



Cboe Silexx User Manual

Version 1.0.7

March 2, 2023

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1 Cboe Silexx

Cboe Silexx OEMS (Order & Execution Management System) ("Cboe Silexx") is the premier multi-asset class, broker neutral trading platform that supports you every step of the way. Cboe Silexx is a stand-alone front-end platform easily installed and connects via internet. Its feature-rich and low latency technology supplies advanced trading analytics, real-time risk management, and global coverage

The screenshot displays the Cboe Silexx software interface, a comprehensive trading platform. The top menu bar includes options like File, Market, Trade, Firm, Extras, and Help. Below this, a toolbar contains icons for various functions. The main workspace is divided into several panels:

- Left Panel:** A tree view showing the account structure, including "CUSTOM SPKXW/SPX" and "CALENDAR SPKXW/SPX".
- Top Center Panel:** A table of market data for various indices and stocks, including S&P 500 INDEX, DAX, and others.
- Right Panel:** A detailed view of a specific order or trade, showing fields for SYMBOL, DESCRIPTION, LAST, CHG, BID, ASK, VOLUME, and OPEN.
- Bottom Panel:** A large table of order data, including columns for ORDER ID, ORDER TYPE, ORDER PRICE, ORDER QUANTITY, and ORDER STATUS.

The interface is designed for professional traders, providing real-time data and efficient order management tools.

2 System Requirements

To properly run Cboe Silexx, your system must meet the following minimum requirements:

Requirements	Side	Components	Description
Network	Client	TCP Ports	<ul style="list-style-type: none"> ➤ External - 7000 & 443 ➤ Internal - 7000 & 9000
		Target Hosts	Gateways: Login Address c-gw1-cboe.silexx.com 198.160.149.56 c-gw2-cboe.silexx.com 198.160.149.57 gw1-ch-cboe.silexx.com 174.136.185.21 gw1-ny-cboe.silexx.com 198.160.149.50 gw2-ch-cboe.silexx.com 174.136.185.22 gw2-ny-cboe.silexx.com 198.160.149.51 gw-ch-cboe.silexx.com 174.136.185.27 gw-ny-cboe.silexx.com 198.160.149.53 Update Servers: Update Address c-update1-cboe.silexx.com 198.160.149.56 c-update2-cboe.silexx.com 198.160.149.57 update1-ch-cboe.silexx.com 174.136.185.19 update1-ny-cboe.silexx.com 198.160.149.48 update2-ch-cboe.silexx.com 174.136.185.20 update2-ny-cboe.silexx.com 198.160.149.49 update-ch-cboe.silexx.com 174.136.185.28 update-ny-cboe.silexx.com 198.160.149.52
		Subnets	<ul style="list-style-type: none"> ➤ 198.160.149.0/24(NY CERT & PROD) ➤ 174.136.185.0/24 (CH PROD)
		Broadband Ping Times (MS rate)	Great - 45ms Good - 75ms Bad - 100+ ms
		Make	Any modern machine
		Display	Any modern graphics card
		Memory	8GBmin preferred 16GB
		Processor	Intel Core i3-i7 CPU
		Operating System	Windows 7 or higher
Software	Client	System Type	64bit OS
		Developing Framework	Microsoft. Net Framework version 4.72
		Domain/User Rules	Local admin privileges to install only.

3 Installation

1. To install Cboe Silexx, download the software from the following link: [Silexx Install Link](#)
2. The application does not require admin privileges.
3. Cboe Silexx must be installed in a directory to which the local user has “write” permissions.
4. If the application detects that it cannot write to the local directory, it will prompt for UAC elevation:
 - a. The installation package only contains a bootstrap launcher and downloads assembly updates on demand.
 - b. There is no way to tell the application to write to another folder other than the one it has been installed into.

4 Silexx Support

4.1 Contact Details

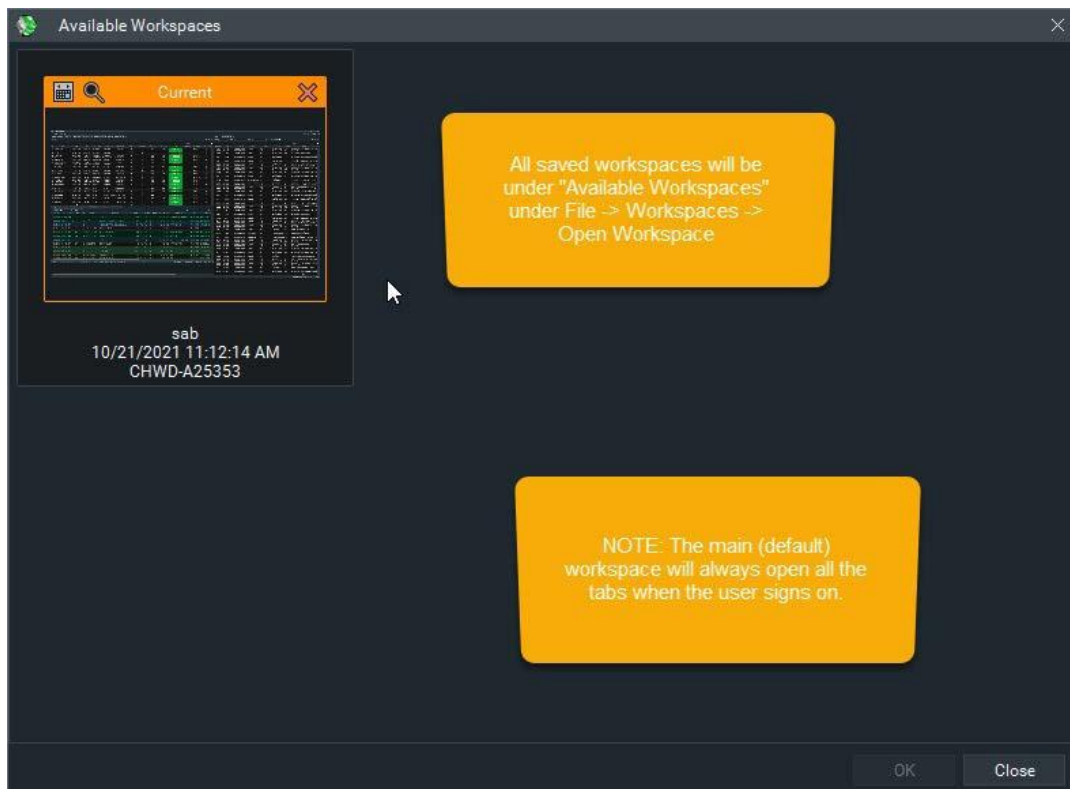
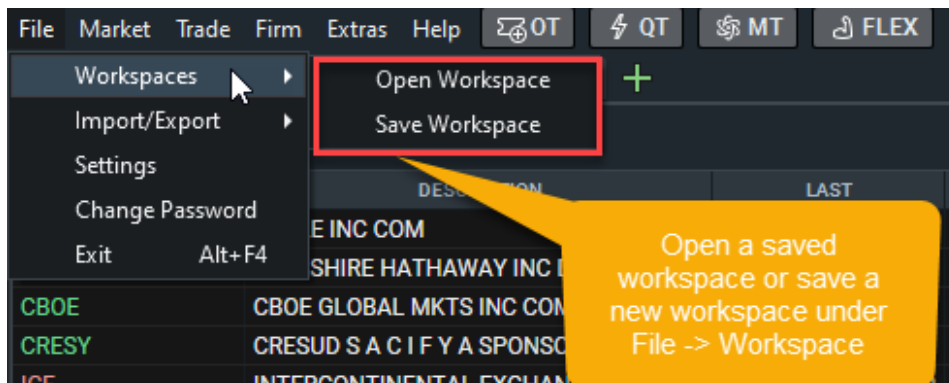
- Support Email: Silexx-Support@Cboe.com
- Support Phone: 941-870-9531
- Sales Email: Silexx-Sales@Cboe.com

4.2 CAT Support

- Cboe Silexx offers the ability to submit CAT files to Finra CAT portal on behalf of the Firm. If you are interested in beginning this service, please contact Silexx-Sales@Cboe.com.
- For existing CAT Reporting subscribers, please direct any questions to Silexx-Support@Cboe.com

5 Workspaces

Cboe Silexx allows the user to customize the workspace according to their needs. The configuration can be saved as the default workspace, as well as exported and shared. Other users can import a saved workspace instead of creating one from scratch.

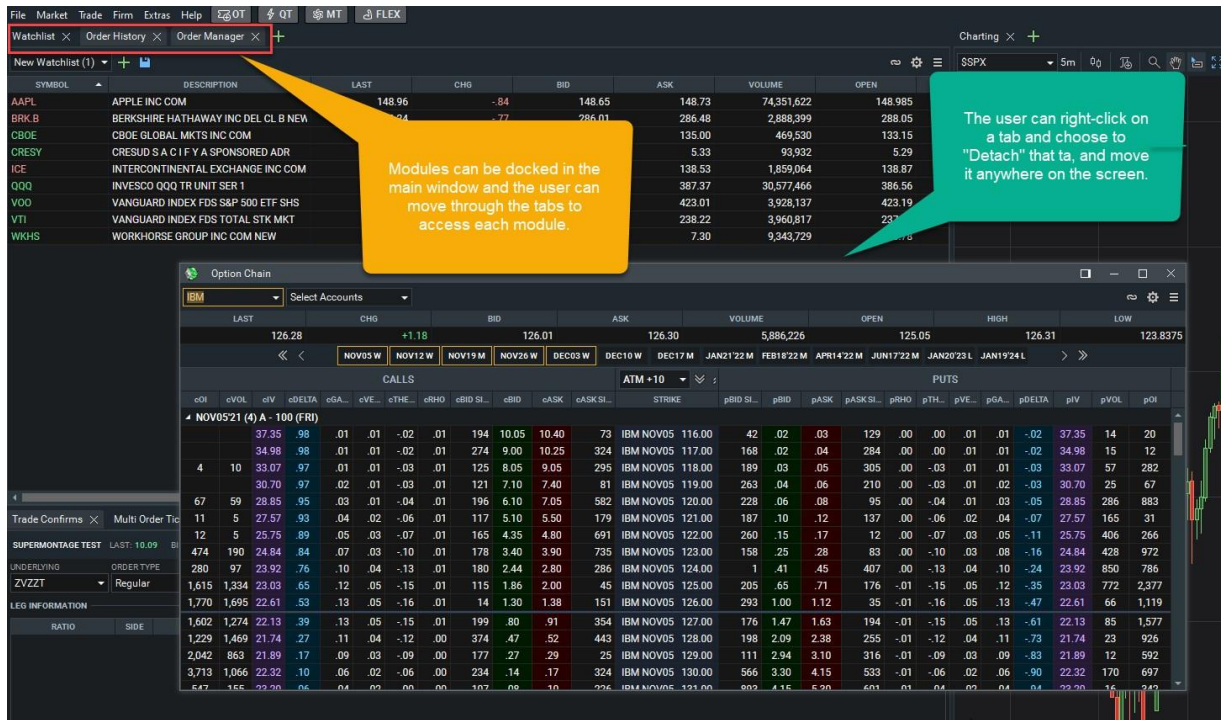


A Cboe Silexx user can open an unlimited number of modules simultaneously.

- Open modules can be docked in the application tab form allowing for easy navigation across open tabs.

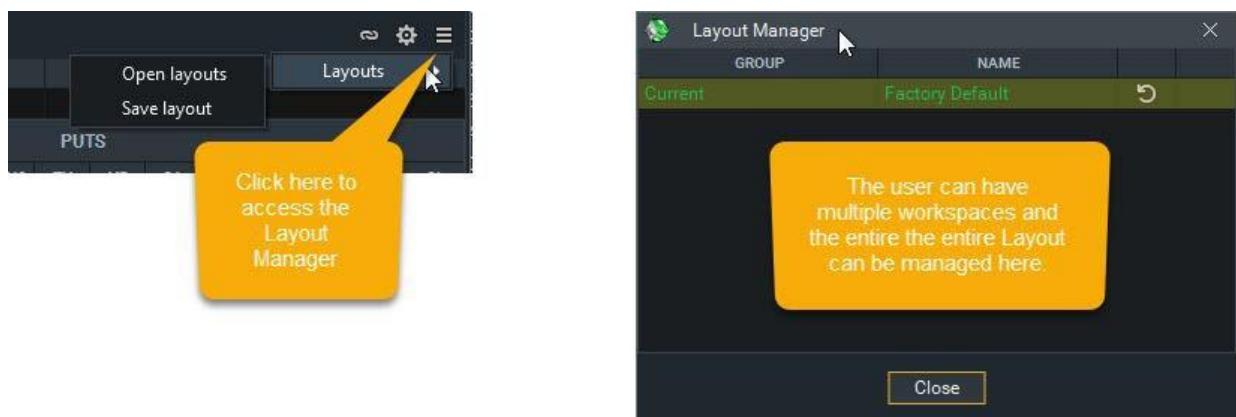
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- An individual module can also be detached from the application and viewed in a separate window.



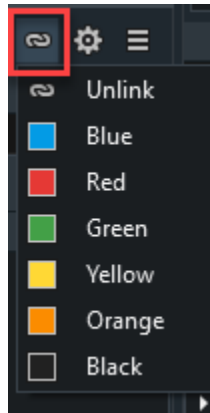
Saved workspaces can also be accessed through the “Layout Manager” from the toolbar as shown below.

- The Layout Manager allows you to quickly save a new layout as well as change the default view.



1. Module Linking

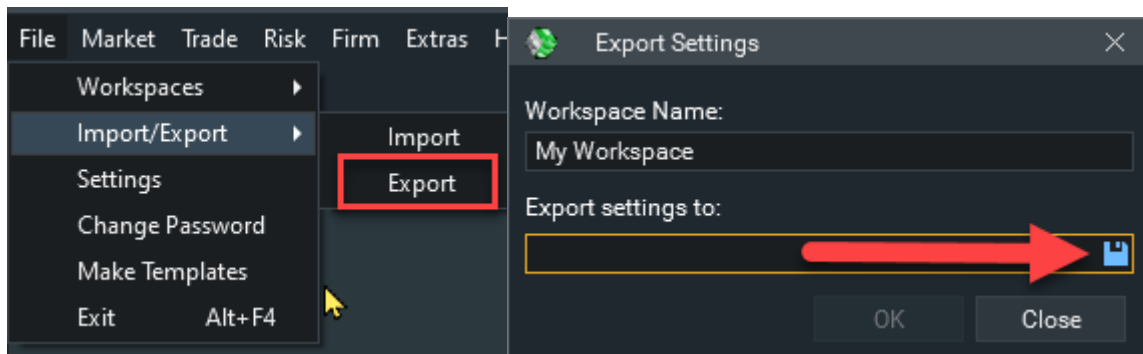
The Cboe Silexx workspace allows for the linking of certain modules to allow for simultaneous updates when the symbol is changed on a linked module. This is carried out by clicking on the “chain link” icon in the top right of the module and selecting a color. All modules that have the same color applied will be linked. For example, a user can link Order Ticket, Option Chain and Time and Sales modules with the same color. Anytime the symbol is updated in 1 of the 3 linked modules, it will be updated in the other 2. Selecting Unlink from the Module Linking window will remove the selected module from the other linked modules.



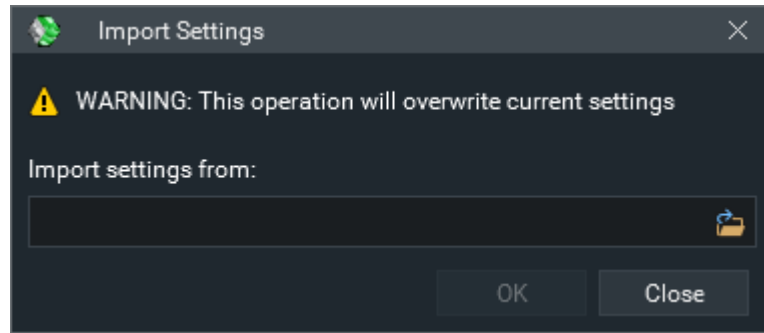
2. Importing and Exporting Workspaces

Once the user has their Workspace configured to their liking and saved, it can be backed-up on their local machine, and even shared with other users. This allows the user to have a copy of their workspace in the event the server-side saved workspace is lost or corrupted. This also allows a user to share a copy of their workspace with another user.

To Export a copy of the users Workspace, click the File menu and select “Export”. An Export Settings box will open and prompt the user for a Workspace Name and location to Export the settings to. Clicking on the Blue disc icon will open a window to navigate to the correct directory and Export the Workspace.



The exported workspace can now be shared/mailed to another user who will need to click the File menu and select “Import”. This action will open an Import Settings dialogue box allowing the user to navigate to the saved file and Import to their instance of Cboe Silexx.

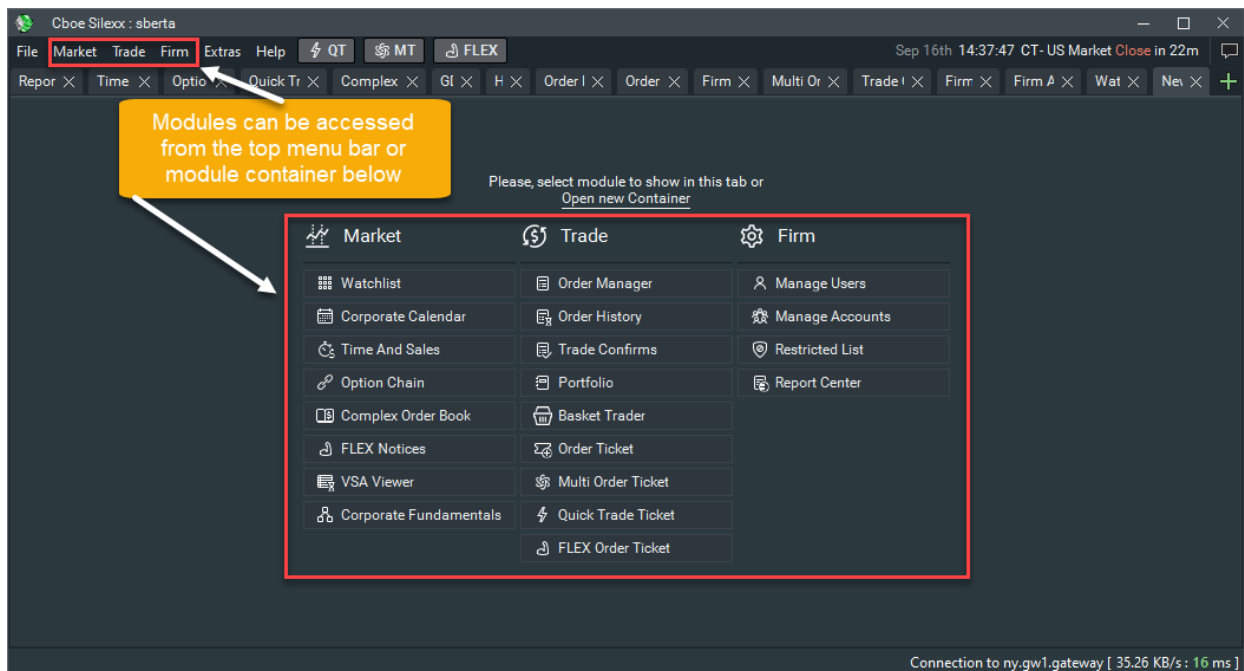


6 Cboe Silexx Modules

Cboe Silexx modules are organized into three distinct but interrelated units.

- Market
- Trade
- Firm

When starting the application, these modules can be accessed and organized via the menu bar at the top of the page.



7 Market Modules

7.1 Watchlist

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The Watchlist module allows you to easily track securities. You can select for a pre-existing watchlist in the system, like the SP500 or Russell Indices, or create your own by selecting individual securities.

SYMB...	DESCRIPTION	LAST	CHG	CHG %	BID	ASK	VOL...	AVG...	OPEN	HIGH	LOW	52W HI	52W L	PRE...	DIV...	DIV...
\$DJI	Dow Jones Industrial Average	33,749.51	+273.05	+82%	.00	.00			33,51	33,78	33,51	36,952	28,66	33,47		
\$NDX	NASDAQ-100	11,582.51	+19.19	+17%	.00	.00			11,57	11,59	11,52	16,764	10,44	11,56		
\$SPX	S&P 500 INDEX		+20.41	+52%	.00	.00			3,939	3,958	3,935	4,818.6	3,233	3,934		
AAPL	APPLE INC COM		-0.0899	-0.06%	142.07	142.09	27,14	73.38	142.7	143.0	141.0	182.94	129.0	142.1	.92	0.65%
BBY	BEST BUY INC COM	81.89	+96	+1.19%	81.87	81.90	985,1	4,186	81.17	82.11	80.67	112.96	60.78	80.93	3.52	4.30%
CBOE	CBOE GLOBAL MKTS INC COM	125.15	+76	+61%	125.08	125.22	166,0	870,1	124.6	125.2	123.3	133.02	103.8	124.8	2.00	1.60%
ES/Z22	E-MINI S&P 500 FUTURES DEC 22	3,957.00	+20.75	+53%	3,957.00	3,957.25	274,3		3,933	3,961	3,924					
MSFT	MICROSOFT CORP COM		+1.91	+1.91%	250.09	250.12	13,02	26,08	247.4	252.1	247.1	344.30	213.4	245.4	2.72	1.09%
ORCL	ORACLE CORP COM		+42%	+42%	80.19	80.20	2,886	6,584	80.31	80.66	79.93	106.34	60.78	79.86	1.28	1.60%
TESLA	TESLA INC COM	170.58	-8.47	-4.73%	170.57	170.60	49,60	90,59	176.1	177.3	170.0	910.94	166.1	179.0		

The user can also build a strategy directly in the Watchlist by dragging from the Option Chain. The user simply needs to drag the 1st leg of a strategy to the Watchlist, and drag subsequent legs on top of the 1st leg to create the Strategy

SYMBOL	DESCRIPTION	LAST	CHG	BID	RATIO	SIDE	USE
SPX	S&P 500 INDEX	4,381.99	+12.98	.00			
AAPL	COVERED AAPL Jun-30-23 187.5 CALL/AAPL	182.18*		182.18*			
AAPL	APPLE INC COM	183.67	+36	183.66			
AAPL/230630/187.5C	AAPL Jun-30-23 187.5 Call	1.45	+0.35	1.47			
SPX	BULL CALL SPREAD SPXW Jun-14-23 4370/4380	5.70*		5.70*			
SPXW/230614/4370C	SPXW Jun-14-23 4370 Call	22.60	+5.4838	22.60			
SPXW/230614/4380C	SPXW Jun-14-23 4380 Call	16.80	+4.20	16.80			

7.2 Charting

The Charting module conveniently visualizes the price action by plotting the historical market data of the underlying financial instrument on a graph.

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- Using the toolbar, the user can customize the chart for their needs.
 - Interval – Select from multiple time intervals, e.g.. Minutes, Hours or Days.
 - Chart Type – Choose from Bar, Candle, Line or Area.
 - Indicators – Apply technical studies e.g. Bollinger Bands, Stochastics, Moving Average, MACD or Parabolic SAR.
 - Zoom or Pan along the Chart

7.3 Corporate Calendar

The Corporate Calendar Module supplies details on Earnings and Dividends. Data is displayed by day for the current date through the next 30 calendar days.

