

# Patent Owner's Demonstratives

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Case CBM2016-00031 & CBM2016-00051  
Patents 7,813,996 & 7,904,374

# FIG. 2

		201	202	203	204	205			
	Contract	Depth	BidQty	BidPrc	AskPrc	AskQty	LastPrc	LastQty	Total
1	CDHO	•	785	7626	7627	21	7627	489	8230
2			626	7625	7629	815			
3			500	7624	7630	600			
4			500	7623	7631	2456			
5			200	7622	7632	800			

Ex. 1001 at Fig. 2; '996 POR at 11; '374 POR at 14.

# Placing a Buy Order at 123100

Contract	Depth	BidQty	BidPrc	AskPrc	AskQty	LastPrc	LastQty	Total
		478	123150	123175	52			
		466	123125	123200	245			
		85	123100	123225	743			
		337	123075	123250	1044			
		164	123050	123275	73			



		▲	
		123350	-
		123325	-
		123300	-
		123275	-
	100	123250	532
	1 5	123225	347
	10 20	123200	17
	50 100	123175	365
	CLR	753	123150
	100	357	123125
		1595	123100
		4639	123075
		1265	123050
		1596	123025
		749	123000
		-	122975
		-	122950
		-	122925
		-	122900
		▼	



Ex. 2214; '996 POR at 12; '374 POR at 18.



Ex. 2195; '996 POR at 12; '374 POR at 17.



Ex. 2196; '996 POR at 12; '374 POR at 17.

# Visualizing the Market

Contract	Depth	BidQty	BidPro	AskPro	AskQty	LastPro	LastQty	Total
		478	123150	123175	52			
		466	123125	123200	245			
		85	123100	123225	743			
		337	123075	123250	1044			
		164	123050	123275	73			



		▲	
		123350	-
		123325	-
		123300	-
		123275	-
100		123250	532
1	5	123225	347
10	20	123200	17
50	100	123175	365
CLR	753	123150	
100	357	123125	
	1595	123100	
	4639	123075	
	1265	123050	
	1696	123025	
	749	123000	
	-	122975	
	-	122950	
	-	122925	
	-	122900	
		▼	

Ex. 2197; '996 POR at 12; '374 POR at 18.

## Conventional Screen - Missing Your Price

Contract	Depth	BidQty	BidPrc	AskPrc	AskQty	LastPrc	LastQty	Total
		478	111125	111130	52			
		466	111120	111135	245			
		85	111115	111140	743			
		337	111110	111145	1044			
		164	111105	111150	73			

Ex. 2212; '996 POR at 12; '374 POR at 18.

**FIG. 3**

SYCOM FGBL DEC99					
E/W	10:48:44	BidQ	AskQ	Prc	LTQ
1009	L 3		104	99	
1010	R 5		24	98	
1011	720		33	97	
1012	X 10		115	96	
1013	0				
1014	10 1H		32	95	
	50 3H		27	94	
1007	S 0 W 24	1K 5H		63	93
	S 0 W 7	CLR		45	92
1015	X 10		28	91	
1016	17		20	90	10
1008	B 0 W 15	CXL	18	89	
	B 0 W 13	+ -	97	88	
1017		NET 0	30	87	
1018	B 0 W 17	NET REAL	43	86	
1019			110	85	
			23	84	
			31	83	
1021			125	82	
			21	81	

Ex. 1001 at Fig. 3;  
‘996 FOR at 14-15.

