. While audio can obviously have timing, and video can have both position and timing, it is very difficult to understand how audio can have position. FN7

FN7. *See* infra for fuller discussion of meaning of "position."

The specification, like the claims, is also internally inconsistent, but can be read as supporting a reading of "video" that only involves the visual component. As in the claims, the specification refers to "audio," "visual," and "audiovisual" as options, thus implying that they do not represent the same concept: Figure 5F

lists examples of background images as "e.g., video presentation, audiovisual presentation, audio presentation." ('825 patent at Fig. 5F.) Likewise, in the early section describing methodology, the patent reads, "[t]his invention relates to predefined video and audiovisual presentations such as movies and video games ...." ('825 patent at 1:9-11.) Mentioning both "video" and "audiovisual" in the same sentence indicates a recognition that the terms mean different things.

The prosecution history is *also* unclear, though also tends to support the interpretation of "video" as visual only. The prosecution history submitted by the Defendants does not include statements made by the patentee to explain the patent (the typical and most valuable use of prosecution history); rather, what is submitted are comments/objections made by the patent examiner to the patentee, requesting revisions. Because the prosecution history does not include remarks by the patentee, it is of limited usefulness. However, it seems somewhat useful in that it informs the Court that the patentee was aware of these interpretations of the words he chose to use in the patent. The examiner objected to the use of "movie" in one of the claims, finding it a "redundant form of either video image [silent films] or audiovisual image." (Tiu Decl. Ex. T at 4.) Here, the examiner seems to point out the difference between video and audiovisual and highlighted with the bracketed "silent films" that "video" did not include sound. The examiner also objected to using "video display," "movie display" and "game display" all in the same claim, finding them redundant for "audiovisual display." (*Id*. at 5.) This indicates that the examiner considered audiovisual to be the umbrella term for all of these types of displays and it also indicates that the examiner assumed the patentee intended an aural component in the relevant claim. The examiner's report seems to support the view that "video" does not include an aural component.

Extrinsic Evidence. Defendants' expert, Dr. Phillips, states in his declaration that

As is ordinarily understood in the art, when one inspects the RCA outputs or connectors provided on a VCR or television, a "video output" is that which relates to transmission of signals representing the visual data, and "audio output" is that which relates to the transmission of sound data. Similarly, a "*video* image signal" would correspond to the signal representing the visual data that comprises "background images" (i.e., visual representation of objects or things) having a "recognizable video representation" (i.e., an identifiable visual image).

(Tiu Decl., Ex. L at 18.) Likewise, *Webster's* defines "video" as "the visual portion of television" or "being, relating to, or used in the transmission or reception of the television image-compare AUDIO" or "being, relating to, or involving images on a television screen or computer display." Webster's Ninth New Collegiate Dictionary 121 (Merriam-Webster Inc.1987) (emphasis added). Thus, all the available extrinsic evidence supports "video" as only involving visual images and as not including an aural component.

The Problem of Interpreting "Video" as VISUAL ONLY. If the Court interprets "video" to mean only visual images, without an audio component, a number of interpretation problems crop up in various claims.

-> In *Claim 10,* which is a dependent claim to Claim 1 (which means that Claim 1 must be broad enough to encompass Claim 10 and any limitations read into Claim 1 must also be read into Claim 10), the user image can be voice data. This conflicts with Claim 1 if "video" is visual only because the user image is to be incorporated "in place of" the selected characteristics in the "video presentation." Audio data from the user image cannot replace audio data in a video presentation if the video presentation does not have an audio component.

-> In *Claim 17,* which is a dependent claim to Claim 16, discusses "a source of external image signals defining an external video image." The external image of Claim 16 (presumably referring to the "external video image") can be digital audio data.

-> Claim 38 discusses a method of producing a customized videotape presentation, such method including "providing a signal for a background video representative of a plurality of background images." Thus, a background video appears to be made up of more than one background image. *Claim 39,* which is dependent on Claim 38, claims "[t]he method as in claim 38, wherein the background image is at least one of a video presentation, an audiovisual presentation, and an audio presentation." If more than one "background image" makes up a background video, and a background image can be a audiovisual or an audio presentation, then it would seem that a background video must necessarily be able to have sound. In fact, it would seem that a "background video" could have *only* sound, since Claim 39 does not indicate that a visual presentation is a necessary component.

-> *Claims 54 and 57* both discuss methods for producing display presentations using "audiovisual display presentations." Three questions are raised by these claims. First, the Court reads these method claims to be related to a subpart of the system in Claim 1. If Claim 1 is read to only include visual components, then these claims regarding audiovisual presentations become nonsensical. Second, Claim 57 appears to equate "audiovisual" with "video": "providing a predefined audiovisual presentation representative of a plurality of background images of which at least two of which are comprised of a common character function therewithin having a recognizable video presentation within respective ones of the background images." Finally, the fact that the patentee used "audiovisual" here may show that the use of "video," rather than "audiovisual," in Claim 1 was intentional and that audiovisual should be incorporated into "video."

-> In the specification, a description of an alternative embodiment says: "Also as described previously, the speech parameters of the user (patron) can be recorded at the time the image is generated. This allows the video presentation to generate dialog by simulating the user's voice and integrating it into the video presentation." ('825 patent at 35:32-36.) If a voice his integrated into a video presentation, the video presentation must have an aural component.

Interpreting "video" as only visual runs one into all of the roadblocks discussed above. On the other hand, interpreting "video" as "video and audio" runs one into the evidence adduced to support interpreting "video" as only visual. Thus, the Court does not see how one trying to determine the scope of the claimed invention could do so with any level of certainty. The evidence, as set forth above, clearly and convincingly shows that "video" is not set forth with enough definiteness to allow someone skilled in the art to understand what behavior would be infringing.FN8 The Court has the requisite high degree of confidence that sense cannot be made of this term, as no one definition makes sense given the way the term is used throughout the patent. Therefore, the Court finds "video" as used in the ' 825 patent to be invalid for indefiniteness.

FN8. Defendants raised a couple of other claim construction arguments designed to limit the scope of the patents to visual images, to the exclusion of audio images. However, because the Court finds that basic question to be up in the air based on the indefinite meaning of "video," those arguments are not addressed in this order.

d. Certain Claim Construction Issues With Respect to Claim 20

Defendants raise a couple of issues with respect to claim construction of Claim 20, only one of which need be addressed at this point. Claim 20 reads in relevant part: "*wherein the recognizable Video presentation the respective selected character function has respective position within the respective ones of the background images and timing characteristics uniquely associated with the respective ones of the background images*." ('825 patent at 43:52-56.)

