

United States District Court,
N.D. Illinois, Eastern Division.

TRADING TECHNOLOGIES INTERNATIONAL, INC,
Plaintiff.

v.

ESPEED, INC., eSpeed International, Ltd., Ecco LLC, and Ecco Ware Ltd,
Defendants.

TRADING TECHNOLOGIES INTERNATIONAL, INC,
Plaintiff.

v.

REFCO GROUP LTD., LLC, et al,
Defendants.

ROSENTHAL COLLINS GROUP, LLC,
Plaintiff-Counterclaim Defendant.

v.

TRADING TECHNOLOGIES INTERNATIONAL, INC,
Defendant-Counterclaimant.

TRADING TECHNOLOGIES INTERNATIONAL, INC,
Plaintiff.

v.

GL CONSULTANTS, INC. and GL Trade SA,
Defendants.

TRADING TECHNOLOGIES INTERNATIONAL, INC,
Plaintiff.

v.

CQGT, LLC and CQG, Inc,
Defendants.

TRADING TECHNOLOGIES INTERNATIONAL, INC,
Plaintiff.

v.

FUTUREPATH TRADING, LLC,
Defendant.

Oct. 31, 2006.

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MEMORANDUM OPINION AND ORDER

MORAN, Senior J.

Plaintiff Trading Technologies International, Inc. ("TT") brought separate actions against defendants eSpeed, Inc., ITSEcco Holdings Limited, Ecco LLC, and Ecco Ware Limited (collectively "eSpeed"); GL Consultants Inc. ("GL"); CGQT, LLC and CQG, Inc. (collectively "CQG"); and FuturePath Trading, LLC ("FuturePath"), alleging infringement of U.S. Patent nos. 6,772,132 ('132 patent) and 6,766,304 ('304 patent). In anticipation of a similar suit, Rosenthal Collins Group, Inc. ("RCG") brought a declaratory judgment suit against TT. FN1 For the purposes of discovery and claim construction, the cases were assigned to this court for all common issues. A Markman hearing FN2 was held, and we now construe the claims in dispute.

FN1. For the purposes of this motion, we will refer to all defendants and RCG, collectively, as "defendants."

FN2. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967 (Fed.Cir.1995), *aff'd*, 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996).

BACKGROUND

The two patents-in-suit are nearly identical, and both relate to computer software used for electronic trading in the futures market. According to plaintiff, the software revolutionized the futures trading industry, allowing the trader to track the market depth of a commodity and visualize the changes in the inside market. In electronic trading art used prior to plaintiff's patented invention, the computer trading screen showed the changes in the inside market, but a rapidly fluctuating market often caused traders to miss their prices when entering an order at the exact time the inside market was moving. According to plaintiff's patents, "[i]f a trader intends to enter an order at a particular price, but misses the price because the market prices moved before he could enter the order, he may lose hundreds, thousands, even millions of dollars" ('132, 2:57-61; '304, 2:61-65). Prior art also lacked speed, requiring the trader to enter multiple elements of his or her trade before the order could be sent to the market.FN3 Plaintiff's technology changed the electronic futures trading industry by allowing traders to quickly place an order without sacrificing accuracy. In order to do this, the software pairs a "static display of prices" ('132) or "common static price axis" ('304) with "dynamic displays" of "bid" and "ask" columns. The combination allows the trader to track the changing market prices without the prices shifting from under him or her. The user then places a bid or ask order in the "order entry region" through a "single action of a user input device," which allows for quicker transmission of the trade to the market.

FN3. Defendants emphatically argue that plaintiff's technology is not novel and had been anticipated by prior art, thus suggesting that plaintiff's examples of prior art do not represent the entire field of prior art. We make no decision with regard to anticipation or invalidity at this stage in the construction. We only refer to plaintiff's examples of prior art to set up the major disputes regarding claim construction. Invalidity analysis is saved for another time.

Along with a number of additional claim terms, the terms indicated above constitute the primary disputes in

claim construction. Claim 1 of each patent is a representative claim, and contains the major disputed terms for construction:

'132 Claim 1: A method of placing a trade order for a commodity on an electronic exchange having an inside market with a highest bid price and a lowest ask price, using a graphical user interface and a user input device, said method comprising:

[1] setting a preset parameter for the trade order

[2] displaying market depth of the commodity, through a dynamic display of a plurality of bids and a plurality of asks in the market for the commodity, including at least a portion of the bid and ask quantities of the commodity, the dynamic display being aligned with a static display of prices corresponding thereto, wherein the static display of prices does not move in response to a change in the inside market;

[3] displaying an order entry region aligned with the static display prices comprising a plurality of areas for receiving commands from the user input devices to send trade orders, each area corresponding to a price of the static display of prices; and

[4] selecting a particular area in the order entry region through a single action of the user input device with a pointer of the user input device positioned over the particular area to set a plurality of additional parameters for the trade order and send the trade order to the electronic exchange.

