

United States District Court,
C.D. California.

RIDE & SHOW ENGINEERING, INC,
Plaintiff.

v.

WALT DISNEY PARKS AND RESORTS, L.L.C., et al,
Defendants.

Nos. CV 03-6895 GAF (SHx), CV 03-8293 GAF (SHx)

Sept. 22, 2005.

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Court-Filed Expert Resumes

MEMORANDUM AND ORDER REGARDING *MARKMAN* CLAIM CONSTRUCTION

GARY ALLEN FEESS, District Judge.

I.

INTRODUCTION

The instant consolidated case arises out of the alleged infringement of United States Patent No. 5,527,221 ("the '221 patent"), the rights to which are assigned to Plaintiff Ride & Show Engineering, Inc. ("Plaintiff"). FN1 Plaintiff brings suit for alleged infringement of the ' 221 patent against a number of defendants including Walt Disney Parks & Resorts, L.L.P. and Walt Disney World Co. ("Disney" or "the Disney Defendants"), as well as Moog, Inc., Universal City Studios LLLP, and Oceaneering International, Inc. (collectively, "Moog" or "the Moog Defendants") and MTS Systems' Corporation. The case is currently at the first stage of the infringement analysis-claim construction. The parties dispute the proper construction of seven terms used in the patent-in-suit.

II.

BACKGROUND

The '221 patent relates generally to the field of amusement park rides. (Shenkman Decl. Ex. 1 at 3). Specifically, the invention is directed toward "amusement rides wherein patrons seated in cars are moved along a track and the car is pointed in various directions to view specific portions of the attraction." (*Id.*, col. 1:7-10). A well-known example of such a ride is the "Haunted Mansion" at Disneyland. The '221 patent protects both a system and a method for "patron movement along a multi-dimensional track" (*id.*, col. 9:49-50; col. 10:44-45), which provides "the capability for unlimited rotation control for the patron viewing seats and further allows great flexibility in original design and modification of the rotation profiles." (*Id.*, col. 2:22-25).

Rotation of the seating about a vertical axis, or yawing, is used to allow various portions of the amusement ride, including "scenes intended to amuse or frighten the patrons," to remain in view as the car passes the scene. (*Id.*, col. 1:23). Rotation can also be used to add "shock value" by "rotating the car rapidly from one scene to another." (*Id.*, col. 1:29-31). Moreover, rotation of the seat about a horizontal axis to permit pitching allows the ride designer "to change the cant angle of the seat for better viewing or to maintain the seat in a horizontal position during elevation changes by the car on the track." (*Id.*, col. 2:4-11).

A. THE PRIOR ART

The '221 patent discloses prior art related to the rotation of a ride's seating or "viewing portion." Prior art systems employed "mechanical cam rails" in or near the track to "activate cam followers on the car to rotate the viewing portion or seat at appropriate locations." (*Id.*, col. 1:45-47). Although the "mechanical cam" systems are "extremely reliable," alterations of such systems can be "extremely expensive and time consuming," requiring "extensive replacement or refurbishment of mechanical parts," which can also be "technically challenging." (*Id.*, col. 1:47, 51-52; 1:66-2:3). Consequently, the ride designer's ability to make economic and efficient changes to the ride's design after its original installation is "severely limited" under the prior art. (*Id.*, col. 1:45-2:3). In addition, the "mechanical cam" systems are unable to yaw the seating area around a full 360 degrees or more. (*Id.*, col. 2:13-16).

B. DESCRIPTION OF THE INVENTION

Unlike the prior art described above, the '221 invention provides ride designers with "unlimited rotation control" (*id.*, col. 2:22-23) and "great flexibility" to alter the sequence of seating positions throughout a ride. Instead of the expensive and time consuming replacement of mechanical parts required by the prior art, the '221 invention allows a ride designer to alter the rotation profile by simply altering the programming of a "programmable controller," located on each car. (*Id.*, col. 2:42-45).

The "programmable controller" on each car provides "position commands" (*id.*, col. 9:56) to the "drive motors," which by means of an "articulating member" rotates the seat around a vertical or horizontal axis. (*Id.*, col. 2:29-50, 60). Sensors provide the programmable controllers with data regarding the "actual position of the drive motor, position of the car relative to the track at desired locations, and general elements of car status for use by the controller in controlling the drive motors." (*Id.*, col. 2:45-50). Thus, for example, a ride designer may place a sensor that would trigger a command from the controller to change the seat position when the car passed the sensor. (*See id.*, col. 9:67-10:5). Alternatively, the controller could be programmed to change the seating position after the elapse of a designated amount, of time. (*See id.*, col. 10:12-15).

III.

ANALYSIS

A. THE LEGAL STANDARD FOR CLAIM CONSTRUCTION

Analyzing an allegation of direct patent infringement involves two distinct steps: the Court must first determine the proper construction of the asserted claims and then compare the properly construed claim to the allegedly infringing method or device. *See Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1581-82 (Fed.Cir.1996). The words of a claim are " 'generally given their ordinary and customary meaning,' " which is defined as "the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." *Phillips v. AWH Corporation*, 415 F.3d 1303, 1312-13 (Fed.Cir.2005)(en banc) .(quoting *Vitronics*, 90 F.3d at 1582). However, "a patentee may choose to be his own lexicographer and use terms in a manner other than their ordinary meaning, as long as the special definition of the term is clearly stated in the patent specification or file history." *Vitronics*, 90 F.3d at 1582. "In such cases, the inventor's lexicography governs." *Phillips*, 415 F.3d at 1316.

To determine the meaning of disputed terms, the Court "look[s] first to the intrinsic evidence of record, i.e., the patent itself, including the *claims*, the *specification* and, if in evidence, the *prosecution history*." *Vitronics*, 90 F.3d at 1582 (citing *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed.Cir.1995)) (emphasis added). These sources are "the most significant source of the legally operative meaning of disputed claim language." *Id.*; *see also Phillips v. AWH Corporation*, 415 F.3d at 1311-17.

Within the category of "intrinsic evidence," the claim construction analysis begins by looking to the words of the *claims* themselves. *Vitronics*, 90 F.3d at 1582. As the Federal Circuit noted in *Phillips*, "the claims themselves provide substantial guidance as to the meaning of particular claim terms." 415 F.3d at 1314. The "context in which a term is used in the asserted claim," "usage ... of the same term in other claims," and "differences among claims" can provide "useful guide[s] in understanding the meaning of particular claim terms." *Id.* Likewise, the specification " 'is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.' " *Id.* at 1315 (quoting *Vitronics*, 90 F.3d at 1582). As noted above, "the specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess." *Id.* at 1316.

The final category of intrinsic evidence that the Court may consult is the *prosecution history*. "[T]he prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be." *Id.* at 1317.

In construing claims, the Court may also rely on "extrinsic evidence" including " 'expert and inventor testimony, dictionaries, and learned treatises' " *Id.* at 1317 (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 980 (Fed.Cir.1995)). However, such evidence is "less significant than the intrinsic record in determining the legally operative meaning of claim language." *Id.* (internal quotation marks omitted). Extrinsic evidence is "unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence. Nonetheless, ... extrinsic evidence can help educate the court regarding the field of the invention and can help the court determine what a person of ordinary skill in the art would understand claim terms to mean." *Id.* at 1319.

While "in weighing all the evidence bearing on claim construction, the court should keep in mind the flaws inherent in each type of evidence and assess that evidence accordingly," (*id.*), the Federal Circuit has indicated that extrinsic evidence such as contemporaneous prior art documents, dictionaries, treatises and the like are to be "preferred over opinion testimony" as "more objective and reliable guides" to customary meaning of a claim term. *Vitronics*, 90 F.3d at 1585. Expert opinion testimony on the proper construction of a disputed claim term "should be treated with the utmost caution, for it is no better than opinion testimony on the meaning of statutory terms." *Id.*

Finally, "there is no magic formula or catechism for conducting claim construction. Nor is the court barred from considering any particular sources or required to analyze sources in any specific sequence, as long as those sources are not used to contradict claim meaning that is unambiguous in light of the intrinsic evidence." *Phillips*, 415 F.3d at 1324.

B. STIPULATED CLAIM TERMS

The Court has reviewed the stipulated definitions provided in the parties' amended joint statement of *Markman* issues. None of the definitions appear to be inappropriate, thus the Court adopts the following stipulated constructions:

Claim Language	Asserted Claim Containing Language	Jointly Proposed Construction
"track"	Claim 1	"a path, trail or laid out course" [FN2]
"position commands"	Claim 1	"a pulse, signal or set of signals directing position of the seating portion"
"positionable"	Claim 3	"capable of being placed"
"positioning"	Claim 13	"placing"

C. CONSTRUCTION OF THE DISPUTED CLAIM TERMS FN3

The '221 patent consists of fifteen claims, including independent claims 1 and 13. Plaintiff asserts that Defendants are infringing claims 1-4 and 13-14. The proper construction of the emphasized language below is disputed by at least one Defendant.

1. A system for patron movement along a ***multi-dimensional track*** comprising:

a car having a seating portion and a dolly engaging the ***track***;

a ***controllable drive means*** for changing ***position*** of the seating portion relative to the dolly; and

an ***independant [sic] programmable controller*** connected to the drive means for providing ***position*** commands to the drive means.

2. A system as defined in claim 1 wherein the drive means comprises;

a first ***motor***;

articulating means interconnecting the first motor and the seating portion, the articulating means

rotating the seating portion about a first axis; and

a position sensor detecting the amount of rotation of the seat portion about the first axis and providing an output to the controller.

4. A system as defined in claim 3 further comprising:

a second *motor* and wherein the articulating means interconnects the second *motor* and the seating portion and rotates the seating portion about a second axis; and

a second position sensor detecting the amount of rotation about the second axis and providing an output to the controller.

13. A method for controlling a system for patron movement along a *multi-dimensional track* comprising the steps of:

positioning a sensor activator proximate the *track*;

moving a car along the *track*;

sensing passage of the sensor activator by the car;

controlling the *position* of a seating portion in the car responsive to passing of the sensor activator.

14. A method as defined in claim 13 wherein the step of controlling includes:

commanding the operation of a drive means to change the *position* the seating portion [sic];

monitoring of a position sensing means to determine the *position* of the seating portion; and

commanding the drive means to stop upon reaching a preprogrammed *position*.

1. "Multi-Dimensional Track "

The first disputed term "multi-dimensional track" is found only in the preambles to claims 1 and 13. (*See, e.g.,* Shenkman Decl. Ex. 1, col. 9:49-50) ("A system for patron movement along a multi-dimensional track comprising ..."). The parties dispute *both* the meaning of the word, "multi-dimensional" as it is used to modify "track," and whether the preamble phrase "multi-dimensional track" constitutes a structural claim limitation. The Moog Defendants assert that the phrase forms a "structural limitation" of the claimed invention, despite the fact it appears only in the preamble. (Moog Br. at 11). On the other hand, both Plaintiff and the Disney Defendants agree that the "preamble's reference to a 'system for patron movement along a *multi-dimensional track*' is not a structural claim limitation, but a mere statement of intended use that does not limit the claims." ((Disney Br. at 1) (emphasis added); *see also* Pl.'s Br. at 10). The Court considers first whether the language of the preambles gives rise to a structural claim limitation.

a. Preamble as Limitation

"No litmus test defines when a preamble limits claim scope." *Catalina Mktg. Int'l v. Coolsavings*, 289 F.3d

801, 808 (Fed.Cir.2002). Whether preamble language constitutes a limitation "can be resolved only on review of the entirety of the patent to gain an understanding of what the inventors actually invented and intended to encompass by the claim." *Corning Glass Works v. Sumitomo Electric U.S.A., Inc.*, 868 F.2d 1251, 1257 (Fed.Cir.1989). In general, a preamble to a claim is not treated as a limitation, if "a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention." *Rowe v. Dror*, 112 F.3d 473, 478 (Fed.Cir.1997); *see also* *Boehringer Ingelheim Vetmedica, Inc. v. Schering-Plough Corp.*, 320 F.3d 1339, 1345 (Fed.Cir.2003); *Schumer v. Lab. Computer Sys.*, 308 F.3d 1304, 1310 (Fed.Cir.2002)

However, the preamble may be considered a limitation if it "provides antecedents for ensuing claim terms and limits the claim accordingly;" (*Boehringer*, 320 F.3d at 1345); "recites essential structure or steps" (*Catalina Mktg.*, 289 F.3d at 808), or is " 'necessary to give life, meaning, and vitality' to the claim." *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305 (Fed.Cir.1999) (quoting *Kropa v. Robie*, 38 C.C.P.A. 858, 187 F.2d 150, 152 (CCPA 1951). Additionally, "clear reliance on the preamble during prosecution to distinguish the claimed invention from the prior art transforms the preamble into a claim limitation because such reliance indicates use of the preamble to define, in part, the claimed invention." *Catalina Mktg.*, 289 F.3d at 808.