The Special Master construed "position" and "timing" as having their ordinary meanings. Defendants argue that "position" should be construed as referring to spatial characteristics, while timing should be construed as referring to when the image is displayed on the screen. Defendants specifically point to the fact that *position* is referenced as being *within* the background images as support for "position" referencing a spatial place. Plaintiff does not respond to this argument. "Position" is commonly understood to have spatial characteristics. This common understanding is reinforced by the patent's use of both "position" and "timing," indicating that these reference two different aspects of integration of the user image or character function. *See* Ethicon Endo-Surgery, Inc. v. U.S. Surgical Corp., 93 F.3d 1572, 1579 (Fed.Cir.1996) (two terms used in close proximity to each other give rise to inference that they have different meanings). "Timing" certainly references the "when." It would be redundant for "position" to also mean "when" and therefore it makes the most sense for "position" to involve the "where." Because "position" and "timing" cannot mean the same thing, the "where" would by default refer to spatial placement.

e. Prosecution Disclaimer for Meaning of "Integrate"

Defendants argue that even though Claims 57, 58, 62, 64 and 69 describe the user image as being "integrated" into the selected portion of the predefined presentation, rather than describing the user image as "replacing" the selected character functions, the claims should be read to require replacement of the user data for the predefined presentation. Defendants recognize that "integration" and "replacement" have different meanings but argue that during the prosecution of the '825 patent Sitrick disclaimed any use of the user image other than as a replacement. Claims should generally be construed to their full scope, but when a patentee has "unequivocally disavowed a certain meaning to obtain his patent, the doctrine of prosecution disclaimer attaches and narrows the ordinary meaning of the claim congruent with the scope of the surrender." Omega Engineering, Inc. v. Rayteck Corp., 334 F.3d 1314, 1324 (Fed.Cir.2003). The question is whether Sitrick's statements in the patent prosecution process were sufficiently unambiguous to qualify as disclaiming any meaning for integration other than the replacement by the user image for something in the preexisting presentation.

During the prosecution of the '825 patent, the PTO rejected a number of Sitrick's claims as anticipated by another patent. Defendants point to the following language in Sitrick's response to the PTO in which he distinguished his invention from Bloch's, the patentee of the patent found to anticipate Sitrick's invention:

As set forth in Applicant's pending independent claims ... and claims depending therefrom, the selected character function in original audiovisual presentation (the background of Bloch) is the relevant reference, not a blue screen or other keying as taught by Bloch Applicant's invention as set forth in the pending claims provides for "mapping the user image to the selected predetermined character function"; and "providing an integrated video output wherein the user image appears integrated into the respective background images in place of the respective recognizable video presentation for the selected character function responsive to the mapping" .... Bloch fails to teach ... providing an integrated video output wherein the user image appears in place of the selected predetermined position responsive to the user image signal.

(Tiu Decl. Ex. S at 517ppp-517qqq.) Defendants correctly point out that this language seems to place great stock in the user image being a replacement for a selected character function. In this portion of Sitrick's reply to the PTO, he also placed great emphasis on the fact that Bloch uses a "chromakeyer" in his invention, rather than mapping techniques, referring to the chromakeyer as a "critical element of the invention of Bloch." (Id. at 517qqq.) Sitrick opened his discussion of distinguishing the Bloch invention by pointing out that Bloch's invention does not have the capability of selecting a certain period of time for the user's image to be incorporated into the preexisting presentation. (Id. at 517nnn.) Thus, it is not entirely clear from reading this entire section of the patent prosecution that it was central to Sitrick's differentiation of his invention from Bloch's that the user image replace a preexisting image. Rather, Sitrick's emphasis seems to be more on the technology behind the integration.

Sitrick's discussion in the prosecution history of integrating a user image in place of a character function was inexact if he intended that the integration of a user image into a predefined presentation (and not necessarily in place of something) would be covered by the patent. However, the Federal Circuit has made clear that before limiting a claim based on a prosecution disclaimer, the disclaimer must be unambiguous and the narrowing of the claim construction sought must go to the heart of how the invention was being distinguished from prior art. Omega Engineering, 334 F.3d at 1326-28. For example, in *Omega Engineering,* the patentee made statements during the patent prosecution that could be read to limit the patentee's invention to devices that do not direct light into the interior of an energy zone, but simply direct light to the periphery of the energy zone. *Id*. The Federal Circuit rejected that interpretation. *Id*. The Federal Circuit agreed that whether light was directed to the center of the energy zone was discussed, but pointed out that it was discussed to illustrate the larger point of differentiation between the instant patent and the prior art, which was that the temperature of the energy zone would not rise based on the device's light beam. *Id*. Likewise, here, it is at least unclear that Sitrick intended to limit his invention to the replacement of specific character functions with the user image. It is an equally reasonable reading of the prosecution history that Sitrick's differentiation between his patent and the Bloch patent was focused on the technology, such as the chromameter and the timing control, rather than on whether the user image was replacing a character function or just being integrated into the presentation. The Court rejects Defendants' reasoning regarding the prosecution disclaimer.

B. Motions to Strike

Plaintiff filed a motion to strike Bloom's declaration and Defendants filed a motion to strike Vacroux's expert reports and two subsequent declarations. A motion to strike may be granted for "redundant, immaterial, impertinent or scandalous matter." Fed.R.Civ.P. 12(f). However, a motion to strike is a disfavored motion and should not be granted unless the moving party is prejudiced by the material sought to be stricken or when the material sought to be stricken is clearly completely unrelated to the substance of the complaint. 5C Charles A. Wright et al., *Federal Practice & Procedure* Civil s. 1380 (3d ed.2004).

Bloom Declaration. Plaintiff moved to strike Bloom's declaration for two independent reasons: (1) some of Bloom's declaration was expert testimony and Bloom was not a designated expert witness; and (2) other portions of Bloom's declaration included new prior art that had not been produced during discovery.

Bloom is one of the inventors of WordFit, the technology to which the ReVoice Studio is closely related. Bloom is also the founder and Managing Director of Synchro Arts, Limited ("Synchro Arts"). Among other things, Synchro Arts developed the ReVoice Studio consumer product. Bloom does not detail his own involvement in the development of ReVoice (beyond being the head of the company that developed it). He

states that ReVoice uses the WordFit audio synchronization technology, the technology he invented.

Plaintiff objects that Bloom's declaration, which is mostly about WordFit and also briefly discusses ReVoice, is impermissible expert testimony (impermissible because Bloom has not been designated as an expert witness under Federal Rule of Civil Procedure 26). The Special Master found that Bloom had sufficient personal knowledge (as the inventor) of WordFit that his testimony on WordFit could properly be considered fact testimony, not expert testimony. However, the Special Master did strike the portions of the Bloom declaration that compared the ReVoice technology to WordFit, stating that Bloom had not established his personal knowledge of the ReVoice technology and that even if he had, it was improper opinion evidence. The Special Master rejected Defendants' argument that even if Bloom was giving opinions in the declaration, they were admissible as lay opinion under Federal Rule of Evidence 701 ("FRE 701"). The Special Master essentially objected to the idea of using FRE 701 to get around the fact that Bloom-who clearly could have been designed as an expert-was not designated as an expert.