'304 Claim 1: A method for displaying market information relating to and facilitating trading of a commodity being traded in an electronic exchange having an inside market with a highest bid price and a lowest ask price on a graphical user interface, the method comprising:

[1] dynamically displaying a first indicator in one of a plurality of locations in a bid display region, each location in the bid display region corresponding to a price level along a common static price axis, the first indicator representing quantity associated with at least one order to buy the commodity at the highest bid price currently available in the market;

[2] dynamically displaying a second indicator in one of a plurality of locations in an ask display region, each location in the ask display region corresponding to a price level along the common static price axis, the second indicator representing quantity associated with at least one order to sell the commodity at the lowest ask price currently available in the market;

[3] displaying the bid and ask display regions in relation to fixed price levels positioned along the common static price axis such that when the inside market changes, the price levels along the common static price axis do not move and at least one of the first and second indicators moves in the bid or ask display regions relative to the common static price axis;

[4] displaying an order entry region comprising a plurality of locations for receiving commands to send trade orders, each location corresponding to a price level along the common static price axis; and

[5] in response to a selection of a particular location of the order entry region by a single action of a user input device, setting a plurality of parameters for a trade order relating to the commodity and sending the trade order to the electronic exchange.

DISCUSSION

Both parties agree that our claim construction should be guided by the Federal Circuit's *en banc* decision in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed.Cir.2005). In *Phillips*, the court addressed "the principal

question ... [of] the extent to which we should resort to and rely on a patent's specification in seeking to ascertain the proper scope of its claims." *Id.* at 1312. The *Phillips* court essentially held that while "[i]t is a 'bedrock principle' of patent law that 'the claims of a patent define the invention to which the patentee is entitled the right to exclude,' (*id.* at 1312; *Nystrom v. Trex Co., Inc.*, 424 F.3d 1136, 1142 (Fed.Cir.2005)), ... [t]he construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." *Phillips*, 415 F.3d at 1316.

We take the following from *Phillips*. In construing the claims of a patent we should look first to the claims themselves, which "provide substantial guidance as to the meaning of particular claim terms." *Id.*, at 1314. As we determine the meaning of such claims, giving them the "ordinary and customary meaning ... [they] would have to a person of ordinary skill in the art in question at the time of the invention," we construe them in light of the "same resources as would [a person of ordinary skill in the art], *viz.*, the patent specification and the prosecution history." *Id.*, at 1312-13. *See also* *C.R.Bard, Inc. v. United States Surgical Corp.*, 388 F.3d 858, 862 (Fed.Cir.2004) ("the intrinsic record is the primary source for determining claim meaning"). We can also look to the prosecution history to determine whether the patentee "clearly and unambiguously express[ed] surrender of subject matter during prosecution." *Sorenson v. International Trade Commission*, 427 F.3d 1375, 1378 (Fed.Cir.2005). And finally, we can turn to extrinsic evidence-general purpose and technical dictionaries, and expert testimony, for example-to "shed useful light on the relevant art," but must consider it only in the context of the intrinsic evidence, including the claim language, specification, and prosecution history. *Phillips*, 415 F.3d at 1317-18.

We will address each of the disputed terms in turn.

Static Display of Prices/Common Static Price Axis

The parties dispute the meaning of "static" in "static display of prices" and "common static price axis." Plaintiff argues that the price axis is static, or unmoving, in relation to a change in the inside market. Plaintiff further argues that the patents limit the movement of the price axis in order to increase the likelihood that a trader will not miss his price. Therefore, plaintiff encourages us to adopt a construction of "price levels that do not normally change positions when new market data reflecting a change in the inside market is received." Defendants urge adoption of their various constructions, all of which limit movement of the price axis to a manual re-centering or re-positioning command. At the center of this fight is the question of automatic re-centering-do plaintiff's patents cover automatic re-centering? Plaintiff answers in the affirmative and, not surprisingly, defendants answer in the negative.

Although our preliminary injunction construction aligned with plaintiff's view, such construction was, simply put, preliminary. *Jack Guttman, Inc. v. Kopykake Enterprises, Inc.*, 302 F.3d 1352, 1361 (Fed.Cir.2002) ("District courts may engage in a rolling claim construction, in which the court revisits and alters its interpretation of the claim terms as its understanding of the technology evolves"). Today we have a better understanding of the technology, and all parties have had the opportunity to flesh out their arguments.

We now choose to alter our initial construction, construing "common static price axis" as "a line comprising price levels that do not change positions unless a manual re-centering command is received and where the line of prices corresponds to at least one bid value and one ask value." We construe "static display of prices" similarly, as "a display of prices comprising price levels that do not change positions unless a manual re-centering command is received." Defendant eSpeed pointed us to MSN Encarta Dictionary to set forth the ordinary and customary definition of static: "motionless: not moving or changing, or fixed in position." Our search of Webster's II New College Dictionary yielded similar results: "Having no motion: at rest." While we recognize that *Phillips* teaches us that a dictionary definition should only be used for context, *Phillips* also teaches that the "words of a claim 'are generally given their ordinary and customary meaning,' ... [which is] the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention." 415 F.3d at 1312-13. Plaintiff has given us no reason to think that

such a person of ordinary skill in the art would construe "static" as anything other than non-moving at the time of the invention.FN4

FN4. We do find it interesting that in all of plaintiff's filed exhibits with regard to claim construction, including two dictionary excerpts, plaintiff has never argued that the ordinary and customary meaning of "static" is something other than stationary or non-moving.