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Corporate Calendar

Event Type: **ALL** View Earnings, Dividends or both by selecting from dropdown

SYMBOL	EVENT	DESCRIPTION	DETAILS	EX DATE	PAY DATE	RECORD DATE	FREQUENCY	ANNOUNCEMENT URL	LAST UPDATED
FEB24'22									
AXON	Earnings	AXON ENTERPRISE INC COM	Earnings after market close (cc)					https://www.prnew...	2/17/2022 6:37 AM
AZN	Dividend	ASTRAZENECA PLC SPONSORED	Dividend of 0.99	2/24/2022	3/28/2022	2/25/2022	semi-annual		2/18/2022 12:16 PM
AZUL	Earnings	AZUL S A SPONSOR ADR PFD	Earnings before market open (cc)						2/1/2022 8:58 AM
BABA	Earnings	ALIBABA GROUP HLDG LTD SPON	Earnings before market open (cc)					https://www.alibab...	2/11/2022 3:58 AM
BALY	Earnings	BALLY'S CORPORATION COM	Earnings before market open (cc)					https://www.prnew...	2/3/2022 5:03 PM
BAX	Dividend	BAXTER INTL INC COM	Dividend of 0.28	2/24/2022	4/1/2022	2/25/2022	quarterly		2/14/2022 4:18 PM
BBIO	Earnings	BRIDGEBIO PHARMA INC COM	Earnings before market open (cc)						1/25/2022 7:39 AM
BCEL	Earnings	ATRECA INC CL A COM	Earnings (NOT confirmed)						2/22/2022 6:42 AM
BCLI	Earnings	BRAINSTORM CELL THERAPEUTIC	Earnings before market open (cc)						2/17/2022 6:26 AM
BELFA	Earnings	BEL FUSE INC CL A	Earnings after market close (cc)					https://www.globe...	2/3/2022 1:55 PM
BELFB	Earnings	BEL FUSE INC CL B	Earnings after market close (cc)					https://www.globe...	2/3/2022 1:58 PM
BFS	Earnings	SAUL CTRS INC COM	Earnings after market close (cc)						2/14/2022 7:07 PM
BHP	Dividend	BHP GROUP LTD SPONSORED AD	Dividend of 3.00	2/24/2022	3/28/2022	2/25/2022	semi-annual		2/15/2022 12:29 PM
BHR	Earnings	BRAEMAR HOTELS & RESORTS IN	Earnings after market close (cc)					https://www.prnew...	2/1/2022 12:29 PM
BLI	Earnings	BERKELEY LTS INC COM	Earnings before market open (cc)					https://www.globe...	2/10/2022 3:12 PM
BLUE	Earnings	BLUEBIRD BIO INC COM	Earnings before market open (cc)						2/23/2022 8:27 AM
BMI	Dividend	BADGER METER INC COM	Dividend of 0.20	2/24/2022	3/11/2022	2/25/2022	quarterly		2/11/2022 3:31 PM
BOOM	Earnings	DMC GLOBAL INC COM	Earnings after market close (cc)					https://www.globe...	2/15/2022 6:02 AM
BPMP	Earnings	BP MIDSTREAM PARTNERS LP UN	Earnings before market open (cc)						11/10/2021 1:17 AM
BRG	Earnings	BLUEROCK RESIDENTIAL GWT RE	Earnings before market open (cc)						2/23/2022 6:33 AM
BSQR	Earnings	BSQUARE CORP COM NEW	Earnings after market close (cc)						2/22/2022 6:04 AM
BUD	Earnings	ANHEUSER BUSCH INBEV SA/NV	Earnings before market open (cc)					https://www.ab-inb...	10/29/2021 4:46 AM

Ex-Date, Pay Date and Record Date provided on dividends.

Determine if earnings are announced at market open or close.

The Earnings and Dividend information will also be displayed at the top of the Option Chain. Dividends will display the Ex-date, as well as the announced dividend amount. Earnings will show the date of the announcement, whether the announcement will be made before the market open (“BMO”) or after the market close (“AMC”), as well as whether the announcement has been confirmed.

AXON Select Accounts EARNINGS 2022-02-24 AMC (confirmed) Information is displayed in the Option Chain as well.

LAST	CHG	BID	ASK	OPEN
129.24	+6.80	129.25	129	118.38

« < MAR18 M APR14 M JUN17 M SEP16 M JAN20'23 M > »

7.4 Time and Sales

The Time and Sales module supplies in-depth trade data on an instrument level. The data includes records on price, volume, and quotes on every transaction throughout the day for the selected instrument.

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Time & Sales

SPX Trades Trades & Quotes Options quotes SPX Aug-19-22 1000 Put Date: 8/2/2022 100 rows

TIME	QTY	PRICE	EXCHANGE	CONDITION	MARKET	SIZE	OPTION NBBO	UNDERLYING NBBO	TRD SEQ NUM
08:30:02.25			XXXX	Regular	.00 x .05	0 x 200			
08:30:02.868				Regular	.00 x .05	0 x 300	.00		
08:30:08.641					.00 x .05	0 x 200	.00		
08:30:09.367					.00 x .05	0 x 300	.00		
08:31:14.612					.00 x .05	0 x 400	.00 x .05	4,096.35 x 4,103.97	
08:31:15.128					.00 x .05	0 x 300	.00 x .05	4,096.35 x 4,103.97	
08:31:16.112					.00 x .05	0 x 400	.00 x .05	4,096.21 x 4,103.91	
08:31:16.753			XXXX	Regular		0 x 500	.00 x .05	4,095.86 x 4,103.62	
08:31:16.778			XXXX	Regular	.00 x .05	0 x 520	.00 x .05	4,095.86 x 4,103.62	
08:31:50.273			XXXX	Regular	.00 x .05	0 x 400	.00 x .05	4,100.65 x 4,107.62	
08:31:50.277			XXXX	Regular	.00 x .05	0 x 300	.00 x .05	4,100.65 x 4,107.62	
08:31:50.287			XXXX	Regular	.00 x .05	0 x 200	.00 x .05	4,100.65 x 4,107.62	
08:31:50.791			XXXX	Regular	.00 x .05	0 x 300	.00 x .05	4,100.65 x 4,107.62	
08:31:51.262			XXXX	Regular	.00 x .05	0 x 400	.00 x .05	4,100.87 x 4,107.82	
08:31:51.282			XXXX	Regular	.00 x .05	0 x 500	.00 x .05	4,100.87 x 4,107.82	
08:31:51.448			XXXX	Regular	.00 x .05	0 x 520	.00 x .05	4,100.87 x 4,107.82	
08:31:55.852			XXXX	Regular	.00 x .05	0 x 420	.00 x .05	4,102.00 x 4,108.82	
08:31:56.448			XXXX	Regular	.00 x .05	0 x 400	.00 x .05	4,101.46 x 4,108.32	
08:31:59.283			XXXX	Regular	.00 x .05	0 x 500	.00 x .05	4,101.95 x 4,108.80	
08:31:59.334			XXXX	Regular	.00 x .05	0 x 520	.00 x .05	4,101.95 x 4,108.80	
08:32:00.914			XXXX	Regular	.00 x .05	0 x 400	.00 x .05	4,102.31 x 4,109.27	
08:32:01.196			XXXX	Regular	.00 x .05	0 x 300	.00 x .05	4,103.81 x 4,110.62	
08:32:01.291			XXXX	Regular	.00 x .05	0 x 200	.00 x .05	4,103.81 x 4,110.62	
08:32:01.842			XXXX	Regular	.00 x .05	0 x 300	.00 x .05	4,103.81 x 4,110.62	
08:32:02.317			XXXX	Regular	.00 x .05	0 x 400	.00 x .05	4,103.80 x 4,110.64	
08:32:02.927			XXXX	Regular	.00 x .05	0 x 500	.00 x .05	4,103.80 x 4,110.64	

PREMARKET OPEN 8:30 AM CLOSE AFTERMARKET

- NOTE: The user will need to move the slider to the left to capture the pre-market / GTH trading.
- Using the selection buttons at the top, the user can select from Trades or Trades & Quotes as well as selecting whether to view data for the Underlying Security, or the Option.
- Option Trades can be further filtered for all Options or a specific strike.

7.5 Option Chain

The Option Chain module allows you to view underlying securities options in a highly customizable manner.

The screenshot displays the Option Chain module interface. It features a top navigation bar with tabs for different symbols (e.g., SPX, SPY, AAPL). Below the navigation bar, there's a main data area showing a grid of option data. The grid is organized by expiration date (e.g., MAY12'21, MAY17'21) and strike price. Each row represents a specific option contract, with columns for various metrics like bid, ask, and volume. The data is color-coded: green for calls and red for puts.

This module provides the following.

- Direct view of the underlying symbol's market
- An overview of the listed expiration dates, that can be selected/deselected to focus on a specific date-range
- Precise control over the number of strikes shown (ATM + 'X' or All)

CALLS							ATM +2		
cOI	cVOL	cIV	cDELTA	cBID	cASK	STRIKE			
4 MAY12'21 (EXPIRATION) E - 100 (WED)									
22	219		.00	10.70	16.90	SPXW MAY12 4,050.00			
17	705		.00	6.70	12.20	SPXW MAY12 4,055.00			
16	1,100		.00	2.10	7.40	SPXW MAY12 4,060.00			

- Easy right-click access to pre-defined strategy orders
- Configurable column position, visibility, and colors. This and all other module's settings are accessible by clicking on the gear icon in the top, right-hand corner.

CALLS						ATM +2	
cDELTA	cBID	cASK	STRIKE		pBID	pASK	
1.00	8.50	8.90	FNKO APR16		12.50		.05
1.00	6.10	6.40	FNKO APR16		5.00		.05
1.00	3.60	3.80	FNKO APR16		7.50		.05
.83	1.15	1.40	FNKO APR16				
.18	.10	.15	FNKO APR16				
.00		.05	FNKO APR16				
.94	8.70	9.10	FNKO MAY21				
.88	6.50	6.80	FNKO MAY21				

BUY

SELL

Delta Neutral

Single

Vertical

Back/Ratio

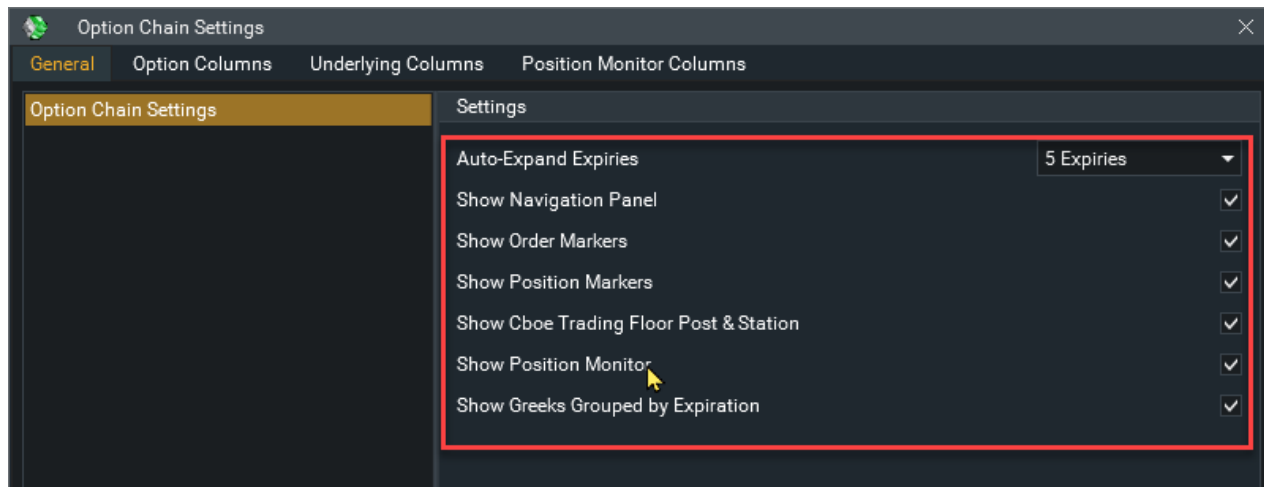
Calendar

Diagonal

Option Chain Settings:

The Option Chain Settings can be found by clicking on the 'gear' icon in the upper right corner of the Option Chain module. The following features can be enabled from the Settings window:

- Auto-Expand Expiries – allows for the auto expansion of the desired number of expirations, selectable from the drop-down box. When a symbol is entered into the Option Chain, the selected number of expirations nearest to the current date will be expanded.
- Show Navigation Panel – enabling this feature will display a panel at the top of the Option Chain, that allows for the collapse/expansion of the full list of expirations for the selected symbol.
- Show Order Markers – when this feature is enabled, a market is displayed next to the expiration/strike if the user has an open order in the selected trading account(s).
- Show Position Markers – allows for an indicator next to the expiration/strike for any positions held in the selected trading account(s).
- Show Cboe Trading Floor Post & Station – displays the Post and Station on the trading floor where the selected underlying symbol is traded.
- Show Position Monitor – displays a box at the top of the option chain that supplies detail on any positions held in the selected trading account(s).
- Greeks Grouped by Expiration – to be used in conjunction with Show Position Monitor feature (above) - when enabled, the Position Monitor will display values for the Greeks grouped by expiration.



7.6 Complex Order Book

The Complex Order Book (“COB”) displays all multi-legged orders resting on Cboe Options Exchange (“C1”). Additional data is available including; synthetic BBO, theo, delta... Pulling data from “C1” and “COB” serves as a repository of available pre-built complex option order strategies, e.g., spreads, straddles, strangles, etc. The module is fully customizable to the user's needs through various filtering techniques. This and all other module's settings are accessible by clicking on the gear icon in the top, right-hand corner.

[illegible]

Buttons provide quick one-click filtering, as well as showing total strategies grouped by type (Condor, etc.).

ALL 20,287	CUSTOM 10,086	VERTICAL 4,838	CALENDAR 397	DIAGONAL 0	STRADDLE 9	STRANGLE 37	BUTTERFLY 3,644	CONDOR 335	IRON CONDOR 939	COVERED 0	COMBO 2	WITH STOCK 0
------------	---------------	----------------	--------------	------------	------------	-------------	-----------------	------------	-----------------	-----------	---------	--------------

Header columns are designed to provide easy custom filtering

DESCRIPTION	STRATEGY	SYMBOL	EXPIRATION	DAYS TO EXP ▼	STRIKE	SIDE	C/P	RATIO	COMPLEX BID ▼	COMPLEX BID	COMPLEX ASK	COMPLEX ASK SIZE
▶ BULL CALL SPREAD SPX May-21-21 4175/4180	Vertical	SPX-T09F3p	5/21/2021	2	4175/4180				15	.10 DR	.75 DR	5
▶ BEAR PUT SPREAD SPXW May-21-21 3860/3845	Vertical	SPX-S0S92	5/21/2021	2	3860/3845		P		66	.00	.35 DR	42
▶ BEAR PUT SPREAD SPXW May-21-21 3920/3910	Vertical	SPX-S0S9X	5/21/2021	2	3920/3910		P		55	.00	.50 DR	5
▶ BULL CALL SPREAD SPXW May-21-21 4245/4265	Vertical	SPX-S0SvL	5/21/2021	2	4245/4265		P		15	.05 DR	15 DR	6

7.7 FLEX Notices

The FLEX Notice's module provides a scrolling feed of OCC FLEX Notices that are distributed via OPRA (Options Price Reporting Authority) admin messages.

FLEX Notices	
TIME	TEXT
2021-05-25 09:33:24	FLEX E KMI LST 1 20 C EUR 08.24.21 1274 @ 0.37 2KMI SPRD
2021-05-25 09:51:05	FLEX E TLT RFQ 0003 CALL 06/22/21 139 EURO CL 250 CONTRACTS INBOUND TICKS
2021-05-25 09:51:16	FLEX E TLT QTE 0003 0.00 - 10.00 250.00 x 250.00
2021-05-25 09:51:44	FLEX E TLT RFQ 0004 PUT 06/22/21 139 EURO CL 250 CONTRACTS INBOUND TICKS
2021-05-25 09:52:04	FLEX E TLT QTE 0004 0.00 - 10.00 250.00 x 250.00
2021-05-25 09:54:44	FLEX E AEM LST 0002 60 C EURO 10.15.21 775 @ 12.6 2AEM
2021-05-25 10:04:13	CFLEX SPX LST AM EUR 4 LEGS 59 @ 0.00
2021-05-25 10:04:13	CFLEX SPX LST 4199.99C AM EUR 12/18/2026 59 @ 1.00 2SPX
2021-05-25 10:04:13	CFLEX SPX LST 4207.00P AM EUR 06/18/2021 59 @ 1.00 2SPX
2021-05-25 10:04:13	CFLEX SPX LST 4207.00C AM EUR 06/18/2021 59 @ 1.00 2SPX
2021-05-25 10:04:13	CFLEX SPX LST 4199.99P AM EUR 12/18/2026 59 @ 1.00 2SPX
2021-05-25 10:12:38	CFLEX SLF LST PM EUR 2 LEGS 13000 @ 2.00
2021-05-25 10:12:38	CFLEX SLF LST 51.00C PM EUR 05/26/2021 13000 @ 2.05 2SLF
2021-05-25 10:12:38	CFLEX SLF LST PM EUR 2 LEGS 13000 @ 2.00
2021-05-25 10:12:38	CFLEX SLF LST PM EUR 2 LEGS 13000 @ 2.00
2021-05-25 10:12:38	CFLEX SLF LST 51.00P PM EUR 05/26/2021 13000 @ 0.05 2SLF
2021-05-25 10:16:20	CFLEX SPX LST AM EUR 4 LEGS 857 @ 0.00
2021-05-25 10:16:20	CFLEX SPX LST 4169.53C AM EUR 06/17/2022 857 @ 1.00 2SPX
2021-05-25 10:16:20	CFLEX SPX LST 4206.00P AM EUR 06/18/2021 857 @ 1.00 2SPX
2021-05-25 10:16:20	CFLEX SPX LST 4206.00C AM EUR 06/18/2021 857 @ 1.00 2SPX
2021-05-25 10:16:20	CFLEX SPX LST 4169.53P AM EUR 06/17/2022 857 @ 1.00 2SPX
2021-05-25 10:18:32	FLEX E TLT LST 0003 139 P EURO 06.22.21 11037 @ 2 2TLT
2021-05-25 10:19:02	FLEX E TLT LST 0004 139 C EURO 06.22.21 11037 @ 1.69 2TLT
2021-05-25 10:56:02	CFLEX SPX LST AM EUR 4 LEGS 594 @ 0.00

7.8 VSA Viewer

The Volatility Settlement Application ("VSA") Viewer is only accessible on VIX (Volatility Index) Settlement dates, between 8:30 a.m. ET – shortly after 9:30 a.m. ET.

VSA Viewer

DISPLAY

All

OPENING CONDITION

All Conditions

CONSTITUENT CLASS

SPX

CONSTITUENT EXPIRATION

2021-06-18

SOQ STRIKE RANGE

1,525.00-4,700.00

SOQ STATE

QUEUING

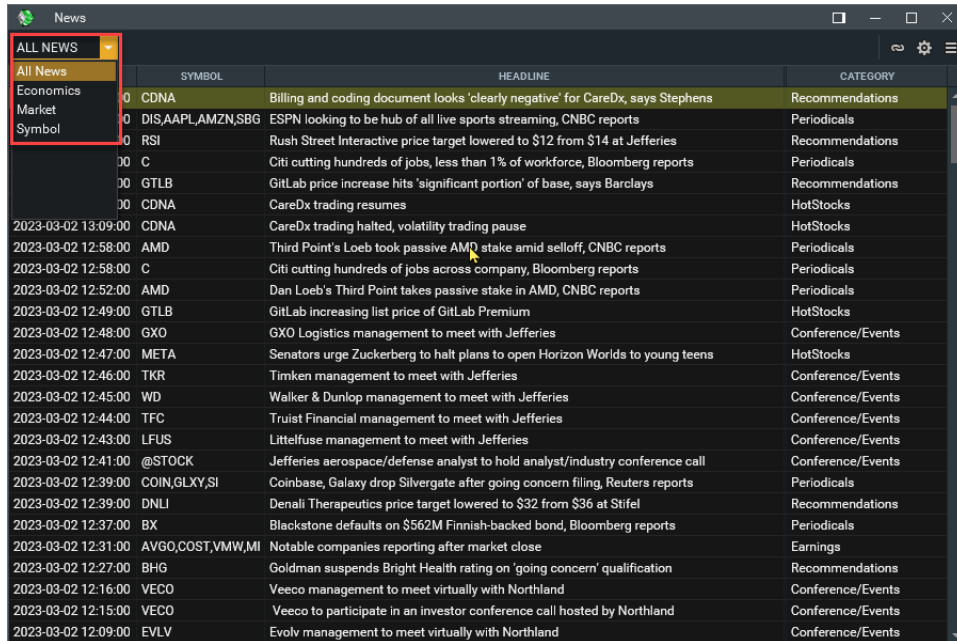
TIME	SYMBOL	STRIKE	TYPE	STATE	OPEN PRICE	AUCT ONLY PRI...	REF PRICE	INDICATIVE PRI...	BUY CONTRACTS	SELL CONTRAC...	OPEN CONDITION	COMPOSITE MARKET
08:16:14	SPX/210618/100P	100.00	Put	Pre-Open	.00	.00	.00	.00	0	0	Would Open	.00 x .10
08:16:12	SPX/210618/100C	100.00	Call	Pre-Open	.00	.00	.00	.00	0	0	Would Open	3,962.00 x 3,973.20
08:16:13	SPX/210618/200P	200.00	Put	Pre-Open	.00	.00	.00	.00	0	0	Would Open	.00 x .10
08:16:16	SPX/210618/200C	200.00	Call	Pre-Open	.00	.00	.00	.00	0	0	Would Open	3,862.10 x 3,873.40
08:16:15	SPX/210618/300P	300.00	Put	Pre-Open	.00	.00	.00	.00	0	0	Would Open	.00 x .10
08:16:15	SPX/210618/300C	300.00	Call	Pre-Open	.00	.00	.00	.00	0	0	Would Open	3,762.10 x 3,773.30
08:16:13	SPX/210618/400P	400.00	Put	Pre-Open	.00	.00	.00	.00	0	0	Would Open	.00 x .10
08:16:12	SPX/210618/400C	400.00	Call	Pre-Open	.00	.00	.00	.00	0	0	Would Open	3,662.20 x 3,673.50
08:16:17	SPX/210618/500P	500.00	Put	Pre-Open	.00	.00	.00	.00	0	0	Would Open	.00 x .10
08:16:13	SPX/210618/500C	500.00	Call	Pre-Open	.00	.00	.00	.00	0	0	Would Open	3,562.20 x 3,573.40
08:16:16	SPX/210618/600P	600.00	Put	Pre-Open	.00	.00	.00	.00	0	0	Would Open	.00 x .10
08:16:14	SPX/210618/600C	600.00	Call	Pre-Open	.00	.00	.00	.00	0	0	Would Open	3,462.30 x 3,473.60
08:16:14	SPX/210618/700P	700.00	Put	Pre-Open	.00	.00	.00	.00	0	0	Would Open	.00 x .10
08:16:17	SPX/210618/700C	700.00	Call	Pre-Open	.00	.00	.00	.00	0	0	Would Open	3,362.30 x 3,373.60
08:16:17	SPX/210618/800P	800.00	Put	Pre-Open	.00	.00	.00	.00	0	0	Would Open	.00 x .10
08:16:16	SPX/210618/800C	800.00	Call	Pre-Open	.00	.00	.00	.00	0	0	Would Open	3,262.40 x 3,273.50
08:16:16	SPX/210618/900P	900.00	Put	Pre-Open	.00	.00	.00	.00	0	0	Would Open	.00 x .10
08:16:14	SPX/210618/900C	900.00	Call	Pre-Open	.00	.00	.00	.00	0	0	Would Open	3,162.40 x 3,173.50
08:16:13	SPX/210618/1000P	1,000.00	Put	Pre-Open	.00	.00	.00	.00	0	0	Would Open	.00 x .10
08:16:16	SPX/210618/1000C	1,000.00	Call	Pre-Open	.00	.00	.00	.00	0	0	Would Open	3,062.50 x 3,073.60
08:16:13	SPX/210618/1100P	1,100.00	Put	Pre-Open	.00	.00	.00	.00	0	0	Would Open	.00 x .10
08:16:15	SPX/210618/1100C	1,100.00	Call	Pre-Open	.00	.00	.00	.00	0	0	Would Open	2,962.50 x 2,973.60
08:16:14	SPX/210618/1200P	1,200.00	Put	Pre-Open	.00	.00	.00	.00	0	0	Would Open	.00 x .10

Connection to ch.gw1.gateway [6.72 KB/s; 0 ms

The SQQ (Settlement Opening Quote) status is shown in the top right, including expected strike range.