The Court adopts the Special Master's conclusion that Bloom's testimony regarding WordFit, which he invented, can properly be considered factual testimony and is admissible on that basis without Bloom being a designated expert: Bloom obviously has sufficient first-hand, personal knowledge to state facts regarding WordFit. *See* Graham v. John Deere Co., 383 U.S. 1, 86 S.Ct. 684, 15 L.Ed.2d 545 (1966).

For the most part, the Court rejects the Special Master's conclusion regarding ReVoice. The Court does not read Bloom's statements about ReVoice as opinion testimony.FN9 Rather, Bloom had stated that ReVoice used the same audio synchronization technology as WordFit and described how WordFit works, and then stated: "the spectral analysis, time warping algorithm, and waveform editor processing techniques used in the ReVoice Studio to align and modify the user-dialogue signals are the same as those used in the Wordfit system and described in my patent and publications." (Bloom Decl. para. 30.) This is a statement of fact based on personal knowledge: Synchro Arts used the same technology in both products. Earlier in the declaration. Bloom also states some of ReVoice's attributes and also its limitations, all of which can reasonably be construed as statements of fact, not opinion. (Bloom Decl. para.para. 6-7.) Plaintiff appears to concede that Bloom has personal knowledge of ReVoice, referring to Bloom as the "author of the ReVoice Studio software," (Pl. Reply Mot. To Strike at 14 n.*), and Plaintiffs have never objected to Bloom's testimony because it lacks foundation or personal knowledge. Therefore, the Court admits Bloom's fact-based testimony regarding ReVoice.

FN9. The only exception is when, having stated that ReVoice and WordFit have the same audio synchronization technology and having described how WordFit works, Bloom states; "Replacing the original movie actor's recorded dialogue with user-recorded dialogue (dub dialogue) in the ReVoice Studio feature is the same as replacing the original actor's guide track dialogue with the studio-recorded dub dialogue using the Wordfit system." (Bloom Decl. para. 29.) The Court agrees with the Special Master that Bloom's opinion testimony is not admissible under Federal Rule of Evidence 701 ("FRE 701"). *See* Fed.R.Evid. 701. First, as the Special Master noted, this would allow Defendants to do an end-run around the expert witness requirements of Rule 26(a). Second, FRE 701 specifically states that "lay opinion" does not include inferences or opinions based on "scientific, technical, or other specialized knowledge within the scope of 702 [expert testimony]." Fed.R.Evid. 701(c). Thus, the Court strikes as improper opinion testimony the above-quoted portion of Bloom's declaration.

With respect to undisclosed prior art, Plaintiff objected that he had not had notice that Defendants would be

using WordFit as prior art, However, the Special Master correctly found that WordFit had been identified in the expert report of Dr. Phillips, one of Defendants' experts, (*See* Tiu Decl. Ex L at 357.) Therefore, Plaintiff was aware that Defendants considered WordFit relevant prior art. Plaintiff appears to accept this conclusion with respect to WordFit but seeks to preserve his objection to other prior art that is mentioned in Bloom's declaration. The Court does not use Bloom's declaration for any of these prior art references and therefore the Court need not rule on objections to the other prior art references. Plaintiff's request to reserve his objection to the Bloom declaration (for references other than to WordFit) is reasonable and the Court allows that.

Vacroux Expert Report and Declarations. Defendants object to Dr. Vacroux's expert report and declarations on two grounds: (1) Many of Dr. Vacroux's statements in his expert report are conclusory and without sufficient foundation or scientific support; and (2) Dr. Vacroux's December 2004 and January 2005 declarations were untimely and contradicted prior testimony by Dr. Vacroux, Motions to strike expert declarations may be granted when they present new testimony not contained in the expert report. *See* Poulis-Minott v. Smith, 388 F.3d 354, 358-59 (1st Cir.2004). Federal Rule of Civil Procedure 26(a) ("Rule 26(a)") requires that an export report "contain a complete statement of all opinions to be expressed and the basis and reasons therefor ..." Fed.R.Civ.P. 26(a)(2) (B). Rule 37(c) of the Federal Rules of Civil Procedure provides that failure to disclose information required under Rule 26(a) will result in the exclusion of that information, unless the failure to provide the information was harmless or substantial justification is provided for the failure. Fed.R.Civ.P. 37(c)(1).

With respect to any lack of foundation or scientific support in Dr. Vacroux's expert report, the Court declines to strike any portion of Dr. Vacroux's expert report on that basis. The Court cannot say that conclusory statements are "redundant, immaterial, impertinent or scandalous matter," the standard for granting a motion to strike. Fed.R.Civ.P. 12(f). To the extent Dr. Vacroux's statements in his expert report are relevant to the Court's analysis, the Court addresses allegations that the statements are conclusory when considering how much weight, if any, to accord Dr. Vacroux's statements.

With respect to the declarations, the only portion of Dr. Vacroux's declarations that is of serious consequence to the Court's analysis is that contained in paragraphs 5 through 8 of Dr. Vacroux's January 3, 2005 declaration. (*See* Jorgenson Decl. Ex. R at 489-90.) These paragraphs discuss Dr. Vacroux's view that transform analysis, a technique Dr. Vacroux claims was widely known in the field when the '864 patent was filed, would allow a character's voice to be isolated from rest of the soundtrack and replaced by a user's voice (without affecting the background noises). (Id.) As Defendants point out (and Plaintiff fails to rebut), Dr. Vacroux had never before mentioned transform analysis as a method of separating out one character's voice from the rest of the sounds in a movie. In Dr. Vacroux's Rebuttal Report, filed in October 2004, Dr. Vacroux stated that it was the "character function," with no mention of transform analysis, that allowed the patented technology to separate out a user's voice.FN10 (Elliott Decl. Ex. J at 20.) Dr. Vacroux's January declaration was filed after Defendants' motion for summary judgment had been filed. Thus, Defendants' motion for summary judgment could not have taken into account any new testimony by Dr. Vacroux. The transform analysis concept was not mentioned until the January declaration and Plaintiff entirely relied on this concept to refute one of Defendants' arguments. The transform analysis concept was newly introduced in the January declaration. Plaintiff has not provided "substantial justification" and the Court cannot say that the omission was harmless. *See* Fed.R.Civ.P. 37(c). Thus, the Court strikes paragraphs 5 through 8 of Dr. Vacroux's January declaration.

FN10. Interestingly, Plaintiff does not rely on Dr. Vacroux's Rebuttal Report and his character function

analysis. Rather, when discussing the substitution of one voice for another, Plaintiff cites solely to the '825 patent and Dr. Vacroux's January declaration. (*See* Pl. Memo. P. & A, In Opp. To Def. Summary Judgment Mot. Of Invalidity Under 35 U.S.C. s. 112(1).)