Noting that the case law regarding the treatment of preamble language is "not so clear and the decisions are difficult to reconcile," Chisum states:

In general, it seems that a preamble will be considered a limitation if "the claim cannot be read independently of the preamble and the preamble must be read to give meaning to the claim or is essential to point out the invention." On the other hand, a preamble will not be considered a limitation if "the preamble merely states a purpose or intended use and the remainder of the claim completely defines the invention."

3 *Chisum on Patents* s. 8.06[1][d] at 8-201 (2004) (quoting *Marston v. J.C. Penney Co.*, 353 F.2d 976, 986 (4th Cir.1965).

b. The Moog Defendants' Argument

Relying on *Eaton Corp. v. Rockwell Int'l Corp.*, 323 F.3d 1332 (Fed.Cir.2003), the Moog Defendants argue that the preamble phrase "multi-dimensional track" forms a structural limitation of the claimed invention. (Moog Br. at 5). In *Eaton Corp.*, the court held that the preamble language formed structural claims limitations. 323 F.3d at 1342. The *Eaton* patent involved transmissions for "heavy-duty trucks such as eighteen-wheelers" (*id.* at 1334), and claimed a " 'method for controlling an automatic mechanical vehicle driveline system.' " *Id.* at 1339 (quoting patent). The parties disputed whether the "driveline system," which was described only in the preamble, was a structural limitation of the claimed invention. *Id.* at 1338.

The lengthy preamble detailed a "vehicle driveline system," which included, among other things, a " *selectably engagable and disengagable master clutch*" and "an information processing unit." *Id.* at 1335 (emphasis added). By contrast, the claims recited two relatively succinct steps. *Id.* at 1335, 1339. The first step required "retaining *said vehicle master clutch* (8) *engaged* during the gear ratio shift in said drive train." *Id.* at 1339 (emphasis added). The court explained that "[t]his step refers to structure that is *identified and defined* in the preamble." *Id.* (emphasis added).

Likewise, the second step "require[d] the operation of 'said first and second members of said first clutch,'

thereby referring to the *particular* first clutch and *particular* first and second members *previously identified and described in the preamble.*" *Id.* at 1340 (emphasis added). The court explained that "[t]he method steps of claim 14 thus require the *manipulation* of particular *structures* that are *identified and described only by the preamble*, during a particular sequence of events *defined only by the preamble.*" *Id.* (emphasis added). The court concluded that "the inventor chose to use both the preamble and the body of the claim to define his invention. The preamble therefore limits the claimed invention." *Id.* at 1342.

Here, the Moog Defendants argue that the claimed method disclosed by claim 13 of the '221 patent is "directly analogous to the claim in *Eaton Corp*" because the "first and second steps recited in the body of claim 13 require the presence of 'the track,' [and] refer[s] back to a 'a multi-dimensional track' in the preamble." (Moog Br. at 5). Specifically, the first and second steps of claim 13 require: "positioning a sensor activator proximate *the track*," and "moving a car along *the track*," respectively. (Shenkman Decl. Ex. 1, col. 10:47-48) (emphasis added). Just as the method step described in *Eaton* could not be performed without the "selectively engagable vehicle master clutch operable with respect to a transmission in the drive train as described [only] in the preamble," (323 F.3d at 1339), Moog contends that the steps of placing a sensor next to "the track" and "moving a car along the track" cannot be performed without the "multidimensional track" identified and described in the preamble. (Moog Br. at 5-6). Thus, Moog concludes that "multi-dimensional track" is a structural limitation of the '221 patent.

Moreover, Moog contends that the "entirety of the patent" supports a finding that "multi-dimensional track" is a structural claim limitation, pointing to numerous references to a "track" throughout the patent. In addition, Moog notes that the specification's drawings show the "track" in "solid line, not in broken line used to denote ... a so-called 'work piece' that is not part of the claimed invention." (Moog Br. at 8). Finally, Moog argues the "rule[s] of claim drafting" support its construction. (*Id.* at 9-11). Moog notes that the first reference to "multi-dimensional track" appears in the preamble preceded by the indefinite article " **a**," while subsequent references to "track" in the body of the claims use the definite article, "**the**." Moog argues, the preamble's "**a** multi-dimensional track" provides the " 'foundation' " or " 'antecedent basis' " for "**the** track," " 'thereby making the latter mention(s) of the element unequivocally refer to its earlier recitation.' " (*Id.* at 10) (quoting *Slimfold Mfg. Co. v. Kinkead Properties, Inc.*, 626 F.Supp. 493, 495 (N.D.Ga.1985) (quoting *Rosenberg, 2 Patent Law Fundamentals* s. 14.06 (2d Ed.1984)). Moog thereupon concludes that " '**the** track' in the claims refers back to a 'a multi-dimensional track,' " and forms a structural limitation in claims 1 and 13. (Moog Br. at 11) (emphasis added).

c. Disney Defendants' and Plaintiff's Argument

On the other hand, Plaintiff and the Disney Defendants agree that the phrase "multidimensional track" is not a structural claim limitation-but present somewhat different grounds for their shared conclusion. Plaintiff argues that the preamble language does not limit the claim because it does not "recite [] essential structure or steps" nor is it "necessary to give 'life, meaning, and vitality' to the claim." *Intirtool, Ltd. v. Texar Corp.*, 369 F.3d 1289, 1295 (Fed.Cir.2004) (internal quotation marks omitted). In particular, Plaintiff contends "the use of the term 'track' alone within limitations following the preamble in claims 1 and 13 provides structurally complete descriptions of the inventions" as "the inventions ... are effective with either a one-dimensional track or a multi-dimensional track." FN4 (Pl.'s Br. at 10).

In the Court's view, however, Disney's argument is more persuasive. Relying on *C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340, 1346 (Fed.Cir.1998) and *Vaupel Textilmaschinen KG v. Meccanica Euro Italia S.P.A.*, 944 F.2d 870, 872 (Fed.Cir.1991), the Disney Defendants contend that the language at issue merely provides

a *statement of intended use* and " *reference points* " that aid in defining the claimed invention, and thus does not constitute a structural limitation. In *Vaupel*, the patent claimed a method and an apparatus for weaving and cutting fabric. 944 F.2d at 872 The preamble to the method claim recited: "[a] method of forming a plurality of patterned strips of fabric woven from threads of synthetic material using a broad weaving machine having a sley and a *breast beam*, which method comprises ..." *Id.* Similarly, the preamble to the apparatus claim disclosed an improvement to "a broad fabric weaving machine having a sley and a *breast plate*." *Id.*

The body of the claims referred back to "**the breast beam**" and "**the breast plate**" recited in the preambles. *See id.* at 872-73. On the basis of these references back to *apparent antecedents for claim terms* recited in the preambles, the accused infringer argued that the terms "breast plate" and "breast beam" constituted structural claim limitations. *Id.* at 879-80. Rejecting the defendant's argument, the court explained that "[b]reast beam" and "breast plate" are not structural limitations ... as used in [the claims], they indicate a *reference point* to fix the direction of movement of the woven fabric from the loom." *Id.* at 880 (emphasis added).

Similarly, in *C.R. Bard*, the court held that the preamble at issue did not limit the patent's claims because it "simply states the *intended use or purpose* of the invention" and describes " ' *reference point[s]* ' that provided guidance in understanding and construing the claim," *rather than* " *provid[ing] antecedents* for ensuing claim terms and limit[ing] the claim accordingly." 157 F.3d at 1350 (emphasis added). The patent-in-suit claimed a type of needle for use in a "biopsy needle firing device or 'gun" [that] mechanically inject[ed] a biopsy needle assembly into the core body tissue." *Id.* at 1346. Specifically, the patent claimed:

A biopsy needle *for use with* a tissue sampling device *having a housing with* a forward end, a *first slide* mounted for longitudinal motion within said housing, and a *second slide* mounted for longitudinal motion within said housing, said biopsy needle comprising:

a hollow first needle having proximal and distal ends;

a second needle extending through said hollow first needle and freely slidable therewithin, said second needle having proximal and distal ends;

a first head mounted to said proximal end of said hollow first needle, said first head including first flange means associated therewith for coupling said hollow first needle to *said first slide* for longitudinal motion both toward and away from said forward end of *said housing*; and

a second head mounted to said proximal end of said second needle, said second head including second flange means associated therewith for coupling said second needle to *said second slide* for longitudinal motion both toward and away from said forward end of *said housing*.

Id. at 1348-49 (emphasis added).

As can be seen, the "structure of the gun housing into which the needles fit" was first recited in the preamble, and clearly provided the antecedent basis for the references to "said housing." (*Id.* at 1349-50). Nonetheless, the Federal Circuit determined that the "housing" recited in the preamble did not constitute a structural limitation of the claimed invention. *Id.* at 1349-50. First, the court observed that the preamble "simply states the intended use or purpose of the invention" and "such a preamble usually does not limit the

scope of the claim." (*Id.* at 1350). Second, citing *Vaupel*, the *C.R. Bard* court characterized the preamble as providing non-limiting "reference points" for "guidance in understanding and construing the claim." *C.R. Bard, Inc.*, 157 F.3d at 1350. The court explained that "the preamble ... recites the portion and structure of the gun housing into which the needles fit, and provides reference points in the gun that aid in defining the needles as set forth in the body of, the claim." *Id.* Thus, the court concluded that "the gun structure is not part of the if separate claims to the needles." *Id.*

Here, the Disney Defendants persuasively argue that the preambles of claims 1 and 13, like the preamble in *C.R. Bard*, constitute **statements of intended use** of the claimed invention; and thus, they do not limit the claims. *Cf.* *Eaton Corp.*, 323 F.3d at 1341 (distinguishing the preamble in *C.R. Bard* as a non-limiting statement of intended use). Just as the preambles in *C.R. Bard* recited "[an invention] *for use with* a tissue sampling device *having a housing ...*," the '221 preambles recite that the claimed method and apparatus are "*for patron movement along a multi-dimensional track.*" (Shenkman Decl. Ex. 1, col. 9:49-50; 10:45-46).

Moreover, references in the '221 claims to "**the** track," like references to "**said** housing" in the body of the claims in *C.R. Bard* and "**the** breast plate" in *Vaupel*, merely provide "**reference points**" that "aid in defining" the system and method for "patron movement along a multi-dimensional track." 157 F.3d at 1350. As Disney notes, "[method] claim 13 recites the 'track' as a *reference point* for where the 'sensor activator' must be placed ('proximate the track') and how the car must move ('along the track'). (Disney Br. at 7; *see also* Shenkman Decl. Ex. 1, col. 10:45-53).]

d. Moog Defendants' Reliance on Eaton to Distinguish Disney Defendants' Authority is Unpersuasive

The Moog Defendants' attempt to distinguish Disney's authority is unpersuasive. The Moog Defendants assert that *C.R. Bard* is distinguishable because the "plain language of claim 1 [of the '221 patent] requires *actual engagement* of the track by the dolly," unlike the "plain language of the claim in *C.R. Bard, Inc.* [which] does not require an *actual coupling* of the needle to housing structure." (Moog Br. at 6-7). Because the patent recites "a dolly engaging the track" rather than "a dolly *for* engaging the track" or "a dolly capable of engaging the track," Moog concludes that "a multi-dimensional track" is a not a "reference point," but a structural limitation of the claimed system. (Moog Br. at 7).