7.9 News

The News module allows the user to view headlines for individual symbols or the market by selecting from the drop-down.



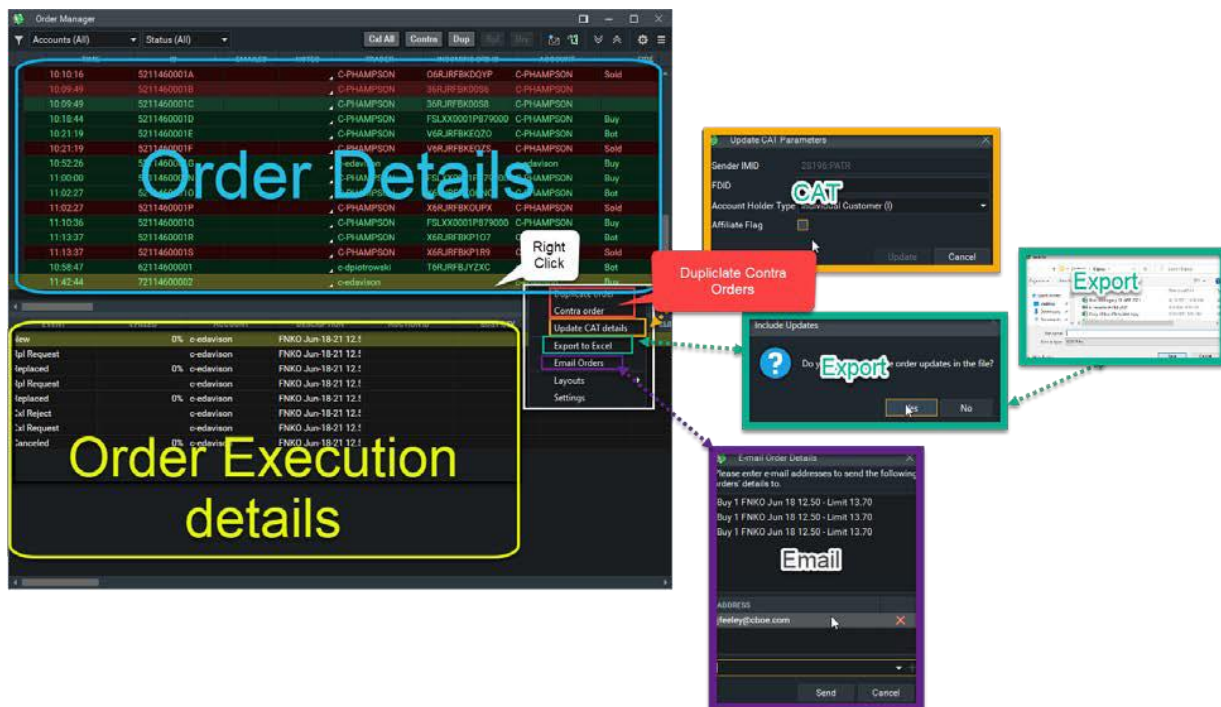
	SYMBOL	HEADLINE	CATEGORY
	CDNA	Billing and coding document looks 'clearly negative' for CareDx, says Stephens	Recommendations
	DIS,AAPL,AMZN,SBG	ESPN looking to be hub of all live sports streaming, CNBC reports	Periodicals
	RSI	Rush Street Interactive price target lowered to \$12 from \$14 at Jefferies	Recommendations
	C	Citi cutting hundreds of jobs, less than 1% of workforce, Bloomberg reports	Periodicals
	GTLB	GitLab price increase hits 'significant portion' of base, says Barclays	Recommendations
	CDNA	CareDx trading resumes	HotStocks
2023-03-02 13:09:00	CDNA	CareDx trading halted, volatility trading pause	HotStocks
2023-03-02 12:58:00	AMD	Third Point's Loeb took passive AMD stake amid selloff, CNBC reports	Periodicals
2023-03-02 12:58:00	C	Citi cutting hundreds of jobs across company, Bloomberg reports	Periodicals
2023-03-02 12:52:00	AMD	Dan Loeb's Third Point takes passive stake in AMD, CNBC reports	Periodicals
2023-03-02 12:49:00	GTLB	GitLab increasing list price of GitLab Premium	HotStocks
2023-03-02 12:48:00	GXO	GXO Logistics management to meet with Jefferies	Conference/Events
2023-03-02 12:47:00	META	Senators urge Zuckerberg to halt plans to open Horizon Worlds to young teens	HotStocks
2023-03-02 12:46:00	TKR	Timken management to meet with Jefferies	Conference/Events
2023-03-02 12:45:00	WD	Walker & Dunlop management to meet with Jefferies	Conference/Events
2023-03-02 12:44:00	TFC	Truist Financial management to meet with Jefferies	Conference/Events
2023-03-02 12:43:00	LFUS	Littelfuse management to meet with Jefferies	Conference/Events
2023-03-02 12:41:00	@STOCK	Jefferies aerospace/defense analyst to hold analyst/industry conference call	Conference/Events
2023-03-02 12:39:00	COIN,GLXY,SI	Coinbase, Galaxy drop Silvergate after going concern filing, Reuters reports	Periodicals
2023-03-02 12:39:00	DNLI	Denali Therapeutics price target lowered to \$32 from \$36 at Stifel	Recommendations
2023-03-02 12:37:00	BX	Blackstone defaults on \$562M Finnish-backed bond, Bloomberg reports	Periodicals
2023-03-02 12:31:00	AVGO,COST,VMW,MI	Notable companies reporting after market close	Earnings
2023-03-02 12:27:00	BHG	Goldman suspends Bright Health rating on 'going concern' qualification	Recommendations
2023-03-02 12:16:00	VECO	Veeco management to meet virtually with Northland	Conference/Events
2023-03-02 12:15:00	VECO	Veeco to participate in an investor conference call hosted by Northland	Conference/Events
2023-03-02 12:09:00	EVLV	Evolv management to meet virtually with Northland	Conference/Events

8 Trade Modules

8.1 Order Manager

The Cboe Silexx Order Manager allows traders to review and interact with order flow that has occurred for the selected trading account, or group of trading accounts that are available to the user. As shown below, the functionality includes but is not limited to:

- Sort, filter, and expand trades to view details.
- Review and manage incoming Staged and P2P orders.
- Interact directly with an order and work the order via the convenient right-click menu options.
- Duplicate or Contra an order that has already been worked and resend it again.
- Search orders and email order history directly from the Order Manager.
- Export orders and update CAT information.



8.2 Order History

The Order History module allows the user to see the previous orders in the selected account, for the selected date. All the user's history (back to initial account creation) is available. As shown below, orders and order details can be filtered by:

- Account

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- Trader
- Date
- OrderType
- Symbol

Search results can be exported to Excel or emailed directly from the application.

This, and all other, module's settings are accessible by clicking on the gear icon in the top, right-hand corner.

The screenshot shows the 'Order History' window with a toolbar at the top right containing icons for refresh, back, forward, email, print, and settings (gear icon). The main table displays order data with columns: SUBMIT DT, TIME, STATUS, SIDE, QTY, DESCRIPTION, PRICE, TYPE, TIF, FILL QTY, LEAVES QTY, FILL PRICE, and % FILLED. Below this is an 'Order Trail' section with columns: TIME, EVENT, SIDE, QTY, DESCRIPTION, FILL QTY, FILL PRICE, % FILLED, EXEC VENUE, BUST QTY, TIF, and TEXT. Callouts provide the following information:

- Select Accounts and Date:** Points to the dropdown menu for 'Accounts (All)' and the date '9/17/2021'.
- Right-click on a column header and select "Show Column Chooser" to customize the column layout.** Points to the 'DESCRIPTION' column header.
- Columns can be re-ordered by clicking and dragging.** Points to the 'FILL QTY' column header.
- Toolbar to refresh the page, email, or export orders to Excel. Settings are accessible by clicking on the gear icon.** Points to the toolbar icons.
- Order Trail shows the fills and order details for the order selected above.** Points to the 'Order Trail' section.
- All orders for the selected Accounts and Date are here.** Points to the main order table.

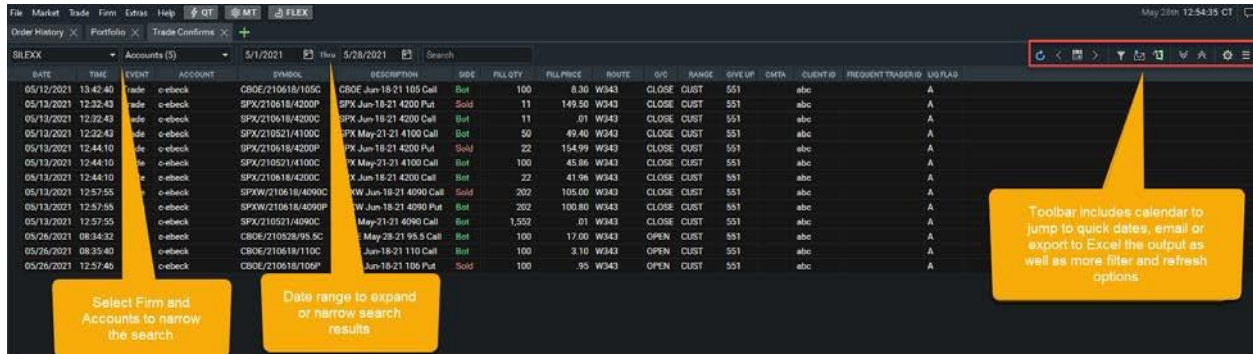
8.3 Trade Confirms

The Trade Confirm module allows the user to view execution information for orders in the selected account(s) and can be filtered by:

- Trading Firm
- Account(s)
- Date or Date Range (All the user's history back to initial account creation is available.)

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Additional filtering on an extensive list of trade confirm fields can be achieved from the Filter button on the toolbar in the upper right. (Appendix D). This and all other module's settings are accessible by clicking on the gear icon in the top, right-hand corner.



- The user can display the Average Price of multiple fills in the same security, by highlighting the chosen fills, right-clicking and selecting 'Average Price Summary' from the pop-up menu.

SYMBOL	DESCRIPTION	SIDE	FILL QTY	FILL PRICE	ROUTE	O/C	RANGE	GIVE UP
SPLK/230317/105C	SPLK Mar-17-23	Bot	1	3.12	MANUAL	OPEN	PRO CUS	551
SPLK/230317/106C	SPLK Mar-17-23	Sold	1	2.85	MANUAL	OPEN	PRO CUS	551
SPX/230317/4145C	SPX Mar-17-23 4	Bot	225	.01	V			
SPX/230317/4130C	SPX Mar-17-23 4	Sold	150	4.40	V			
SPX/230317/4130C	SPX Mar-17-23 4	Bot	350	.01	V			
SPX/230317/4145C	SPX Mar-17-23 4	Sold	475	3.40	V			
SPXW/230313/3940C	SPXW Mar-13-23	Bot	1	50.90	V			
MSFT	MICROSOFT COI	Sold	100	247.37	S			

A right-click context menu is shown over the table, with the following options: Average Price Summary, Export to Excel, Email Trade Confirms, Layouts, and Settings. The 'Average Price Summary' option is highlighted with a red box.

8.4 Portfolio



The Portfolio module allows the user to view the current holdings in the selected account(s). P&L, Avg Cost, Market Value, and Greeks are just some of the long lists of fields that are provided.

The screenshot shows the 'Portfolio' window in Cboe Silexx. It displays a table of holdings with columns for ACCOUNT, SYMBOL, DESCRIPTION, AVG COST, BID/ASK, CUSIP, FILLDAY, FILLNET, FILLREALIZED, FILLUNREALIZED, FILLTRADING, DAYS (EXP), DELTA, and DELTA (CONTR). Callout boxes highlight specific toolbar features:

- Select account here:** Points to the 'Accounts' dropdown menu.
- Use column headers to filter and sort as required:** Points to the column headers in the table.
- Right click on column header and select "Show Column Chooser" to see all available columns (next slide):** Points to the 'DESCRIPTION' column header.
- Hover over the column header to filter and sort as necessary:** Points to the 'FILLNET' column header.
- Toolbar to group the report by accounts if multiple selected & to export to Excel:** Points to the toolbar in the top right corner.

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Option Chain × Time & Sales × Position Analyzer × Portfolio × +

ACCOUNT	SYMBOL	DESCRIPTION	COST BASIS	MARK	QTY	P&L NET
	BABA/221223/66P	BABA Dec-23-22 66 Put	.0766	.06	-54	90
	BABA/230120/50P	BABA Jan-23-22 50 Put	.085	.085	-4,629	0
	BABA/221223/70P	BABA Dec-23-22 70 Put	.0766	.06	-2,596	7,996
	BABA/230120/55P	BABA Jan-23-22 55 Put	.085	.085	-401	(601)
	BFRI	BIOFRONTIER CORP COM	.9548	.92	+164,795	(5,735)
	BITF	BITFARMS LTD COM	.49	.5061	+5,000	81
	CHPT/221216/9.5P	CHPT Dec-16-22 9.5 Put	.12	.035	-5,020	42,670
	CHPT/221216/10P	CHPT Dec-16-22 10 Put	.225	.085	-188	2,632
	CLSK 	CLEANSOURCE CORP NEW	0.10	0.0888	+2,000	306
	FSM	FORTUNA			+100	(3)
	FXE 	INVESCO COMM SERVICES LONG TR	37.19	37.2888	+91	10
	GLD	SPDR GOLD TR GOLD SHS	167.06	165.89	+20	(23)

Hover over icon to view Earnings details.

Hover over icon to view Dividend details.

ACCOUNT	SYMBOL
c-beck	CBOE
c-beck	CBOE/210618/105C
c-beck	SPX/210618/4200C
c-beck	SPXW/210618/4200P
c-beck	SPXW/210618/4090
c-beck	SPXW/210618/4090
c-beck	CBOE/210528/95.5C
c-beck	CBOE/210618/110C
c-beck	CBOE/210618/106P

List of all available portfolio analytics columns

Column Chooser ×


Search Columns...

- ☒ ACCOUNT
- ☒ SYMBOL
- ☒ DESCRIPTION
- ☒ AVG COST
- ☒ BIDxASK
- ☒ CUSIP
- ☒ P&L DAY
- ☒ P&L NET
- ☒ P&L REALIZED
- ☒ P&L UNREALIZED
- ☒ P&L TRADING
- ☒ DAYS (EXP)
- ☒ DELTA
- ☒ DELTA (CONTR)
- ☒ \$ DELTA
- ☒ EXPIRATION
- ☒ FIRST TRADE DATE
- ☒ LAST TRADE DATE
- ☒ FX P&L
- ☒ FX RATE
- ☒ FX TRADING P&L
- ☒ GAMMA
- ☒ GROSS EXPOSURE
- ☒ INDUSTRY

- The Portfolio Module allows for the creation of Orders in the Basket Trader directly from the module, by selecting one or more positions, right-clicking and selecting 'Open in Basket Trader' from the pop-up menu.

EXPIRATION	UNDERLYING	ACCOUNT	SYMBOL
05/19/2023	LULU		LULU/230519/360C
	LULU		LULU
	ACN		ACN
	CCL		CCL
	EPSN		EPSN
01/19/2024	NKE		NKE/240119/55C
06/16/2023	NKE		NKE/230616/95P
06/16/2023	NKE		NKE/230616/110C
06/16/2023	NKE		NKE/230616/120C
			NKE/240119/85P
			NKE/240119/135C
			NKE/240119/140C
			NKE
			ONON
			PLBY
			MOMO

- Duplicate order
- Contra order
- Open in Basket Trader
- Add position
- Layouts
- Settings

- Positions in the Portfolio Module can be grouped by clicking on the  icon in the upper right and select Group by. The possible grouping options are:
- Account
 - Underlying
 - Account & Underlying
 - Expiration
 - Expiration & Underlying
 - Underlying & Expiration

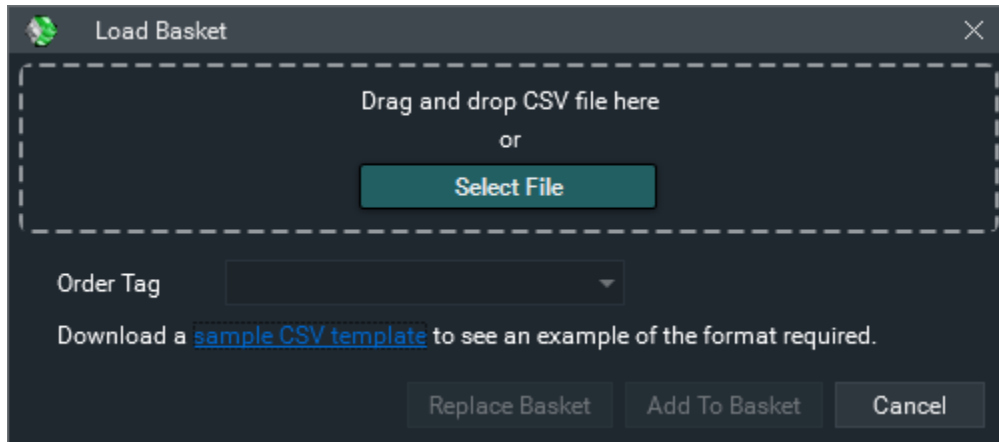
8.5 Basket Trader

The Cboe Silexx Basket Trader allows the user to build and save trading lists, which are simply lists of orders (Baskets) that the user can compile, edit, and save. Both single and multi-leg orders are supported in the Basket Trader Module. The user can send the orders in full (entire basket) or selectively (partial basket) with ease.

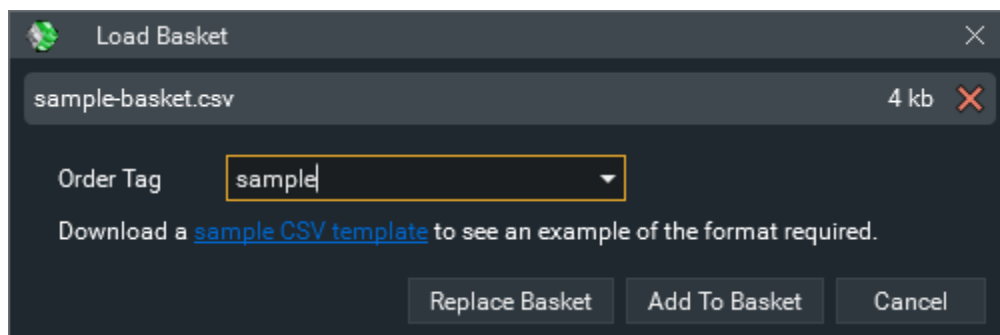
To load a basket of orders, click the **Load** button in the upper left. You can drag & drop the .csv or use the **Select File** button to open a file chooser.

Note – having the .csv file opened in Excel can prevent the upload. An error message will be displayed reminding you to close the opened file.

An example .csv file can be downloaded by clicking the 'sample CSV template' link.

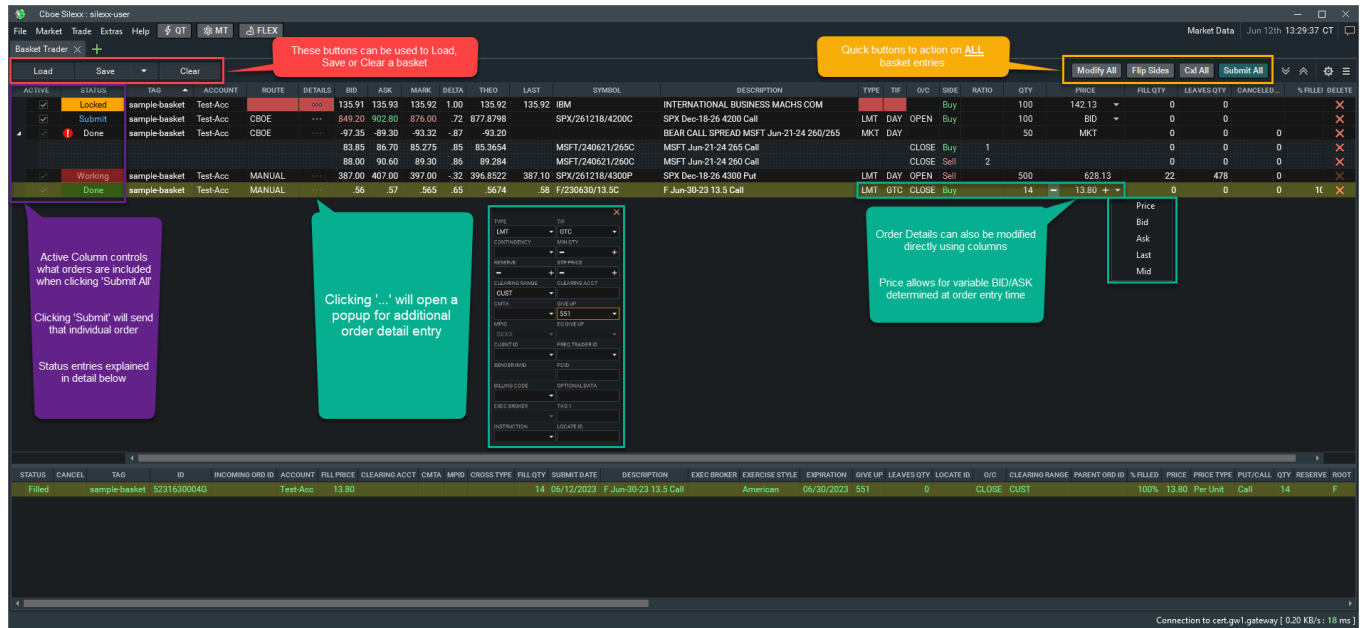


Once uploaded, you can include an order tag string for categorization and then replace the existing working basket or append:



On the main Basket module screen, you can correct or modify any order information, review and submit:

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- The top of the window displays the Status and details of the individual orders in the basket.
- The bottom of the window shows details of the highlighted order above.
- This and all other module's settings are accessible by clicking on the gear icon in the top, right- hand corner.