None of the other issues raised by Defendants in their motion to strike are dispositive; thus, the Court need not (and does not) reach them.

C. Invalidity Under 35 U.S.C. s. 112 ***para. 1***

Defendants seek summary judgment that both the '864 patent and the '825 patent are invalid for failure to comply with 35 U.S.C. s. 112 para. 1, which provides:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or to which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The paragraph sets forth three separate requirements, all of which must be met for a patent to be valid: the written description requirement, the enablement requirement, and the best mode requirement. Defendants argue that the specifications of both the '864 patent and the '825 patent fail to meet the written description requirement and the enablement requirement. The Court finds that the specifications of the patents meet the written description requirement but fail the enablement requirement. Accordingly, both patents are invalid for lack of enablement.

1. '864 Patent ***and*** '825 Patents***-Written Description***

The "written description" requirement serves a teaching function, as a "quid pro quo" in which the public is given "meaningful disclosure in exchange for being excluded from practicing the invention for a limited period of time." Univ. Of Rochester v. G.D. Searle & Co., Inc., 358 F.3d 916, 922 (Fed.Cir.2004). To meet the written description requirement, the patent specification "must clearly allow persons of ordinary skill in the art to recognize that [the inventor] invented what is claimed." Gentry Gallery, Inc. v. Berkline Corp., 134 F.3d 1473, 1479 (Fed.Cir.1998).

The written description requirement necessitates "describing the invention, with all its claimed limitations" using "such descriptive means as words, structures, figures, diagrams, formulas, etc., that set forth the claimed invention." Lockwood v. American Airlines, Inc., 107 F.3d 1565, 1572 (Fed.Cir.1997). The written description must demonstrate that the inventor was "in possession" of the invention. *Id*. However, the words in the specification need not be precisely the same as those used in the claim, so long as the specification contains an equivalent description of the subject matter. *Id*. The written description requirement must be evaluated in view of the full scope of the claimed invention. Chiron Corp. v. Genentech, Inc., 363 F.3d 1247, 1259 (Fed.Cir.2004). "When the applicant adds a claim or otherwise amends his specification after the original filing date ... the new claims or other added material must find support in the original specification." TurboCare Division of Demag Delaval Turbomachinery Corp. v. GE, 264 F.3d 1111, 1118 (Fed.Cir.2001). Besides the general importance of the written description demonstrating the invention, amendments after the filing date must find support in the original specification because material invented after the filing date does not inherit the date priority of the original filing. Chiron Corp., 363 F.3d at 1255.

Defendants argue that "plurality of background images," a phrase that is in almost every claim at issue in the '825 patent, is invalid for lack of a written description. "A plurality of background images" was added during prosecution via amendment. While "background image" is referenced in the specification, "a *plurality* of background images" (or any equivalent language) is never used in the specification. "Background image" is defined in the specification as "e.g., a video presentation, an audiovisual presentation, and an audio presentation." ('825 patent at 30:3-5.) More than one of these background images is never mentioned. Plaintiff tries to refute this truth by quoting from the original specification:

such that the actual integration of the user image into the video game can affect or be affected by one or more of backgrounds, environment, facial feature combination or modification of predefined and user visual image data, user voice data, special graphics and audio data, etc.

(Elliott Decl. Ex. 14 at 340 (emphasis added).) Leaving aside the fact that this language itself is not particularly clear, what *is* clear is that this portion of the specification is not referencing more than one *background image* as that term is used in the patent (video presentation, audiovisual presentation, audio presentation).

Plaintiff has not demonstrated that "plurality of background images" or its equivalent is used anywhere in the specification. However, the Court is not convinced that this is the heading under which the use of "plurality of background images" should be attacked.FN11 While perhaps technically meeting the requirement for invalidating a claim or concept for lack of a written description, invalidation for lack of a written description is really targeted at a written description of the thing that has been invented. Here, the plurality of background images is essentially a canvas on which the invention (the substitution or integration of user images) is being painted. While "plurality of background images" is not explained in the specification and is confusingly used, this issue is more properly dealt with on grounds of indefiniteness, as discussed *supra,* than on grounds of lack of a written description.

FN11. As discussed above, the Court invalidates "plurality of background images" for indefiniteness.

2. '864 Patent ***and*** '825 Patents***-Enablement***

The enablement requirement is "part of the *quid pro quo* of the patent bargain" in that "the applicant's specification must enable one of ordinary skill in the art to practice the full scope of the claimed invention." AK Steel Corp. v. Sollac & Ugine, 344 F.3d 1234, 1244 (Fed.Cir.2003). This requirement "ensures that the public knowledge is enriched by the patent specification to a degree at least commensurate with the scope of the claims." Nat'l Recovery Technologies, Inc. v. Magnetic Separation Systems, Inc., 166 F.3d 1190, 1196 (Fed.Cir.1999). Because patents are presumed valid, a lack of enablement must be found with clear and convincing evidence. AK Steel Corp., 344 F.3d at 1238-39.

While enablement is a matter of law, certain underlying factual findings must be made. Enzo Biochem, Inc. v. Calgene, Inc., 188 F.3d 1362 (Fed.Cir.1999). The Federal Circuit has set forth certain suggestions with respect to those factual findings, but has reminded courts that "it is the specification, not the knowledge of one skilled in the art, that must supply the novel aspects of an invention in order to constitute adequate enablement." Genentech, Inc. v. Novo Nordisk A/S, 108 F.3d 1361, 1366 (Fed.Cir.1997). These suggestions for factual findings, known as the *Wands* factors, are

(1) [t]he quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence of absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims.

In re Wands, 858 F.2d 731, 736-37 (Fed.Cir.1988). These factors can be guides but are not mandatory. "What is relevant depends on the facts...." Amgen, Inc. v. Chugai Pharmaceutical Co., 927 F.2d 1200, 1213 (Fed.Cir.1991). In its analysis of whether the patents are properly enabled, the Court primarily focuses on how much guidance is presented and whether working examples are given. *See* In re Wands, 858 F.2d at 736-37.

The Special Master, with almost no analysis of other *Wands* factors, fixated on the absence of evidence submitted by either side as to the level of skill of those in the art. Because the Special Master did not have evidence on that factor before him, he denied the motion on invalidity for lack of enablement. However, the Special Master's fixation on this one factor was not in keeping with the Federal Circuit's teaching that no one factor is dispositive, and failed to take into account that the Federal Circuit has specifically held that the knowledge of one skilled in the art cannot make up for a complete lack of enablement for the claimed invention in the specification. Genentech, 108 F.3d at 1366.