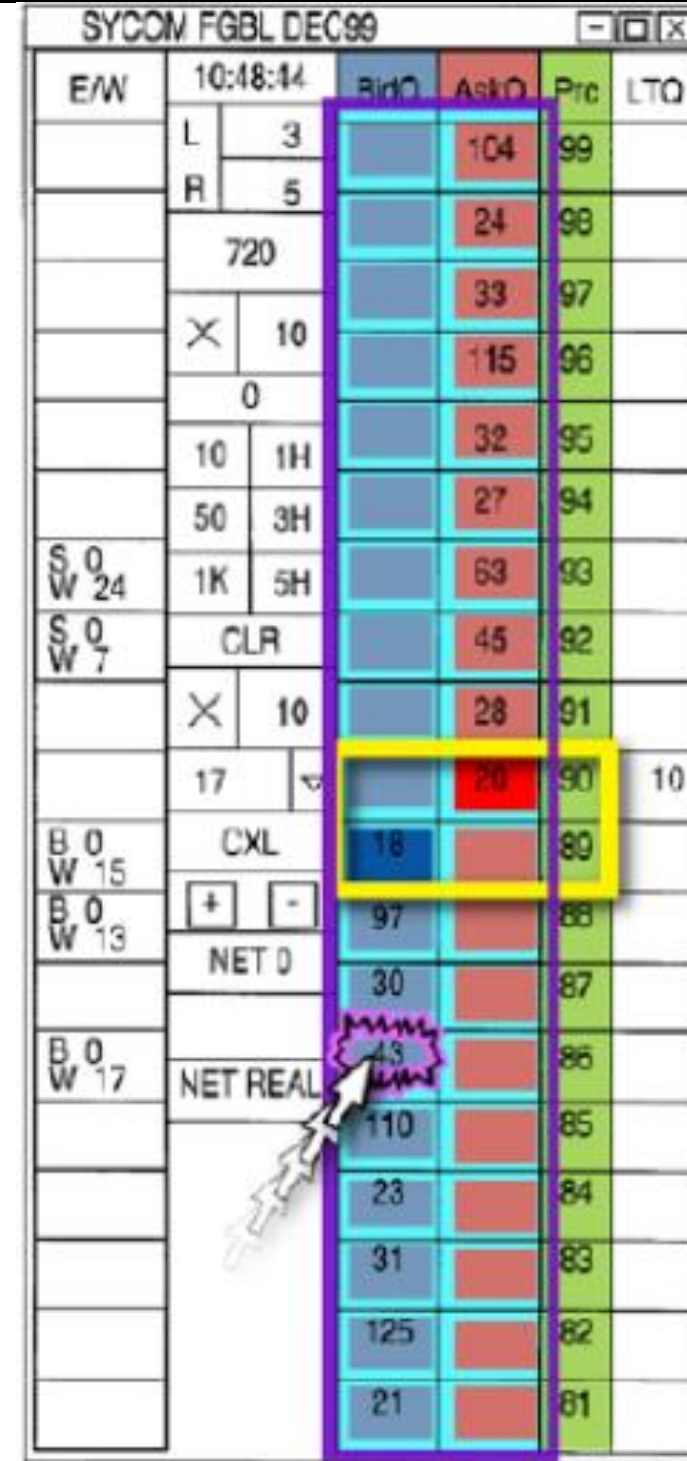


### Claim 1

1. A computer readable medium having program code recorded thereon for execution on a computer having a graphical user interface and a user input device, the program code causing a machine to perform the following method steps:

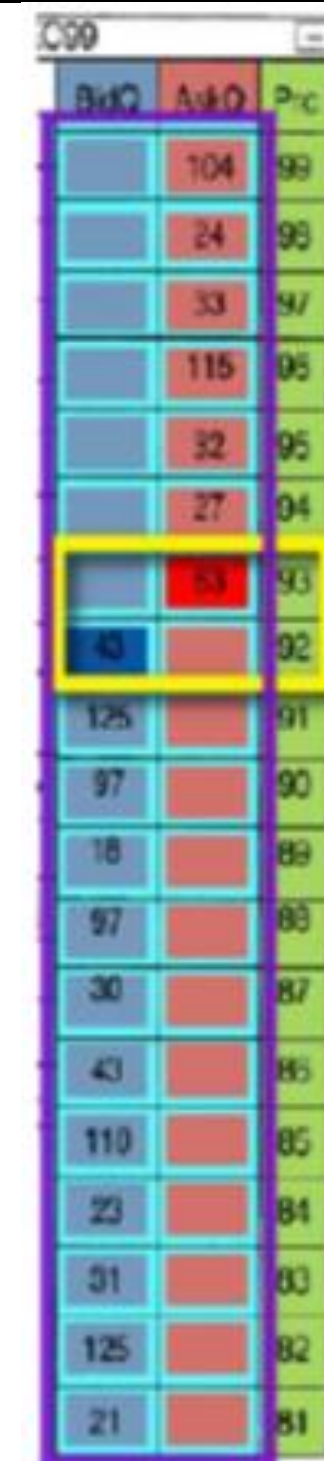
- receiving market information for a commodity from an electronic exchange, the market information comprising an inside market with a current highest bid price and a current lowest ask price;
- receiving an input from a user that designates a default quantity to be used for a plurality of trade orders;
- 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 static price axis, the first indicator representing quantity associated with at least one order to buy the commodity at the current highest bid price;
- 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 static price axis, the second indicator representing quantity associated with at least one order to sell the commodity at the current lowest ask price;
- displaying the bid and ask display regions in relation to a plurality of price levels arranged along the static price axis such that when the inside market changes, the price levels along the static price axis do not change positions and at least one of the first and second indicators moves in the bid or ask display regions relative to the static price axis;
- displaying an order entry region aligned with the static price axis comprising a plurality of areas for receiving commands from the user input device to send trade orders, each area corresponding to a price level of the static price axis; and
- receiving a plurality of commands from a user, each command sending a trade order to the electronic exchange, each trade order having an order quantity based on the default quantity without the user designating the default quantity between commands, wherein each command results from selecting a particular area in the order entry region corresponding to a desired price level as part of a single action of the user input device with a pointer of the user input device positioned over the particular area to both set an order price parameter for the trade order based on the desired price level and send the trade order to the electronic exchange.

### Fig. 3 (T1)



E/W	10:48:44	Bid	Ask	Pr	LTO
L	3		104	99	
R	5		24	98	
	720		33	97	
X	10		115	96	
	0		32	95	
	10 1H		27	94	
S 0	50 3H		63	93	
W 24	1K 5H		45	92	
S 0	CLR		28	91	
W 7	X 10		28	90	10
	17		18	89	
B 0	CXL		97	88	
W 15	+ -		30	87	
B 0	NET D		43	86	
W 13			110	85	
B 0	NET REAL		23	84	
W 17			31	83	
			125	82	
			21	81	

### Fig. 4 (T2)



Bid	Ask	Pr
	104	99
	24	98
	33	97
	115	96
	32	95
	27	94
	63	93
	45	92
	28	91
	18	89
	97	88
	30	87
	43	86
	110	85
	23	84
	31	83
	125	82
	21	81

### Claim 1

1. A computer readable medium having program code recorded thereon for execution on a computer having a graphical user interface and a user input device, the program code causing a machine to perform the following method steps:

- receiving market information for a commodity from an electronic exchange, the market information comprising an **inside market with a current highest bid price and a current lowest ask price;**
- receiving an input from a user that designates a default quantity to be used for a plurality of trade orders;
- 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 static price axis, the first indicator representing quantity associated with at least one order to buy the commodity at the current highest bid price;
- 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 static price axis, the second indicator representing quantity associated with at least one order to sell the commodity at the current lowest ask price;
- displaying the bid and ask display regions in relation to a plurality of price levels arranged along the static price axis **such that when the inside market changes, the price levels along the static price axis do not change positions and at least one of the first and second indicators moves in the bid or ask display regions relative to the static price axis;**
- displaying an order entry region aligned with the static price axis comprising a plurality of areas for receiving commands from the user input device to send trade orders, each area corresponding to a price level of the static price axis; and
- receiving a plurality of commands from a user, each command sending a trade order to the electronic exchange, each trade order having an order quantity based on the default quantity without the user designating the default quantity between commands, wherein each command results from selecting a particular area in the order entry region corresponding to a desired price level as part of a single action of the user input device with a pointer of the user input device positioned over the particular area to both set an order price parameter for the trade order based on the desired price level and send the trade order to the electronic exchange.

### Fig. 3 (T1)

E/W		10:48:44	BidQ	AskQ	Pr	LTO
L	3			104	99	
R	5			24	98	
	720			33	97	
X	10			115	96	
	0			32	95	
	10 1H			27	94	
	50 3H			63	93	
S O W 24	1K 5H			45	92	
S O W 7	CLR			28	91	
	X 10			20	90	10
	17			18	89	
B O W 15	CXL			97	88	
B O W 13	NET O			30	87	
B O W 17	NET REAL			43	86	
				110	85	
				23	84	
				31	83	
				125	82	
				21	81	

### Fig. 4 (T2)

BidQ	AskQ	Pr
	104	99
	24	98
	33	97
	115	96
	32	95
	27	94
	63	93
43		92
126		91
97		90
18		89
97		88
30		87
43		86
110		85
23		84
31		83
125		82
21		81

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- receiving an input from a user that designates a default quantity to be used for a plurality of trade orders;
- 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 static price axis, the first indicator representing quantity associated with at least one order to buy the commodity at the current highest bid price;
- 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 static price axis, the second indicator representing quantity associated with at least one order to sell the commodity at the current lowest ask price;
- displaying the bid and ask display regions in relation to a plurality of price levels arranged along the static price axis such that when the inside market changes, the price levels along the static price axis do not change positions and at least one of the first and second indicators moves in the bid or ask display regions relative to the static price axis;
- displaying an order entry region aligned with the static price axis comprising a plurality of areas for receiving commands from the user input device to send trade orders, each area corresponding to a price level of the static price axis; and
- receiving a plurality of commands from a user, each command sending a trade order to the electronic exchange, each trade order having an order quantity based on the default quantity without the user designating the default quantity between commands, wherein each command results from selecting a particular area in the order entry region corresponding to a desired price level as part of a single action of the user input device with a pointer of the user input device positioned over the particular area to both set an order price parameter for the trade order based on the desired price level and send the trade order to the electronic exchange.

### Fig. 3 (T1)

SYCOM FGBL DEC99					
E/W	10:48:44	BidQ	AskQ	Pr	LTO
L	3		104	99	
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	0		32	95	
	10 1H		27	94	
S 0 W 24	1K 5H		63	93	
S 0 W 7	CLR		45	92	
X	10		28	91	
	17		20	90	10
B 0 W 15	CXL	18	89		
B 0 W 13	+ -	97	88		
	NET 0	30	87		
B 0 W 17	NET REAL	43	86		
		110	85		
		23	84		
		31	83		
		125	82		
		21	81		

### Fig. 4 (T2)

99		
BidQ	AskQ	Pr
	104	99
	24	98
	33	97
	115	96
	32	95
	27	94
	63	93
43		92
125		91
97		90
18		89
97		88
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43		86
110		85
23		84
31		83
125		82
21		81

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- receiving an input from a user that designates a default quantity to be used for a plurality of trade orders;
- 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 static price axis, the first indicator representing quantity associated with at least one order to buy the commodity at the current highest bid price;**
- 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 static price axis, the second indicator representing quantity associated with at least one order to sell the commodity at the current lowest ask price;
- displaying the bid and ask display regions in relation to a plurality of price levels arranged along the static price axis **such that when the inside market changes, the price levels along the static price axis do not change positions and at least one of the first and second indicators moves in the bid or ask display regions relative to the static price axis;**
- displaying an order entry region aligned with the static price axis comprising a plurality of areas for receiving commands from the user input device to send trade orders, each area corresponding to a price level of the static price axis; and
- receiving a plurality of commands from a user, each command sending a trade order to the electronic exchange, each trade order having an order quantity based on the default quantity without the user designating the default quantity between commands, wherein each command results from selecting a particular area in the order entry region corresponding to a desired price level as part of a single action of the user input device with a pointer of the user input device positioned over the particular area to both set an order price parameter for the trade order based on the desired price level and send the trade order to the electronic exchange.