If "static" ordinarily means non-moving, then we cannot see how we can construe it any other way. The only exception can be the one explicitly stated in the specifications and prosecution history—movement due to receipt of a manual re-centering command. If we were to construe the term inclusive of additional unstated exceptions, such as automatic re-centering, we would not know where to stop. Defendant eSpeed aptly asks, "Why is a price display which automatically recenters after every two seconds 'static,' but a price display which automatically recenters after every five seconds is not? Why is a price display that automatically recenters when the inside market exceeds three ticks from the center price is 'static,' but a price display which automatically recenters after every fifth tick is not?" (eSpeed's post-Markman brief, at 6, n4). Plaintiff's own argument raises the same questions. Plaintiff notes, "In fact, with eSpeedometer [which contains a slow drift recentering component,] a price level never suddenly changes position under a trader's cursor causing him to miss his intended price. This is in contrast to the eSpeed product addressed by the Court at the PI hearing which provided for an instantaneous automatic recentering when the inside market moved off the top or bottom of the screen. Thus, eSpeedometer is more 'static' than eSpeed's previous product because it provides the trader with virtually a 100% guarantee that he will not miss his intended price" (plf's post-Markman brief, at 8-9, n6).FN5 How can any movement be "more static"? What is static enough to fall within the ambit of plaintiff's static construction? Because we cannot say, we must construe the term "static" in its ordinary meaning, non-moving, and allow for the only exception plainly stated in the written description: manual re-centering.

FN5. It is possible that eSpeed's (or any other defendant's) product will be considered "static" under the doctrine of equivalents, even under the current construction. Such analysis, however, is reserved for a future date.

We find unpersuasive plaintiff's argument that the patent only increases but does not guarantee the user's likelihood of accurately selecting his desired price. Plaintiff's patents are designed to achieve simultaneous goals: speed and accuracy. With regards to accuracy, the patent specification states, "The 'Mercury' display and trading method of the present invention *ensure* fast and accurate execution of trades by displaying market depth on a vertical or horizontal plane, which fluctuates logically up or down, left or right across the plane as the market price fluctuates" ('132, 3:5-9; '304, 3:9-13) (emphasis added). Like defendants, we read such language as a guarantee. It is only with regard to speed that the patents cannot guarantee accuracy—it is impossible to know how quickly a trader will process a desired price, move his hand to the user input device, and select the bid or ask region. It is with that in mind that the patent states "[t]he faster a trader can trade, the less likely it will be that he will miss his price and the more likely he will make money" ('132, 2:60-62; '304, 2:65-67). We find that the purpose of the patents' invention would be frustrated by the inclusion of any movement uncontrolled by the user. *See Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, 438 F.3d 1374, 1379-81 (Fed.Cir.2006) (limiting the claim term "adjustable" to the patent's consistent description that adjustment occurs during operation of the de-header system, in part because "[a]ny construction to the contrary is not consistent with the overall context of this invention and this field of art as described in the specification"). Thus, we are further convinced of our construction.

We take time to note that the construction of "common static price axis" includes the phrase, "where the line of prices corresponds to at least one bid value and one ask value." We do so to clarify that with regard to the "line of prices," orientation of the axis is irrelevant—it can be horizontal, vertical or angled, for example.

We find that use of the claim language "common," "corresponding to" and "aligned" are all used as synonyms for "in relationship with." *See Id.*, 438 F.3d at 1380 ("this court has acknowledged that two claims with different terminology can define the exact same subject matter"). The specification's language states that "Mercury displays market depth in a logical, vertical fashion or horizontally or at some other convenient angle or configuration" ('304, 7:42-45, '132, 7:22-25). That market depth, which includes the best bid and the best ask, can be displayed on an angle gives further support to plaintiff's contention that "common" connotes no more than a relationship between the price axis and the bid and ask display regions.

We also note our use of the term "price levels" in the construction of both "common static price axis" and "static display of prices." While recognizing that the '132 patent does not use the term "price level" in the claims, as compared to the '304 patent, we find that the intrinsic evidence compels us to adopt such language in both constructions. We re-assert our preliminary injunction analysis regarding this issue: "the real issue is what 'static display of prices' means, and we understand that phrase to include price levels, which is where the prices are located and displayed. In other words, the display of prices is a region in which prices, represented by numbers, are shown." *Trading Technologies Int'l, Inc. v. eSpeed, Inc.*, 370 F.Supp.2d 691, 699 (N.D.Ill.2005) ("*Trading Technologies I*"). We reject defendants' contention that "price levels" are synonymous with prices or representation of prices. The written descriptions of both patents consistently refer to "price rows" and "price levels." For example, "The market depth display shows the trader the interest the market has in a given commodity at different price levels" ('304, 6:17-19, '132, 5:50-52). "The status of each order is displayed in the price row where it was entered" ('304, 8:23-24, '132, 7:56-57). "Thus, a right click in the AskQ column in the 87 price row will send a sell order to market at a price of 87 and a quantity of 150" ('304, 10:46-48, '132 10:8-10). "A left click would enter an order with a price corresponding to the price row clicked ..." ('304, 11:21-22, '132, 10:50-51).FN6 Found in the preferred embodiment, it is clear that both patents intended to showcase a "price level" that was broader than simply price. *Pfizer, Inc. v. Teva Pharmaceuticals, USA, Inc.*, 429 F.3d 1364, 1374 (Fed.Cir.2005) ("A claim construction that excludes a preferred embodiment ... is 'rarely, if ever, correct' "). Thus, we define "price level" as "a level on which a designated price or price representation resides."