To support this argument, Moog relies on *Eaton*, which distinguished its holding from the result in *C.R. Bard*, in part, by observing, in an aside, that "[m]oreover ... [t]he ... language in the body of the [*C.R. Bard*] claim ... *does not require an actual coupling* [of the claimed needle] to [the preamble's housing] structure, thereby negating the necessity of having this structure as part of the claimed invention." *Eaton Corp.*, 323 F.3d at 1342 (emphasis added). However, *C.R. Bard* contains no indication that the court even considered whether the claim language required an "actual coupling" of the needle to the housing structure in reaching its determination that the housing structure recited in the preamble did *not* limit the claims. Moreover, though *Eaton* made a passing reference to the "coupling" language in *C.R. Bard*, it did *not* consider or rely on whether the claim language required an "actual coupling" between the disputed "drive train" elements and other undisputed claim elements in reaching its holding that the preamble limited the claims in that case. Rather, *Eaton* relied principally on the fact that the patent at issue "require[d] the *manipulation and operation of structure* that is *identified and described* [only] by the preamble." *Eaton Corp.*, 323 F.3d at 1343. In distinguishing *C.R. Bard*, the *Eaton* court stated that "[t]he structure claim in *C.R. Bard* is therefore very different from [the *Eaton* claim] which has a preamble that does much *more than state an intended use* of the invention, and method steps that *require the operation or manipulation of the particular structure identified and described* by the preamble." *Id.* at 1342 (emphasis added).

e. Conclusion

The Court concludes that the preamble phrase "multi-dimensional track" does not form a structural limitation of the '221 patent. First, the language at issue plainly expresses a *statement of intended use* of the claimed invention—the invention is "for patron movement along a multi-dimensional track." As explained above, such statements of intended use or purpose "usually will not limit the scope of the claim because such statements usually do no more than define a context in which the invention operates." *Boehringer Ingelheim Vetmedica, Inc. v. Schering-Plough Corp.*, 320 F.3d 1339, 1345 (Fed.Cir.2003).

Second, the Court agrees with Disney that, as in *C.R. Bard* and *Vaupel*, the language at issue provides "*reference points*" that aid in defining the claimed invention, and *not* structural limitations on the claimed invention. Finally, the use of the indefinite article "a" in the preamble followed by uses of the definite article "the" in the body of the claims to modify "track" is not dispositive of the issue of whether the preamble forms a structural limitation. As explained above, in *C.R. Bard*, the Federal Circuit determined that "housing" was not a structural limitation of the claimed invention even though, as here, "housing" first appeared in the preamble, preceded by the indefinite article "a" in the preamble while subsequent appearances of "housing" in the body of the claims were preceded by "said." 157 F.3d 1348-49. Likewise, in *Vaupel*, the court determined that the preamble's language did not limit the claims despite the apparent antecedent basis for claim terms—"a breast beam" and "a breast plate"—recited in the preambles. 944 F.2d at 872.

In sum, the '221 claims can be "read independently of the preamble[s]." *Marston v. J.C. Penney Co.*, 353 F.2d 976, 986 (4th Cir.1965). The preamble [s] need not "be read to give meaning to the claim[s] [nor are they] essential to point out the invention." *Id.* Accordingly, the Court finds that the preamble phrase "multi-dimensional track" does not limit the claims of the ' 221 patent.FN5

2. "Track"

In a closely related and nearly identical dispute, the parties contest whether the term "the track" as it appears in the body of the claims constitutes a structural limitation of the invention. The Moog Defendants, joined by Plaintiff, insist that "track" is a structural limitation for essentially the same reasons advanced in their argument concerning the significance of "multi-dimensional track." FN6 The Disney Defendants, on the other hand, repeat their contention that "track" is a "reference point" that aids in defining the invention, but does not constitute a structural limitation of the invention, despite its repeated appearance throughout the specification and claims. FN7 In support of these contentions, the parties submit additional authority and offer variations on their previous arguments, which the Court considers below.

a. Moog Defendants' Position

Moog offers two additional cases in support of its renewed argument that the preamble phrase "a multi-dimensional track" provides the antecedent basis for the ensuing claim term "**the** track," as it appears in the body of the claims, and limits the claimed invention accordingly. (Moog Supp. Br. at 4). Moog points out that in *Bell Communications Research v. Vitalink Communications Corp.*, 55 F.3d 615 (Fed.Cir.1995), the court held that the preamble phrase "said packet including source address and destination address" limited the claims where the body of the claim referred back to "said packet." *Id.* at 621. However, that court also observed that the Federal Circuit has "long eschewed the use of an absolute rule according or denying all preambles limiting effect, having recognized that one cannot determine a preamble's effect except by

reference to the specific claim of which it is a component." *Id.* Likewise, in *Derman v. PC Guardian*, 1995 U.S.App. LEXIS 36873 (Fed.Cir.1995); the Federal Circuit, holding that the preamble language limited the claims in that case, noted that "the determination as to whether a preamble imposes a limitation is determined on a *case by case* basis." *Id.* at (emphasis added). Thus, as explained above in the Court's discussion of *Vaupel* and *C.R. Bard*, a "reference back" in the body of the claims to the language of the preamble provides no "[n]o litmus test" for determining "when a preamble limits claim scope." *Catalina Mktg. Int'l*, 289 F.3d at 808.

Moog also expands on its argument that "the track" cannot be construed as a "workpiece" or "environmental element" that exists "separate and independent" from the invention. (Moog Supp. Br. at 8). In essence, Moog argues that because the drafter of the '221 patent, when referring to "the track," did not employ certain conventions of claim drafting, which can be used to distinguish a "workpiece" or "environmental element" from the claimed invention, an inference may be drawn that the patentee intended "track" to be a claim limitation, (*Id.* at 8-10). In particular, Moog again focuses on the "coupling" language of the first clause of claim 1, arguing that because the patent recites "a dolly engaging the track" instead of "a dolly *for* engaging the track," "a structural connection between the dolly and the track is required, making both a dolly and a track, and a connection between them a *necessary limitation* of the claim." (*Id.* at 10). According to Moog, *only* if the drafter had used "*for* engaging the track," "would the presence of a track itself not be a necessary limitation of the claim." (*Id.*)

In response, the Disney Defendants point to *Smith Corona Corp. v. Pelikan, Inc.*, 784 F.Supp. 452 (D.Tenn.1992) in which the district court rejected a strikingly similar argument. In *Pelikan*, the patent-in-suit disclosed:

"A *ribbon cassette* for a system including a device utilizing a *ribbon cassette* and a *correction tape ribbon cassette* ... said *ribbon cassette* comprising:

....

means on said *ribbon cassette* **engaging** an opening in the *correction tape cassette* to assure that said ribbon and the correction tape are functionally compatible

Id. at 458.

The court construed the claimed invention as "drawn to the ribbon cassette *alone*, and not to the combination of the ribbon cassette [and] correction cassette," stating that "[r]eferences in claims 11-15 to the correction cassette ... *merely describe how the claimed invention functions in its intended environment.*" *Id.* at 459 (emphasis added). The defendant disagreed and, on a motion for a directed verdict, argued that the claim was "drawn to a combination of the *ink ribbon cassette* [and] *correction cassette.*" *Id.* at 460. According to the defendant, if the claims were intended to cover *only* the "ribbon cassette," the patent should have recited "means on said ribbon cassette **for** engaging an opening in the correction tape" (*id.* at 466) instead of "means on said ribbon cassette **engaging** an opening in the correction tape."

Relying on *In re Stencel*, 828 F.2d 751, 754 (Fed.Cir.1987), the court rejected the defendant's argument, and concluded that "the absence of the word 'for' in claim 11 is insufficient to find that the claim describes a combination" of the ink ribbon cassette and correction cassette. *Pelikan*, 784 F.Supp. at 466. In *Stencel*, the Federal Circuit considered a claim for "a driver ... adapted to set a joint with a particular threaded lobed

collar," and designed so that when the collar is tight against the workpiece, "the collar and the bolt ... lock together, and the driver can no longer turn the collar." *Id.* at 752. The *collar* was defined in the *preamble*, and the claims described the *body of the driver* as having "means on the body *to receive* a wrenching torque applied to the driver so that the flats apply the torque to the lobes of *the collar*." *Id.* at 753 (emphasis added).

The court in *Pelikan* explained:

the word "for" was *not* present in the means element of the patent-in-issue in *In re Stencel*. In *Stencel*, the appellant's claim read "means on body *to receive* a wrenching torque applied to the driver...." *Stencel*, 828 F.2d at 753. The claim did not say "means on body *for* receiving...." Nevertheless, the Federal Circuit stated that "[t]he claimed invention relate[d] to a driver," *id.* at 752, rather than finding that the invention recited a combination of the driver and the collar.

Pelikan, Inc., 784 F.Supp. at 466 (emphasis added). Defendants conclude that like the "correction tape cassette" in *Pelikan* and the "collar" in *Stencel*, the "track" in the '221 patent merely describes the invention's "intended environment and desired function" and does not form a structural limitation of the claims. *Pelikan*, 784 F.Supp. at 463.

The Moog Defendants attempt to distinguish *Pelikan*, *Stencel*, and *C.R. Bard* on the grounds that these cases involve claims for *devices* in contrast to the '221 patent which claims a *system*, and "there is no system without a track." (Moog Supp. Reply at 6-7). However, both "systems" and "devices" comprise claim limitations. Moog's conclusion that "there is no system without a track" begs the question of what structural limitations make up the claimed system.FN8

b. Disney Defendants' Position

Relying on *Vaupel*, *C.R. Bard*, *Pelikan*, and *Stencel*, the Disney Defendants assert that "mere recitation of environmental elements in the body of a claim does not make them positive structural limitations, even if they help define the claim." (Disney Supp. Reply at 1). In other words, "environmental elements do not limit the claimed inventions simply because they interact with them." (*Id.* at 2). Disney asserts that the "track" is an "environmental element" that helps to describe the invention's "intended environment and desired function" and does not form a structural limitation of the claims. *Pelikan*, 784 F.Supp. at 463. The Court agrees.

As the Disney Defendants note, the system of claim 1 comprise three clauses, which "call out" only three elements: (1) "a car"; (2) "a controllable drive means" and (3) "an independent programmable controller." "Track," on other hand, is *not* "the subject of a clause of the claim [1]," indicating that *it is not an element of the claim*. (Davidson Decl. Ex. 1 [Faber, Landis on Mechanics of Claim Drafting s. 3.4 at 3-10]) (emphasis added).

Rather, "track" is "introduced inferentially in the claim, which is *contrary* to what is done with a claim element." *Id.* "An element is introduced inferentially in a claim if it first appears *within the body of a claim clause* as itself acting or being acted upon, *without* first having been introduced either as the *subject* of that clause or a preceding clause." *Id.* (emphasis added). Here, track is introduced inferentially in claim 1 by first appearing "within the body of a claim clause" as being acted upon-"a dolly engaging the track"-*without* first without first having been introduced either as the subject of that clause or a preceding clause."

(Davidson Decl. Ex. 1 [Faber, Landis on Mechanics of Claim Drafting s. 3.4 at 3-10]). Thus, in claim 1, "track" is not treated as a claim element. Likewise, "track" appears in the body of claim 13 "only as a reference point for where the required steps of 'positioning' and 'moving' have to take place." (Disney Supp. Reply at 2). Hence, the Disney Defendants conclude that "track" does *not* constitute a claim element that limits the scope of claims 1 or 13.

Moog seeks to avoid this conclusion by relying on *General Elec. v. Nintendo Co.*, 179 F.3d 1350 (Fed.Cir.1999). At issue in *Nintendo* was whether a "bit map display device," which was disclosed only in the preamble should be deemed a limitation of the claims, *Id.* at 1361. The Federal Circuit held that the preamble language gave rise to a claim limitation, explaining that:

the '125 specification makes clear that the inventors were working on the *particular problem* of displaying binary data on a *raster scan display device* and *not general improvements to all display systems*. In light of the specification, to read the claim indiscriminately to cover *all types of display systems* would be divorced from reality. The invention so described is *restricted* to those display devices that work by displaying bits, which is not true with respect to all display systems recited in just the body of the claim.