Defendants argue that the patents are not enabled even for the preferred embodiment of video games and that, even if they are enabled for the preferred embodiment of video games, they are not enabled for motion pictures. Because the enablement of the patents with respect to video games is irrelevant for this case (which deals only with movies), the Court need not reach that issue. Thus, this order is limited to whether the patents enable the invention for use with movies.

IAIS Structure. The Intercept Adapter Interface System ("IAIS") is the most fundamental part of both the '864 and '825 patents. In a video game, the IAIS functions to intercept address signals coming from the video game apparatus and going to the game card or storage card. To the extent these address signals correspond to the character functions that are to be replaced with a user image, the IAIS reconfigures the signals so that when the signal gets to the game card or storage card, the user image is substituted for the predefined character image. The IAIS then acts as a gateway for the address signals to go back from the game card or storage card to the video game apparatus.

In a non-video game system, the patent purports to be applicable to any "audiovisual image source [that] provides an audiovisual presentation output such as video (video cassette record, cable or broadcast television, laser disk, audiovisual, digital video tape, formatted image data [e.g., PICT]), audio tape or disk, which output is coupled to a display." ('825 patent at 17:3-8.) Allegedly, the IAIS "analyzes the output of the image source ... and identifies and intercepts selected predefined character images of the audiovisual presentation" and substitutes a user image from a storage card. ('825 patent at 17:9-13.) It is the IAIS that allows for the replacement of the user image for the pre-existing character image in the presentation. Thus, it is the IAIS that operationalizes the invention.

Despite the importance of the IAIS, the patent does not explain how it would function outside of a video game.FN12 As intimated above, the process of identifying specific character functions of predefined images, recognizing requests for those character functions; and intercepting the request; and rerouting it so that the user image, rather than the predefined image is retrieved is key to the claimed invention-it is what makes the invention more than an idea and turns into an operational invention. Defendants raise questions

that need not be addressed in this suit regarding whether this "character functions" process is sufficiently enabled for video games, the preferred embodiment of the two patents. Even assuming that the "character functions" process is enabled for video games, however, Defendants meet their burden of demonstrating by clear and convincing evidence that the patent does not provide sufficient description to enable someone skilled in the relevant art to practice the invention in movies. For a patent to be valid, it must enable the full scope of the claims. Invitrogen Corp. v. Clontech Laboratories, Inc., 429 F.3d 1052, 1070 (Fed.Cir.2005). The patents discuss identifying the character functions and substituting the user image therefor "by knowing the mapping of certain predefined character image segments for each respective video game, and combining this with a knowledge of the mapping of the user visual images on the Storage Card." (' 825 patent at 27:4-10.) For movies, the patent specification explains that

FN12. Defendants argue that how the IAIS would work with some video games is also unclear; however, it is unnecessary to reach that issue in order to invalidate the patent, as the patent clearly is intended to cover movies (or else the infringement action would not have made it this far).

[t]he controller 260C also provides intercept logic functioning as discussed elsewhere herein such that the adapter interface system 110C additionally provides the intercept function, whereby the adapter interface system 110C selectively substitutes user image data for predefined character image data so as to provide an audiovisual presentation that includes the image integrated therein. The intercept function analyzes the signals to determine when it's appropriate to make substitutions of user image data for predefined game character data.
('825 patent at 24:56-65 (emphasis added).) The problem is that on the diagram supposedly illustrating this process, the controller 260C, which is providing the intercept logic, is a blank box. The patent states that there are numerous ways to implement the analysis system 260. For example, address and/or control and/or data signal analysis, timing analysis, state analysis, signature analysis, or other transform or analysis techniques can be utilized to identify when particular predefined player graphic character segments are being accessed and transferred to the video game apparatus ...

('825 patent at 22:47-54.)
Defendants' experts persuasively demonstrate that any of the identified analysis techniques for identifying character functions or intercepting character signals have no relevance to movies. Movies do not have easily separable character functions, as video games do, and the patent does not explain how the IAIS either selects the character functions to be substituted for a user image or intercepts signals in order to effectuate that substitution.

While in video games character functions are separately-retrieved by discrete address signals, and the motion of each is controlled by discrete control signals, character images in pre-existing movies and animations are inseparable from other surrounding images. Pre-existing movies do not employ discrete address and control signals, or any other means for requesting separate image segments to be assembled into the character or the overall image that appear within each frame of the presentation. Rather, as Defendants' expert, Dr. Phillips, explains:

Video signals representing pre-existing movies and animation are either digital or analog representations of a series of frames, wherein each frame comprises pixel or scanline information of the overall image in the frame. In contrast to a video game, with a dynamically created scenario, motion in a movie is provided by slightly varying the image of the character in each frame such that the continuous display of the frames

creates the illusion of motion ....

(Tiu Decl., Ex. L at 346.) The patent never discusses how a character function or predefined image can be identified and separately carved out of a frame. Dr. Phillips further explained:

[T]he various analysis techniques listed in the specification (e .g., signature analysis, state analysis, timing analysis, transform analysis) on the electrical signals are signal processing techniques to identify, as Sitrick has disclosed, the location and map of the address of the character image in the game card. Such an approach has no applicability in locating a particular character image in a frame.

(Tiu Decl. Ex. L at 346.) Both Dr. Phillips and Dr. Parent, another expert of Defendants', concluded that the patents provide no teaching with respect to selecting, analyzing or identifying a character within a frame. (Id.; Tiu Decl. Ex. K at 307-08, 310-11.)

In response, Plaintiff points to various sections of the '825 patent and to statements by his expert. Plaintiff argues that, contrary to Defendants' experts' opinions, the patent provides ample guidance to enable the invention for use with movies. Upon inspection of Plaintiff's citations to the patent, the Court found that all of the Plaintiff's patent citations are either *specifically* about video games or completely irrelevant. As for Plaintiff's expert, Dr. Vacroux, the Court does not give any credence to his conclusory statement that

[t]he patents-in-suit are directed to the integration of a user image into an audiovisual presentation. Following a thorough analysis of both of the patents-in-suit, I have found nothing that would lead me to conclude that the invention described in those patents could not be applied to the field of movie creation.

(Jorgenson Decl. Ex. 22 at 620.) First, conclusory statements by an expert witness are not helpful to the Court. *See, e.g.,* In re Citric Acid Litigation, 191 F.3d 1090, 1106 n. 9 (9th Cir.1999). Second, Dr. Vacroux clearly acknowledged in his deposition that he did not have expertise in motion pictures:

Q: Okay. From reading the patent and reading those many, many pages, would you be able to determine how to integrate a user image into a motion picture?

A: I think that someone more familiar with motion pictures than I am probably could, but I don't know if I could do it.

* * *

Q: Let me just confirm. You agree that Sitrick's preferred embodiment is video games?

A: That's correct.

Q: And he suggests that the invention that he describes might be used for other applications; is that correct?

A: This is correct.

Q: Does he explain how his invention can be used for these other applications?