FN6. Defendant eSpeed argues that the use of "price levels" with respect to Figure 2 ("The working bid and ask quantity for each price level is also displayed in columns 202 and 205 respectively" ('304, 5:27-29, '132, 5:23-25)), wherein 202 and 205 are on the same horizontal row, proves that "price levels" are synonymous with "prices." Plaintiff counters by arguing that Figure 2 does contain "price levels" under its proposed construction-the trading screen has a level or region on which the price resides that does not extend across the entire row, as compared to patents' preferred embodiments. We find plaintiff's argument persuasive.

Dynamic Display/Dynamically Displaying

The parties dispute the meaning of the term "dynamic" in the claim language "dynamic display" and "dynamically displaying." The defendants argue that "dynamic" requires movement, up or down the price axis, for example. Plaintiff contends that "dynamic" is captured by the updating of the bid and ask quantities as new information is received from the market. Based on our understanding of the record, we construe "dynamic display" to be "[a] display of a plurality of bids and asks that are updated in response to new market information such that the bids and asks change positions relative to the static display of prices when the market changes." Updates based on the changing market data cause the displayed quantities of bids and asks to appear to move along the static price axis. Similarly, we construe "dynamically displaying" as "[u]pdating the first (second) indicator in response to new market information such that the first (second) indicator changes positions relative to the common static price axis when the market changes."

Defendants argue that plaintiff disclaimed use of the term "update" during the prosecution of the patents. During that time, patentee's counsel distinguished patentee's invention from the Silverman *et al* prior art:

The present invention, as claimed, is patentable over the Silverman et al. references. As described above, the present invention includes a dynamic display for a plurality of bids and for a plurality of asks in the market for a given commodity and a static display of prices corresponding to the plurality of bids and asks for the commodity.... While it appears that both the central system book and the keystation book of the Silverman et al. references show a plurality of bids and asks for a given traded commodity, in contrast to the present invention, the references disclose that these pluralities are displayed "dynamically" only in the sense that the bids and offers are updated.... There is no disclosure that the listing of bids and asks actually *move* along any axis.

(Petition to Make Special, eSpeed claim construction, exh. F, eS64848-9). Based on this language, defendants argue that plaintiff cannot now reclaim in construction something patentee disclaimed during prosecution. They are correct in theory. *See SanDisk Corp. v. Memorex Products, Inc.*, 415 F.3d 1278, 1286 (Fed.Cir.2005) ("The court must always consult the prosecution history, when offered in evidence, to determine if the inventor surrendered disputed claim coverage"). We do not think, however, that the patentee disclaimed the use of "update" in this case. The Petition to Make Special continues:

Furthermore, unlike the present invention, neither the central system book nor the keystation book of the Silverman et al. references includes a static display of prices corresponding to a plurality of bids and asks for a traded commodity. There being no static display of prices, the references also do not disclose that the pluralities of bids and asks are dynamically displayed in alignment with the prices corresponding thereto."

(eSpeed claim construction, exh. F, at eS64849). Unlike plaintiff's invention, the Silverman prior art did not combine the static display of prices with the dynamic display of bids and asks. Therefore, it *only* updated the prices. The present invention, by contrast, not only updates the prices, but because the bid and ask values are shown relative to the static price axis, the user can visually track the movement of the market by the movement of the bids and asks along the price axis. That visual shift, in addition to the updating, is what makes the plaintiff's invention distinguishable from the Silverman *et al.* references.

Once we allow use of the term "updating" in construction of the claims, we address defendants' additional arguments. Defendants point to such language as "[t]he values in the Bid and Ask columns however, are dynamic; that is, they move up and down (in the vertical example) to reflect the market depth for the given commodity" (amend, and reply, eSpeed claim construction, exh. E, eS64873). They argue that such language proves that the term "dynamic" must indicate movement specifically. We decline to adopt such language in the construction. Like the specification language, "The 'Mercury' display and trading method of the present invention ensure fast and accurate execution of trade by displaying market depth on a vertical or horizontal plane, which fluctuates logically up or down, left or right across the plane as the market price fluctuates," the prosecution history focuses "movement" on the market depth. Such a focus allows that the term "dynamic" alone can refer to updates received from the market, and the movement occurs simply because changed bid or ask values correspond to different prices in the static price display. Therefore, we construe "dynamic display" as "[a] display of a plurality of bids and asks that are updated in response to new market information such that the bids and asks change positions relative to the static display of prices when the market changes." We construe "dynamically displaying" as "[u]pdating the first (second) indicator in response to new market information such that the first (second) indicator changes positions relative to the common static price axis when the market changes." We construe "indicator" in its plain and ordinary meaning as "something that indicates."