Order Statuses Include:

Locked	Order is missing necessary order details, unable to submit
Submit	Order is ready to submit (staged)
Working	Order is submitted (live, including partially filled)
Done	Order is filled in full
Done (!)	Order was submitted, but either rejected or was canceled

8.6 Order Ticket

The Cboe Silexx Order Ticket allows the user to interact with the market and send single leg Option, Equity, and Future Orders.

- Level 1 (NBBO (National Best Bid and Offer)) data is displayed at the top of the ticket for the chosen security.
- Level 2 (Regional BBO) data is displayed in the main window.
- The bottom of the ticket allows the user to input order specifics, i.e., Account, Route, Order Type, Qty, Price, and TIF.

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MSFT

MICROSOFT CORP COM Last: 251.54 Bid: 251.54 Ask: 251.56

MMID	SIZE	BID	ASK	SIZE	MMID
XNAS	1	251.54	251.56	3	XNAS
EDGA	1	251.54	251.56	4	ARCX
XNYS	3	251.54	251.56	1	EPRL
XPSX	3	251.54	251.56	1	XASE
MEMX	1	251.54	251.57	1	XNYS
ARCX	2	251.53	251.58	2	BATS
BATS	4	251.53	251.58	1	MEMX
EDGX	1	251.53	251.59	1	EDGX
XASE	2	251.47	251.61	2	XPSX
BATY	1	251.37	251.68	1	BATY
XBOS	1	251.31	251.71	1	EDGA

SYMBOL ACCOUNT ROUTE

MSFT

TYPE QTY PRICE TIF

RESERVE LOCATE ID TEXT CLIENT ID

Buy Modify Cancel Sell Short

This displays the NBBO of the particular symbol the trader is interested in

This displays the RBBO of the particular symbol the trader is interested in

This is the order input port of the ticket that requires the traders to input ticker, account route, type and other fields to execute the order

The screenshot shows the Cboe Silexx Multi Order Ticket interface. At the top, the symbol 'MSFT' is displayed with its current market data: Last: 251.54, Bid: 251.54, Ask: 251.56. Below this is a table showing the National Best Bid and Offer (NBBO) and the Regional Best Bid and Offer (RBBO) for the symbol. The NBBO table lists the top five bids and offers, while the RBBO table lists the top five regional bids and offers. At the bottom is the order input section, which includes fields for Symbol, Account, Route, Type, Qty, Price, TIF, Reserve, Locate ID, Text, and Client ID. Callouts explain the purpose of each section: the NBBO table displays the NBBO of the particular symbol the trader is interested in; the RBBO table displays the RBBO of the particular symbol the trader is interested in; and the order input section is the part of the ticket that requires the trader to input the ticker, account, route, type, and other fields to execute the order.

MMID	SIZE	BID	ASK	SIZE	MMID
XNAS	1	251.54	251.56	3	XNAS
EDGA	1	251.54	251.56	4	ARCX
XNYS	3	251.54	251.56	1	EPRL
XPSX	3	251.54	251.56	1	XASE
MEMX	1	251.54	251.57	1	XNYS
ARCX	2	251.53	251.58	2	BATS
BATS	4	251.53	251.58	1	MEMX
EDGX	1	251.53	251.59	1	EDGX
XASE	2	251.47	251.61	2	XPSX
BATY	1	251.37	251.68	1	BATY
XBOS	1	251.31	251.71	1	EDGA

Order Input Section:

Symbol: MSFT, Account: [Redacted], Route: [Redacted]

Type: [Redacted], Qty: [Redacted], Price: [Redacted], TIF: [Redacted]

Reserve: [Redacted], Locate ID: [Redacted], Text: [Redacted], Client ID: [Redacted]

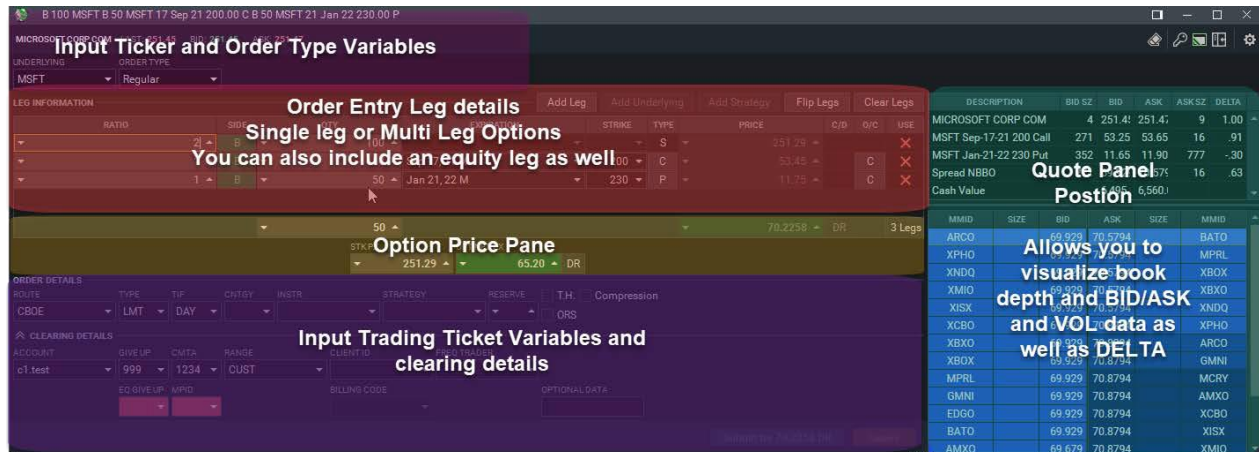
Buttons: Buy, Modify, Cancel, Sell, Short

8.7 Multi Order Ticket

The Cboe Silexx Multi Order Ticket allows the user to send single-leg, multi-leg, stock tied options, and Futures orders.

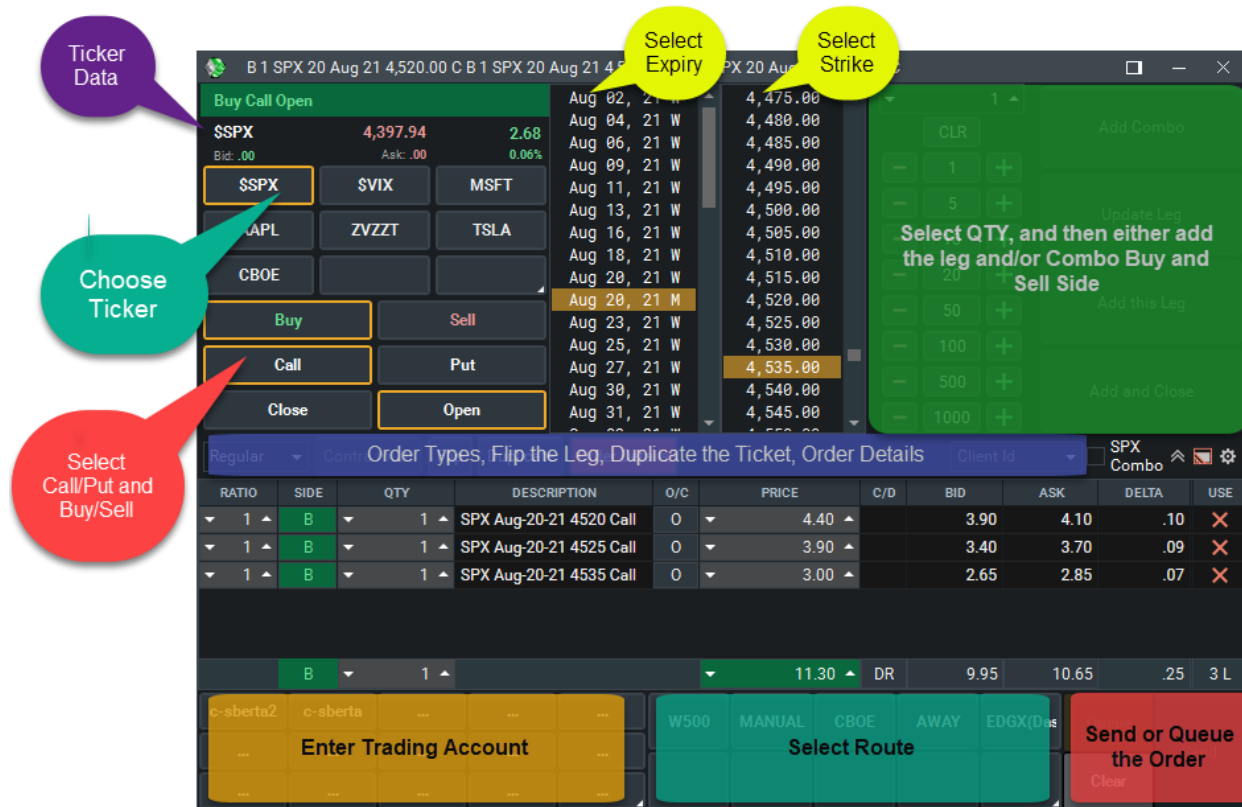
- Level 1 (NBBO) data is displayed at the top of the ticket for the chosen security.
- Level 2 (Regional BBO) data is displayed in the optional Quote Panel (can be opened at the bottom or right side of the ticket via the Settings panel).
- Individual legs/leg details can be added in the Leg Information panel.
- The Order Details panel allows the user to input order specifics, i.e., Account, Route, Order Type, Qty, Price, and TIF.
- When deriving and order, the Parent Order ID will be displayed at the top of the ticket.

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8.8 Quick Trade Ticket

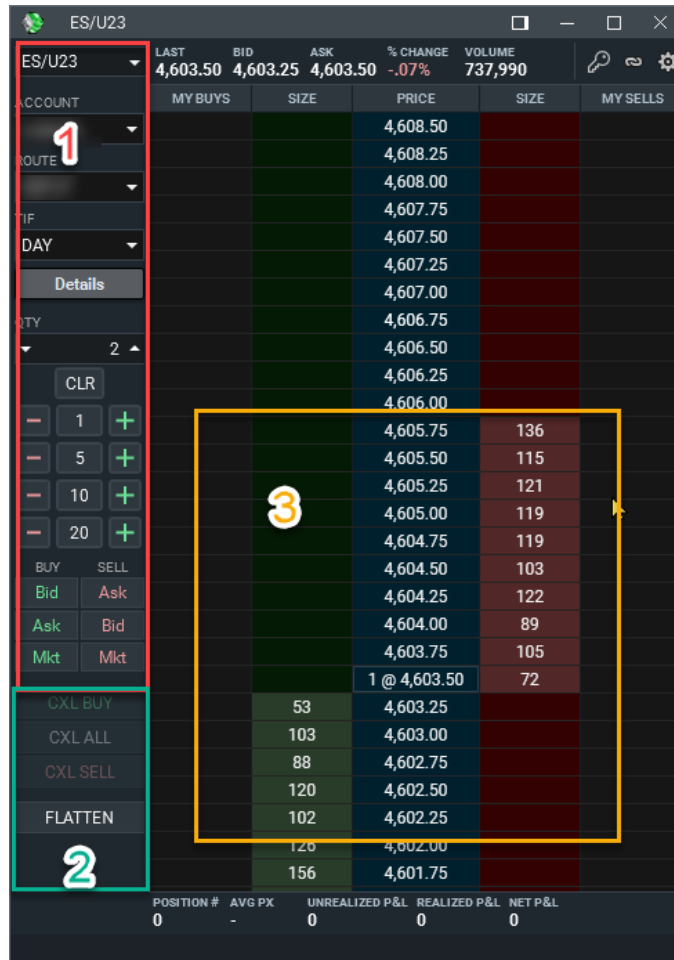
As its name suggests, the Quick Trade Ticket allows the user to quickly enter single-leg and multi-leg options orders. Frequently used tickers, trading accounts, and routes can be pre-programmed into the ticket's buttons via the Settings menu. This and all other module's settings are accessible by clicking on the gear icon in the top,



right-hand corner.

8.9 Book Trader

The Cboe Silexx Book Trader is meant to provide improved speed to market for users who have a strategy requiring a quick and precise order entry tool.



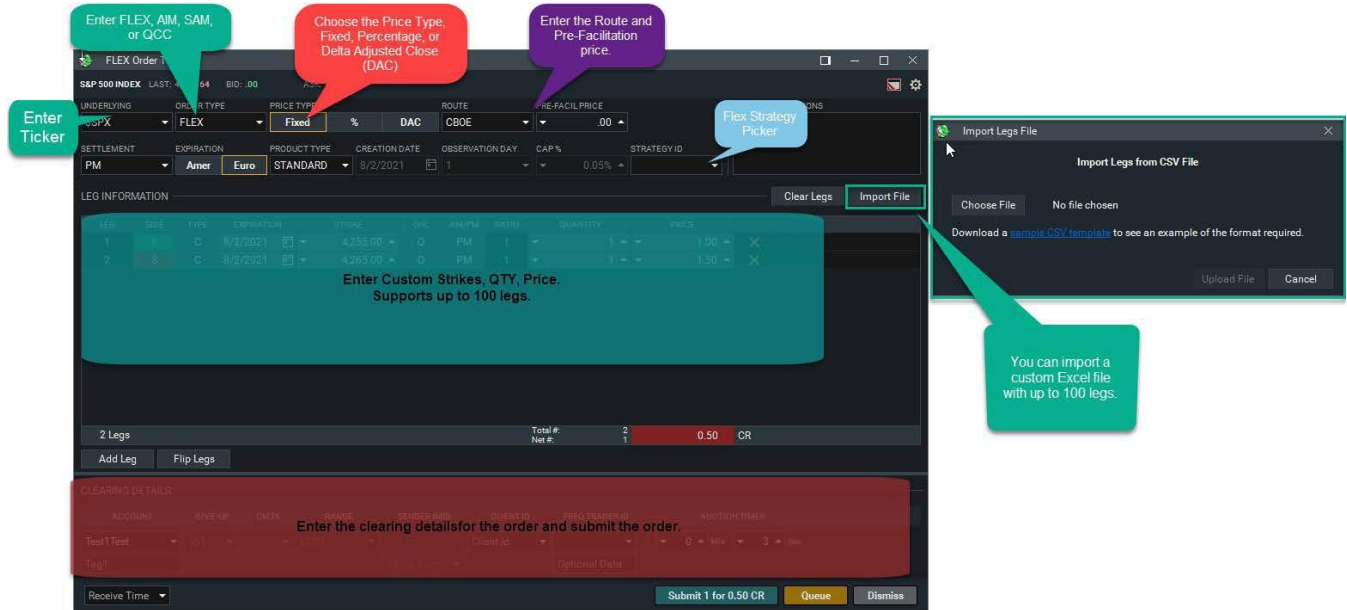
- Order details, e.g., Account, Route, TIF as well as Qty and Buy/Sell actions can be configured on the left side of the Book Trader module. Easy pricing buttons allow to Buy/Sell at the Bid, Ask or Mid with a single click.
- Quick buttons allow the cancellation of Buy, Sell or All orders to get out of the market as well as the ability to flatten open position(s) with single click functionality
- The Book Trader allows for the rapid repricing of an order to prevent missing opportunities as the market moves.

8.10 FLEX Order Ticket

Cboe Silexx provides direct market access to trade FLEX options on Cboe. Cboe Silexx FLEX functionality supports all Cboe Options Exchange features which include the following:

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- Single and multi-legged orders
- 100 legs supported
- Fully electronic order handling
 - Single-sided auctions
 - Crossing auctions
 - Automated Improvement Mechanism
 - Solicitation Auction Mechanism
- Manual order handling
 - Route to a Cboe Floor Broker using Silexx
 - Route to a PAR (Public Automated Routing) workstation for open outcry execution
- Spreadsheets import for efficiency
- Risk Administrator defined and managed risk controls



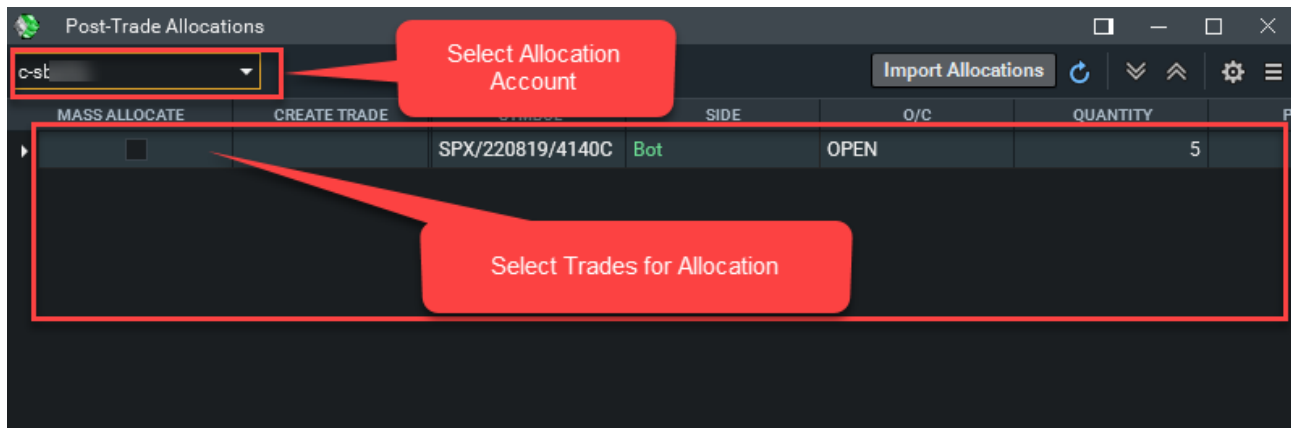
There are two editable fields – Order Type and Underlying. The Order Type has three options (refer to the [Cboe US Options Auction Process](#) for more information): FLEX, AIM, and SAM. The Underlying field is where users can input their symbol. Once the underlying symbol is provided, the other fields in the ticket become editable.

Once fields are completed, users can add Leg Information. Users can add up to 100 legs in one of two ways:

1. Legs can be added one at a time by clicking on the Add Leg button at the bottom of the Leg Information window.
2. Legs can be imported using the Import File option at the top left of the Leg Information window. Once Import File is selected, a new window will pop-up to download a “sample CSV template” and “Choose File” to import a completed template. Reference file spec.

8.11 Post Trade Allocations

The Post Trade Allocation tool allows for the user to allocate trades amongst 1 or more additional accounts. Before creating an allocation, the user must identify the Trading Account and Inventory Account(s). A Trading Account is an account from which the fills will be allocated. The Trading Account(s) will need to be enabled for ‘Enable Allocation Tracking’. This can be requested from Silexx Support.



1. Average Price Trade – An average price trade is the sum of quantity of all trades within the same symbol, side (including side and OpenOrClose). The average price is calculated from all trades that make up the average price trade. By default, there is always one average price trade for each symbol/side traded. The top grid shows all the average price trades for the selected trading account. Expand an average price trade to show all the trades making up the average price trade.

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silexx.trading		Import Allocations							
MASS ALLO...	CREATE APT	SYMBOL	SIDE	O/C	QUANTITY	PRICE	AVAILABLE QTY	SINGLE ALLOCATE	
▲	<input type="checkbox"/>	IBM/220414/130C	Bot	CLOSE	20	1.04	20		
	<input type="checkbox"/>	IBM/220414/130C	Bot	CLOSE	20	1.04			
▲	<input checked="" type="checkbox"/>	IBM/220414/130C	Bot	CLOSE	110	1.04	110		
	<input type="checkbox"/>	IBM/220414/130C	Bot	CLOSE	60	1.04			
	<input type="checkbox"/>	IBM/220414/130C	Bot	CLOSE	50	1.04			

Create Average Price Trade Allocate Revert Allocations

A custom average price trade can be created by selecting a subset of trades with a symbol/side and creating a new average price trade, then clicking on the 'Create Average Price Trade' button.

silexx.trading		Import Allocations							
MASS ALLOCATE	CREATE APT	SYMBOL	SIDE	O/C	QUANTITY	PRICE	AVAILABLE QTY	SINGLE ALLOCATE	
▲	<input type="checkbox"/>	IBM/220414/130C	Bot	CLOSE	130	1.04	130		
	<input checked="" type="checkbox"/>	IBM/220414/130C	Bot	CLOSE	60	1.04			
	<input checked="" type="checkbox"/>	IBM/220414/130C	Bot	CLOSE	50	1.04			
	<input type="checkbox"/>	IBM/220414/130C	Bot	CLOSE	20	1.04			
▶	<input type="checkbox"/>	IBM/220414/130C	Sold	CLOSE	200	1.04	24		

Create Average Price Trade Allocate Revert Allocations

The bottom grid shows all the allocations that are allocated from the selected average price trade.

2. Allocate

- Single Allocate – allocate one average price trade by clicking on the icon in the SINGLE ALLOCATE field to allocate on the underlying average price trade.

▲	<input type="checkbox"/>	IBM/210903/141C	Sold	CLOSE	30	.03	30	
	<input type="checkbox"/>	IBM/210903/141C	Sold	CLOSE	30	.03		

Single allocate supports for allocating on a total quantity or percent basis

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Allocate Trade ✕

Symbol: IBM/210903/141C Side: Sell
Quantity: 30 O/C: Close

Percentage
Quantity

ACCOUNT	%	ODD LOT
silexx.p2p		<input type="checkbox"/>
silexx.staging	60.00	<input checked="" type="checkbox"/>
t-dmassat		<input type="checkbox"/>
test_account11	40.00	<input type="checkbox"/>
test_account2		<input type="checkbox"/>
test_account3		<input type="checkbox"/>
test_account4		<input type="checkbox"/>
test_account5		<input type="checkbox"/>

Allocate
Cancel

Allocate Trade ✕

Symbol: IBM/210903/141C Side: Sell
Quantity: 30 O/C: Close

Percentage
Quantity

ACCOUNT	QTY	ODD LOT
silexx.p2p		<input type="checkbox"/>
silexx.staging	10	<input checked="" type="checkbox"/>
t-dmassat		<input type="checkbox"/>
test_account11		<input type="checkbox"/>
test_account2	10	<input type="checkbox"/>
test_account3		<input type="checkbox"/>
test_account4		<input type="checkbox"/>
test_account5		<input type="checkbox"/>

Allocate
Cancel

- b. Mass Allocate – allocate on more than one average price trade using the same allocation instructions.