**Fig. 3 (T1)**

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E/W	10:48:44	BidQ	AskQ	Prc	LTO
L	3		104	99	
R	5				
	720		24	98	
X	10		33	97	
	0		115	96	
	10 1H		32	95	
	50 3H		27	94	
S 0 W 24	1K 5H		63	93	
S 0 W 7	CLR		45	92	
X	10		28	91	
	17		20	90	10
B 0 W 15	CXL		69		
B 0 W 13	+ -	97		88	
	NET 0	30		87	
B 0 W 17	NET REAL	43		86	
		110		85	
		23		84	
		31		83	
		125		82	
		21		81	

**Fig. 4 (T2)**

BidQ	AskQ	Prc
	104	99
	24	98
	33	97
	115	96
	32	95
	27	94
	63	93
		92
125		91
97		90
18		89
97		88
30		87
43		86
110		85
23		84
31		83
125		82
21		81

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- receiving market information for a commodity from an electronic exchange, the market information comprising an **inside market with a current highest bid price and a current lowest ask price;**
- receiving an input from a user that designates a default quantity to be used for a plurality of trade orders;
- 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 static price axis, the first indicator representing quantity associated with at least one order to buy the commodity at the current highest bid price;**
- 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 static price axis, the second indicator representing quantity associated with at least one order to sell the commodity at the current lowest ask price;**
- displaying the bid and ask display regions in relation to a plurality of price levels arranged along the static price axis such that when the inside market changes, the price levels along the static price axis do not change positions and at least one of the first and second indicators moves in the bid or ask display regions relative to the static price axis;**
- displaying an order entry region aligned with the static price axis comprising a plurality of areas for receiving commands from the user input device to send trade orders, **each area corresponding to a price level of the static price axis;** and
- receiving a plurality of commands from a user, each command sending a trade order to the electronic exchange, each trade order having an order quantity based on the default quantity without the user designating the default quantity between commands, wherein each command results from selecting a particular area in the order entry region corresponding to a desired price level as part of a single action of the user input device with a pointer of the user input device positioned over the particular area to both set an order price parameter for the trade order based on the desired price level and send the trade order to the electronic exchange.

### Fig. 3 (T1)

SYCOM FGBL DEC99					
E/W	10:48:44	BidQ	AskQ	Prc	LTO
L	3		104	99	
R	5		24	98	
	720		33	97	
X	10		115	96	
	0		32	95	
	10 1H		27	94	
S O W 24	1K 5H		63	93	
S O W 7	CLR		45	92	
X	10		28	91	
	17		20	90	10
B O W 15	CXL		89		
B O W 13	+ -	97		88	
	NET O	30		87	
B O W 17	NET REAL	43		86	
		110		85	
		23		84	
		31		83	
		125		82	
		21		81	

### Fig. 4 (T2)

99		
BidQ	AskQ	Prc
	104	99
	24	98
	33	97
	115	96
	32	95
	27	94
	63	93
		92
125		01
97		90
18		89
97		88
30		87
43		86
110		85
23		84
31		83
125		82
21		81

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- 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 static price axis, the first indicator representing quantity associated with at least one order to buy the commodity at the current highest bid price;**
- 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 static price axis, the second indicator representing quantity associated with at least one order to sell the commodity at the current lowest ask price;**
- displaying the bid and ask display regions in relation to a plurality of price levels arranged along the static price axis such that when the inside market changes, the price levels along the static price axis do not change positions and at least one of the first and second indicators moves in the bid or ask display regions relative to the static price axis;**
- displaying an order entry region aligned with **the static price axis** comprising a plurality of areas for receiving commands from the user input device to send trade orders, **each area corresponding to a price level of the static price axis;** and
- receiving a plurality of commands from a user, each command sending a trade order to the electronic exchange, each trade order having an order quantity based on the default quantity without the user designating the default quantity between commands, wherein each command results from selecting a particular area in the order entry region corresponding to a desired price level as part of a single action of the user input device with a pointer of the user input device positioned over the particular area to both set an order price parameter for the trade order based on the desired price level and send the trade order to the electronic exchange.

### Fig. 3 (T1)

E/W	10:48:44	BidQ	AskQ	Prc	LTQ
L	3		104	99	
R	5		24	98	
	720		33	97	
X	10		115	96	
	0		32	95	
	10 1H		27	94	
	50 3H		63	93	
S 0 W 24	1K 5H		45	92	
S 0 W 7	CLR		28	91	
	X 10		20	90	10
B 0 W 15	CXL		89		
B 0 W 13	NET 0		30	87	
B 0 W 17	NET REAL		43	86	
			110	85	
			23	84	
			31	83	
			125	82	
			21	81	

### Fig. 4 (T2)

BidQ	AskQ	Prc
	104	99
	24	98
	33	97
	115	96
	32	95
	27	94
	63	93
		92
		91
		90
		89
		88
		87
		86
		85
		84
		83
		82
		81

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- 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 static price axis, the second indicator representing quantity associated with at least one order to sell the commodity at the current lowest ask price;
- displaying the bid and ask display regions in relation to a plurality of price levels arranged along the static price axis such that when the inside market changes, the price levels along the static price axis do not change positions and at least one of the first and second indicators moves in the bid or ask display regions relative to the static price axis;
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### Fig. 3 (T1)

SYCOM FGBL DEC99					
E/W	10:48:44	BidQ	AskQ	Prc	LTO
L	3		104	99	
R	5		24	98	
	720		33	97	
X	10		115	96	
	0		32	95	
	10 1H		27	94	
S O W 24	1K 5H		63	93	
S O W 7	CLR		45	92	
X	10		28	91	
	-17		90	90	10
B O W 15	CXL		89	89	
B O W 13	NET 0		87	87	
			30	87	
B O W 17	NET REAL		83	86	
			110	85	
			23	84	
			31	83	
			125	82	
			21	81	