Order Entry Region

Both patents use the term "order entry region" in claim 1. During the preliminary injunction phase we construed the term to mean "an area comprising a plurality of locations where users may enter commands to send trade orders, and that each location corresponds to a price level along the common static price axis." We see no reason to depart from that construction now.

Along with the debate over "single action of a user input device" (see below), the parties' dispute centers on whether a pop-up window is covered under plaintiff's patents. While that is clearly a question for another day, it can offer context for our construction analysis. *See Wilson Sporting Goods Co. v. Hillerich & Bradsby Co.*, 442 F.3d 1322, 1326-27 (Fed.Cir.2006) ("While a trial court should certainly not prejudice the ultimate infringement analysis by construing claims with an aim to include or exclude an accused product or process, knowledge of that product or process provides meaningful context for the first step of the infringement analysis, claim construction").

Like plaintiff's patents as a whole, "order entry region" should be viewed from the perspective of the user, not the computer. With that in mind we accept defendants' argument that "order entry region" is a location within the trading display where a user *sends* and not simply *initiates* an order. The patents' written descriptions consistently state that a selection within the order entry region does more than simply initiate an order, it sends or executes the order (*see, e.g.*, '304, 3:9-10; '132, 3:5-6 ("The 'Mercury' display and trading method of the present invention ensure fast and accurate execution of trades ..."); '304, 3:26-28; '132, 3:22-24 ("... provide the trader with improved efficiency in placing, and thus executing, trade orders for commodities in an electronic exchange"); '304, 10:34-39; '132, 9:63-67 ("A left click on the 18 in the BidQ column will send an order to market to buy 17 lots ... of the commodity at a price of 89")). The prosecution history further reveals that patentee originally envisioned claim language that included "[a] method of ... initiating placement of a trade order of the commodity through a single action of the user input device with a pointer of the user input device positioned over an area in said dynamic displays of bids and asks" (certified file history for U.S. Patent No. 6,772,132, eSpeed claim construction, cxh. C, at eS64874). Over a year later, the patentee changed the focus of that claim, removing the language "initiating placement" and amending it to read, "method comprising ... selecting a particular area in the order entry region through a single action of the user input device with a pointer of the user input device positioned over the particular area to set a plurality of additional parameters for the trade order and send the trade order to the electronic exchange" (*id.* at eS65203). Thus, from the perspective of the user, selection of an area in the order entry region is the final step in the trader's placement of an order at the market. In other words, the user need not do anything more before the order is entered at the market. If, however, the computer or the exchange had to perform additional steps before the order was actually filled at the exchange, such would still fall within the ambit of "order entry region," as construed herein.FN7

FN7. Defendant eSpeed again attempts to insert the term "matched" into its construction. As we noted in our preliminary injunction analysis, "[t]he words 'aligned' and 'corresponding' do not mean 'unambiguously matched' " (*Trading Technologies I.*, 370 F.Supp.2d at 700), nor do they mean "matched." As noted above, we construe both terms to mean "in relationship with," which is a broader construction than "matched."

Single Action of a User Input Device

Facing arguments overlapping with the "order entry region" debate, we once again see no need to depart from the construction we adopted during the preliminary injunction phase. Thus, we construe "single action of a user input device" to be "an action by a user within a short period of time that may comprise one or more clicks of a mouse button or other input device." Defendant eSpeed has attempted to resuscitate its argument that "single action" must send a "single computer command to make the selection." Again we reject such a limitation. eSpeed's attempt harkens back to the pop-up window, and focuses the "single action" on the computer, rather than the user. As we have continually noted, however, plaintiff's patents generally were written from the perspective of the user. Therefore, this claim refers to the user's single action, not the action(s) the computer performs to execute the user's command. Further, eSpeed's reference to a single line in the prosecution history for support ("... a trader places a trade order with the pointer in the area of the order entry region of the dynamic market depth region, through a single computer implemented action ...") (notice of allowability, eSpeed claim construction, exh. G, at eS65384), without any support in

the claim language or specification, is insufficient evidence for us to include such limiting language in the construction. *See* Phillips, 415 F.3d at 1317 ("because the prosecution history represents an ongoing negotiation between the PTO and the applicant, rather than the final product of that negotiation, it often lacks the clarity of the specification and thus is less useful for claim construction purposes").

Defendant CQG advocates limiting the construction of "single action" to a "single click or a double click of a user input device" and defendant RCG advances a construction focused on invalidity, using "double clicking a mouse button and striking the Enter Key" as an example of a single action. We reject both constructions. The patents' specifications clearly state:

[T]he specification refers to a single click of a mouse as a means for user input and interaction with the terminal display as an example of a single action of the user. While this describes a preferred mode of interaction, the scope of the present invention is not limited to the use of a mouse as the input device or to the click of a mouse button as the user's single action. Rather, any action by a user within a short period of time, whether comprising one or more clicks of a mouse button or other input device, is considered a single action of the user for the purposes of the present invention.