A: I would say that some of the flowcharts he has can be modified for other applications relatively easily.

He doesn't do it directly, but the flowcharts could provide such a direction.

Q: Would you know how to modify the flowcharts such that the invention could be applied to motion pictures?

A: I already mentioned that motion pictures is not something that I'm familiar with.

(Tiu Decl. Ex. W, Vacroux Dep. At 46:23-47:4; 48:17-49:9 (emphasis added).) Because the conclusion that the signal analysis described in the patents could be applied to movies is unsupported by any actual information from Dr. Vacroux to explain the basis for his opinion, and because Dr. Vacroux admitted to not being skilled in the art of movie making, the Court does not rely on Dr. Vacroux's testimony or allow it to create a material issue of fact that would preclude summary judgment. *See* Claar v. Burlington Northern R.R. Co., 29 F.3d 499, 502 (9th Cir.1994) ("[b]efore admitting affidavits [of certain experts], the district court was affirmatively required to find that the experts' conclusions were based on scientific knowledge. This requirement means that the court had to determine that [the plaintiffs' experts] arrived at their conclusions using scientific methods and procedures, and that those conclusions were not mere subjective beliefs or unsupported speculation."). Neither Plaintiff's patent citations nor Plaintiff's expert's statement create a material issue of fact. Defendants' experts provided credible testimony describing the lack of enablement in the patents for selecting character functions in movies. The Court finds that selection of character functions with the IAIS is not enabled in the patents.

Seamless Substitution of Image. Even if the pre-existing image could be separated from the rest of the frame and the IAIS could intercept a signal for that image and redirect that signal so that the user image was incorporated, Defendants' experts raise another problem: the patent does not explain how the image would be seamlessly incorporated into the movie because of issues such as proportions lighting, and movement. The '825 patent makes clear that the user's image should be incorporated into the pre-existing image so that it looks (or sounds) very natural. For example, the '825 patent discusses the user's image being "smoothly integrated into a preexisting audiovisual presentation" ('825 Abstract) and describes the integration of the user image into the pre-existing presentation as "monolithic and homogeneous" ('825 patent at 2:66-67); and criticizes prior technology as "crude" because "the audience member's image overlays the movie clip and is not blended into the movie," thus making the interaction unrealistic, ('825 patent at 2:20-24)

Defendants' expert, McGovern, states that Sitrick's mention of "texture wrapping of a User Video Image onto a predefined character image so as to effectively wrap the user image over the predefined character image" is "flawed," "simplistic," and "impractical." (Tiu Decl. Ex. J at 296.) McGovern explains that

[t]here are a multitude of situations where the existing head is different dimensionally than the person who is original to the pre-existing audiovisual presentation. Hair style, head apparel, and just the physical differences between individuals would be reasons why this is impractical if a seamless and transparent final effect is to be had. One way to do what is stated would be to texture wrap the face of the User image to 3D data of the pre-existing character's head; this would result in creating a substitute character that would not completely resemble the User or anyone else. The result could be creepy or disturbing. This method would also require the 3D digital data for the character's face that is already in the pre-existing audiovisual presentation. How this would be gotten, [sic] isn't addressed .... Also nothing is said about how to make the head integrate into the neck, neckline, collars, etc. This is a big problem unless this were done in a video game where the level of realism is much lower.

(Id. at 296-97.) Dr. Parent also notes that the patent fails to specify how to "substitut[e] a thin man, for example, for a fat man, or to substitute a woman for a man ... in such a way so as to prevent any distortion of the image as a result of the substitution." (Tiu Decl. Ex. K at [3].)

Plaintiff responds by pointing to sections of the '864 patent that supposedly do teach how to resize the user image to correspond to the predefined image. The '864 patent discusses using image data packets to ascertain the proportions of the preselected image so that the user image can correspondingly be enlarged or shrunk. ('864 patent at 8:48-59.) However, as Defendants point out, this does not address the problem raised by Defendants' experts, which is the distortion that results from expanding or shrinking an image. Additionally, the patents only discuss this resizing capability in connection with video games. Plaintiff has failed to rebut Defendants' clear and convincing evidence that the patents do not teach how to seamlessly incorporate the user image into movies with respect to image distortion.

Defendants' experts also point to the total lack of discussion of how a user's image would be incorporated into a movie when the character is moving, turning, and going through different light. McGovern states that if the user image were two-dimensional, it would be very difficult to create a seamless integration of the user image:

the substitute character or characters [sic] face would have to be video taped from exactly the same angle with the same lens, lighting and camera motion for each of the shots that would want to add this character to. This would be very elaborate to do and would require information from the original photography.... If the character in the pre-existing material walks back and forth from far to near through pools of light that are streaming through a forest, then a general frontal view of the character will never look like it belongs on the shoulders of the character who is pacing in the film .... Even if you can track the User's head or face onto the existing character the face won't be turning with the character's body as it paces.

(Tiu Decl. Ex. J at 300-01.) If the user image were three-dimensional, then McGovern states that "[t]he substitute character has to have the proper photographs to create a perfect neutrally lit face, 3D digital data for the User for various extreme expressions ...." (Id. at 301.) McGovern states that he has found no teachings in the patents for overcoming any of these challenges. (Id.)

Plaintiff seeks to dispute McGovern's testimony, pointing to parts of the specifications of the patents that discuss using a video camera as an input means. This argument really does not address the points made by Defendants and their experts. Again, Plaintiff has essentially failed to provide any rebuttal to these arguments. In fact, in deposition testimony, Plaintiff's expert attempted to make the same argument that Plaintiff makes in his reply and Plaintiff's expert was eventually forced to admit that the patents did not teach how to adjust for moving images or for images being partially obscured in one scene and fully visible in the next scene. (Olson Decl. Ex. I at 44-46.)

Substitution of Audio in Motion Pictures. Finally, Defendants argue that the patents do not enable the replacement of dialogue in a movie, either with or without the use of voice parameter models yielding a synthesized voice.

With respect to audio substitution, the '825 patent states that "audio presentation can likewise by [sic] associatively integrated into the audiovisual presentation using actual sounds, sound parameters and synthesis or samplers, etc." ('825 patent at 27:18-20.) The problem stated by Defendants' expert, McGovern, is that because soundtracks in pre-existing movies are provided as combined tracks, it would be impossible

to select and isolate any one voice of the rest of the sounds, and the patents do not address this difficulty. McGovern states:

Audio for movie work is originally recorded as a large number of digital stereo tracks. As a movie is getting finalized, these tracks are combined (called mixing). Multiple tracks for sound effects, voice and musical score are balanced so that you can always hear what the director wants you to hear. Once the levels for each of what is often 24-108 tracks is set, the tracks are recorded together at those levels and then separated into regions of the surround sound room. For instance, left, right, center, rear left, rear right, and sub-woofer. Each of these regions has music, sound effects, and voice all combined. Many times a voice or sound effect starts in one region and moves to another region. It would be impossible (and Mr. Sitrick teaches nothing) to isolate any one voice out of this combined track unless, just for the moment, there was no music, sound effect, or other voice. Only under this limited situation would a replacement be as simple as one track. If any other sound occurred simultaneous to the voice, it would have to go away when the new voice was added. It would be impossible to subtract out one voice while all of the other typical simultaneous tracks were already combined. Thus, the patent claim about re-voicing regarding previously recorded movies or animations would not be possible.