Post-Trade Allocations ✕
Order Manager ✕
+

silexx.trading ▼
Import Allocations ↺ ↻ ⌵ ⌶ ⚙ ☰

MASS ALLOCATE	CREATE APT	SYMBOL	SIDE	O/C	QUANTITY	PRICE	AVAILABLE QTY	SINGLE ALLOCATE
<input checked="" type="checkbox"/>		IBM/220414/130C	Bot	CLOSE	100	1.04	100	✎
<input checked="" type="checkbox"/>		IBM/220414/130C	Bot	CLOSE	50	1.04	50	✎
<input type="checkbox"/>		IBM/220414/130C	Bot	CLOSE	10	1.04	10	✎
<input type="checkbox"/>		IBM/220414/130C	Bot	CLOSE	110	1.04	110	✎

Create Average Price Trade
Allocate
Revert Allocations

Select one or more average price trades by checking the MASS ALLOCATE field and click on the Allocate button.

ACCOUNT	EQUITY		OPTION		FUTURE	
	%	ODD LOT	%	ODD LOT	%	ODD LOT
dave.p2p		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
integration_account		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
integration_test		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
matt.p2p		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
matt_test		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
ru_account		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
s-dmassat		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
silexx.p2p		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>

User can save the allocation instructions into a template. The user can also save a template as the default one, that is automatically loaded.

- c. Import Allocations – Import allocations from a file by clicking on the ‘Import Allocations’ button to bring up the Import Allocations dialog.

TRADING ACCT	ALLOCATION ACCT	SYMBOL	SIDE	O/C	QUANTITY	STATUS
--------------	-----------------	--------	------	-----	----------	--------

The user can download a sample file by clicking on the ‘sample CSV template’ link. The user should prepare the file to import according to the template. Click on the ‘Select File’ button to select a file, and the grid shows all the records loaded.

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TRADING ACCT	ALLOCATION ACCT	SYMBOL	SIDE	O/C	QUANTITY	STATUS
silexx.trading ¹	silexx.staging	IBM/210827/142C	Buy	Open	9	Invalid
silexx.trading	silexx.staging ¹	1IBM/210827/142C	Buy	Open	1	Invalid
silexx.trading	silexx.staging	IBM/210827/142C	Buy	Close	9a	Invalid
silexx.trading	silexx.staging	IBM/210827/142C	Buy	Closed	1	Invalid

If a field value is invalid, then it is displayed in red, and the status of the record is 'Invalid'. The user can correct the data and re-import the file.

TRADING ACCT	ALLOCATION ACCT	SYMBOL	SIDE	O/C	QUANTITY	STATUS
silexx.trading	silexx.staging	IBM/210827/142C	Buy	Open	9	Failed to find average price record
silexx.trading	silexx.staging	IBM/210827/142C	Buy	Open	1	Failed to find average price record
silexx.trading	silexx.staging	IBM/210827/142C	Buy	Close	9	Imported
silexx.trading	silexx.staging	IBM/210827/142C	Buy	Close	1	Imported

3. Allocations – the bottom grid shows the allocations for the selected average price trade.

silexx.trading		Import Allocations							
MASS ALLOCATE	CREATE APT	SYMBOL	SIDE	O/C	QUANTITY	PRICE	AVAILABLE QTY	SINGLE ALLOCATE	
▶	■	IBM/220414/130C	Sold	CLOSE	200	1.04	24		
▶	■	IBM/220414/130C	Bot	CLOSE	200	1.04	22		
▶	■	IBM/220414/130C	Bot	CLOSE	100	1.04	100		
▶	■	IBM/220414/130C	Bot	CLOSE	50	1.04	50		
▶	■	IBM/220414/130C	Bot	CLOSE	10	1.04	10		
▶	■	IBM/220414/130C	Bot	CLOSE	110	1.04	110		
Create Average Price Trade		Allocate		Revert Allocations					
ACCOUNT	SYMBOL	SIDE	O/C	QUANTITY	LAST UPDATED BY				
s-dmassat	IBM/220414/130C	Bot	Close	66	test_user	✗			
silexx.p2p	IBM/220414/130C	Bot	Close	12	test_user	✗			
t-dmassat	IBM/220414/130C	Bot	Close	100	test_user	✗			

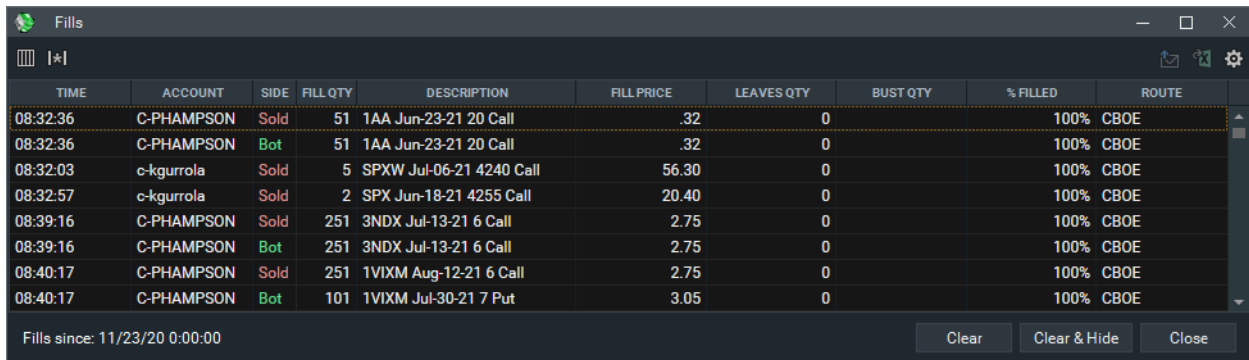
4. Removing Allocations

- Remove individual allocations by clicking on the Cancel (X) button in the allocation grid.
- Remove all allocations by clicking on the 'Revert Allocations' button.

8.12 Fill Notifications

The Fill Notifications module displays execution information for the user(s). The window can be configured to popup or be brought to the front of the screen upon receipt of a new execution by accessing the Notifications menu under File > Settings.

This module's settings are available by clicking on the 'gear' icon in the top, right-hand corner.



The screenshot shows the 'Fills' window with a table of execution data. The table has columns for TIME, ACCOUNT, SIDE, FILL QTY, DESCRIPTION, FILL PRICE, LEAVES QTY, BUST QTY, % FILLED, and ROUTE. The data rows show various trades with 100% fill status. At the bottom, there are buttons for 'Clear', 'Clear & Hide', and 'Close', and a status bar indicating 'Fills since: 11/23/20 0:00:00'.

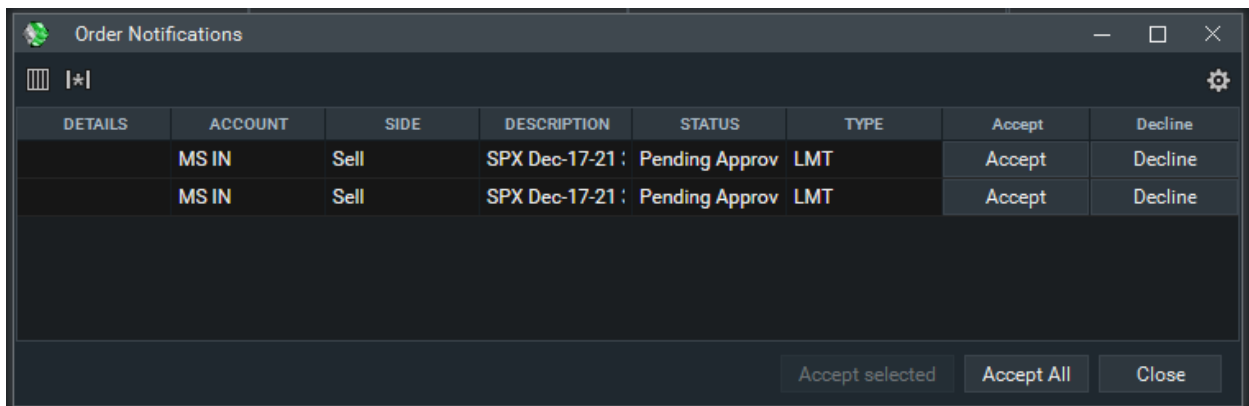
TIME	ACCOUNT	SIDE	FILL QTY	DESCRIPTION	FILL PRICE	LEAVES QTY	BUST QTY	% FILLED	ROUTE
08:32:36	C-PHAMPSON	Sold	51	1AA Jun-23-21 20 Call	.32	0		100%	CBOE
08:32:36	C-PHAMPSON	Bot	51	1AA Jun-23-21 20 Call	.32	0		100%	CBOE
08:32:03	c-kgurrola	Sold	5	SPXW Jul-06-21 4240 Call	56.30	0		100%	CBOE
08:32:57	c-kgurrola	Sold	2	SPX Jun-18-21 4255 Call	20.40	0		100%	CBOE
08:39:16	C-PHAMPSON	Sold	251	3NDX Jul-13-21 6 Call	2.75	0		100%	CBOE
08:39:16	C-PHAMPSON	Bot	251	3NDX Jul-13-21 6 Call	2.75	0		100%	CBOE
08:40:17	C-PHAMPSON	Sold	251	1VIXM Aug-12-21 6 Call	2.75	0		100%	CBOE
08:40:17	C-PHAMPSON	Bot	101	1VIXM Jul-30-21 7 Put	3.05	0		100%	CBOE

Fills since: 11/23/20 0:00:00

Clear Clear & Hide Close

8.13 Order Notifications

The Order Notifications module displays order information for the user when a Peer-to-Peer ("P2P") order is received. The window can be configured to popup or be brought to the front of the screen upon receipt of a P2P order. Using the settings panel in the upper right corner of the module, the user can choose which account to auto-accept orders from. Preferences can be configured via the Notification menu accessed by clicking File > Settings.



The screenshot shows the 'Order Notifications' window with a table of pending orders. The table has columns for DETAILS, ACCOUNT, SIDE, DESCRIPTION, STATUS, TYPE, Accept, and Decline. The data rows show two pending orders for SPX Dec-17-21. At the bottom, there are buttons for 'Accept selected', 'Accept All', and 'Close'.

DETAILS	ACCOUNT	SIDE	DESCRIPTION	STATUS	TYPE	Accept	Decline
	MS IN	Sell	SPX Dec-17-21 :	Pending Approv	LMT	Accept	Decline
	MS IN	Sell	SPX Dec-17-21 :	Pending Approv	LMT	Accept	Decline

Accept selected Accept All Close

9 Risk Modules

9.1 OCC TIMS

The Theoretical Intermarket Margining System, “TIMS”, is a portfolio margining system specifically developed to handle mixed portfolios holding products like security futures, stocks, stock options, and broad-based stock index futures etc.

The system begins by organizing all securities contracts relating to the same underlying asset into “class groups”. For the underlying assets of two or more class groups that exhibit close price correlation are further organized into a larger “Product Groups.”

The daily margin requirement for class group or a product group has four components:

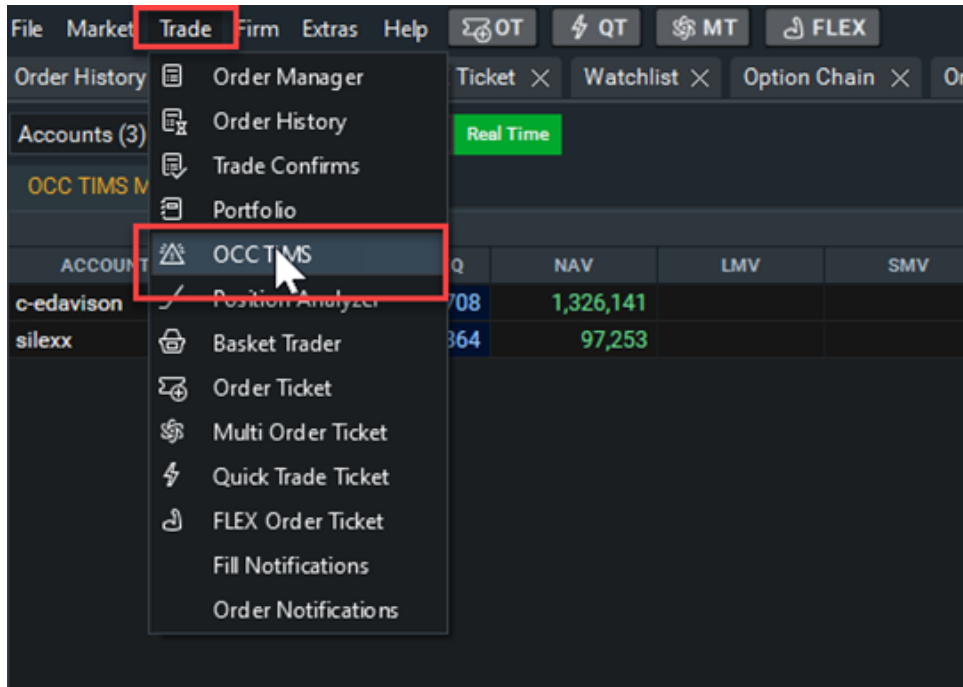
- *Futures Spread Margin*
- *Mark to Market Margin*
- *Premium Margin*
- *Additional Margin*

Detail calculations of the above four component is available here:

<https://www.lseg.com/sites/default/files/content/documents/3.01.01.01.02%2520Tims%2520Manual%5B1%5D.pdf>

SILEXX’s OCC TIMS (Theoretical Intermarket Margining System) is a new module for core clients that needs to be enabled through Support desk. The module doesn’t run these calculations but sources the margin data from Hanweck for our users to be able to access quickly than going to OCC’s Portfolio Margin Calculator platform.

Once enabled, the OCC TIMS module can be accessed through the Trade dropdown on Menu bar as “OCC TIMS”



Once selected, the module is laid out as below:

The screenshot shows the 'OCCTIMS Margin' module layout. The top bar includes tabs for 'Order History', 'FLEX Ticket', 'FLEX Ticket', 'Watchlist', 'Option Chain', 'Order Manager', 'OCCTIMS', and 'Order Manager'. The main area has a dropdown for 'Accounts (3)' and a 'Real Time' status. Below is a table with columns: ACCOUNT, TYPE, MARGIN REQ, NAV, LMV, SMV, PFG, PG, CG, and POS. The table has two rows: 'c-edavison' and 'silexx'.

ACCOUNT	TYPE	MARGIN REQ	NAV	LMV	SMV	PFG	PG	CG	POS
c-edavison	CPM	2,328,652	1,407,859			2	36	658	4630
silexx	CPM	16,326	97,005			1	1	4	6

User can select “Accounts” in the drop down to view further details in one of modes: Prior Settlement or Real Time.

Prior Settlement: Calculates margin based on account’s holdings and settlement prices at the close of the previous day session

Real Time: Includes the prior settlement holdings and the day’s trading activity

*This document will go over the data in Real Time mode

Once the accounts are selected on the main page, the base grid of the module shows a comprehensive view of the Margin Requirements, Net Asset Value (NAV), Long Market Value (LMV), Short Market Value (SMV) along with Product Group, Class Group and total Position count.

User can double click on their accounts from base grid to open new tab and expand further on their margin product data:

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Accounts (3) Prior Settlement Real Time

OCC TMS Margin c-edavison x

c-edavison

Margin Req: 2,368,035
NAV: 1,525,647

Portfolio Group Count: 2
Product Group Count: 36

Class Group Count: 657
Position Group Count: 4622

GROUP ID	GROUP	MARGIN REQ	NAV	LMV	SMV	HAIRCUT	HAIRCUT MIN
8	NASDAQ BROAD-BASED INDEXES	92,860	159,836	159,836		9,296	92,859.89
9	HIGH CAP BROAD-BASED INDEXES	33,550	179,704	235,099	(55,394)	2,954	33,549.50
12	GOLD AND SILVER MINING INDEXES	10,088	(231)		(231)	1,418	10,087.50
13	US DOLLAR FUTURES INDEX	10,919	9,124	9,124		7,565	10,918.83
15	OIL AND GAS SERVICES	10,889	14,288	22,276	(7,987)	4,813	10,888.50
16	OIL AND GAS EXPLORATION	23,775	(11,414)		(11,414)	8,885	23,775.00
36	BIOTECH INDEXES	8,728	19,184	19,184		8,728	3,740.00
45	SMALL CAP BROAD BASED INDEXES	5,074	7,553	7,703	(150)	5,074	4,717.50
52	HIGH-CAP GROWTH INDEXES	4,695	(62,405)		(62,405)	4,695	1,012.50
53	HIGH-CAP VALUE INDEXES	1,503	(970)		(970)	1,503	1,200.00
57	UTILITY INDEXES	193	(748)		(748)	193	75.00
59	JAPAN INDEXES	3,596	(10,994)		(10,994)	3,596	975.00
67	WORLD INDEXES	188	(223)		(223)	162	187.50
68	REAL ESTATE INVESTMENT TRUST	11,925	(15,055)		(15,055)	11,925	412.50
76	TECHNOLOGY SECTOR INDEXES	14,570	(27,282)		(27,282)	985	14,569.50
81	CHINA INDEXES	1,072	(547)		(547)	560	1,072.00
99	U.S. FINANCIAL SECTOR INDEXES	34,985	82,184	82,184		13,186	34,985.14
104	SEMICONDUCTOR INDEXES	28,117	(196,103)		(196,103)	25,715	28,116.50
140	BOFA ML LONG US TREAS PRINCIP	1,513	21,611	21,611		1,513	.00
150	1-3 YEAR US TREASURY BOND INDE	2,783	(2,568)		(2,568)	127	2,782.50
151	TREASURY ISSUES 7-10 YEAR	6,538	8,309	8,309		6,538	1,584.50

The expanded view also shows the comprehensive information from previous tab on the top next to the account name.

The following grid breaks down ‘Product Group’ with each groups Margin requirements, NAV, LMV, SMV, Haircut and Haircut Min.

Haircut Min value becomes a required minimum margin if the risk margin component of a particular product group is less than a calculated minimum margin for that product group.

On double clicking each product user can get their class and position margin data:

Accounts (3)▼

Prior Settlement

Real Time

OCC TMS Margin

c-edavison▼

Margin Req: 2,340,143

Portfolio Group Count: 2

Class Group Count: 657

NAV: 1,404,964

Product Group Count: 36

Position Group Count: 4622

c-edavison

GROUP ID

GROUP

MARGIN REQ

NAV

LMV

SMV

HAIRCUT

HAIRCUT MIN

36

BIOTECH INDEXES

9,289

18,711

18,711

9,289

3,714.50

45

SMALL CAP BROAD BASED INDEXES

5,148

7,341

7,491

(150)

5,148

4,712.50

52

HIGH-CAP GROWTH INDEXES

4,643

(62,630)

(62,630)

4,643

1,012.50

53

HIGH-CAP VALUE INDEXES

1,506

(950)

(950)

1,506

1,200.00

57

UTILITY INDEXES

204

(738)

(738)

204

75.00

59

JAPAN INDEXES

3,660

(10,992)

(10,992)

3,660

975.00

67

WORLD INDEXES

188

(223)

(223)

162

187.50

Product ID: 8

Product ID: 13

Product ID: 45

Group Name: SMALL CAP BROAD BASED INDEXES

Down/Up: 10%/10%

MinHaircut: 4712.5

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SYMBOL

MARGIN REQ

NAV

LMV

SMV

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The further the user drives into the product and class groups the more granular the information of the margin requirements. The Class group level provides details on how the required margin as the underlying security moves. This information is reflected in the columns with DN5 thru UP5.

The data auto refreshes every thirty seconds. User can also add simulated position and track how will that affect their margin.

User can add position option is available on every grid by either right clicking on an existing position or clicking the '+' icon from the toolbar:

Margin data for simulated positions are highlighted in purple:

Group Name: SMALL CAP BROAD BASED INDEXES Down/Up: -10%/10% MinHaircut: 4736.5

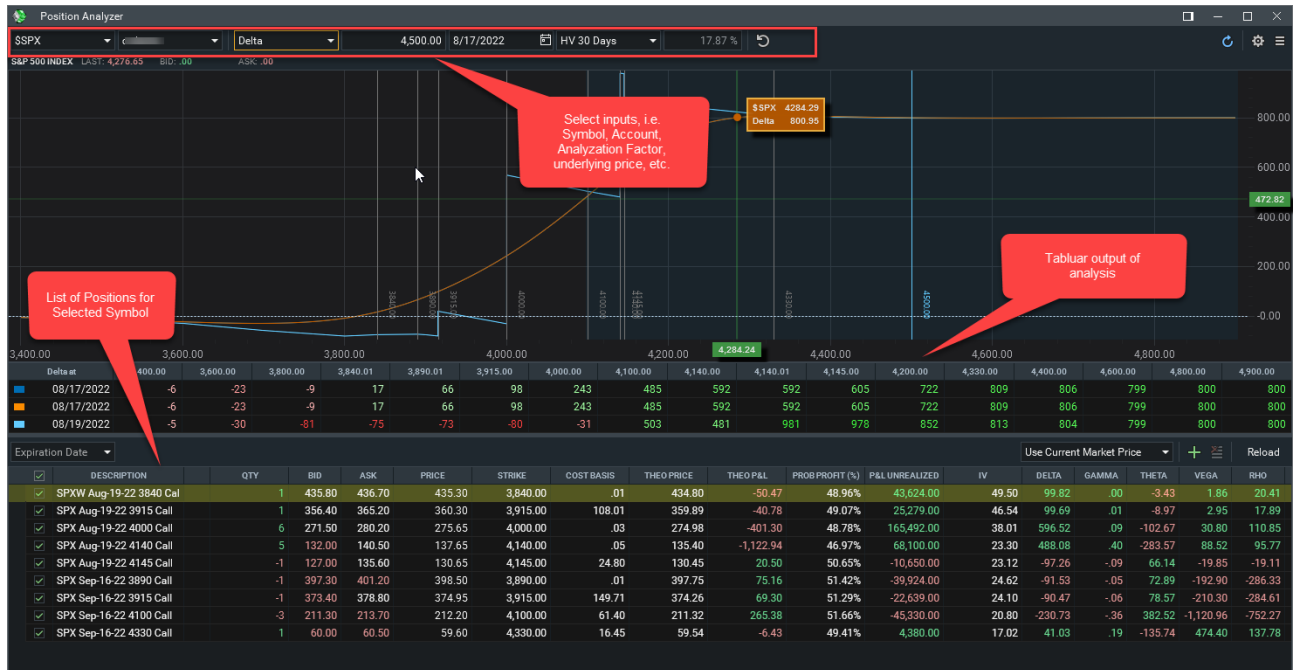
SYMBOL	MARGIN REQ	NAV	LMV	SMV	HAIRCUT	HAIRCUT MIN	DN5	DN4	DN3	DN2	DN1	UP1	UP2	UP3	UP4	UP5	
IWN	569	(375)			569	37.50	267	235	195	147	88	(67)	(166)	(281)	(415)	(569)	
TICKER	EXPIRY	STRIKE	C/P	QTY	PRICE	NAV	HAIRCUT MIN	DN5	DN4	DN3	DN2	DN1	UP1	UP2	UP3	UP4	UP5
IWN	01/20/2023	260	C	-10	37.50	(375)	37.50	267	235	195	147	88	(67)	(166)	(281)	(415)	(569)

9.2 Position Analyzer

The Position Analyzer offers graphical representation of positions, P&L, and Greeks. This feature rich module includes the ability to affect underlying price, evaluation date, and to add simulated positions.