Id. at 1361-62 (emphasis added).

Moog asserts that " 'track' of the '221 patent is no different than the 'raster scan display device' " in *Nintendo*. (Moog Supp. Br. at 6). The Court disagrees. The '221 patent is *not* directed to "the *particular problem* " of a moving passengers along a particular *type of track*. *Nintendo Co.*, 179 F.3d at 1362. Nor is the invention "restricted" to any particular type of track (*id.*), but applies to all "track environments." As Defendant MTS Systems Corp. observes, the inventors were concerned "not with the structures and methods of moving an amusement ride vehicle along a pre-determined path (since such structures and methods are not novel), but with the structures and methods of *electronically controlling passenger compartment motion* "-without regard to the type of track used to guide the vehicle. (MTS Supp. Br. at 4) (emphasis added).

In sum, for the reasons stated herein with regard to the construction of "multi-dimensional track" and "track," the Court finds that "track" is not a structural limitation of the claimed invention, but is an "environmental element" that merely helps define the "intended environment and desired function" of the claim. *Pelikan*, 784 F.Supp. at 463. With that in mind, the Court also adopts the stipulated construction of the "environmental element"- "track"-as "a path, trail or laid out course" as the construction falls within the ordinary meaning of the term.

3. "*Controllable Drive Means*"

Plaintiff

Defendants

Function:
"changing position
of the seating
portion relative to
the dolly,"

Function: "changing position of the seating portion relative to the dolly"

Means:

Means:

"(i) an electric drive motor and its

"(a) an electric motor and (b) an articulating member that includes: a case affixed to the dolly, a rotating head pivotally attached to the case and affixed to the seating

equivalents, and (ii) a rotating head actuator, *or* a linear actuator, or their equivalents" portion, a universal joint attached to the rotating head, a drive axle attached to the universal joint, a pulley on the end of the drive axle opposite the universal joint, a pulley on the end of the electric motor, a drive belt between the two pulleys, a lever extending from the rotating head and a jack screw attached to the lever arm."

The second limitation of claim 1 comprises "a controllable drive means for changing position of the seating portion relative to the dolly." (Shenkman Decl. Ex. 1, col. 9:51-52). The parties agree that this phrase is a "means-plus-function" limitation that must be construed pursuant to paragraph 6 of 35 U.S.C. s. 112. Section 112 "allows patent applicants to claim an element of a combination functionally, without reciting structures for performing those functions. If a claim element contains the word 'means' and recites a function, this court presumes that element is a means-plus-function element under s. 112." *Enviroco Corp. v. Clestra Cleanroom, Inc.*, 209 F.3d 1360, 1364 (Fed.Cir.2000).FN9 "Such a limitation must be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof." *Lockheed Martin Corp. v. Space Systems/Loral, Inc.*, 324 F.3d 1308, 1318 (Fed.Cir.2003). "The first step in analyzing a claim written in means-plus-function form is to identify the claimed function." *Id.* Then, the court must determine "what structures disclosed in the written description *correspond* to the 'means' for performing that function." *Id.* at 1319 (emphasis added).

Here, the parties agree that the claimed function is "changing position of the seating portion relative to the dolly," however, they dispute what corresponding structure described in the specification provides the "means" for performing the agreed-upon function. The '221 patent's written description and drawings disclose a single preferred embodiment, which consists, among other things, of a first motor and mechanical means for rotating the seating portion around a vertical axis, and a second motor and mechanical means for rotating the seating portion around a horizontal axis.

Plaintiff claims that the mechanical parts of the preferred embodiment that move the seat around its *vertical axis* and the mechanical parts that move the seat around its *horizontal axis* constitute "alternative embodiments" of the invention. Plaintiff concludes that the "controllable means" limitation should be construed to identify these parts as two *alternative* corresponding structures, even though these "alternative structures" are disclosed in the single integrated structure of the specification's only embodiment. Defendants, on the other hand, contend that the specification discloses a single integrated structure corresponding to the "controllable means," which comprises the motors and mechanical parts that enable rotation of the seat around *both* the horizontal and vertical axes.

In support of their contrary constructions, both parties cite to the following passage from the patent's written description.

The seat portion is supported by an articulating member generally designated 38 which is fixed to the dolly. The seating portion is attached to a rotating head 40 which provides for rotation of the seating portion about a *vertical axis* 42, oriented perpendicular to the plane of the track. The rotating head is pivotally mounted in the articulating member for rotation about a *horizontal axis* 44 perpendicular to the plane of FIG. 2, as shown and parallel to the plane of the track. Rotation of the head member is accomplished through a drive axle 46, which extends through the case 48 of the articulating member. The axle terminates in a spline, not shown on which a pulley 50 is mounted. Rotation of the pulley is accomplished by a drive belt 52 driven by a drive pulley 54 on a first drive motor 56. The axle 46 incorporates a universal joint (not shown) to allow the head member to pivot about the *horizontal axis*. A lever arm 58 connected to the head member provides

mechanical leverage for rotation about the *horizontal* axis. In the embodiment shown in FIG. 2, a second drive motor 60 rotates a jack screw assembly 62 or other appropriate linear actuator, which is attached to a pivot point on the lever arm.

(Shenkman Decl. Ex. 1 col. 3:64-4:17).

a. Plaintiff's Proposed Construction

As noted above, Plaintiff asserts that the "specification for the '221 patent discloses *two alternative* mechanisms for changing the position of the seating portion relative to the dolly in one axis." (Pl. Br. at 12) (emphasis added). First, Plaintiff contends the specification discloses "a motor and a rotating head" for rotation about a *vertical axis*. (*Id.*). For support, Plaintiff offers the following *heavily edited* version of the above-quoted portion of the patent's written description:

The seat portion is supported by an articulating member generally designated 38 which is fixed to the dolly. The seating portion is attached to a rotating head 40 which provides for rotation of the seating portion about a *vertical axis* 42, oriented perpendicular to the plane of the track.... Rotation of the head member is ... driven by drive motor 56.

(*Id.*) (quoting Shenkman Decl. Ex. 1 col. 3:64-4:10). Second, Plaintiff contends the specification discloses a separate structure for rotation about the *horizontal axis*, namely, "a motor and a linear actuator." (*Id.* at 13) (quoting Shenkman Decl. Ex. 1, col. 4:15-17) ("a second drive motor 60 rotates a jack screw assembly 62 or other appropriate linear actuator, which is attached to [the seating portion]")).

Plaintiff argues that these "two different structures" correspond to the claimed function, and thus the Court's identification of the "corresponding structure" for the "controllable drive means" must separately "embrace each of [these independent] embodiments." *See, e.g.,* Micro Chem., Inc. v. Great Plains Chem. Co., 194 F.3d 1250, 1258 (Fed.Cir.1999) ("When multiple embodiments in the specification correspond to the claimed function, proper application of s. 112, P 6 generally reads the claim element to embrace each of those embodiments."). In sum, Plaintiff contends that the "controllable drive means" should be construed as "(i) an electric drive motor and its equivalents, and (ii) a rotating head actuator, *or* a linear actuator, or their equivalents." (Pl.'s Br. at 13).

Plaintiff's heavily truncated version of the specification's written description does not persuade the Court that the specification discloses "two different structures" for the "controllable drive means." As explained below, Plaintiff's proposed "split" of the specification's single embodiment finds no support in either the specification or the relevant case law. Moreover, Defendants rightly conclude that Plaintiff cannot remove "corresponding structure" from the patent's specification simply by cropping quotations.

b. Defendants Proposed Construction

In response to Plaintiff's proposed construction, Defendants more plausibly contend that the specification discloses a single structure corresponding to the claimed "means" for changing position of the seating portion, which comprises "(a) an electric motor and (b) an articulating member that includes: a case affixed to the dolly, a rotating head pivotally attached to the case and affixed to the seating portion, a universal joint attached to the rotating head, a drive axle attached to the universal joint, a pulley on the end of the drive axle opposite the universal joint, a pulley on the end of the electric motor, a drive belt between the two pulleys, a lever arm extending from the rotating head and a jack screw attached to the lever arm." (Def's. Br.

at 3).

In support of their proposed construction, and preferred embodiment, a structure that enables rotation around *both* a vertical and a horizontal axis, not just rotation about one or the other. (Shenkman Decl. Ex. 1, col. 2:33-38) ("an *articulating structure providing rotation* of the seat portion about a *vertical axis* extending through the seat perpendicular to the plane of the track *and a horizontal axis* through the seat parallel to the plane of the track"). Accordingly, Defendants assert that the structure corresponding to the "controllable drive means" described in the specification includes all the various mechanical parts disclosed in the specification which work together to enable rotation about *both axes*. (*See* Defs. Br. at 2) (quoting Shenkman Decl. Ex. 1, col. 3:64-4:17).

c. Plaintiff's Critique of Defendants' Proposed Construction is Unpersuasive

Plaintiff objects that Defendants' proposed "corresponding structure" "conflicts with the specification" because it includes both the rotating head and the jack screw assembly while the "specification *plainly* describes these devices as alternative embodiments." (PI. Br. at 14-15) (emphasis added). Plaintiff, however, cites to *no support* for this bare assertion. By contrast, in a case cited by Plaintiff, *Versa Corp. v. Ag-Bag Int'l Ltd.*, 392 F.3d 1325 (Fed.Cir.2004), the specification *explicitly* "point[ed] out that *both* structures are *not required*" to perform the recited function. *Id.* at 1328-29. Plaintiff points to no such disclaimer in the specification of the '221 patent to support its "split" embodiment theory.

In addition, Plaintiff contends that Defendants' proposed construction runs contrary to the law. Plaintiffs' arguments, like its proposed construction, does not withstand close scrutiny. First, citing *Micro Chem., Inc. v. Great Plains Chem. Co.*, Plaintiff asserts Defendants' construction is improper because it incorporates structure from the specification beyond that needed to perform the claimed function of rotating the seating portion. *See* 194 F.3d at 1258 ("Nor does the statute permit incorporation of structure from the written description beyond that necessary to perform the claimed function."). However, Plaintiff fails to demonstrate that *any* portion of Defendants' proposed corresponding structure does not actually perform the recited function.

Similarly, relying on *Chiuminatta Concrete Concepts, Inc. v. Cardinal Indus.*, 145 F.3d 1303 (Fed.Cir.1998), Plaintiff contends that Defendants' construction improperly incorporates "details" of the structure unrelated to the function recited in the claim. Again, however, Plaintiff offers nothing, beyond its bare assertion, to demonstrate that any of the mechanical details of the structure proposed by Defendants are "unrelated to the recited function" of rotating the seat. *Id.* at 1308.

Even if Plaintiff can imagine alternative structures which do not require all the "details" of mechanical parts disclosed in the preferred embodiment to accomplish the recited function, the Court is constrained by s. 112 to identify the structure *disclosed by the specification*, not some ideal structure in which only a "motor" and a "rotating head" are required. 35 U.S.C. s. 112 ("such claim shall be construed to cover the corresponding structure ... *described in the specification* ") (emphasis added). Moreover, although the drafter of the '221 patent could have described alternative "corresponding structures," enabling rotation about each separate axis, he or she did *not*. The Court may not now redraft the patent's specification to create "alternative embodiments" out of whole cloth. In construing the "controllable drive means," the Court is limited by the "corresponding structure" of the single preferred embodiment that the patentee choose to disclose in the specification. *Id.*

d. Plaintiff's Authority Provides No Basis for "Splitting" the Embodiment

In addition, Plaintiff's authority offers no support for a construction in this case that would split the sole embodiment disclosed by the specification into two alternative "corresponding structures." In *Micro Chemical*, the "specification disclose[d] in detail **several alternative embodiments** of the invention, each having a *different type* of weighing means." 194 F.3d at 1259 (emphasis added). In construing the means-plus-function element, the district court limited 'weighing means' to the specific structures of the *preferred embodiment*." *Id.* (emphasis added). The Federal Circuit held that this construction was in error because " *alternative structures* corresponding to the claimed function were described" in the specification. (*Id.*). Here, in contrast, the specification discloses only a *single* preferred embodiment and does not explicitly disclose any alternative examples or embodiments.