('132, 4:9-19; '304, 4:13-23). We will not disregard such a clear explanation. And, while the issue of double click/enter was repeatedly raised at the Markman hearing, invalidity is not before us at the moment, and therefore we decline to decide the issue during the construction phase.

Additional Claim Terms

In addition to the key terms discussed above, the parties dispute several additional minor claim terms. We discuss those now.

With respect to the display of the dynamic bid and ask regions, and static price axis, we construe "display of a plurality of bids and a plurality of asks" and "displaying the bid and ask display regions" as "a display of one or more bids and one or more asks." eSpeed encourages us to limit the display to information that is displayed in a single window. We decline to do so. The claim contains no such limitation and while the preferred embodiment does suggest a single window display, we will not import such limitations into the claims. *See* Wilson Sporting Goods, Co., 442 F.3d at 1329 ("This court ... declines to read a limitation from the written description into the claims"); *Innova/Pure Water, Inc. v. Safari Water Filtration Systems, Inc.*, 381 F.3d 1111, 1117 (Fed.Cir.2004) ("particular embodiments appearing in the written description will not be used to limit claim language that has broader effect").

Both patents use the term "parameter" in the claim language. For example, claim 1 of the '304 patent claims "in response to a selection of a particular location of the order entry region by a single action of a user input device, setting a plurality of parameters for a trade order...." Claim 1 of the '132 patent claims "setting a preset parameter for the trade order" and "selecting a particular area in the order entry region through single action of the user input device with a pointer of the user input device positioned over the particular area to set a plurality of additional parameters for the trade order...." Although the preset parameters and the additional parameters may be different, in all cases the term "parameter" means "an element of a trade order, including, but not limited to, quantity, price, type of order and the identity of the commodity." Defendants encourage us to limit our construction to the listed parameters. The specifications, however, state: "Similarly, every exchange requires that certain information be included in each order. For example, traders must supply information like the name of the commodity, quantity, restrictions, price and multiple other variables." As defendants' constructions do not account for restrictions or "multiple other variables," they cannot be correct.

Both patents also refer to "when the market changes." Patent '304's claims 1 and 27 use the term, claiming: "displaying the bid and ask display regions in relation to fixed price levels positioned along the common

static price axis such that when the inside market changes, the price levels along the common static price axis do not move and at least one of the first and second indicators moves in the bid or ask display regions relative to the common static price axis." Patent '132's claim 14 states: "[A] display device for displaying market depth of a commodity, through a dynamic display of a plurality of bids and a plurality of asks in the market for the commodity, including the bid and ask quantities of the commodity, aligned with a static display of prices corresponding thereto, wherein the static display of prices does not move when the inside market changes...." Although we do not view the parties' constructions as diametrically opposed to one another, we accept plaintiff's construction. "When the market changes" is construed as "at the time that new data reflecting a change in the inside market is received." Plaintiff, and this construction, recognizes that "when" is not synonymous with "instantaneously." Rather, "when" encompasses the concept that the update will not appear on the trader's screen until the software and/or computer receives, processes, and displays the new market information.

Finally, we turn to "trade order." In the '132 patent, patentee claims "displaying an order entry region ... for receiving commands from the user input devices to send trade orders ..." and "selecting a particular area in the order entry region ... to set a plurality of additional parameters for the trade order and send the trade order to the electronic exchange." The '304 patent claims "displaying an order entry region comprising a plurality of locations for receiving commands to send trade orders ..." and "in response to a selection of a particular location of the order entry region by a single action of a user input device, setting a plurality of parameters for a trade order relating to the commodity and sending the trade order to the electronic exchange." We construe "trade order" as "a single, electronic message in executable form that includes at least all required parameters of a desired trade." Plaintiff's main concern is with the term "executable." Plaintiff argues that use of "executable" is inconsistent with Figure 1, which shows how a system can be configured to allow for trading in multiple exchanges simultaneously. The figure shows how a user's computer is hooked up to the exchange through a series of routers and gateways. Further, the written description states that "[w]hen the system is configured to receive data from multiple exchanges, then the preferred implementation is to translate the data from various exchanges into a simple format" ('132, 4:28-32; '304, 4:32-35). Plaintiff asserts that a trade order in executable form would be contrary to the translation function. We disagree. First, we note that the patents use the term "execute" throughout the written description. For example, "These embodiments, and others described in greater detail herein, provide the trader with improved efficiency and versatility in placing, and thus executing, trade orders for commodities in an electronic exchange" ('132, 3:21-24; '304, 3:25-28). Second, we note that the term "executable," as used in this construction, must be viewed from the perspective of the user, not the computer. Once the trader has selected an area in the order entry region, and sent the trade to the market, the user need do nothing further to execute the order. Thus, from the perspective of the trader, the trade has been executed, and must have been in executable form. As with the constructions of "single action" and "order entry region," however, if the computer must perform additional steps or route the order through a router or gateway, such would still fall within the ambit of "trade order," as construed herein.