(McGovern Rep. at 28.) Thus, McGovern views the patents not only as not enabling, but impossible to be enabled, for motion pictures.

Another expert of Defendants', Dr. Parent, opines that "[t]o substitute user-supplied speech signal for a voice in a movie, the voice would have to be identifiable and able to be isolated in the predefined material. This, too, is non-trivial using the state-of-the-art at the times of filing these patents. Alternatively, separate soundtracks for the various characters' voices, background music and effects could be provided so that the predefined character's voice can be isolated and analyzed. However, this is not described at all in the patents." (Tiu Decl. Ex. K at 317.) Thus, while Dr. Parent does not appear to agree with McGovern that it would be impossible to substitute audio in a movie, he clearly views the process as a complicated one. The patents provide no guidance for overcoming these difficulties.

Plaintiff seeks to rebut McGovern's testimony with its own expert's declaration that transform analysis was well known in the prior art for filtering out speech from a composite audio signal. However, as discussed *supra,* the Court grants Defendants' motion to strike that portion of Plaintiff's expert's testimony. The only other authority relied upon by Plaintiff to rebut Defendants' arguments is the '825 patent itself. However, the sections of the '825 patent cited by Plaintiff as enabling the separation of one voice from the rest of a soundtrack are clearly applicable *only* to video games, an enablement of the '825 patent that is not contested. (*See* '825 patent at 25:4-7; id. at 26:13-16.)

The other audio substitution issue raised by Defendants is specific to the ' 864 patent and depends upon the Court's claim construction of Claim 54 of the '864 patent, specifically, whether the claim requires that voice parameter data be used as a model for a voice synthesizer to produce an entirely synthetic voice. The Court construes the claim as such. Defendants' expert, Dr. Parent, who performs research on lip-sync animation, argues that the '864 patent is not enabled for this voice synthesis: "implementing the specific objectives quoted above from the '825 patent, as described, is a difficult task, even with current technology ...." (Tiu Decl., Ex. K at 317.) The '864 patent purports to be able to synthesize the user's voice so that the movie character's lines sound like they are being said by the user (i.e, imitating the user's voice). Dr. Parent opines that "capture [sic] the voice qualities of a person include the voice pitch, cadence, coarticulation (affect on phoneme, or speech sound element, bas on surrounding phonemes), and prosody (stress) are difficult and

problematic to map onto novel speech. I have found no discussion in these patents addressing these issues." (Id.) Plaintiff's attempt to rebut this argument focuses entirely on the Special Master's claim construction, never quoting from the patent or referencing a countervailing expert opinion. Because the Court rejects Plaintiff's claim construction, Plaintiff has essentially failed to produce any rebutting evidence. Because Plaintiff has presented no evidence to contradict Defendants' argument regarding enablement for modeling a voice for reproduction by a voice synthesizer, the Court finds Claim 54 invalid for lack of enablement.

Summary. Defendants have shown with clear and convincing evidence that the IAIS structure, the concept of seamless substitution of image, and the concept of substituting audio are not enabled for use in motion pictures.

D. Defendants' Motion for Summary Judgment of Noninfringement and/or Invalidity Under 35 U.S.C. s. 102

Defendants seek summary judgment of noninfringement of both patents based on their construction of the claims, or, in the alternative, a finding of invalidity of both patents if the claims were construed as Plaintiff proposed. Because the Special Master did not agree in whole with either the Defendants' or the Plaintiff's proposed constructions, the Special Master was not able to meaningfully address this motion, except as to one issue.

The determination of infringement depends on claim construction. To determine infringement, the court first construes the claims and then compares the construed claims to the accused product to determine whether the accused product contains the limitations of the claims. Markman v. Westview Instruments, Inc., 52 F.3d 967, 976 (Fed.Cir.1995), *aff'd* 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996). Application of the claims to the product is an issue of fact. *Id*. To establish infringement, every limitation set forth in a claim must be found in the accused product exactly or by a substantial equivalent. Becton Dickinson & Co. v. C.R. Bard, Inc., 922 F.2d 792, 796 (Fed.Cir.1990).FN13

FN13. Defendants' motion for invalidity in the alternative need not be addressed because it assumed a different claim construction than the one adopted by the Court.

Special Master's Report. On the infringement issue, the Special Master only addressed infringement with respect to the "Make-A-Movie" feature of Defendants' products and claim 56 of the '864 patent. With respect to the "Make-A-Movie" feature, the Special Master found that Plaintiff had dropped his charge of infringement because Plaintiff failed to respond on this point to Defendants' motion for summary judgment. The Plaintiff bears the burden of proof on an infringement claim. Defendants having demonstrated a lack of evidence that Defendants were infringing, Plaintiff's failure to offer any evidence to the contrary was fatal. Thus, the Special Master granted summary judgment for noninfringement with respect to the Make-A-Movie feature of Defendants' products. In Plaintiff's Response to the Special Master's Report Regarding Defendants' Motion for Summary Judgment of Noninfringement and/or Invalidity Under 35 U.S.C. s. 112 para. 2, Plaintiff confirmed that he had abandoned his claim with respect to the "Make-a-Movie" feature. (Pl. Resp. to SMR re Noninfringement and/or Invalidity Under 35 U.S.C. s. 112 para. 2 at 1.)

With respect to Claim 56 of the '864 patent, that claim requires "storage means being removable and transportable from the video interface system." Defendants' construction of "removable" and "transportable" comported with the Special Master's. Plaintiff did not address this point in his briefs that were submitted to

the Special Master. Defendants' product uses a hard drive in a personal computer as the means of storage. Defendants argued and the Special Master concurred that the hard drive of a personal computer is not "removable" or "transportable" within the meaning of the '864 patent. Thus, the Special Master granted summary judgment to Defendants on this portion of the '864 patent. Plaintiff seems to concede this point in his Response to the Special Master's Report: "While Sitrick does not agree with that conclusion [that the means of storage in ReVoice Studio is not readily removable], to simplify the issues, he does not object to the Court so concluding. There are many other claims that are clearly infringed and Sitrick will rest his case on those other claims." (Pl. Response to SMR s. 102 at 2.) The Court is persuaded by Defendants' arguments and the Special Master's analysis that the hard drive of a personal computer is not "removable" or "transportable" within the meaning of the '864 patent.