In *Versa*, the "district court ruled that the means for creating air channels require[d] the presence of *both* perforated pipe and flutes." *Id.* at 1328. Although, "[i]n most places the specification describe[d] the invention as including *both* flutes and perforated pipe, and the drawings show[ed] both flutes and perforated pipe," the specification also *explicitly* "point[ed] out that both structures are *not required* " to perform the recited function. *Id.* at 1328-29. The Federal Circuit held that " *in light of this [explicit] disclosure*, flutes are not essential." *Id.* at 1329 (emphasis added). Here, unlike the patent in *Versa*, the '221 specification contains no explicit "disclosure," indicating that any of the mechanical parts that enable yawing or pitching are "not essential" to recited function of "changing position" of the car seat.FN10

e. Frank's Casing Directly Supports Defendants' Construction

Defendants contend the instant case is more analogous to *Frank's Casing Crew & Rental Tools, Inc. v. Weatherford Int'l, Inc.*, 389 F.3d 1370 (Fed.Cir.2004), than to *Versa* or *Micro Chemical*. The Court agrees. In *Frank's Casing*, the patent-in-suit protected a mechanical device for handling the large, heavy casings which line oil and gas wells. 389 F.3d at 1372. The claimed device enabled *both* side-to-side movement and up-and-down movement or "both such motions simultaneously." *Id.* However, the claims asserted against the alleged infringer involved a mean-plus-function element requiring *only* the up-and-down movement. *Id.* at 1373.

The parties disputed what structure, disclosed in the specification, corresponded to the recited function of moving the boom *up and down*. *Id.* at 1374. The patentee asserted that "the corresponding structure [was] the piston and cylinder subassembly." *Id.* The accused infringer, on the other hand, contended the structure also "included the *lift* and boom *plates* disclosed in the preferred embodiment." *Id.* The district court agreed with the accused infringer, noting that the mechanical parts enabling the up-and-down motion were *directly connected* to the *lift plate*. *Id.* On appeal, the patentee argued the district court's construction erred by "improperly import[ing] structure unnecessary to perform the recited function of pivoting the boom [up and down]" (*id.*) because the *lift plate* enabled the side-to-side movement. *Id.* at 1376.

The Federal Circuit affirmed the district court's construction, noting that although "the specification on occasion refers to the piston and cylinder subassembly without mentioning the *lift plate*," the " *only embodiment* showing use of the piston and cylinder subassembly discloses a *direct connection* to the lift plate." *Id.* (emphasis added). The court concluded that "[b]ecause the '020 patent neither clearly indicates that the pivoting limitation should have different meanings in claims that do not have a yawing function, nor discloses an alternative embodiment, the trial court correctly read 'means for selectively pivoting' to include a lift plate under the boom." *Id.* at 1377.

Here, Defendants argue that, just as the written description in *Frank's Casing* disclosed that the parts required for the side-to-side and the up-and-down movement were directly connected and together comprised a single corresponding structure, the specification of the '221 patent discloses that the parts required for both yawing and pitching "overlap" and thus together comprise a unitary "corresponding structure" for rotating the seating portion. (Def. Br. at 6). For example, the seating portion is attached to a "rotating head 40." (*Id.* Ex. 1, col. 3:65-4:1). The rotating head "provides for rotation about a *vertical* axis ." (*Id.*). The rotating head is also "pivotally mounted" in the "articulating member generally designated 38" or "heavy duty truck transaxle" to allow "rotation about a *horizontal* axis." (*Id.* Ex. 1, col. 4:1-4; 35-38.). Thus, the rotating head enables *both* yawing and pitching.

Likewise, vertical rotation of the "rotating head" is accomplished through a "drive axle 46," which extends through the "transaxle." (*Id.* Ex. 1, col. 4:5-7). The drive axle also "incorporates a universal joint (not shown) to allow the head member to pivot about the horizontal axis." (*Id.* Ex. 1, col. 4:10-12). Thus, the drive axle enables both vertical and horizontal rotation. Similarly, the transaxle enables both directions of movement as it supports the rotating head, universal joint and drive axle for rotation about the vertical axis, and also provides the fulcrum for the lever arm to move the rotating head about the horizontal axis.

Moreover, just as in *Franks' Casing*, where the piston and cylinder operated against the lift plate to enable the up-and-down movement of the boom, and not directly against the boom (389 F.3d at 1374), here, to enable pitching, the "second drive motor 60" and the "jack screw assembly 62" do not operate directly against the seating portion. (Shenkman Decl. Ex. 1, col. 4:14-17). Rather, the jack screw is "attached to a pivot point" on "lever arm 58," which is attached to the "transaxle," which, as explained above, also enables yawing. (Shenkman Decl. Ex. 1, col. 3:64-65; 4:14-17, 35-42).

In sum, Defendants persuasively demonstrate that the '221 specification "shows a direct connection between the structure needed to rotate in one axis and that needed to rotate in the other," just as the specification in *Frank's Casing* disclosed a "direct connection" between composite parts of a single structure, which enabled both the up-and-down movement and the side-to-side movement. (Def. Br. at 7). Moreover, just as in *Frank's Casing*, the '221 patent discloses a single embodiment. Thus, Defendants urge this Court to conclude, as did the court in *Frank's Casing*, that the "controllable drive means" is correctly read to include the interconnected mechanical parts and motors of the preferred embodiment, which together enable both movement around two axes.

f. Conclusion

The Court agrees with Defendants that there is no basis in the patent's specification for adopting Plaintiff's identification of purported "alternative embodiments." Unlike the specification in *Micro Chemical*, which explicitly disclosed a preferred embodiment and a number of other embodiments, describing alternative "means," here, the '221 specification discloses a single embodiment. Nor did the '221 patentee, like the patentee in *Versa*, make an explicit statement that the various mechanical parts illustrated in the specification constituted "alternatives." Moreover, as discussed at length above, the mechanical parts that enable both yawing and pitching cannot be neatly separated in two independent embodiments, as Plaintiff's construction suggests. Rather, as in *Frank's Casing*, the parts that enable movement in one direction are directly connected and overlap with the parts that enable movement in the other direction, forming a single integrated structure.

Furthermore, Plaintiff's criticism of Defendants' construction is without merit.' Plaintiff has not shown that

any detail of the structure identified by Defendants does not perform the function of rotation, as in *Asyst Techs.*, or defines the structure in ways unrelated to the recited function of changing the position of the seating portion, as in *Chiuminatta*. For the reasons set forth above, the Court construes the corresponding structure of the "controllable drive means" to include:

(a) an electric motor and (b) an articulating member that includes: a case affixed to the dolly, a rotating head pivotally attached to the case and affixed to the seating portion, a universal joint attached to the rotating head, a drive axle attached to the universal joint, a pulley on the end of the drive axle opposite the universal joint, a pulley on the end of the electric motor, a drive belt between the two pulleys, a lever extending from the rotating head and a jack screw attached to the lever arm.

4. "Articulating Means "

Plaintiff	Defendants
Function: "rotating the seating portion about a first axis"	Functions: "interconnecting the first motor and the seating portion" and "rotating the seating portion about a first axis"
Means: "a rotating head actuator, or a linear actuator, or their equivalents"	Means: "the case affixed to the dolly, a rotating head pivotally attached to the case and affixed to the seating portion, a universal joint attached to the rotating head, a drive axle attached to the universal joint, a pulley on the end of the drive axle opposite the universal joint, a drive belt connecting that pulley to another drive pulley, a lever arm extending from the rotating head, and a jackscrew"

Claim 2 discloses a drive means comprising, among other things, " *articulating means interconnecting* the first motor and the seating portion, *the articulating means rotating* the seating portion about a first axis." (Shenkman Decl., Ex. 1 col. 9:61-63). The parties agree that this "articulating means" limitation, like the "controllable drive means" limitation, is a means-plus-function limitation. The parties disagree, however, regarding the identification of the "function" and the "means."

a. "Function "

Plaintiff maintains that the clause at issue recites only *one* function performed by the articulating mean: " *rotating* the seating portion about a first axis." Defendants respond that the clause recites *two functions*: (1) "interconnecting the first motor" and (2) "rotating the seating portion about a first axis." For the reasons explained below, the Court finds that the clause recites the two functions set forth by Defendants.

I. Plaintiff's Position: Only One Function

"articulating means *interconnecting* the first motor and the seating portion, the articulating means *rotating* the seating portion about a first axis."

(Shenkman Decl., Ex. 1 col. 9:61-63) (emphasis added).

Relying on *Transclean Corp. v. Bridgewood Servs.*, 290 F.3d 1364, 1368 (Fed.Cir.2002), Plaintiff argues

that "interconnecting" in the above-quoted clause does *not* express a *function* of the articulating means, but merely describes a "characteristic" of the articulating means, namely, its location relative to the first motor and the seating portion. In *Transclean*, the court reviewed the construction of the function in the following claim.

13. The apparatus of claim 1 in which the *means for equalizing the flow* is comprised of means disposed intermediate the fluid receiver and source, *said means exhibiting resilient characteristics* for exerting a force, related to the pressure existing in the fluid circulation circuit of said transmission and said receiver, upon the fluid in said source.

Id. at 1368 (emphasis added). The court held, without explanation, that "the only function performed by that 'means' is 'equalizing the flow.'" The phrase 'exhibiting resilient characteristics' is not a second function performed by that 'means'; rather, the phrase further defines characteristics of that 'means.'" *Id.* at 1375.

Here, Plaintiffs assert that " 'rotating' is an action-it is a verb, just as 'equalizing' was used in *Transclean* " while " 'interconnecting' on the other hand, is not an action in the context of the '221 patent; it is a state of being (an adjective clause), just as 'exhibiting' was used in the patent at issue in *Transclean*." (Reply at 13-14). Contending that "this situation is *indistinguishable* " from *Transclean*, Plaintiff concludes that the function of the articulating means is "rotating the seating portion." (Reply at 13) (emphasis added).

Notwithstanding Plaintiff's assertion, the language in *Transclean* is distinguishable from the limitation at issue. In *Transclean*, the patentee used the preposition "for" in the phrase "means *for* equalizing the flow" to signal clearly that the words following the preposition describe the function of the means-equalizing the flow. *See Webster's Ninth New Collegiate Dictionary* 481 (1991) (defining "for" as "used as a function word to indicate purpose"); *Seal-Flex, Inc. v. Athletic Track & Court Constr.*, 172 F.3d 836, 849 (Fed.Cir.1999) (the preposition 'for' colloquially signals the recitation of a function"). By contrast, the second phrase, "means exhibiting" lacked the preposition "for" and was ultimately held not to express a second function. Thus, the presence of "for" distinguished the two phrases at issue in *Transclean*. Here, unlike in *Transclean*, the patentee does not use "for" to distinguish between the *parallel, identically structured* phrases, "articulating means interconnecting the ..., the articulating means rotating the ..." Accordingly, *Transclean* does not resolve the instant question.

ii. Defendants' Position: Two Functions

On the other hand, citing *Rodime PLC v. Seagate Tech., Inc.*, 174 F.3d 1294, 1304 (Fed.Cir.1999), Defendants contend that their identification of "dual functions" is supported both by the language of Claim 2 as well as the *context* provided by surrounding claims. In construing the disputed function in *Rodime*, the court looked both to the language of the claims at issue *and* to that of the *other claims* as well, *Id.* at 1304 ("For example, the language of claim 11, not asserted in this litigation, supports the reading of claims 3, 5, and 8 to require only a moving function."). As the Federal Circuit reiterated in *Phillips*, "[o]ther claims of the patent in question, both asserted and unasserted, can also be valuable sources of enlightenment as to the meaning of a claim term." 415 F.3d at 1314.

Here, Defendants contend that the identical grammatical structure used for the "rotating" and "interconnecting" phrases recited in Claim 2 provides "no grammatical way" to distinguish between the two phrases. (Def. Br. at 11). Defendants further argue that the "interconnecting" phrase in Claim 2, just like the "rotating" phrase, serves to express the function, purpose or action of the "articulating means," as opposed to

just describing the location of the means.