The Position Analyzer can be accessed via the Trade Menu.

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- After selecting the account and underlying symbol, the following analysis factors can be chosen from the dropdown
 - Profit/Loss
 - Delta
 - Gamma
 - Vega
 - Theta
 - Rho
- The future price of the underlying symbol that will be used in the calculations is entered next in the Price field.
- The Date to be used in the analysis is entered.

The output will be available visually in the graph, while tabular data can be viewed below.

9.3 Risk Radar

The Cboe Silexx Risk Radar module allows for quick and easy access to your portfolio risk with user-driven percentage shocks, data & time shifts, and implied volatility swings.

Cboe Silexx User Manual (Version 1.0.7)

The screenshot displays the 'Risk Radar' interface for a portfolio named 'c-randerson'. It shows a table with columns for 'ACCOUNT', 'NAV', and various shock scenarios ranging from -12.50% to 12.50%. The table includes rows for individual positions like SPX, KXY, KERN, KHC, KIE, KKK, KJAC, KMB, KMX, KNOF, KQ, and MSFT, as well as a 'TICKER' section for options. The data is presented in a grid format with multiple columns for each shock scenario, showing values for NAV, NET STK, NET CALL, NET PUT, and PnL.

- View projected PnL at the portfolio, underlying, and position levels based on user-driven shock inputs.
- Ability to set date AND time, allowing for intraday ODTE analysis, or a future date/time.
- Set the scenario order of the model. You can either choose to shock prices, then shift forward in time, or shift forward in time, then shock prices.
- Inclusion of a 0% shock which gives you the ability to isolate a shock to implied volatility & date only.
- Easily add simulated positions to visualize how a new position or a hedge could impact your broader portfolio.

This table shows simulated positions and their impact on the portfolio. It includes columns for 'SYMBOL', 'NAV', 'NET STK', 'NET CALL', 'NET PUT', 'QTY', and various shock scenarios. The table lists positions for SPX, SPX, SPX, SPX, and SPXW, with their respective NAV, NET STK, NET CALL, NET PUT, and QTY values. The table also shows the impact of these positions on the portfolio's NAV and PnL across different shock scenarios.

- All theoretical data is driven by the Cboe Hanweck risk engine, resulting in highly accurate results.
- See your real-time PnL, net position, greeks, and many other fields alongside shocked projections.
- Support for multiple accounts which gives a high level dashboard view.

This table shows the impact of different accounts on the portfolio. It includes columns for 'ACCOUNT', 'NAV', and various shock scenarios. The table lists accounts for 'c-randerson', 'c-randerson', and 'Options Asst', with their respective NAV and PnL values across different shock scenarios.

10 Firm Modules

A trading firm can appoint one or more users to be permissioned as the Firm Admin. The Firm Admin can update settings for Users and trading accounts associated with the trading firm. This is carried out by accessing the Firm tab on the menu bar.

The following is a list of functions the Firm Admin can perform:

- Make updates to the Trading Firm
- Update a User's Status
- Lockout a User
- Update User Risk Override Settings

- Configure Order limits
- Assign Trading Accounts to Users
- Update a User's password
- Add/assign trading accounts
- Configure trading accounts
- Add/configure route assignments
- Manage restricted security lists
- Run Audit and Risk Override reports

10.1 Manage Firms

The Manage Firms module allows the Firm Admin to:

- Add/Update Bcc on Emails
- Add/Update Firm level Risk Settings

Trading Firm

Setup Settings

Compliance Policy

Bcc on Emails ☒

Equities

	Warning Limits	Max Limits
Order Qty	<input type="text"/>	<input type="text"/>
Order Notional	<input type="text"/>	<input type="text"/>
Net Qty Day	<input type="text"/>	<input type="text"/>
Gross Qty Day	<input type="text"/>	<input type="text"/>
Gross Notional Day	<input type="text"/>	<input type="text"/>
Net Position	<input type="text"/>	<input type="text"/>

Options

	Warning Limits	Max Limits
Order Qty	<input type="text"/>	<input type="text"/>
Order Notional	<input type="text"/>	<input type="text"/>
Net Qty Day	<input type="text"/>	<input type="text"/>
Gross Qty Day	<input type="text"/>	<input type="text"/>
Gross Notional Day	<input type="text"/>	<input type="text"/>

Save Cancel

10.2 Manage Users

The Manage Users module allows the Firm Admin to:

- Add/Update User Status
- Add/Update Risk Settings
- CAT Reporter Details
- Add/Remove Trading Accounts
- Set a new password for the User

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User Manual (Version 1.0.7)

Firm Users

The Firm Administrator will be able to see all of the users that are assigned to their Trading Firm.

Highlight the user and click the edit icon, double-click the user, or right-click the user to open "User Settings"

Toolbar to refresh the user list, export to Excel, or edit column settings.

Under User Settings you will be able to:

- Set User Status to Activate / View Only
- Unlock the user account
- Set Risk Settings and assign user permissions
- Add CAT details (Reporter IMID)

USER ID	STATUS	DOMAIN	NAME	CITY	REGION	TYPE	TRADING FIRM
Act				Chicago	IL		
Act				Chicago	IL		
Dis				Chicago	IL		
Act				Chicago	IL	GUI	
Dis				Chicago	IL	GUI	
Act				Chicago	IL	GUI	
Disabled	SILEXX			Chicago	IL	GUI	
Active	SILEXX			Chicago	IL	GUI	
Active	SILEXX			Chicago	IL	GUI	
Active	SILEXX			Chicago	IL	GUI	
Active	SII FYY			Chicago	IL	GUI	
Active				Chicago	IL	GUI	
Active				Chicago	IL	GUI	
Disabled						GUI	
Active				San Francisco	CA	GUI	
Active				San Francisco	CA	GUI	
Active				San Francisco	CA	GUI	
Active	SILEXX			San Francisco	CA	GUI	
Active	SILEXX			San Francisco	CA	GUI	

10.3 Manage Accounts

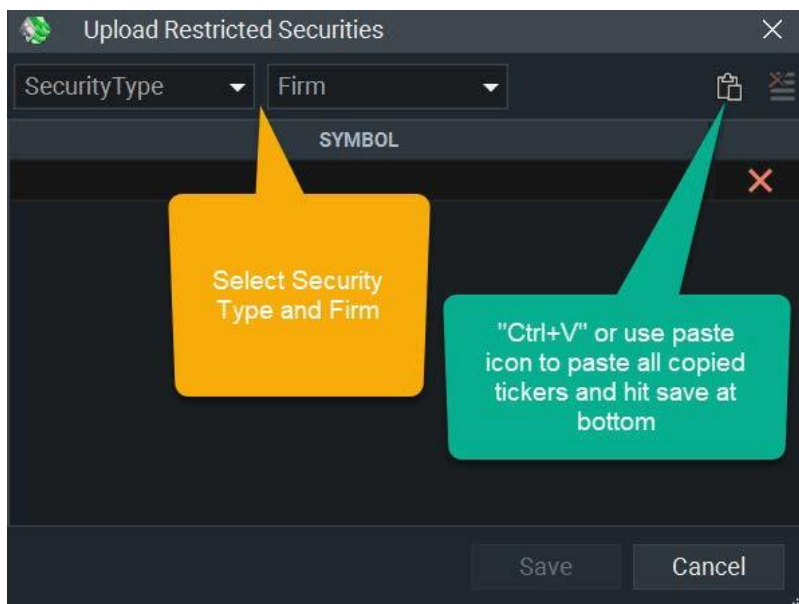
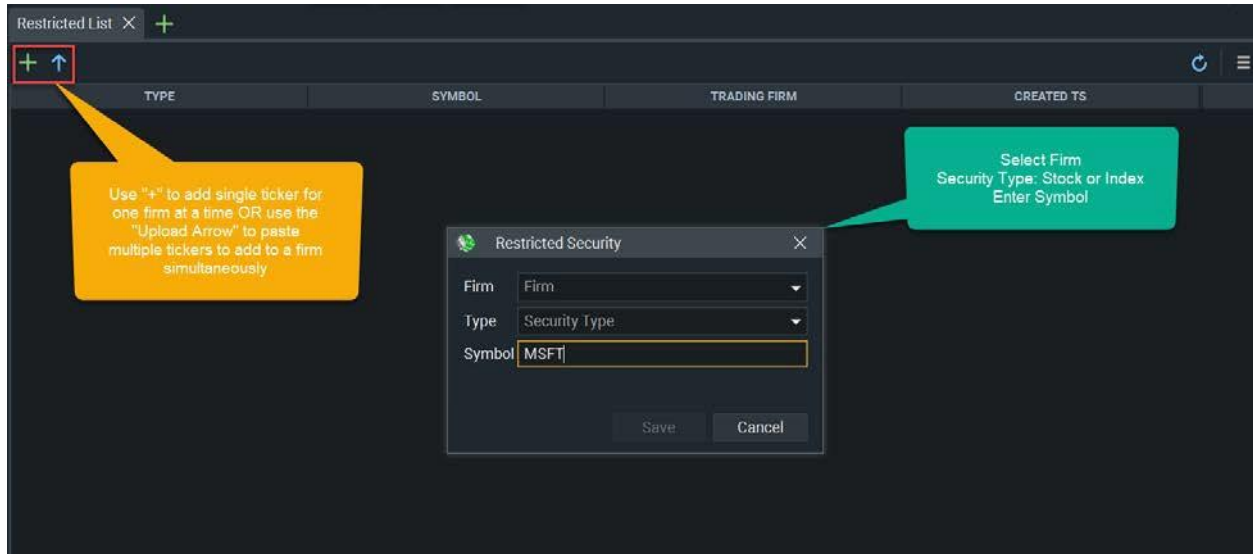
The Manage Account module allows the Firm Admin to:

- Add/Clone a Trading Account
- Edit a Trading Account
- Add/Remove Users to the Trading Account
- Add/remove Routing Session Groups to the Trading Account

[illegible]

10.4 Restricted List

Restricted List module allows the Firm Admin(s) to establish and manage a list of symbols that are restricted from trading by the firm.



10.5 Report Center

The Report Center module allows the Firm Admin to extract two types of reports related to account changes made by users – Risk Overrides and Audit Report. These reports can be selected by Trading Firm and Trade Date.

Cboe Silexx
User Manual (Version 1.0.7)

- Risk Override Report – provides detailed instances when a Firm’s user(s) have breached their risk limits and if permissioned, have selected the option to override.
- Audit Report – provides details related to account level edits made on behalf of a firm’s admin user(s).

Select one of the options from "Audit Report" or "Risk Overrides"

Refresh, Export, and Layout

Apply Firm and Date filters to narrow results.

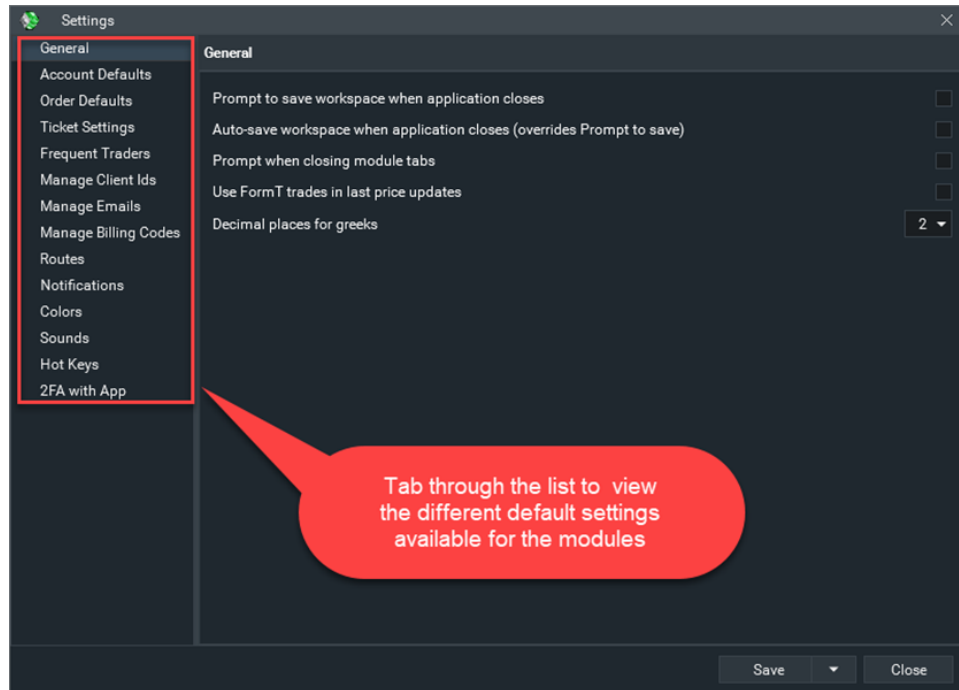
DATE	TIME	LEVEL	SETTING
5/24/2021	15:02:04	Account	OptMaxGrossNotionalDay
5/24/2021	15:02:04	Account	OptMaxGrossQtyDay
5/24/2021	15:02:04	Account	OptMaxNetPosition
5/24/2021	15:02:04	Account	OptMaxNetQtyDay
5/24/2021	15:02:04	Account	OptOrderMaxNotional
5/24/2021	15:02:04	Account	OptOrderMaxQty
5/24/2021	15:02:04	Account	OptOrderWarnNotional
5/24/2021	15:02:04	Account	OptOrderWarnQty
5/24/2021	15:02:04	Account	OptWarnGrossNotionalDay
5/24/2021	15:02:04	Account	OptWarnGrossQtyDay
5/24/2021	15:02:04	Account	OptWarnNetPosition
5/24/2021	15:02:04	Account	OptWarnNetQtyDay

Risk Override Report shows the type of override made on the orders and in the accounts by the user.

DATE	TIME	FIRM	USER	ACCOUNT	ORDER ID	TYPE
5/24/2021	09:15:47				5211440	Opt Max Gross Qty D
5/24/2021	09:17:38				5211440	Opt Max Gross Qty D
5/24/2021	09:18:04				5211440	Opt Max Gross Qty D
5/24/2021	10:09:55				5211440	Opt Max Gross Qty D
5/24/2021	10:10:20				5211440	Opt Max Gross Qty D
5/24/2021	10:13:41				5211440	Opt Max Gross Qty D
5/24/2021	10:13:55				5211440	Opt Max Gross Qty D
5/24/2021	10:15:03				5211440	Opt Max Gross Qty D

11 AppendixA-Settings

The Settings module can be opened by clicking File -> Settings on the Menu bar.



11.1 General Settings

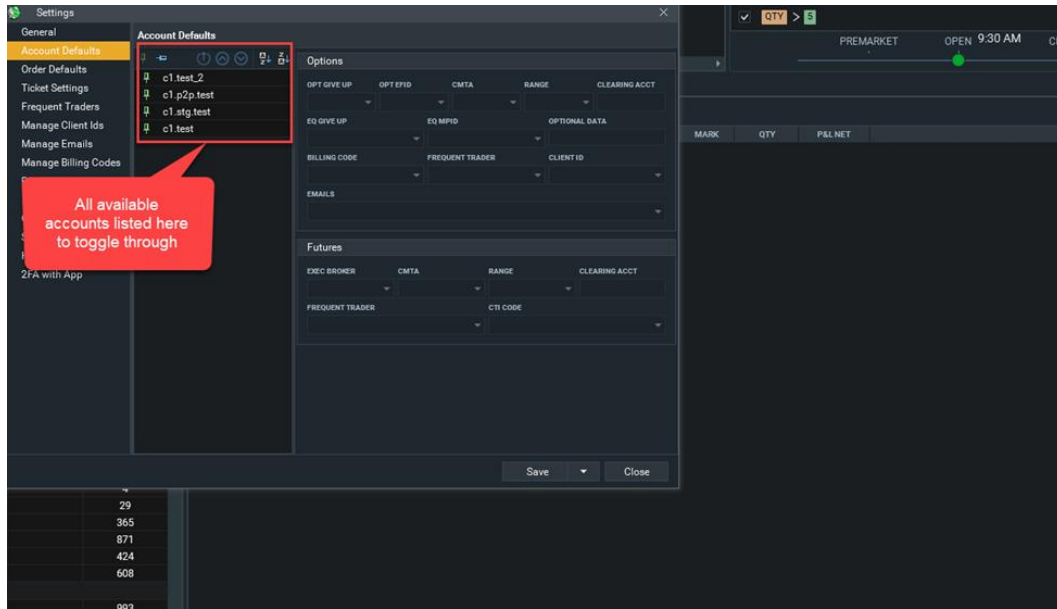
General settings allow to set up how the over all application functions, Currently there is a list of 5 settings, 4 with check box and 1 with drop down selections:

- **Prompt to save workspaces when application closes** – While using the application number of modules are used and to have all your required modules open you can save it as your workspace. If this setting is checked off, a dialogue box will pop up when closing the application, asking if you want to save the workspace if any new modules are open or moved around
- **Auto-save workspace when application closes (overrides Prompt to save)** – If checked off, the way you close your application will be automatically saved for next time you open it. It will override the previous settings
- **Prompt when closing module tabs** – If checked, every time a module is closed, a dialogue box will appear to confirm if you want to complete the action and close the module
- **Use FormT trades in last price updates** – If checked, the positions valuation will be assessed with closing prices of ETH instead of RTH
- **Decimal places for greeks** – Drop down box that allows to choose the places the Greek values go to

11.2 Account Defaults

The 'Account Defaults' settings tab lets you setting default values for all the accounts to be quicker while entering orders:

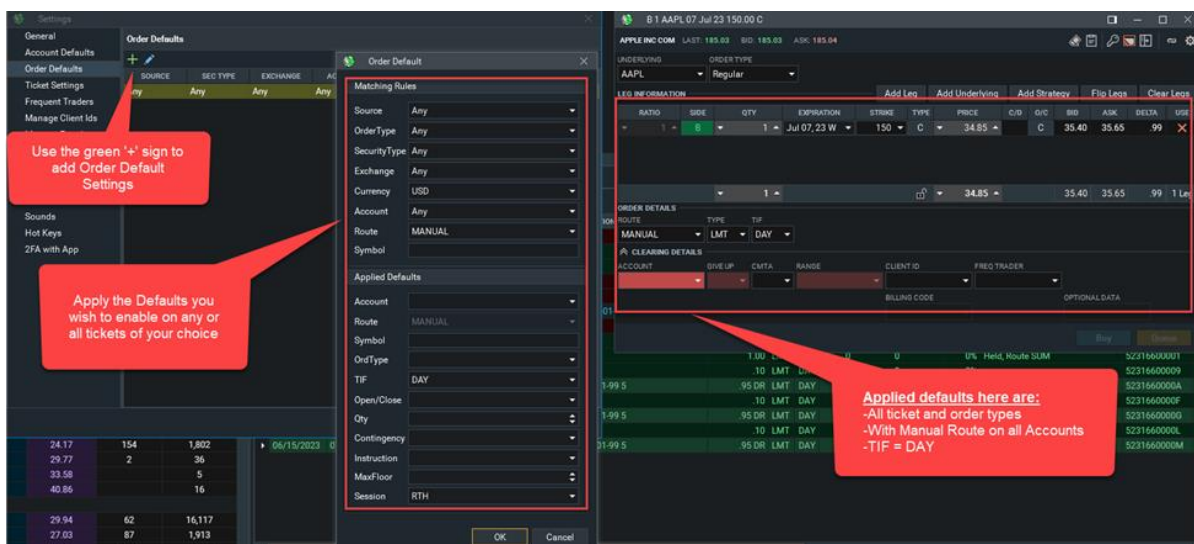
Cboe Silexx User Manual (Version 1.0.7)



- All user accounts will be listed on the left-hand side that can be toggled through to set defaults like: Opt Give Up, Opt EFID, CMTA, Range, Clearing Acct etc.
- Once these values are set here, and when the account is selected on all different order tickets the pre-saved values here will be defaulted
- There is Green/Blue pins next to the accounts allows to Pin/Unpin the accounts

11.3 Order Defaults

Order Default settings enable to default a session and other necessary items to route an order. Order defaults can be set for different tickets, different accounts as well as universal for all order tickets or all accounts. When defaults set for specific accounts, they will appear on the ticket once the account is selected.



Order Default settings box is separated in two sections, 'Matching Rules' and 'Applied Defaults'

Values set at the Matching Rules levels when match on the ticket, the order ticket will default to the Applied values in the second section:

For example:

- o Under Matching Rules; Source = Multi Order Ticket, Security Type= Option &
- o Applied Defaults; Route = Manual, OrdType = LMT, TIF = DAY & Session = RTH+

Results:

- o When a Multi-leg ticket is selected for an Option, the Applied Defaults will automatically be populated on the Multi-Leg Order Ticket

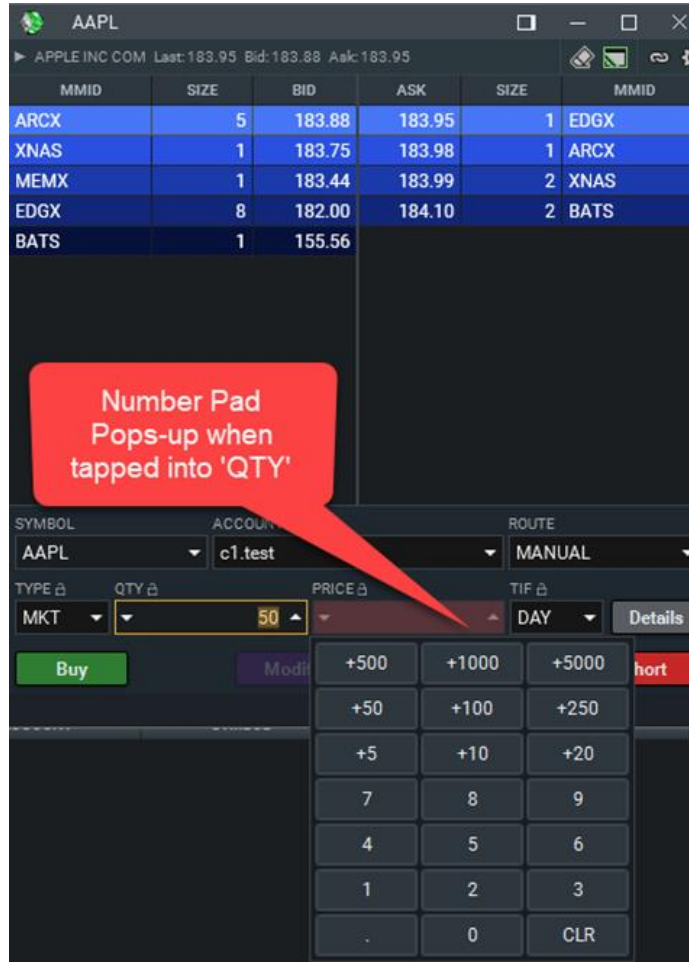
The screenshot displays the 'Order Default' settings window on the left and a 'Multi-Leg Order Ticket' for AAPL on the right. The 'Order Default' window is divided into two sections: 'Matching Rules' and 'Applied Defaults'. The 'Matching Rules' section includes fields for Source (Multi Order Ticket), OrderType (Any), SecurityType (Option), Exchange (Any), Currency (Any), Account (Any), Route (Any), and Symbol. The 'Applied Defaults' section includes fields for Account, Route (MANUAL), Symbol, OrdType (LMT), TIF (DAY), Open/Close, Qty, Contingency, Instruction, MaxFloor, and Session (RTH+). A red callout box points to the 'Matching Rules' section, stating: 'Matching Rules are where the user can select the field values that must be present for defaults to be applied'. Another red callout box points to the 'Applied Defaults' section, stating: 'Order ticket that matches the above rules will than have defaults set here'. The 'Multi-Leg Order Ticket' window shows the underlying security as AAPL, with a table of legs. A green callout box points to the 'Applied Defaults' section of the 'Order Default' window, stating: 'This is Multi-Leg Ticket with an Option as specified under Matching Rules'. Below this, it lists the 'Order Defaults Applied are: -Route = Manual, -OrdType = LMT, -TIF = DAY, -Session = RTH+'. The 'Multi-Leg Order Ticket' window also shows a table of legs with columns for Ratio, Side, Qty, Expiration, Strike, Type, Price, C/D, O/C, Bid, Ask, Delta, and Use.