Means-Plus-Function

GL and FuturePath argue that '132 patent claim 8 is a "means-plus-function" claim subject to the limitations of 35 U.S.C. s. 112, para. 6 (1994). The statute states:

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

Paragraph 6 was included in the statute to "allow the use of means expressions in patent claims without requiring the patentee to recite in the claims all possible structures that could be used as means in the claimed apparatus." *Med. Instrumentation and Diagnostics Corp. v. Elekta AB*, 344 F.3d 1205, 1211

(Fed.Cir.2003) (*citing* O.I. Corp. v. Tekmar Co., 115 F.3d 1576, 1583 (Fed.Cir.1997)). The Federal Circuit further held, however, that "[t]he price that must be paid for use of that convenience is limitation of the claim to the means specified in the written description and equivalents thereof." *Id.* Based on that reasoning, GL and FuturePath assert that claim 8 is a means-plus-function claim, that neither the claim itself nor the specifications provide sufficient structure to fulfill the stated functions, and that, therefore, claim 8 and claims dependent thereon are invalid.

First, we must determine whether claim 8 is a means-plus-function claim. The claim reads:

A computer readable medium having program code recorded thereon, for execution on a computer having a graphical user input device, to place a trade order for a commodity on an electronic exchange having an inside market with a highest bid price and a lowest ask price, comprising:

[1] a first program code for setting a preset parameter for the trade order;

[2] a second program code displaying market depth of a commodity, through a dynamic display of a plurality of bids and a plurality of asks in the market for the commodity, including the bid and ask quantities of the commodity, aligned with a static display of prices corresponding thereto, wherein the static display of prices does not move in response to a change in the inside market;

[3] a third program code for displaying an order entry region comprising plurality of areas for receiving commands from the user input device to send trade orders, aligned with the static display of prices, each area corresponding to a price of the static display of prices; and

[4] a fourth program code for receiving a command as a result of a selection of a particular area in the order entry region by a single action of the user input device with a pointer of the user input device positioned over the particular area, to set a plurality of additional parameters for the trade order and send the trade order to the electronic exchange.

'132, Claim 8.

In determining whether a claim falls under the ambit of s. 112, para. 6, we first look to whether the claim language itself includes the term "means." The Federal Circuit has "made clear that use of the term 'means' is central to the analysis: 'the use of the term 'means' has come to be so closely associated with 'means-plus-function' claiming that it is fair to say that the use of the term 'means' (particularly as used in the phrase 'means for') generally invokes [s. 112, para. 6] and that the use of a different formulation generally does not.'" *Personalized Media Communications, LLC v. Int'l Trade Commission*, 161 F.3d 696, 703 (Fed.Cir.1998). Thus, both parties agree that because Claim 8 does not employ the term "means" or "means for," there is a presumption that the claim is not a means-plus-function claim. The presumption can be rebutted, however, if the intrinsic evidence so warrants, and "the focus remains on whether the claim as properly construed recites sufficiently definite structure to avoid the ambit of s. 112, para. 6." *Id.*, at 704.

GL and FuturePath argue that claim 8 does not provide sufficient structure to remove it from the scope of s. 112, para. 6, regardless of the fact that the claim language does not include the term "means." Specifically, they argue that the claim asserts four functions, and that the term "program code" is insufficient to provide accompanying structure through which to perform the stated functions. We agree that claim 8 provides four functions, or outcomes. We disagree, however, that "program code" is insufficient to provide sufficient structure.

In determining whether a claim provides sufficient structure to remove it from s. 112, para. 6, the Federal Circuit has not required the claim term to set forth a specific structure. Rather, "it is sufficient if the claim term is used in common parlance or by persons of skill in the pertinent art to designate structure, even if the

term covers a broad class of structures and even if the term identifies the structures by their function." *Lighting World, Inc. v. Birchwood Lighting, Inc.*, 382 F.3d 1354, 1359-60 (Fed.Cir.2004). The term "code," with regard to computer technology, is defined as: "In software engineering, computer instructions and data definitions expressed in a programming language or in a form output by an assembler, compiler, or other translator." THE NEW IEEE STANDARD DICTIONARY OF ELECTRICAL AND ELECTRONICS TERMS, FIFTH ED. (1993). Such a definition is not a "generic structural term such as 'means,' 'element,' or 'device'; nor is it a coined term lacking a clear meaning, such as 'widget' or 'ram-a-fram.'" *Personalized Media Communications*, 161 F.3d at 704 (finding that "digital detector" was sufficient structure to remove a claim from s. 112, para. 6). *See also Affymetrix, Inc. v. Hyseq, Inc.*, 132 F.Supp.2d 1212, 1231-32 (N.D.Cal.2001) (finding that "computer code" recited a sufficient structure, understood by one skilled in the art, to be able to accomplish the stated functions); *Harmonic Design, Inc. v. Hunter Douglas, Inc.*, 88 F.Supp.2d 1102, 1105 (C.D.Cal.2000) (finding that "electronic circuit" recited sufficient structure). We turn to the recent case of *Massachusetts Institute of Technology and Electronics For Imaging, Inc. v. Abacus Software*, 462 F.3d 1344, 2006 WL 2613439 (Fed.Cir.2006) for analysis assistance. There, the Federal Circuit, in analyzing claim language of two claims, neither of which employed the term "means," determined that one should be viewed as a means-plus-function claim and the other should not. First, the court determined that the term "colorant selection mechanism" invoked s. 112, para. 6 because "mechanism" was used synonymously with means, "colorant selection" was defined in neither a dictionary nor the specification, and there was no indication that "colorant selection" had a generally understood meaning. *Id.*, at *7-8. In contrast, the court found that "aesthetic correction circuitry" did not fall within the ambit of s. 112, para. 6. The court noted that dictionary definitions establish that the term "circuitry," by itself, connotes structure, pointing to, for example, *Linear Tech. Corp. v. Impala Linear Corp.*, 379 F.3d 1311, 1320 (Fed.Cir.2004), which relied on the Dictionary of Computing's definition of "circuit" as "the combination of a number of electrical devices and conductors that, when interconnected to form a conducting path, fulfill some desired function." The definition of "code," noted above, places "program code" in a category more analogous to the court's analysis of "aesthetic correction circuitry," than "colorant selection mechanism." *See also WEBSTER'S II NEW COLLEGE DICTIONARY* 2001, 216 (defining "code" with respect to computer science as "A set of symbols and rules used to represent instructions to a computer").