In support of this reading of Claim 2, Defendants point to Claim 4 which states, "wherein the *articulating means interconnects* the second motor and the seating portion *and rotates* the seating portion about a second axis." (Shenkman Decl. Ex. 1, col. 10:7-10). In the Claim 4 phrase, the "articulating means," clearly performs the two "functions" of "interconnecting" the motor and seat portion and "rotating" the seating portion. Defendants conclude that the plain language of both Claims 2 and 4 identify the two functions of the "articulating means" as "interconnecting" and "rotating."

Moreover, in opposition to Plaintiff's assertion that the interconnecting phrase is merely a " 'descriptive limitation ... explaining the location of the articulating means,' " Defendants observe that the "interconnecting" phrase says *nothing about the structure's location*. (Defs. Br. at 11) (emphasis added). To define a location, Defendants contend the "patentee would have used a past participle," as in *Transclean*. (*Id.*) (citing *Transclean*, 290 F.3d at 1368 (" 'means *connected* to said fluid receiver' ")).

Although the drafting of Claim 2 renders its meaning less than pellucid, the Court is persuaded that, just as in Claim 4, the drafter identified two functions for the articulating means in Claim 2. First, the fact that the patentee used parallel grammatical structures for both phrases strongly suggests that both phrases carry equal weight and both serve to define the functions of the articulating member. Second, the language of Claim 4 strongly supports a reading of Claim 2, which requires an "interconnecting" and "rotating" function. Accordingly, the Court construes the dual function of Claim 2's "articulating means" limitation as "interconnecting the first motor and the seating portion" and "rotating the seating portion about a first axis"

b. "Means "

With respect to the identification of the "corresponding structure" for this means-plus-function limitation, both parties point to the same structures in the specification that they identified as the "means" for Claim 1's "controllable drive means" limitation-with the exception, in both cases, of the motor. The Court concludes it should adopt Defendants' identification of the "corresponding structure" in this instance for the same reasons detailed in the discussion of "controllable drive means" above-with the exception of the motor. In sum, the Court construes the "articulating means" limitation of Claim 2 as follows:

Functions:

"interconnecting the first motor and the seating portion" and "rotating the seating portion about a first axis"

Means:

"the case affixed to the dolly, a rotating head pivotally attached to the case and affixed to the seating portion, a universal joint attached to the rotating head, a drive axle attached to the universal joint, a pulley on the end of the drive axle opposite the universal joint, a drive belt connecting that pulley to another drive pulley, a lever arm extending from the rotating head, and a jackscrew"

5. "Position "

Plaintiff	Defendants
"a particular location causing a patron or patrons to view a	"placement"

specific portion of an attraction"

In their papers, the parties debated, at some length the correct construction of the term "position," which appears in claims 1, 13, & 14. However, at the Markman hearing, the parties agreed to accept the Court's tentative construction of "position" as "spatial orientation." (Tr. at 86:16-17 & 87:13-14). Accordingly, the Court construes "position" as "spatial orientation."

6. Independent Programmable Controller

Plaintiff	Defendants ^[FN11]
"a solid state device containing programming capability, instruction memory, and instruction set, for performing specific functions, and in which the specific functions are not directed from a remote or central location"	"a device that (1) functions to regulate the state of a system, (2) is located on one or more designated cars, and (3) is capable of accepting data that alters the output, allowing the system to perform various, specific tasks"

The phrase "independent programmable controller" appears in the third limitation of claim 1, which recites "an *independant [sic] programmable controller* connected to the drive means for providing position commands to the drive means." (Shenkman Decl. Ex. 1, col. 9:55-57). As noted above, the words of a claim are " 'generally given their ordinary and customary meaning,' " which is defined as "the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." Phillips v. AWH Corporation, 415 F.3d at 1312-13 (quoting Vitronics, 90 F.3d at 1582).

For the reasons explained below, the Court concludes that, in 1992 when the '221 patent application was filed, "programmable controller" had, and continues to have, an ordinary and customary meaning as a *unitary term of art* in the relevant art of control systems. Plaintiff agrees that " 'programmable controller' must be defined as a phrase because *it is understood as a phrase in the relevant art*, not as two separate terms that each require construction." (Reply at 9 n. 4) (emphasis added).FN12 Consequently, the Court construes the three word phrase "independent programmable controller" according to (1) the ordinary meaning of the unitary term of art, "programmable controller," as understood by a person skilled in the art at the time of the patent application, and (2) as modified by the ordinary meaning of "independent," when read in light of the specification.

a. The Claim Term "Programmable Controller" Refers to a "Programmable Logic Controller"

To determine the meaning of "programmable controller', the Court turns first to the "intrinsic evidence" of the specification, "the most significant source of the legally operative meaning of disputed claim language." Vitronics, 90 F.3d at 1582. Plaintiff's expert, Randal W. McLaughlin ("McLaughlin"), testified that the "programmable controller" shown in the specification of the '221 patent "could most definitely be a PLC " (McLaughlin Depo. at 88:16-220), an acronym for "programmable logic controller," a well-known type of device in the field of control systems. Similarly, Defendant's expert, David B. Turner ("Turner") identified the "programmable controller" appearing in the patent's specification as a "Texas Instruments *programmable logic controller*." (Turner Depo. at 117:11-118:14; 119:15-22) (emphasis added). Finally, at the *Markman* hearing, Plaintiff conceded that "the specification discloses a PLC." (Tr. at 61:19-20) (emphasis added). Hence, the *intrinsic* evidence supports an inference that the patentee used the claim term "programmable controller" to mean a "programmable logic controller."

The *extrinsic* evidence strongly points to the same conclusion by demonstrating that the claim term "programmable controller" was, at the time of the patent application, and continues to be, commonly understood as a *synonym* for "programmable logic controller" in the relevant art. First, McLaughlin testified that the term "programmable controller" typically means a "PLC."

Q. Okay. And one of the words that you highlighted was "programmable controller," right....?

A. Correct.

Q. And looking at that, those two words, is that what you were referring to when you said "programmable logic controller"

A. Programmable logic controller-in the context that I read "programmable logic controller," "controller," they are all intertwined.

Q. Okay. *Because typically the words "programmable controller," that typically means programmable logic controller, right?*

A. *Programmable controller typically is referred to as a PLC.*

(McLaughlin Depo. at 87:25-88:15).

In addition, experts for both Plaintiff and Defendants agree that the definition of "programmable controller," which appears in a *contemporaneous* technical dictionary effectively treats the terms- "*programmable controller*" and "*programmable logic controller*"-as synonyms. The 1992 edition of the IEEE Standard Dictionary of Electrical and Electronics Terms (the "IEEE Dictionary") defines "programmable controller" as a "[s]olid state control system with programming capability that performs functions similar to a relay logic system." (Shenkman Decl., Ex. 8). McLaughlin testified that this definition refers to a "programmable logic controller:"

Q. I'll read it. 'Solid state control system with programming capability that performs functions similar to a relay logic system.' Do you see that?

....

Q. Right. My question is: The phrase there 'performs functions similar to a relay logic system,' does that lead you to understand that *this definition refers to what is sometimes called a programmable logic controller?*

A. *Yes.*

(McLaughlin Depo. at 150:18-151:12) (emphasis added).

Similarly, Defendant's expert, David B. Turner ("Turner") testified that the IEEE definition of "programmable controller" is "clearly describing a kind of machine which is called a *programmable logic controller* by which I take it to be the kind of shorthand." (*See* Turner Depo. at 123:10-25; 126:7-23; *see*

also Turner Decl. para. 29 ("I have also reviewed the 1997 IEEE definition for 'programmable controller'... Those skilled in the art would have understood that this definition relates only to *programmable logic controllers* ...")) (emphasis added).

In addition to the expert deposition testimony, other extrinsic evidence also tends to demonstrate that the terms "programmable controller," "programmable logic controller" and the acronym "PLC" are used as synonyms in the art of control systems. First, the definition of "programmable controller" in the *McGraw-Hill Dictionary of Scientific and Technical Terms* (6th ed.2003) notes that a "programmable controller" is "**[a]lso known as programmable logic controller.**" See *id.* at 1680 (defining "programmable controller" as "[a] control device normally used in industrial control applications, that employs the hardware architecture of a computer and a relay ladder diagram language. Also known as programmable logic controller.") (emphasis added).

Second, various internet resources, while perhaps not as trustworthy as published sources, nonetheless provide some further support for a reasonable conclusion that the terms at issue are commonly understood as synonyms by those skilled in the art. (*Wikipedia, the free encyclopedia, Programmable logic controller*, available at http://en.wikipedia.org/wiki/Programmable_logic_controller (last modified Feb. 28, 2005) ("A *programmable logic controller, PLC or programmable controller* is a small computer used for automation of real-world processes, such as control of machinery on factory assembly lines.") (emphasis added); Electrical Contractor Network, *Programmable Logic Controllers*, available at http://www.electrical-contractor.net/PLC_Page.htm (last visited Mar. 8, 2005) ("Programmable Logic Controllers (*will be called PLC's hereafter*) have been around in one form or another since the 60's."); High Tech Services, *Programmable Controller Training & Books*, available at <http://www.htservices.com/Tools/PLC/Books/index.htm> (last visited Mar. 8, 2005) (including among its listing of *programmable controller* training and books: Peter Rohner, *PLC: Automation with Programmable Logic Controllers* (1996); Roger M. Bertrand, *Programmable Controller Circuits* (1995)); *The Ultimate Super PLC For OEM: T100MD-1616+*, available at <http://www.icc-gb.com/triangle/t100md.htm> (last visited Mar. 15, 2005) (referring to its "M-series" product alternatively as a "*programmable controller*" and a "*programmable logic controller*").

i. Plaintiff's Proposed Construction of "Programmable Controller" is Unpersuasive

Despite this evidence, Plaintiff nevertheless asserts that the term "programmable controller" would be commonly understood in 1992 to encompass *more than just* "programmable logic controllers," including in its scope of meaning "*virtually all microprocessor-based devices used to control other systems*, including computers, PLCs (programmable logic controllers), and microcontrollers, but exclud[ing] non-programmable devices such as relays." (PI. Br. at 19) (emphasis added). At oral argument, Plaintiff contended that the patentee "did not use 'programmable logic controller' in the claim language," but instead used the "*broader term* 'programmable controller,' " because "the patentee knew that there were a host of computer type of systems that either could be used in the future, were used, and that is why the patentee expressly in the claim language decided not to add that word 'logic' in." (Tr. at 55:24-56:18) (emphasis added)..

To support these sweeping assertions, Plaintiff relies exclusively on its expert's declaration. (*Id.* at 56:22-57:1). However, McLaughlin's declaration fails to persuade the Court that "programmable controller" was commonly understood in 1992 to have a broader meaning than "programmable logic controller." First, McLaughlin's declaration sidesteps, if not directly contradicts, his prior deposition testimony. As noted

above, McLaughlin testified in his deposition that "programmable controller" commonly referred to "PLCs."

Q. Okay. Because typically the words "programmable controller," that typically means programmable logic controller, right?

A. Programmable controller typically is referred to as a PLC.

(McLaughlin Depo. at 87:25-88:15) (emphasis added).

Second, McLaughlin's declaration begs the question of what one skilled in the art would have understood by use of the **unitary term of art** "programmable controller" in 1992. As Plaintiff concedes, " 'programmable controller' must be defined as a phrase in the relevant art, *not as two separate terms* that each require construction." (Reply at 9 n. 4) (emphasis added). Nonetheless, McLaughlin submits a carefully worded construction of "independent programmable controller" reflecting "how [he] would have understood this phrase in 1992 based on [his] understanding of the *three terms* used in the phrase," rather than his understanding of "programmable controller" as a single term of art. (*Id.* at 56:22-57:1) (emphasis added).