The Special Master declined to analyze other parts of the noninfringement motion because Defendants' motion was based on a claim construction rejected by the Special Master.

On the invalidity issue, the Special Master found that because Defendants' motion for invalidity was based on an improper construction, it could not properly rule on it.

Defendants' Objections to Special Master's Report-Infringement. Defendants urge the Court to adopt the Special Master's findings of noninfringement with respect to the Make-A-Movie technology and Claim 56 of the '864 patent. Additionally, Defendants urge the Court to find that its ReVoice Studio does not infringe Claim 54 of the '864 patent and that its ReVoice Studio does not infringe Claims 1 and 20 of the '825 patent.FN14

FN14. The Special Master did not reach these issues.

Claim 54 of the '864 Patent. Claim 54 of the '864 patent claims a method of integrating the user's voice into the presentation, and includes a requirement that "the user voice parameter data is input as a model to a voice synthesizer ...." ('864 patent at 35:44-46 (emphasis added).) Defendants argue that to infringe this claim, its ReVoice Studio must input the voice parameter data as a *model* and asserts that Plaintiff has submitted no admissible evidence to convince a jury that the ReVoice Studio inputs the voice parameter data to a voice sythesizer as a model. The difference that Defendants are trying to highlight is that the patented technology in the '864 patent creates a model of the user's voice and that model can then be applied to any dialogue in the predefined presentation. So the user could say, "Hello, my name is John." The parameters of the user's voice would be modeled. The character of *X* in *Y* movie would be tagged as the character with whom the user's voice would be integrated. And when character *X* said "Hey, let go of her!" *X* would say it with the user's voice-despite the fact that those were not the words the user originally said. In contrast, the ReVoice Studio records the actual words said by the user and then dubs them over the words said by the actor. The ReVoice Studio adjusts the timing of the user's words, so that the user's words are said with the same timing as the actor's. But it is the actual words said by the user that are dubbed over the actor's voice. ReVoice does not allow the user to say one line and then have the voice parameters extracted from that sample used to mimic the user's voice in saying other lines. Defendants argue that therefore the ReVoice Studio does not involve inputting the user's voice *as a model,* because the user's voice is not adapted to saying anything other that what the user actually said. The only adjustment made to the user's voice is that cadence of the words that are said is matched with the cadence with which the actor said the same words.

Plaintiff does not argue this point at all in his supplemental briefing to the Court.

"The patentee has the burden of proving infringement by a preponderance of the evidence." In re Haves Microcomputer Prods., Inc., 982 F.2d 1527, 1541 (Fed.Cir.1992). Therefore, on a summary judgment motion of noninfringement, it is adequate for Defendants to show that Plaintiff has not set forth facts to show that the ReVoice Studio inputs voice parameter data as a model into the synthesizer.FN15 The disposition of this issue comes down to two issues: (1) is the evidence submitted by Plaintiff sufficient to raise an issue of triable fact; and (2) if it is not, was Plaintiff given adequate opportunity to do discovery?

FN15. Defendants have presented no affirmative evidence that the ReVoice Studio does not input the voice parameter data as a model; rather, they rely on Plaintiff's lack of evidence and specifically point to Plaintiff's expert's testimony as devoid of statements would raise an issue of fact as to infringement. *See* Biotec Biologische Naturverpackungen GmbH & Co. KG v. Biocorp, Inc., 249 F.3d 1341, 1354 (Fed.Cir.2001).

The evidence submitted by Plaintiff is from Plaintiff's expert witness, Dr. Vacroux. Dr. Vacroux's testimony on this point is highlighted by Defendants. Plaintiff never indicated that Dr, Vacroux (or any other witness) had made statements regarding the use of voice parameter data other than those pointed to by Defendants. Plaintiff's argument, rather, focused on the sufficiency of the evidence pointed to by Defendants. In Dr. Vacroux's Opening Expert Report, Dr. Vacroux states:

The final clause of claim 54 calls for "synthesizing" and "interjecting" the user's voice into the presentation output by associating a particular predefined character image within the presentation with the user's voice. That ensures that when the particular predefined character is speaking, the user voice parameter data is used in a voice synthesizer to integrate the user's voice into the presentation. The ReVoice Studio feature satisfies the "synthesizing" and "interjecting" limitation as well. For example, in the use of the ReVoice Studio feature of the "Shrek" DVD, one can select the donkey as the predefined character image whose voice will be replaced. The software included in the DVD associates the user's voice with the donkey's image. Thus, when the donkey is speaking, the user voice parameter data functions as input to voice synthesizing software whereby the timing and modulation characteristics of the user's voice data are matched to those of the predefined image. Thus, the user's voice is integrated into the presentation output so that the user's voice is heard when the donkey's image is displayed on the screen.

(Tiu Decl. Ex. I at 254 (emphasis added).) The Court construes the language in Claim 54 regarding voice synthesis to require that the voice parameter data is used to generate new words that the user did not actually say. Nowhere in this analysis of the intersection between Claim 54 and ReVoice Studio does Dr. Vacroux indicate that such modeling and synthesizing take place. Even assuming that Dr. Vacroux's conclusory statement that ReVoice maps the "modulation characteristics of the user's voice" (which the Court takes to mean tone and pitch) is sufficiently supported to be admissible as evidence, the fact that the tone and pitch of the user's voice are noted by ReVoice does not indicate that those parameters of tone and pitch are used to model a synthetically produced voice based on those parameters. At most, Dr. Vacroux's statement indicates that ReVoice Studio not only adjusts the timing of the user's voice but also adjusts the inflection of it.FN16 Dr. Vacroux's statement does not indicate that the voice parameters are input *as a model*.

FN16. Defendant's expert disputes that ReVoice actually does this. (Tiu Decl. Ex. N at 453.)

As for opportunity to conduct discovery, to the extent that Plaintiff complains of not having access to the

inner workings of the ReVoice Studio (that is, the source code), Plaintiff's decision not to depose Bloom or otherwise request the source code from a party with access to the source code seems to be the cause of the problem. Such a litigation strategy decision will not now help Plaintiff avoid summary judgment.

Thus, Defendants have met their burden of demonstrating Plaintiff's lack of evidence and Plaintiff has not shown an inadequate opportunity for discovery. The Court accordingly grants Defendants summary judgment on this issue.

Claims 1 and 20 of the '825 Patent. Defendants have various arguments for why ReVoice Studio does not infringe the '825 patent, among them that "video" must at the very least involve something visual, even if it also included an audio component. The Court need not reach these arguments because Claims 1 and 20 have been declared invalid for indefiniteness and lack of enablement.

IV. CONCLUSION

The Court finds all the alleged claims invalid for either lack of enablement or for indefiniteness. The Court also finds that Defendants have not infringed Claims 54 and 56 of the '864 patent.

IT IS SO ORDERED.