11.4 Ticket Settings

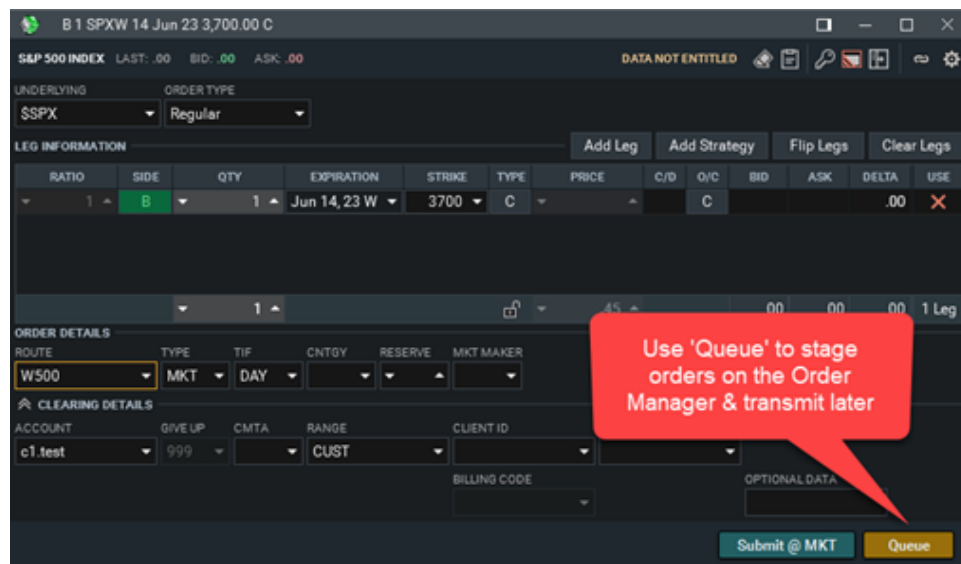
Various checkbox and drop-down settings are available to set up in Order ticket defaults:

- **Clear Quantity After Order Accept** – If checked, once the order is entered and accepted, the 'Order Quantity' on that ticket will clear out
- **Show Number of Pad Popups** – If checked, when tabbed into the Qty or Price field, the number pad to select quantity or price will pop up (Only available for Price when Type = LMT)

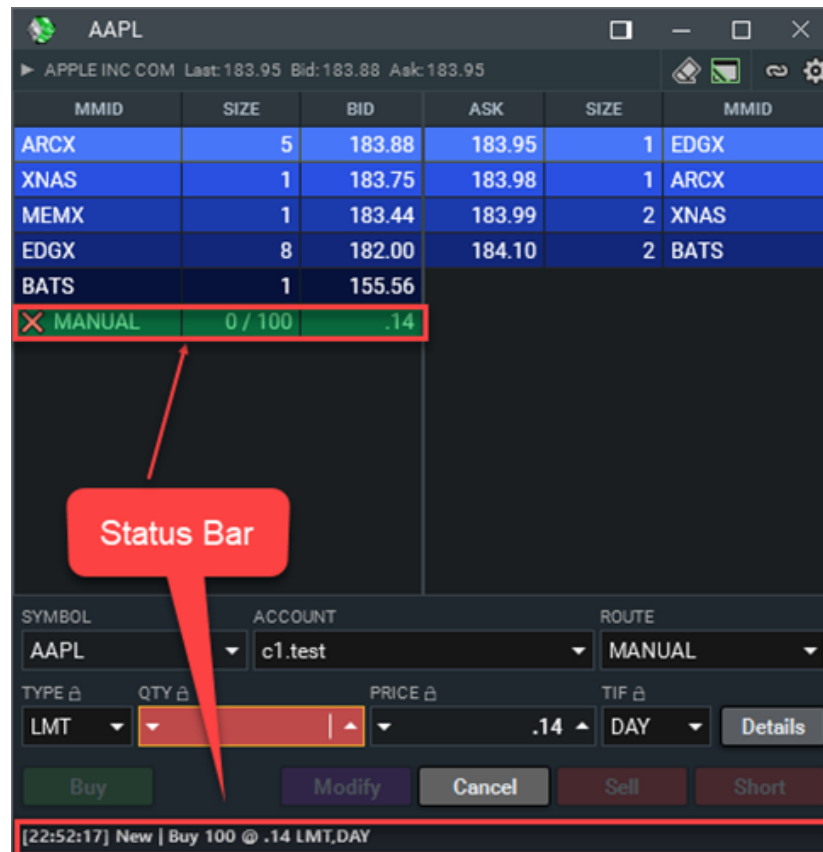
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- **Show Queue Order Button** – If checked, the 'Queue' button will appear on the order tickets to queue the order in the order manager to send it out later rather than right away



- **Show Status Bar**- A miniscule bar at the bottom of the Order Ticket is seen showing the status of the order



- **Enable Normalized Credit Spread Pricing** – Spread prices are normalized
- **Price Population Strategy** – The drop-down menu allows to select the default prices (Ask, Bid, Mid) on the ticket

Ticket Preferences:

- Default ticket for Order – A drop-down menu allows to select which type or order ticket will open for Stock and Single Leg option order when trying to access an order ticket through the Option Chain
- Available Options – Order Ticket, Quick Order Ticket, Multi-Leg Ticket
- Default Ticket for Complex Order - A drop-down menu allows to select which type or order ticket will open for multi-Leg option order when trying to access an order ticket through the Option Chain
- Available options – Quick Trade Ticket & Multi-Leg Ticket

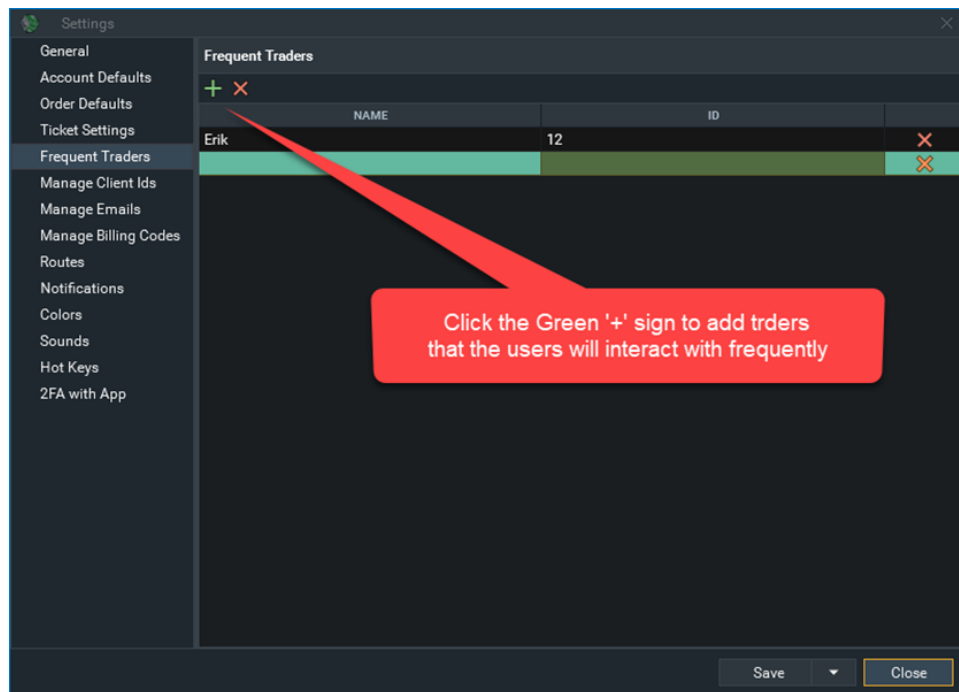
Order Confirmations – Confirmation pop-ups will appear for:

- New Orders
- Order Changes
- Order Cancels

*These confirmations are enabled and disabled at user level by the support desk

11.5 Frequent Traders

- Details surrounding the rebates can be found here:
https://markets.cboe.com/us/options/trading/frequent_trader_program/
- The Quick Reference Guide can be found here:
https://markets.cboe.com/us/options/trading/frequent_trader_program/
- Traders that want to sign up for a Frequent Trader ID can do so by filling out the request form through our website at: https://markets.cboe.com/ftid_registration/
- System automatically generates a Frequent Trader ID for them real time.
- Users may find the FTID MTD Reports for options here:
https://bats.bats.com/library/noc/Reports/Frequent_Trader/

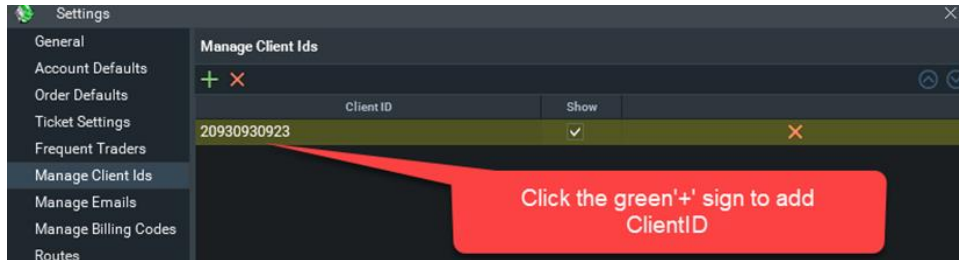


11.6 Manage Client IDs

Fix Tag (109) Identifier used in third-party transaction

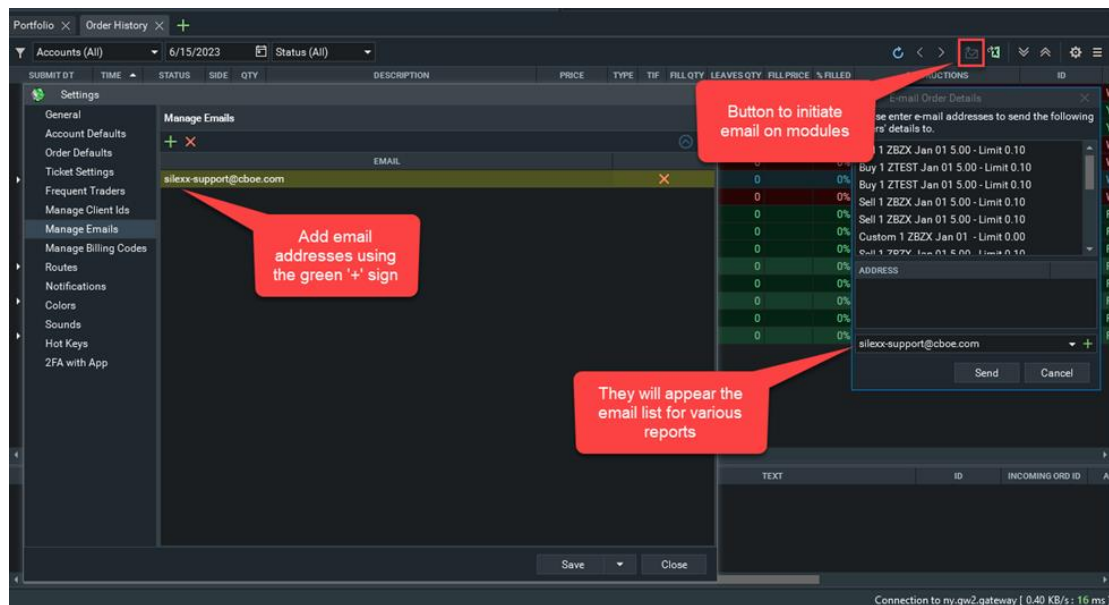
- The User can create a single user defined list
- Each entry supports a string of alpha-numeric characters with allowances for special characters
- Duplicate entries are not allowed
- The list of IDs is capped at a max of 300
- Users can see/hide ClientID list in the ticket dropdown menu
- Any new ClientIDs would automatically be enabled to show in the dropdown

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11.7 Manage Emails

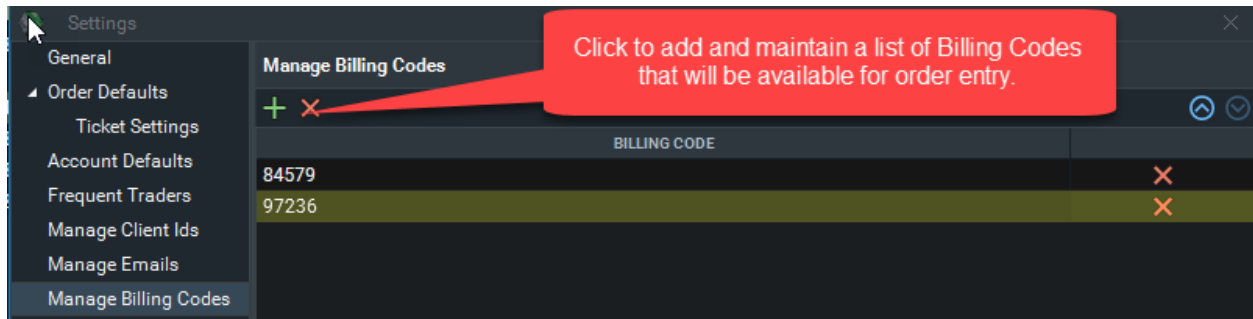
Allows users to manage a list of email addresses that they can use to send Order History, Trade Confirms and other Exportable reports directly from the application by selecting that emails from a pre-created list than to enter full emails every time



11.8 Manage Billing Codes

Billing Code is a per-account field available in order-entry tickets. When the account is set to 'Process', this field supports free-text entry and can be populated with a drop-down list created here.

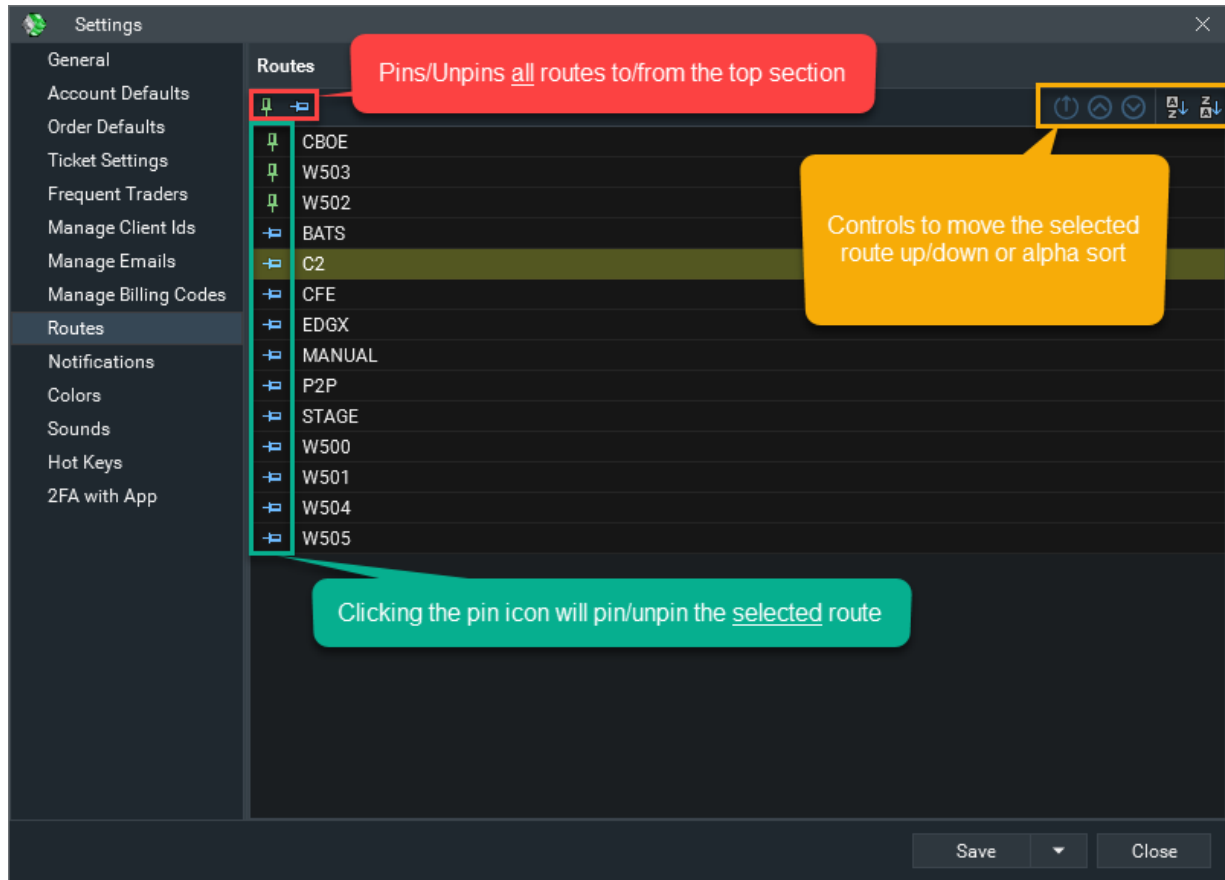
For C1, this corresponds to FIX tag '22022 - Additional Client Info' and shows up as 'Client Information' in the C1 Trade Data report.



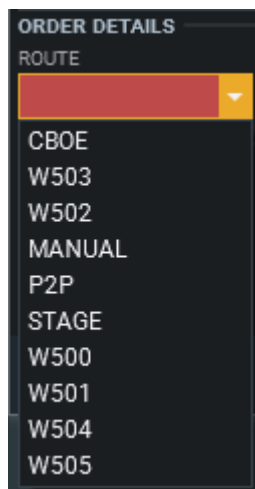
11.9 Routes

The Settings -> Routes section lets you pin & re-order how assigned routes appear in your route selection drop down:

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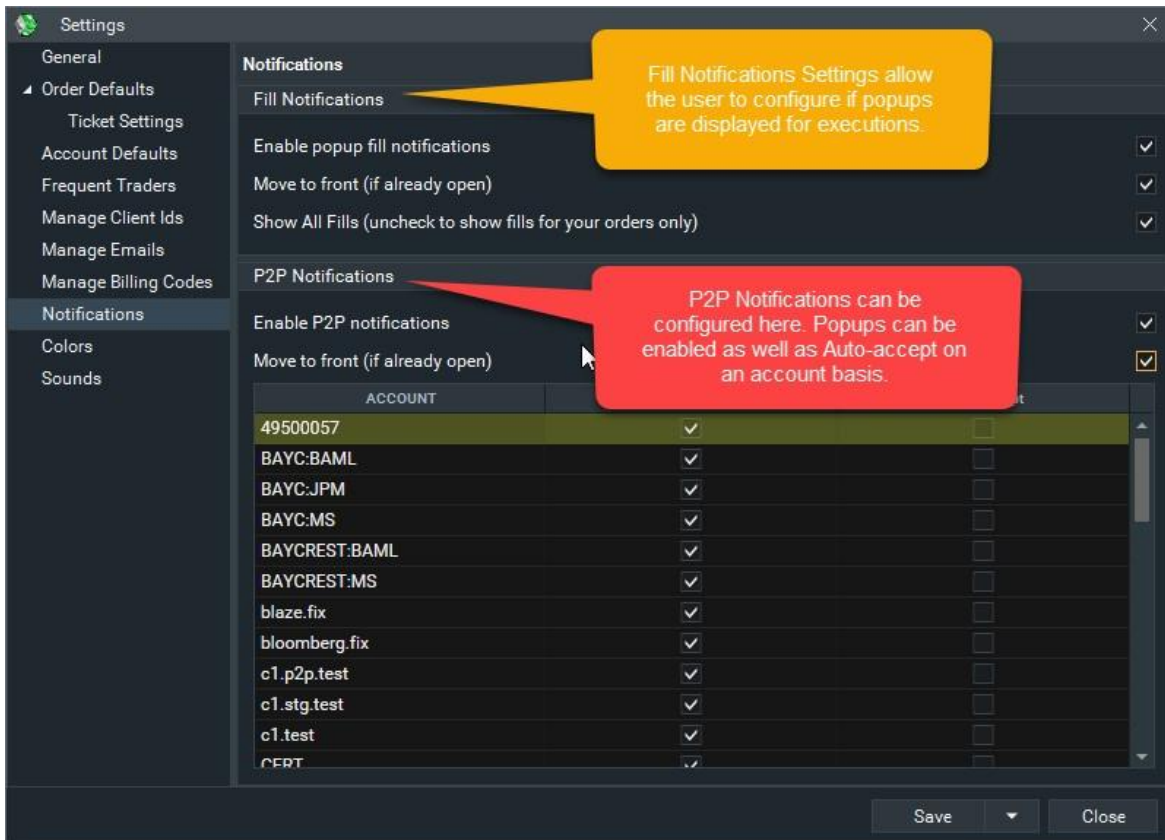


In the example above, CBOE/W503/W502 will appear first in the order ticket. Only valid routes will be shown dependent on the security/account selected.