Defining a "controller" as a device that "regulate[s] the 'Dstate' of a system," and "programmable" as "capable of accepting data that alters the output," McLaughlin thereupon concludes that the term "programmable controller" "encompass[es] virtually all microprocessor-based devices used to control other systems." (McLaughlin Decl. para. para. 6(a)-(b)). As can be seen, McLaughlin arrives at his "broader" definition of "programmable controller" by defining "programmable" and "controller" separately, and then concluding that any device that fits within both definitions would be customarily referred to as a "programmable controller." (McLaughlin Decl. para. para. 6(a)-(b)), In the Court's view, however, this process of construction, which relies on bifurcating the separate components of a unitary term of art and defining them in isolation, is as unlikely to capture the ordinary and customary definition of "programmable controller" as separate definitions of "vacuum" and "cleaner" are to create an accurate understanding of the ordinary and customary understanding of "vacuum cleaner." *See, e.g.,* Random House Webster's College Dictionary 1417 (2d ed.1997) (defining vacuum as "a space entirely devoid of matter"); *id.* at 243 (defining cleaner as "a person who cleans, esp. as an occupation").

Is a "vacuum cleaner" commonly understood as "a person who cleans" "a space entirely devoid of matter?" Was "programmable controller" commonly used in 1992 to refer to "virtually all microprocessor-based devices used to control other systems?" McLaughlin's declaration, which is unsupported by reference to any contemporaneous evidence of the term's meaning, does not convince the Court that the term was so used or understood---especially in the face of substantial evidence to the contrary.FN13

Moreover, although Plaintiff also cites to the 1992 IEEE definition of "programmable controller" to support certain aspects of its proposed construction, the Court observes that Plaintiff conveniently adopts only the *first half* of the IEEE definition, eliminating the phrase-" 'performs functions similar to a relay logic system"-which, as its expert admitted, limits the IEEE definition of "programmable controller" to "programmable logic controller."

Q. Right. My question is: The phrase there 'performs functions similar to a relay logic system,' does that lead you to understand that this definition refers to what is sometimes called a programmable logic controller?

A. Yes.

(McLaughlin Depo. at 150:18-151:12).

Finally, the Court observes that if, as Plaintiff contends, "programmable controller" had a customary meaning in 1992 that was broader than "programmable logic controller," it seems likely that objective evidence of such a broader meaning could be found in the various treatises regarding "programmable controllers" that were published around the time of the '221 patent application. *See, e.g.,* L.A. Bryan, *Programmable Controllers: Selected Applications* (1987); Thomas E. Hughes, *Programmable Controllers* (1990); Fred Swainston, *Systems Approach to Programmable Controllers* (1992); E. Andrew Parr, *Programmable Controllers: An Engineer's Guide* (1993). However, to support its "broader" construction, Plaintiff offers only "expert reports and testimony [that was] generated at the time of and for the purpose of litigation and thus can suffer from bias," and must be assessed accordingly. Phillips, 415 F.3d at 1318.

ii. Conclusion regarding "Programmable Controller"

The great weight of the evidence (both intrinsic and extrinsic) before the Court suggests that "programmable controller" is customarily and ordinarily understood as a synonym, or "kind of shorthand" (Turner Depo. at 126:22) for "programmable logic controller," and it was in this sense that the patentee used the term in Claim 1. For the reasons explained above, the Court is not persuaded by the declaration of Defendant's expert to adopt Plaintiff's broader construction of the term which seeks to reach far beyond "programmable logic controllers," and encompass "virtually all microprocessor-based devices used to control other systems." Accordingly, the Court construes "programmable controller" as "programmable logic controller." FN14

b. "Independent"

The Court turns now to consider the meaning of the remaining term of the disputed phrase—"independent." In their joint brief, Defendants suggest that "independent" means a controller that is "located on one or more designated cars rather than in a fixed, central location." (Defs. Br. at 21) (internal quotation marks omitted).FN15 However, Defendants' proposal makes no sense in light of the specification and the claim language. The "*programmable controller 64*" described in the specification is clearly located on *each* car, not "one or more" cars. (Shenkman Decl. Ex. 1, Abstract) (emphasis added). As the specification explains,

Activation and control of the first and second drive motors is accomplished in the present invention by a *controller 64* mounted to the dolly. In the invention as shown in the embodiment of the drawings, *each car has a self-contained controller*. As best seen in FIG 3, the plurality of cars, *each including a controller*

(Shenkman Decl. Ex. 1, col. 4:43-48) (emphasis added).

Moreover, the patent distinguishes the "master controller," which is present "in one or more cars" from the "individual car controller," which forms a part of "each car." (*Id.* col. 2:42-59) (emphasis added). The language Defendants proffer comes from the specification's description of the master controller (68), not the programmable controller (64), located on each car. "*In one or more designated cars, a master controller 68 incorporates all the functions for an individual controller, plus communications interfaces for receiving data from the other nodes on the network.*" (*Id.*, col. 4:53-57). Thus, a construction of "independent" that places the controller on "*one or more designated cars*" is not supported by the specification which clearly places a programmable controller (64) on *each car*.

Alternatively, Plaintiff contends that the "intrinsic patent documents ... make clear" that "independent" means "that the specific functions performed [by the programmable controller] are not directed from a remote or central location." (Pl. Br. at 19-20). For support, Plaintiff notes that the specification describes the invention as an "amusement ride car with *decentralized control processing* and centralized system monitoring." (*Id.*, col. 1:10-14) (emphasis added). As an example of "decentralized control processing," Plaintiff points to the "master controller," which, as described above, is located on one or more designated cars and both "functions for an individual controller," and possesses "communication interfaces for receiving data" from the other cars. (*Id.*, col. 4:53-57). Plaintiff explains that "the decentralized 'master controller' is *distinct* from a centralized 'remote controller,' which performs a monitoring function." (Pl. Br. at 20) (emphasis added). Plaintiff summarily concludes that "[t]hus, the 'independence' of the programmable controller means that the *specific functions performed are not directed from a remote or central location.*" (*Id.*).

Plaintiff's conclusion, however, is belied by the remainder of the specification, which indicates that specific functions performed by the programmable controllers on the individual cars *can* be directed from a *remote location*.

A communications system integral *with the controller in each car* communicates to a master controller in one or more cars to provide individual car status to the master controller. The master controller incorporates a remote communications device for transmission of collected status information to a remote controller for monitoring by operators of the ride. *Operating instructions are provided from the remote controller through the remote communications system to the master controller by the operator for distribution to the individual car controllers.*

(Shenkman Decl. Ex. 1, col. 2:42-59) (emphasis added).

In the Court's view, the specification supports a definition of "independent" as "allowing for separate programming of the individual car controller." For example, the specification highlights the utility of "independent programmable controllers," noting that "[s]eparate control of individual cars allows single cars to be removed from service for drive faults without impacting other cars in the system." (*Id.*, col. 6:11-14). Similarly, the written description also observes that power to the "controller in the car" is provided by a master on/off control switch" (*id.*, col. 8:50-51); thus, the controller may only activate the drive motors when the "master on/off switch is on, activating the individual car." (*Id.*, col. 9:31-33). Significantly, the specification goes on to explain that:

[Such] [s]eparate control of individual cars using the present invention, allows *individual cars* to be removed from service for faults, maintenance requirements, or if the number of patrons ... only requires activation of a limited number of cars. In addition, *control* of tilt and rotation of the seat portions *on individual cars* allows *secondary programming of the controllers for maintenance or custodial functions whereby rotation profiles may be changed or eliminated to meet servicing requirements* .

(*Id.*, col. 9:33-41) (emphasis added).

In short, the "independent" programmable logic controllers on each car allow the operator to change or entirely shut down the programmed sequence of seat rotations of an individual car without impacting the other cars, thus allowing for "separate programming of the individual car controller." This construction of

"independent" is consistent with the ordinary meaning of "independent." *Random House Webster's College Dictionary* 662 (2d ed.1997) ("2. not depending or contingent upon something else"); *Webster's Ninth New Collegiate Dictionary* 1123 (1988) ("1: not dependent: as (1): not subject to control by others: self-governing (2): not affiliated with a larger controlling unit"). Here, the "independent" programmable logic controllers are clearly "affiliated with a larger controlling unit," but remain "independent" in the sense that the programming of one PLC is "not dependent," "contingent upon" or "controlled" by the programming of any other PLC, allowing each individual car controller to be programmed separately or shut off entirely without affecting the others. Hence, the Court construes "independent" as "allows for separate programming of the individual car controller."

In sum, the Court construes "independent programmable controller" as a "programmable logic controller that allows for separate programming of the individual car controller."

7. "Motor"

Plaintiff	Defendants
"a device that imparts motion or power"	"a rotating electric motor"

The disputed term "motor" appears in *dependent* claims 2 and 4, which refer to *independent* claim 1.

2. A system as *defined in claim 1* wherein the drive means comprises: a first *motor*

(Shenkman Decl. Ex. 1, col. 9:58-60) (emphasis added).

4. A system *as defined in claim [1]*FN16 further comprising: a second *motor* ...

(*Id.*, col. 10:5-6) (emphasis added).

In support of their construction-"a rotating electric motor"-Defendants first contend that claims 2 and 4, as *dependent* claims, *incorporate all the limitations* of *independent* claim 1 to which they refer pursuant to 35 U.S.C. s. 112. *See* 35 U.S.C. s. 112 ("A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers."); *see also* Bloom Eng'g Co. v. North Am. Mfg. Co., 129 F.3d 1247, 1250 (Fed.Cir.1997) ("a dependent claim incorporates by reference all of the limitations of the claim from which it depends"). As discussed above, *independent* claim 1 includes the mean-plus-function limitation, "a controllable drive means for changing position of the seating portion relative to the dolly." (Shenkman Decl. Ex. 1, col. 9:53-54). The parties agree that the structure corresponding to the recited "drive means" includes an "*electric drive motor* and its equivalents." (Defs. Br. at 13; Reply at 11). Defendants conclude that the "electric drive motor" corresponding to *independent* claim 1's means-plus-function limitation is therefore incorporated into *dependent* claims 2 and 4, *limiting* the meaning of "motor" to an "electric drive motor" or "rotating electric motor." (Defs. Br. at 13).

In response, Plaintiff argues that the Court cannot construe the term "motor" based on the "drive means" limitation in independent claim 1 because "in *Medtronic, Inc. v. Advanced Cardiovascular Sys.*, 248 F.3d 1303 (Fed.Cir.2001), the Federal Circuit squarely held that limitations cannot be *transposed* between the non-means-plus-function limitation in the dependent claim [the "motor" of claims 2 and 4] and the means-plus-function limitation [the "drive means" of claim 1]." (Reply at 11-12) (emphasis added). In particular,

Plaintiff relies on the following statement from *Medtronic*:

"It is settled law, however, that independent claims containing means-plus-function limitations do not have the same literal scope as dependent claims reciting specifically the structure that performs the stated function."

Medtronic, 248 F.3d at 1313; (*see* Reply at 12 and Tr. at 64:5-14). At oral argument, Plaintiff asserted that this statement means that "the motor in claim 2 cannot have the same literal scope as the 'controllable drive means' motor of claim 1. It needs to encompass at least the equivalents." (Tr. at 64:5-14). Plaintiff concluded that "this Court cannot, under *Medtronic*, import the structure corresponding to the controllable drive means of claim 1 [the 'electric motor'] into claim 2 as if that structure was specifically recited in claim 1." (Reply at 12).

The Court is not persuaded by Plaintiff's argument, which reads the above-quoted statement out of context, and implicitly misapplies a rule stated in *Medtronic*, which has no application in this case. In *Medtronic*, the patent holder attempted, using the doctrine of claim differentiation, to broaden the court's construction of the "corresponding structure" of a mean-plus-function limitation recited in an *independent* claim beyond the particular structure that was disclosed in the specification on the grounds that the particular structure was also recited in an associated *dependent* claim, which rendered the two claims identical in violation of the claim differentiation doctrine.FN17 Chisum clearly illustrates the general outlines of the patentee's argument with a simple example.

Assume that a patent's claim 1 is to a "means" for fastening. Claim 2 state that "said means" comprises a nail. The patent's specification discloses a nail as the corresponding structure for carrying out the fastening function. The patent's owner may argue that the 'means' in claim 1 must extend beyond a nail or an equivalent of a nail because, otherwise, claim 1 and claim 2 would be identical in scope, which would violate the doctrine of claim differentiation.