GL's and FuturePath's use of *Altiris, Inc. v. Symantec Corp.*, 318 F.3d 1363 (Fed.Cir.2003), is of no assistance to their argument in this case. In *Altiris*, the claim included the language "means of," and therefore the court began with the presumption of means-plus-function. Such is not the case here. *Mas-Hamilton Group v. LaGard, Inc.*, 156 F.3d 1206 (Fed.Cir.1998), can be distinguished as well. In *Mas-Hamilton*, the Federal Circuit affirmed a district court's reading of means-plus-function into a claim for a "lever moving element," even where the claim did not utilize the term "means." The *Mas-Hamilton* court found it persuasive that LaGard could not point to any evidence demonstrating that the term "lever moving element" was reasonably well understood in the art. 156 F.3d at 1214. Such is not the case here. In addition to the case law discussed above, plaintiff pointed us to the Manual of Patent Examining Procedure (U.S. Dep't of Commerce, MANUAL OF PATENT EXAMINING PROCEDURE, (8th ed.2001, rev. Oct.2005)), wherein the guidelines indicate that "a claimed computer-readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory." FN8 Although the guidelines are not binding, they do provide some evidence that computer-readable mediums, such as the one claimed in claim 8, are known in the art to include a structural component.

FN8. Defendants GL and FuturePath argue that the MPEP only allows for the patenting of computer systems where a specific data structure is coupled with a computer-readable medium. We agree, but find that "program code" provides sufficient structure for the reasons stated herein.

Defendants GL and FuturePath argue that the fact that the patent's inventors admit that they struggled for over two years to reduce the invention to practice "makes abundantly clear that the 'program code ...'

limitations in the context of the '132 Patent, do not use simple, off-the-shelf programs that one skilled in the art can readily implement without undue experimentation" (defs' reply at 5). We do not buy such an argument. Here, defendants' allegedly infringing products have managed to create systems that seemingly realize the functions stated in claim 8-set preset parameters, display market depth, display an order entry region, and receive a single action command. While we make no determination of infringement, it seems to us that the inventors or developers of defendants' products, all of whom are reasonably skilled in the art, were either able to develop plaintiff's (or another's) program codes, or develop their own. Thus, either plaintiff supplied sufficient structure to develop its claimed program codes or one reasonably skilled in the art was able to develop the codes independently. Either way, plaintiff wins this argument.

Because we begin with the presumption that claim 8 is not a means-plus-function claim, and because defendants GL and FuturePath have failed to rebut that presumption, we find that claim 8 does not come within the ambit of s. 112, para. 6.

In their motion for partial summary judgment, defendants GL and FuturePath also argue that patent '304's claim 27 is invalid and therefore unenforceable. Their argument relies on the Federal Circuit's decision in *IPXL Holdings, L.L.C. v. Amazon.com, Inc.*, 430 F.3d 1377 (Fed.Cir.2005), wherein the court, on a motion for summary judgment, adopted the determination of the Board of Patent Appeals and Interferences of the PTO that a claim covering both an apparatus and method is invalid for indefiniteness under 35 U.S.C. s. 112, para. 2. Paragraph 2 states: "The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." We did request that plaintiff address the portions of defendants GL's and FuturePath's motion for partial summary judgment relevant to claim construction. And defendants are correct that indefiniteness is relevant to claim construction. *See, e.g., Energizer Holdings, Inc. V. Int'l Trade Comm'n*, 435 F.3d 1366, 1371 (Fed.Cir.2006) ("A claim that is amenable to construction is not invalid on the ground of indefiniteness"). GL's and FuturePath's arguments on indefiniteness, however, request that the entire claim 27 be deemed invalid. Defendants' motion points to no specific term(s) in claim 27 requiring construction, and thus we will leave the invalidity debate for another day.

CONCLUSION

For the reasons stated above, we so construe the relevant claims of the '132 and '304 patents.

N.D.Ill.,2006.

Trading Technologies Intern., Inc. v. eSpeed, Inc.

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