### Fig. 4 (T2)

:99		
BidQ	AskQ	Prc
	104	99
	24	98
	33	97
	115	96
	32	95
	27	94
	63	93
	45	92
	28	91
	90	90
	89	89
	87	87
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	83	86
	110	85
	23	84
	31	83
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- 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 static price axis, the first indicator representing quantity associated with at least one order to buy the commodity at the current highest bid price;
- 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 static price axis, the second indicator representing quantity associated with at least one order to sell the commodity at the current lowest ask price;
- displaying the bid and ask display regions in relation to a plurality of price levels arranged along the static price axis such that when the inside market changes, the price levels along the static price axis do not change positions and at least one of the first and second indicators moves in the bid or ask display regions relative to the static price axis;
- displaying an order entry region aligned with the static price axis comprising a plurality of areas for receiving commands from the user input device to send trade orders, each area corresponding to a price level of the static price axis; and
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### Fig. 3 (T1)

SYCOM FGBL DEC99					
E/W	10:48:44	BidQ	AskQ	Prc	LTO
L	3		104	99	
R	5		24	98	
	720		33	97	
X	10		115	96	
	0		32	95	
	10 1H		27	94	
	50 3H		63	93	
S 0 W 24	1K 5H		45	92	
S 0 W 7	CLR		28	91	
X	10		20	90	10
B 0 W 15	CXL			89	
B 0 W 13	+ -			88	
	NET 0	30		87	
B 0 W 17	NET REAL	43		86	
		110		85	
		23		84	
		31		83	
		125		82	
		21		81	

### Fig. 4 (T2)

99		
BidQ	AskQ	Prc
	104	99
	24	98
	33	97
	115	96
	32	95
	27	94
	63	93
	45	92
	28	91
	20	90
		89
		88
		87
		86
		85
		84
		83
		82
		81



**Claim 1**

1. A computer readable medium having program code recorded thereon for execution on a computer having a graphical user interface and a user input device, the program code causing a machine to perform the following method steps:

receiving market information for a commodity from an electronic exchange, the market information comprising an inside market with a current highest bid price and a current lowest ask price;

receiving an input from a user that designates a default quantity to be used for a plurality of trade orders;

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 static price axis, the first indicator representing quantity associated with at least one order to buy the commodity at the current highest bid price;

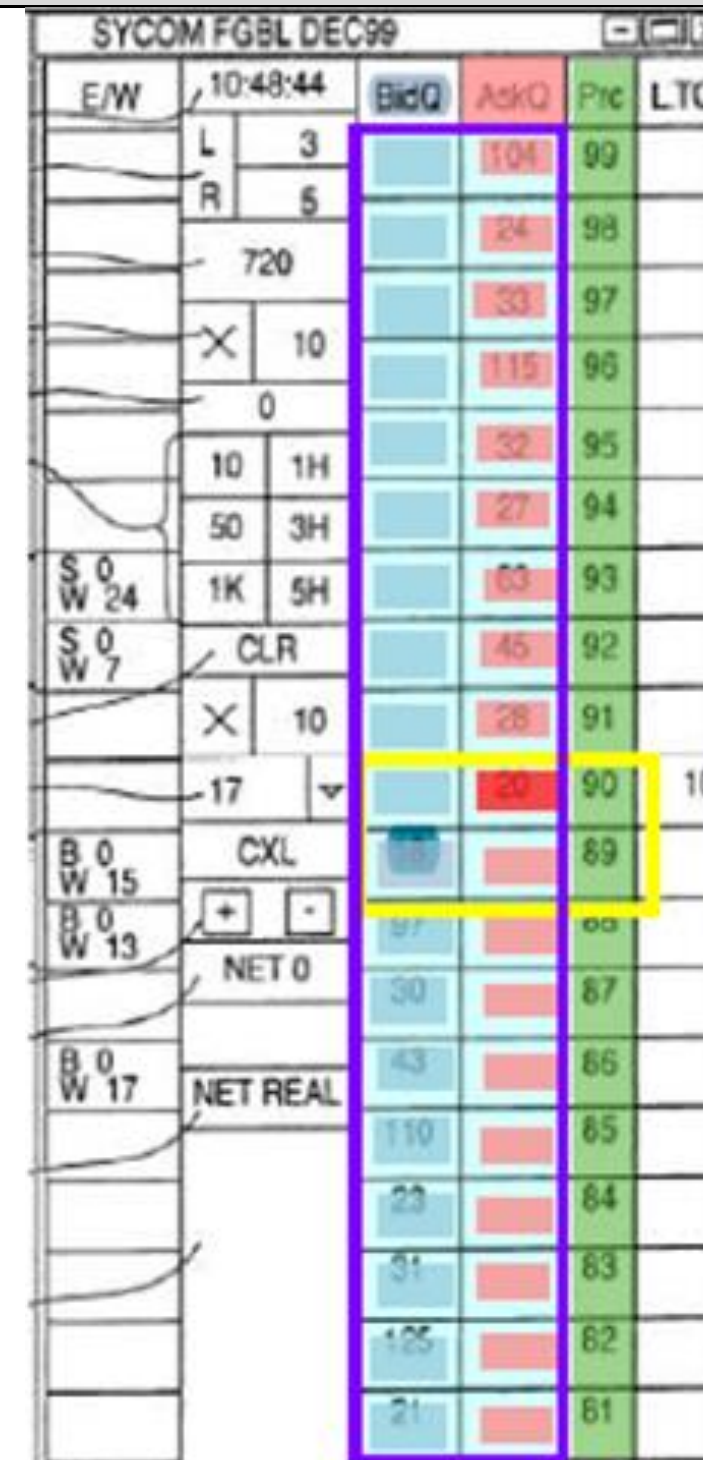
dynamically displaying a second indicator in one of a plurality of locations in an ask display region, each location in the ask display region corresponding to a price level along the static price axis, the second indicator representing quantity associated with at least one order to sell the commodity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