5A, Chisum on Patents s. 18.03[5][d][ii] (2004)

Medtronic disposed of the patentee's similar argument by observing that, as a matter of "settled law," "independent claims containing means-plus-function limitations do *not* have the *same literal scope* as *dependent claims reciting specifically* the structure that performs the stated function," and thus, the doctrine of claim differentiation, upon which the patentee's argument turned, was not implicated. 248 F.3d 1303, 1313 (citing *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1538 (Fed.Cir.1991)). As *Laitram* explains, the reason that these claims do not have the same "literal scope" is because " [*l*]iterally, [the independent claim] covers the structure described in the specification *and equivalents* thereof. [The dependent claim] *does not literally cover equivalents ...*" 939 F.2d at 1538 (emphasis added). Thus, "claim differentiation is maintained when the disclosed structure corresponding to an independent [means-plus-function] claim [the "nail"] is recited in a dependent claim." *IMS Tech., Inc. v. Haas Automation, Inc.*, 206 F.3d 1422, 1431 (Fed.Cir.2000) (citing *Laitram*).

Medtronic, *Laitram* and *IMS Tech* all "address the extent to which a non-means limitation in a claim [the "nail"], which is dependent on an independent claim with a means limitation [the "means for fastening"], and which specifically defines the class of structures corresponding to the 'means,' can *support a broadening construction of the [scope of] the independent claim* [the argument that the "means" of the independent claim must extend beyond the specification's "nail"]." 5A *Chisum on Patents* s. 18.03[5][d][ii] (emphasis

added). That issue is *not* implicated in this instance, and thus, *Medtronic* is inapposite. Here, the pertinent issue is the scope of the **dependent** claim, and the extent to which the structure corresponding to a means limitation in an independent claim (the "electric drive motor" of the "drive means") can limit the construction of a specifically recited class of structures in a dependent claim ("motor"). To borrow Chisum's example, the issue here is whether the *specific type* of "nail" disclosed in the specification and corresponding to the "fastening means" of the independent claim can limit the construction of the bare "nail" recited in the **dependent claim**. *Medtronic* concerns the *converse* issue of whether the specifically recited "nail" in the dependent claim can change the scope of **independent claim** under a theory asserting the need for "claim differentiation." *Medtronic*, and the related cases, *Laitram* and *IMS Tech*, therefore, teach nothing about the issue under consideration.

Moreover, Plaintiff's argument that Defendants' construction somehow deprives it of its "entitlement to equivalents under 35 U.S.C. s. 116(6)" is without merit. (Reply at 11). First, the claims at issue are *dependent claims*, and, as noted above, "[a dependent claim that refers to an independent claim containing a mean-plus-function limitation] *does not literally cover equivalents* " of the corresponding structure described in the specification. *Laitram*, 939 F.2d at 1538 (emphasis added). Thus, claims 2 and 4 do not *literally cover* the equivalents of the "electric motor" disclosed in the specification, and, accordingly, the Court's construction of the term "motor" in those claims need not *literally cover* equivalents of the specification's "electric motor."

Of course, a construction of "motor" that does not *literally cover* the equivalents of an "electric motor" does not in any way preclude Plaintiff from asserting infringement of claims 2 and 4 under the doctrine of equivalents since "[b]y definition, an equivalent does *not fall literally* within the claim language." *Overhead Door Corp. v. Chamberlain Group, Inc.*, 194 F.3d 1261, 1271 (Fed.Cir.1999) (emphasis added). By the same token, the Court's construction of the term "motor" in *dependent* claims 2 and 4 has no limiting (or broadening) effect on Plaintiff's ability to claim, under 35 U.S.C. s. 112, equivalents of the "electric motor" corresponding to the "drive means" of independent claim 1 since "[l]iterally, [the independent claim containing a means-plus-function limitation] covers the structure described in the specification *and equivalents thereof*." *Laitram*, 939 F.2d at 1538 (emphasis added); *see also* 35 U.S.C. s. 112 (stating that a means-plus-function limitation "shall be construed to cover the corresponding structure, material, or acts described in the specification and *equivalents thereof*") (emphasis added).

It is clearly settled that "a dependent claim, by statutory command, 'incorporate[s] by reference *all the limitations* of the [independent] claim to which it refers." 3 *Chisum on Patents* s. 8.06[5][b] (quoting 35 U.S.C. s. 112) (emphasis added). Plaintiff has not submitted and the Court is unable to locate any authority suggesting that there is an *exception* to this statutory command where, as here, a dependent claim refers to and incorporates the limitations of an independent claim stated in the means-plus-function claiming style. In view of s. 112's command, the Court finds that the meaning of the term "motor" recited in dependent claims 2 and 4 is limited by the "electric drive motor," which corresponds to independent claim 1's "drive means" limitation, and is incorporated in claims 2 and 4 by reference. Thus, the Court construes "motor" as "electric drive motor."

IV.

CONCLUSION

The Court adopts the parties' stipulated definitions as noted above. In addition, the Court construes the disputed claim language as follows:

Disputed Language	Asserted Claim Containing Language	Court's Construction
"controllable drive means"	Claim 1	"Means:
		"(a) an electric motor and (b) an articulating member that includes: a case affixed to the dolly, a rotating head pivotally attached to the case and affixed to the seating portion, a universal joint attached to the rotating head, a drive axle attached to the universal joint, a pulley on the end of the drive axle opposite the universal joint, a pulley on the end of the electric motor, a drive belt between the two pulleys, a lever extending from the rotating head and a jack screw attached to the lever arm."
"articulating means"	Claim 2	Functions: "interconnecting the first motor and the seating portion" and "rotating the seating portion about a first axis" Means:
		"the case affixed to the dolly, a rotating head pivotally attached to the case and affixed to the seating portion, a universal joint attached to the rotating head, a drive axle attached to the universal joint, a pulley on the end of the drive axle opposite the universal joint, a drive belt connecting that pulley to another drive pulley, a lever arm extending from the rotating head, and a jackscrew"
"position"	Claims 1, 13 & 14	"spatial orientation"
"independent programmable controller"	Claim 1	"programmable logic controller that allows for separate programming of the individual car controller."
"motor"	Claims 2 and 4	"electric drive motor"

IT IS SO ORDERED.

FN1. On April 28, 2004, the two pending actions in this Court relating to Plaintiff's patent-in-suit, *Ride & Show Engineering, Inc. v. Walt Disney Parks and Resorts, LLC, et al.*, CV 03-6895 GAF (SHx) and *Ride & Show Engineering, Inc. v. USJ Co. Ltd., et al.*, CV 03-8293 GAF (SHx), were consolidated for pretrial and discovery matters. (CV 03-6895, Docket No. 84).

FN2. Although the parties have stipulated that "track" means "a path, trail or laid out course." (Joint Statement at 2), the claim construction briefing and oral argument revealed that they disagreed regarding whether the term "track" constitutes a structural limitation of the patent. In a closely related issue, the parties also dispute whether the preamble phrase "multi-dimensional track" limits the scope of the claims. The Court addresses these issues in the section regarding disputed claim terms below.

FN3. On December 10, 2004, the parties filed a Joint Claim Construction and Prehearing Statement. On January 31, 2005, Plaintiff filed its opening claim construction brief. In a joint brief submitted on February 14, 2005, Defendants asserted the same opposing position with respect to each of Plaintiff's proposed claim constructions-with the exception of one term ("multi-dimensional track"). As to their differing positions on "multi-dimensional track," the Disney Defendants and the Moog Defendants submitted supplemental briefs. In their briefs, both Defendants and Plaintiff proposed certain constructions that differed from those constructions detailed in the joint statement. The Court treats the more recent constructions proposed in the parties' briefs as the operative proposals.

FN4. As used by the parties in argument, a "one-dimensional track" is one which follows a straight line on a flat surface while a "two-dimensional track" has curves and a "three-dimensional track" has both curves and changes in elevation.

FN5. Because the Court finds that the preamble phrase "multi-dimensional track" does not limit the scope of the claims, the Court need not construe "multi-dimensional."

FN6. Of course, Plaintiff and the Moog Defendants part ways with respect to the significance of "multi-dimensional." Plaintiff insists that "track" alone in the preamble provides the antecedent basis for "track" in the claims, not "multi-dimensional track."

FN7. Defendant MTS Systems Corp. also submits a supplemental brief in which it argues that the patent is invalid for indefiniteness because, in essence, there are good arguments on both sides of the "track" issue.

FN8. In support of its argument, Moog also offers its speculation about what "had" to have been in the mind of the patent examiner when reviewing the '221 patent application. (Moog Supp. Br. at 7-8). However, since this speculation is not supported by any proffer of *evidence* from the prosecution history, the Court affords it no weight.

FN9. Section 112 provides, in relevant part: "[a]n 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 (emphasis added).

FN10. Attempting to distinguish its own authority, Plaintiff argues, quite implausibly, that "[w]hile the patent specification at issue in *Versa* expressly explained that both alternative structures were not required, in this case *no express explanation is needed*" because "[p]lainly claim 1 of the '221 patent calls for *movement in just one axis*." (Reply at 4). This argument borders on the frivolous. First, Plaintiff's assertion that Claim 1 "calls for movement in just one axis" directly contradicts its concession in the immediately

preceding paragraph of its reply memorandum that "[t]he function of the 'controllable drive means' [recited in claim 1] is *not limited to rotation in any particular manner*." (*Id.* at 3). Second, there is simply no support in the language of claim 1 for Plaintiff's assertion.

FN11. At the hearing on this matter, Defendants withdrew their proposed construction, and agreed to accept the Court's tentative construction of this phrase. (Tr. at 52:2-9). Plaintiff, however, disagreed with the tentative construction and continued to assert its proposed construction of the term, which is set forth above.

FN12. As detailed below, however, Plaintiff takes inconsistent and ultimately irreconcilable positions on this point. While in its papers, Plaintiff argues (correctly) that "programmable controller" should be construed based on its ordinary meaning as a unitary term of art in the field of control systems, Plaintiff, at the same time, seeks to avoid the limits of the ordinary meaning of "programmable controller," by offering construction based on its expert's construction of the two terms separately-not as a single term of art.

FN13. To the extent Plaintiff purports to rely on the declaration of Defendants' expert in addition to its own expert's declaration(Tr. at 56:22-57:2), the Court notes that Turner's declaration suffers from the same flaws as McLaughlin's-it seeks to avoid the common understanding of "programmable controller" as a unitary term of art by dividing the components of the term, and defining them in isolation. Moreover, it too is unsupported by any contemporaneous objective evidence of the purported "broader" meaning of "programmable controller it advances.

FN14. Plaintiff also objects to the proposed alternative construction of "programmable controller" as "programmable logic controller" or "PLC" on the basis that " 'PLC' is a term trademarked by the Allen-Bradley Company, and is used to describe its lines of programmable controllers," and therefore, such a construction would improperly limit the claim to Allen-Bradley PLCs. (Joint Statement. at 21). This objection is without merit. First, the report from the PTO's internet-based Trademark Electronic Search System, which was submitted by Plaintiff in support of this argument, indicates the trademark has "expired" and is "dead." (Shenkman Decl. Ex. 9 at 159-60). Second, the Court's construction does not employ the acronym, "PLC," but uses the term of art, "programmable logic controller," which refers to a type of well-known device, which is manufactured by a number of entities other than Allen-Bradley, including, as the evidence demonstrates, Texas Instruments.

FN15. Defendants erroneously assert that this proposed definition also represents Plaintiff's position. (*See* Def's Br. at 21) (quoting Pl. Br. at 19). However, Defendants quote Plaintiff's brief out of context, and generally fail to accurately represent Plaintiff's proposed construction of "independent."

FN16. Claim 4 refers to claim 3, which refers to claim 2, which refers to claim 1. (*Id.*), cols. 9:49-10:11).

FN17. *See* *Medtronic*, 248 F.3d at 1313 ("Medtronic argues that: (1) the doctrine of *claim differentiation*

requires that **independent claims** 1 and 11 be construed more *broadly* than the dependent claims 7 and 18; and (2) claims 1 and 11 must, therefore, be construed to cover the [*additional equivalent associated*] structure of the straight wire, hooks, and sutures.") (emphasis added).

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