displaying the bid and ask display regions in relation to a plurality of price levels arranged along the static price axis such that when the inside market changes, the price levels along the static price axis do not change positions and at least one of the first and second indicators moves in the bid or ask display regions relative to the static price axis;

displaying an order entry region aligned with the static price axis comprising a plurality of areas for receiving commands from the user input device to send trade orders, each area corresponding to a price level of the static price axis; and

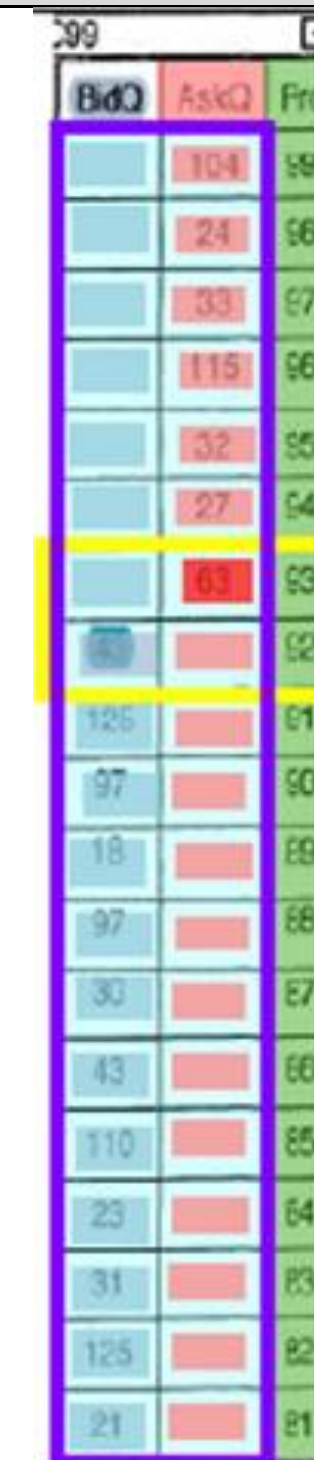
receiving a plurality of commands from a user, each command sending a trade order to the electronic exchange, each trade order having an order quantity based on the default quantity without the user designating the default quantity between commands, wherein each command results from selecting a particular area in the order entry region corresponding to a desired price level as part of a single action of the user input device with a pointer of the user input device positioned over the particular area to both set an order price parameter for the trade order based on the desired price level and send the trade order to the electronic exchange.

**Fig. 3 (T1)**



E/W	10:48:44	BidQ	AskQ	Prc	LTQ
L	3		104	99	
R	5		24	98	
	720		33	97	
X	10		115	96	
	0		32	95	
	10 1H		27	94	
	50 3H		33	93	
S 0 W 24	1K 5H		45	92	
S 0 W 7	CLR		26	91	
X	10		20	90	10
B 0 W 15	CXL			89	
B 0 W 13	NET 0			87	
B 0 W 17	NET REAL			86	
				85	
				84	
				83	
				82	
				81	

**Fig. 4 (T2)**



	BidQ	AskQ	Prc
		104	99
		24	98
		33	97
		115	96
		32	95
		27	94
		33	93
		45	92
		26	91
		20	90
			89
			87
			86
			85
			84
			83
			82
			81

### Claim 1

1. A computer readable medium having program code recorded thereon for execution on a computer having a graphical user interface and a user input device, the program code causing a machine to perform the following method steps:

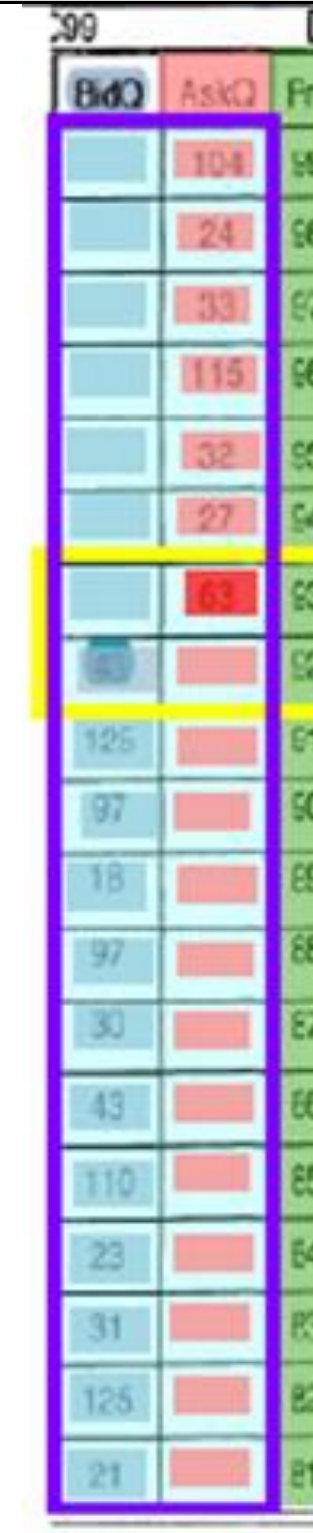
- receiving market information for a commodity from an electronic exchange, the market information comprising an inside market with a current highest bid price and a current lowest ask price;
- receiving an input from a user that designates a default quantity to be used for a plurality of trade orders;
- 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 static price axis, the first indicator representing quantity associated with at least one order to buy the commodity at the current highest bid price;
- 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 static price axis, the second indicator representing quantity associated with at least one order to sell the commodity at the current lowest ask price;
- displaying the bid and ask display regions in relation to a plurality of price levels arranged along the static price axis such that when the inside market changes, the price levels along the static price axis do not change positions and at least one of the first and second indicators moves in the bid or ask display regions relative to the static price axis;
- displaying an order entry region aligned with the static price axis comprising a plurality of areas for receiving commands from the user input device to send trade orders, each area corresponding to a price level of the static price axis; and
- receiving a plurality of commands from a user, each command sending a trade order to the electronic exchange, each trade order having an order quantity based on the default quantity without the user designating the default quantity between commands, wherein each command results from selecting a particular area in the order entry region corresponding to a desired price level as part of a single action of the user input device with a pointer of the user input device positioned over the particular area to both set an order price parameter for the trade order based on the desired price level and send the trade order to the electronic exchange.

### Fig. 3 (T1)



E/W	10:48:44	BidQ	AskQ	Prc	LTQ
L	3		104	99	
R	5		24	98	
	720		33	97	
X	10		115	96	
	0		32	95	
	10 1H		27	94	
S <sup>0</sup> W <sup>24</sup>	1K 5H		63	93	
S <sup>0</sup> W <sup>7</sup>	CLR		45	92	
X	10		28	91	10
B <sup>0</sup> W <sup>15</sup>	CXL			89	
B <sup>0</sup> W <sup>13</sup>				88	
	NET 0	30		87	
B <sup>0</sup> W <sup>17</sup>	NET REAL	43		86	
		110		85	
		23		84	
		31		83	
		125		82	
		21		81	

### Fig. 4 (T2)



BidQ	AskQ	Prc
	104	99
	24	98
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		92
		91
		89
		88
		87
		86
		85
		84
		83
		82
		81

...

displaying ... a plurality of graphical locations aligned along an axis, where each graphical location is configured to be selected by a single action of a user input device to send a trade order to the electronic exchange, where a price of the trade order is based on the selected graphical location,

mapping ... the plurality of sequential price levels to the plurality of graphical locations, where ...[the] mapping of the plurality of sequential price levels does not change at a time when at least one of the current highest bid price and the current lowest ask price changes; and

setting a price and sending the trade order to the electronic exchange in response to receiving ... commands based on user actions consisting of: (1) placing a cursor associated with the user input device over a desired graphical location of the plurality of graphical locations and (2) selecting the desired graphical location through a single action of the user input device.

# CBM Jurisdiction

# Technological Feature

## 996 Petition

In independent claim 1, for example, the only arguably technical features in the claim are “a graphical user interface,” “a user input device,” and a “computer” that performs standard computing functions such as “receiving” and “displaying.”

## **Experts Agree That GUIs are Technology**

Dr. Olsen states that “graphical user interfaces are a technology with specific technical problems,” Ex.2174, ¶7.

Mr. Bear states that “graphical user interfaces are inherently technology,” Ex.2168, ¶3.

Furthermore, Petitioners’ expert, Dr. Mellor, agreed that “the underlying technology is the graphical user interface.” *See, e.g.*, Ex.2294, at 45.

Likewise, an expert for one of Petitioners’ joint defense partners, Mr. Van Dusen, agreed that the technology described in the patents is directed to a specific type of graphical user interface for order entry. Ex.2169, ¶102-103(discussing Ex.2292, 110-11).

## **Experts Agree That GUIs are Technology**

TT's claimed invention provides a technical improvement over prior art GUIs because GUIs are technology. See '996 POR at 22; Ex.2169, ¶103.

Mr. Silverman, an expert for eSpeed, testified that the patents are directed to “a field of technology” in which “skilled software engineers” develop “real time processing” and “graphical user interfaces.” See '996 POR at 22; Ex.2169, ¶103; Ex. TTTT, 8/24/07 Silverman Dep. Tr., at 131:17-132:2.

In the *eSpeed* case, defendants' expert, Mr. Dezmelyk, acknowledged that the goal of the invention addressed the technical problems of efficiency and accuracy. See '996 POR at 22; Ex.2169, ¶103; Ex.WWWW at 8:15-18.



## Industry Evidence

TT's claimed invention provides a technical improvement over the prior art GUIs because GUIs are technology. See '996 POR at 22; Ex.2169, ¶¶102-103 (citing Ex.2293-96); Ex.2174, ¶¶13-15.

GUIs advance human-computer interaction ("HCI"), which has been touted as an important and expanding technological field. See '996 POR at 22; Ex.2090, at 2.

NASA's Ames Research Center implemented an entire HCI group that is responsible for software that improves the functionality of interface tools. Ex.2297.

Many colleges and universities offer courses and programs centered on interface design to train engineers and programmers. See '996 POR at 22; Ex.2168, ¶29; Ex.2174, ¶13; Exs.2052-2058.

## ***DDR***

The Court made clear that changing the process the computer performs to provide an interface from a conventional process to a new process was technological. '996 POR at 37 (*citing to DDR at 1257*).

## **CQG**

The 132 and 304 patents were “directed to a specific improvement to the way computers operate,” *id.*, for the claimed graphical user interface method imparts a specific functionality to a trading system “directed to a specific implementation of a solution to a problem in the software arts.”

# Technical Problem

## **Petition**

As such, the '996 patent solves, if anything, a business problem . . . .

## Speed and Accuracy

This specific combination of display elements and features differed from the conventional GUIs at the time of the invention and addressed a specific problem created by these conventional GUIs, namely, improving accuracy without sacrificing speed and improving usability with better visualization. '996 POR at 27. Ex.2169, ¶¶65-69, 77-78; Ex.2174, ¶¶34-37; *see also* Ex.2211 at 682:1-684:3.

## Visualization

Another technical problem with the construction of conventional GUI tools is that, because they display numbers that are constantly changing as market updates are received from the electronic exchange, the conventional GUI tool does not provide a measure of how much or how fast the market information is changing. POR at 34; Ex. 2169, ¶112.

## Efficiency

Another technical problem solved by the inventive GUI tool relates to the efficiency of displaying information. In conventional GUI tools, the trader had to access and utilize a separate screen for market information and order entry (e.g., the conventional market grid in Figure 2 of the '996 patent), a separate screen for working orders, and a separate screen for setting a default quantity. '996 POR at 35; Ex. 2169 ¶113.



# Technical Solution

## Speed and Accuracy

The inventive GUI tool solves this problem by providing a fixed range of price levels along a static display of prices and thereby allowing the dynamic bid and ask information to move relative to the static display of prices. POR at 34; Ex.2169, ¶¶87, 111; *see also* Ex.2217-19. This is a technical solution to a technical problem, not a business method. *Id.*

## Visualization

The structure, makeup, and functionality of the inventive GUI tool solves this problem by again providing a display in which the market indicators move up and down relative to the prices (which is a result of the claimed juxtaposing of the dynamic indicators and the static display of prices). '996 POR at 34; *Id.* at ¶¶84, 112; *see also* Ex.2215-16.

'996 POR at 34.

'374 POR at 71

## Efficiency

The inventive GUI tool is constructed so as to provide for a condensed display that combined these separate screens into a single trading tool which improved the speed, accuracy, and efficiency over conventional GUI tools. '996 POR at 35; Ex. 2169, ¶113.

'996 POR at 35.

'374 POR at 71

**35 U.S.C. § 101**

## Test

The Court [in *Enfish*] has used the same test it used for other types of inventions: if “the claims are directed to a specific implementation of a solution to a problem in the software arts,” they “find the claims at issue are not directed to an abstract idea.” POR at 51. *Id.* at 1339

*McRO*, 2016 WL 4896481, at \*8 (confirming claims because “[w]hile the rules are embodied in computer software that is processed by general-purpose computers, Defendants provided no evidence that the process previously used by animators is the same as the process required by the claims”). POR at 51.

# Inventive Concept

## Inventive Concept

The claims recite an inventive concept (and thus pass prong II under *Alice*) because they provide an unconventional and revolutionary combination of features. 996 POR at 32.



## **Neither Routine nor Conventional**

Evidence that the claimed invention was neither routine nor conventional lies with the initial period of skepticism associated with the launch of the commercial embodiment of the claimed invention, followed by enormous commercial success. POR at 32.

## Commercial Embodiment

MD\_Trader was the commercial embodiment of the claimed invention. POR at 32; Ex.2169, ¶89; Ex.2233 (Ex. LL to Ex.2169 (claim chart describing commercial embodiment)); Ex.2411 (Ex.1 to Ex.2233 (TT X\_Trader user manual)); Ex.2412 (Ex.2 to Ex.2233 (TT X\_Trader user manual)); Ex.2413 (Ex.3 to Ex.2233 (TT X\_Trader user manual)); *see also* Ex.2169, ¶109 (discussing Ex. 2234); Ex.2169, ¶110 (discussing Ex. 2236, Ex.2238).

## Initial Skepticism

Following its launch, MD Trader was not an immediate success and indeed was met with a significant amount of initial skepticism. Ex.2169, ¶70 (discussing Ex. 2210), ¶93 (discussing Ex. 2220). TT sales personnel met resistance from traders, who were hesitant to switch to the new technology. POR at 33. *Id.*; Ex.2170 (Ex.W to Ex.2169); Ex.2171 (Ex.U to Ex.2169).

## Post Initial Skepticism

After this period of initial skepticism, the invention broke through to become the prominent trading tool in the futures trading space. POR at 33. Ex.2169, ¶95; Ex.2222 (Ex. Z to Ex.2169; Ex.2221 (Ex. Y to Ex.2169). This is confirmed by the over 30 declarations, attested to under penalty of perjury by prominent traders and leaders in the industry. POR at 33. Ex.2169, ¶96; Ex.2223 (Ex. AA to Ex.2169); Ex.2226; *see also* Ex.2169, ¶100 (discussing Ex.2230); Ex.2169, ¶101 (discussing Ex.2287); Ex.2169, ¶97 (discussing Ex.2250).

## Rooted In Technology

The claims also recite an inventive concept (and thus pass prong II under *Alice*) because they are rooted in technology, thus providing a technical solution to a technical problem. POR at 33.