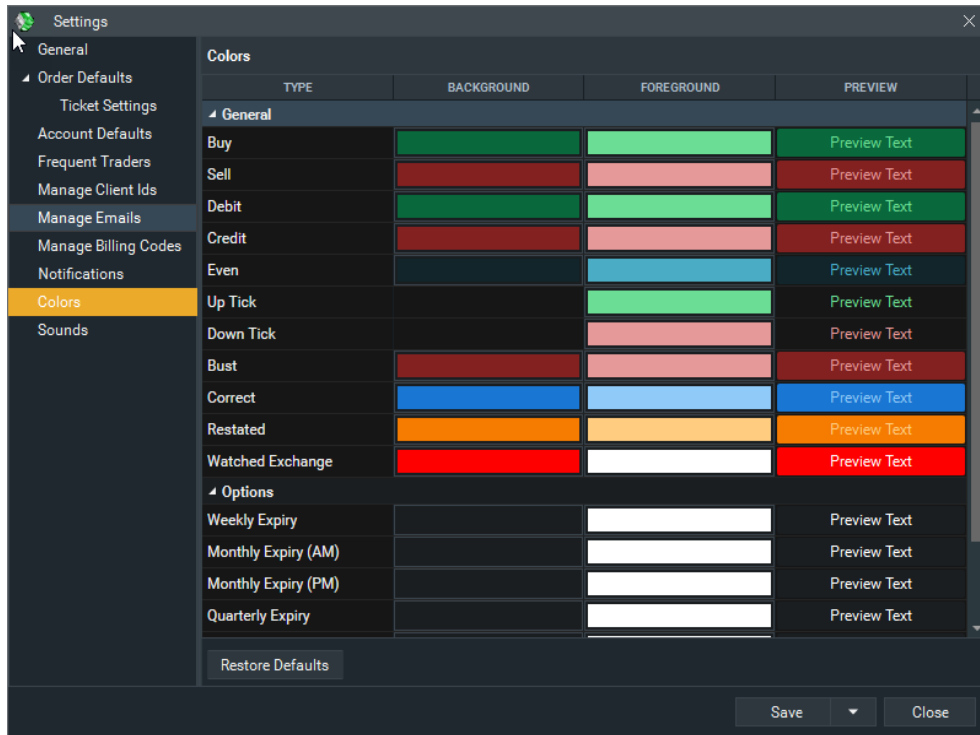
11.10 Notifications

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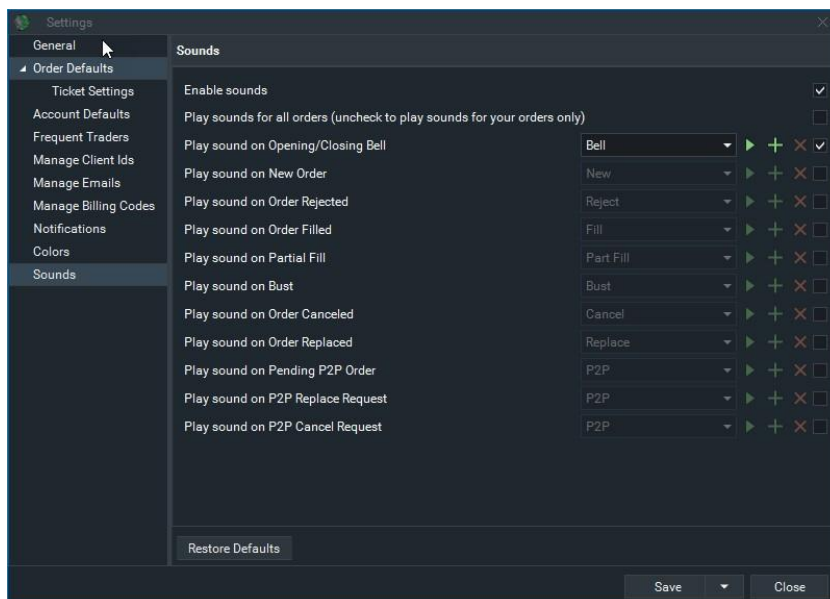


11.11 Colors

Customization of the color schemes can be configured here.



11.12 Sounds



Customization of the Sounds used in notifications can be configured here.

11.13 Hot Keys

Enabling Hot Keys allows keyboard shortcuts to be associated with actions for quick access. These can include opening

Settings

Hot Keys

Edit Selected Hot Key / Reset to default

ENABLED	HOT KEY	NAME	DESCRIPTION	DELETE
<input checked="" type="checkbox"/>	Ctrl+W		Open New Watchlist	
<input checked="" type="checkbox"/>	Ctrl+Q		Open New Quick Trade Ticket	
<input checked="" type="checkbox"/>	Ctrl+M		Open New Multi Order Ticket	
<input checked="" type="checkbox"/>	Ctrl+O		Open New Order Ticket	
<input checked="" type="checkbox"/>	Ctrl+E		Open New FLEX Order Ticket	
<input checked="" type="checkbox"/>	Ctrl+L		Open New Order Manager	
<input checked="" type="checkbox"/>	Ctrl+H		Open New Order History	
<input checked="" type="checkbox"/>	Ctrl+Up		Select Cell Above	
<input checked="" type="checkbox"/>	Ctrl+Down		Select Cell Below	
<input checked="" type="checkbox"/>	Ctrl+Left		Select Cell To Left	
<input checked="" type="checkbox"/>	Ctrl+Right		Select Cell To Right	
<input type="checkbox"/>	Escape		Cancels the last order for the currently selected account/s	
<input type="checkbox"/>	Alt+A	Cxl All	Cancels all working orders for the currently selected account/s	
<input type="checkbox"/>	Alt+Y	Cxl Bids	Cancels all working bids for the currently selected account/s	
<input type="checkbox"/>	Alt+E	Cxl Offers	Cancels all working offers for the currently selected account/s	
<input type="checkbox"/>	None	Cxl Best		

Editing a Hot Key opens a popup to change the key chord or name

Change the key chord by typing it in the field here

Invalid key chords will be highlighted red

Hot Key Settings

Hot Key

Alt+Y

Description

Cancels all working bids for the currently selected account/security

Name

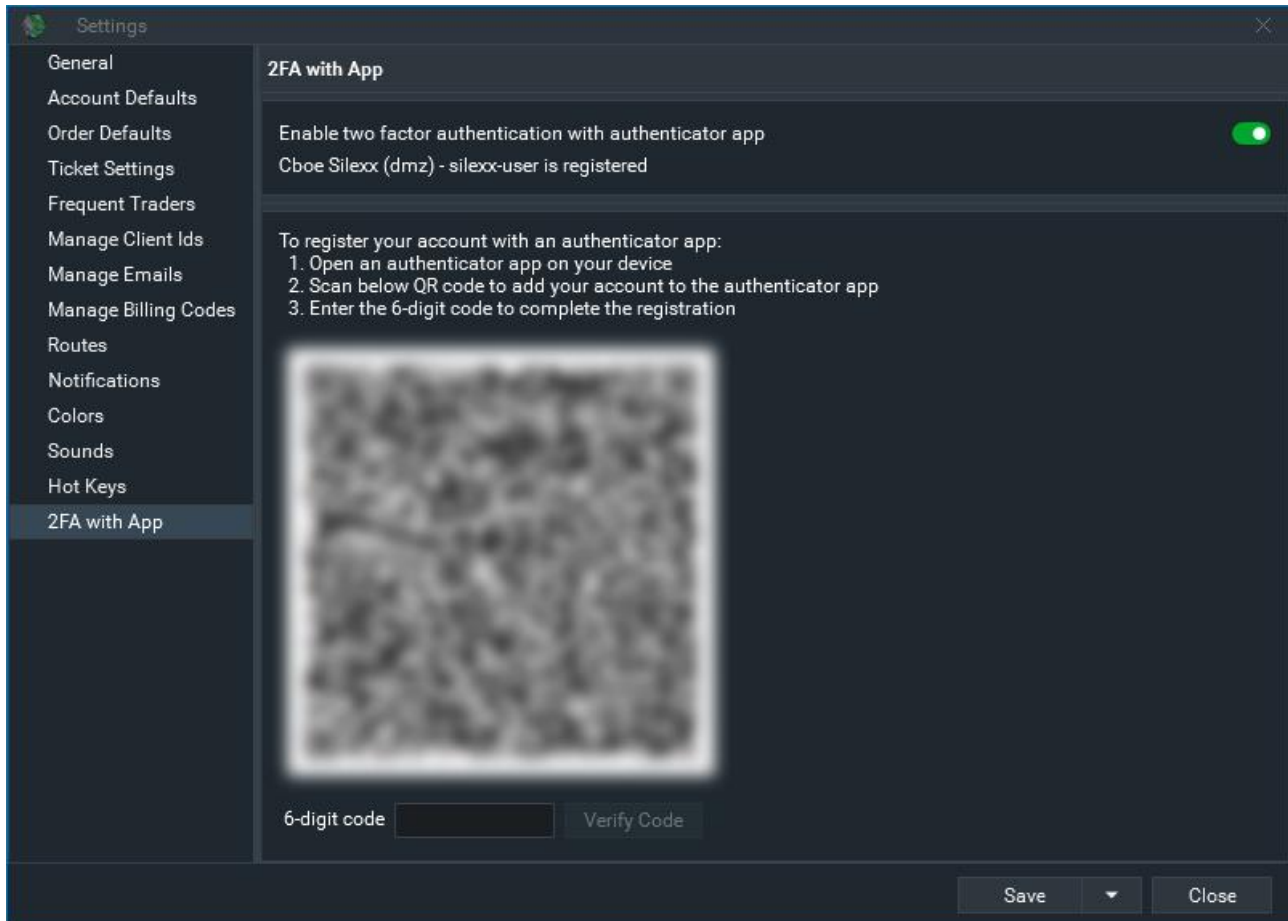
Cxl Bids

OK Cancel

Valid keyboard shortcuts are a key chord created with 'SHIFT/ALT/CTRL' + 'key'

Standard keyboard shortcuts such as "Ctrl+V" are not valid to enter as Hot Keys.

11.142FA with App



An additional layer of login security can be set by enabling 2-factor authentication (2FA). This requires an additional app code to be entered upon login, in addition to your normal Silexx password.

Supported 2FA applications include:

- Microsoft Authenticator (MSA)
- Google Authenticator
- Duo Mobile

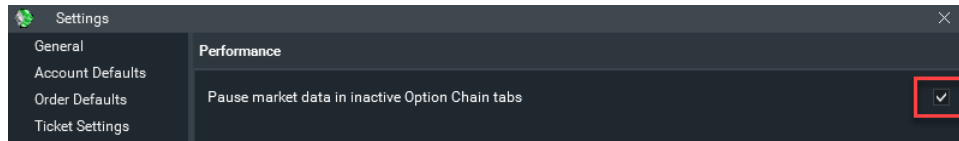
Once linked to an authenticator app, you will be prompted for a code every time you login.

11.15Performance

The Performance tab allows for the pausing of market data in inactive Option Chain Tabs, to prevent market data updates and improve system performance. The feature is enabled by checking the box under

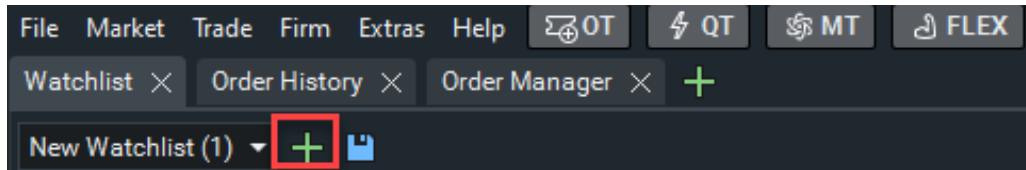
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the Performance tab

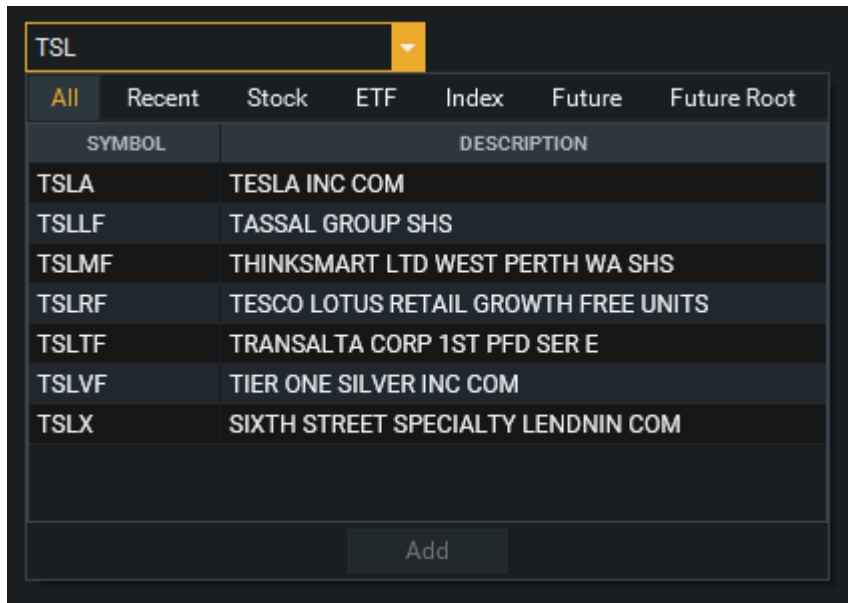


12 Appendix B - Symbol Reference Guide

The Watchlist module has an improved Symbol Chooser that provides a better search experience. The Symbol Chooser is launched by clicking on the '+' sign in the upper left of the Watchlist Module.



Begin by typing the symbol or description. Securities are listed in the following order:



- The securities whose symbol exactly match the search text.
- The securities whose symbol starts with the search text.
- The securities whose description contains the search text.

When Enter key is pressed:

- If there are selected securities, then the selected securities are added
- If there are not selected securities
 - If there is only one security in the list, then it is added.
 - If there is more than one security in the list, then
 - If there is a security symbol that exactly matches the input, then it is added.
 - If there is not an exact match security and the input is a valid symbol, then no security is added
- If the list is empty and the input is a valid symbol, then it is added.

12.1 Cash Settled indices

Cboe Silexx OEMS Symbol = **\$+Index Symbol**

Examples of Common Indices	
\$SPX	S&P 500 Index
\$VIX	Cboe Volatility Index (S&P 500)
\$DJI	DJ 30 Industrials
\$DJX	1/100 DJ Industrials
\$NDX	NASDAQ 100 Index
\$OEX	S&P 100 index
\$RUT	Russell 2000 Index

12.2 Futures

Cboe Silexx OEMS Symbol = **Symbol+MonthCode+YearCode**

Example: VX/M21 = Cboe Volatility Index June 2021

Code	Month
F	January
G	February
H	March
J	April
K	May
M	June
N	July
Q	August
U	September
V	October
X	November
Z	December

Future Spreads:

Format: FuturesRoot/MYY-MYY

Example: IBIG/V23-Z23 = Calendar -1 x IBIG/V23 + 1 x IBIG/Z23

12.3 Equities

Cboe Silexx OEMS Symbol = **Symbol+Suffix**

Issue	Suffix
-------	--------

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Class "A"	.A
Class "B"	.B

13 Appendix C - Order Entry

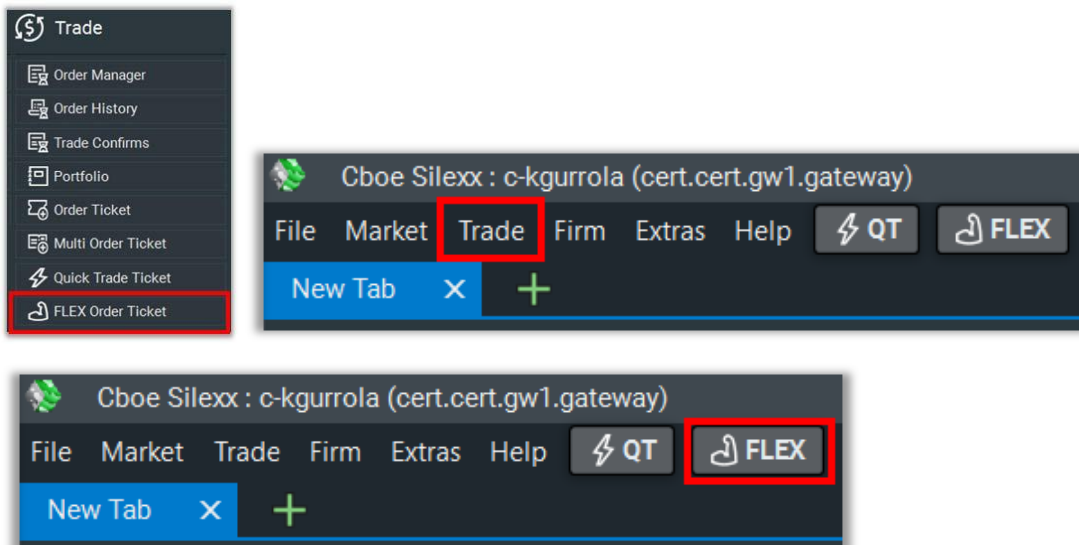
13.1 FLEX Order Entry:

Overview

Cboe Silexx ("Silexx") provides direct market access to trade FLEX options on Cboe. And FLEX functionality is free on the Cboe Silexx front-end platform. Silexx FLEX functionality supports all Cboe Options Exchange features including:

- Single and multi-legged orders
- 100 legs supported
- Fully electronic order handling
 - Single-sided auctions
 - Crossing auctions
 - Automated Improvement Mechanism
 - Solicitation Auction Mechanism
- Manual order handling
 - Route to a Cboe Floor Broker using Silexx
 - Route to a PAR workstation for open outcry execution
- Spreadsheets import for efficiency
- Risk Administrator defined and managed risk controls

There are three ways to open a FLEX ticket within Cboe Silexx: 1) selecting FLEX Order Ticket under Trade when a user opens Silexx; 2) selecting FLEX Order Ticket under the Trade tab at the top of the screen; or 3) selecting the FLEX Option button at the top of the screen.



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This is the FLEX Ticket within Silexx. There are two editable fields – Order Type and Underlying. The Order Type has three options (refer to the Cboe US Options Auction Process for more information): FLEX, AIM, and SAM.

The Underlying field is where users can input their symbol. Once the underlying symbol is provided, the other fields in the ticket become editable.

The screenshot displays the Cboe Silexx FLEX Ticket interface. The 'ORDER TYPE' is set to 'FLEX' and the 'UNDERLYING' field is highlighted with a red box. The 'PRICE TYPE' is 'Fixed', the 'ROUTE' is 'CBOE', and the 'PRE-FAIL PRICE' is '00'. The 'SETTLEMENT' is 'PM', the 'EXPIRATION' is 'Amer', the 'PRODUCT TYPE' is 'Euro', and the 'STANDARD' is 'STANDARD'. The 'CREATION DATE' is '7/1/2020', the 'OBSERVATION DAY' is '1', the 'CAP %' is '0.05%', and the 'STRATEGY ID' is empty. The 'HEDGE INSTRUCTIONS' section is on the right. Below the main fields is a 'LEG INFORMATION' section with a table header: 'LEG', 'SIDE', 'TYPE', 'EXPIRATION', 'STRIKE', 'GTC', 'AM/PM', 'RATIO', 'QUANTITY', 'PRICE'. At the bottom is a 'CLEARING DETAILS' section with fields for 'ACCOUNT', 'GIVE-UP', 'CMTA', 'RANGE', 'FREQ TRADER ID', 'OPTIONAL DATA', 'CLIENT ID', and 'AUCTION TIMER'. The 'AUCTION TIMER' is set to 0 Min and 3 Sec. There are 'Add Leg' and 'Flip Legs' buttons, and a 'Submit' button at the bottom right.

Regular FLEX Option Order

12.1.1

Using SPX as an example underlying, now other fields have been enabled: Price Type, Route, Pre-Facil Price, Settlement, Expiration, Product Type, Creation Date, Observation Date, CAP (Certified Analytics Professional) %, Strategy ID, and Hedge Information. This is where the user can customize the FLEX order to specify key contract terms, including exercise prices, exercise styles, and expirations, on major stock indexes as well as individual equities.

The screenshot displays the Cboe Silexx FLEX Ticket interface. The top menu bar includes File, Market, Trade, Firm, Extras, Help, and a FLEX icon. The main form is divided into several sections:

- ORDER TYPE:** FLEX
- UNDERLYING:** SPX
- PRICE TYPE:** Fixed
- ROUTE:** CBOE
- PRE-FACIL PRICE:** .00
- HEDGE INSTRUCTIONS:** (Empty field)
- SETTLEMENT:** FM
- EXPIRATION:** Amer
- PRODUCT TYPE:** Euro
- STANDARD:** STANDARD
- CREATION DATE:** 7/6/2020
- OBSERVATION DAY:** 1
- CAP %:** 0.05%
- STRATEGY ID:** (Empty field)

Below the main form is the **LEG INFORMATION** section, which includes a table with columns: LEG, SIDE, TYPE, EXPIRATION, STRIKE, DVC, AMT/PM, RATIO, QUANTITY, and PRICE. The table is currently empty.

At the bottom is the **CLEARING DETAILS** section, which includes fields for ACCOUNT, GIVE-UP, CMTA, RANGE, FREQ TRADER ID, OPTIONAL DATA, CLIENT ID, and AUCTION TIMER. The AUCTION TIMER is set to 0 Min and 3 Sec. There are also checkboxes for Keep Open and Receive Time, and buttons for Submit and Dismiss.

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Once fields are completed, now users can add Leg Information. Users can add up to 100 legs and can do so in one of two ways:

1. Legs can be added one at a time by clicking on the + Add Leg at the bottom of the Leg Information window.
2. Legs can be imported using the Import File option at the top left of the Leg Information window.

The screenshot shows the 'FLEX Ticket' window in the Cboe Silexx application. The 'LEG INFORMATION' section is active, displaying a table with columns: LEG, SIDE, TYPE, EXPIRATION, STRIKE, O/C, AM/PM, RATIO, QUANTITY, and PRICE. Below the table, there is a '+ Add Leg' button highlighted with a red box. To the right of this button is a 'Flip Legs' button. Above the table, there are various input fields for order details, including 'ORDER TYPE' (FLEX), 'UNDERLYING' (SPX), 'PRICE TYPE' (Fixed), 'ROUTE' (CBOE), 'PRE-FAIL PRICE' (.00), 'SETTLEMENT' (PM), 'EXPIRATION' (Amer), 'PRODUCT TYPE' (STANDARD), 'CREATION DATE' (7/16/2020), 'OBSERVATION DAY' (1), 'CAP %' (0.05%), and 'STRATEGY ID'. At the bottom of the window, there is a 'CLEARING DETAILS' section with fields for 'ACCOUNT', 'GIVE-UP', 'CMTA', 'RANGE', 'FREQ TRADER ID', 'OPTIONAL DATA', 'CLIENT ID', and 'AUCTION TIMER'. A 'Keep Open' checkbox and a 'Receive Time' dropdown are also present.

The screenshot shows the 'Import Legs File' dialog box. It has a title bar with a green icon and a close button. The main text reads 'Import Legs from CSV File'. Below this, there is a 'Choose File' button and the text 'No file chosen'. A link to 'Download a sample CSV template' is provided. At the bottom, there are 'Upload File' and 'Cancel' buttons.

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- Once Import File is selected, a new window will pop-up to download a “sample CSV template” and “Choose File” to import a completed template.

The screenshot shows the 'FLEX Ticket' window. The 'LEG INFORMATION' table has one leg with the following details:

LEG	SIDE	TYPE	EXPIRATION	STRIKE	O/C	AM/PM	RATIO	QUANTITY	PRICE
1	B	C	7/6/2020	0.00	0	PM	1	1	0.00

The 'STRIKE' and 'PRICE' fields are highlighted in red. Below the table, the 'CLEARING DETAILS' section is visible, with fields for ACCOUNT, GIVE-UP, CMTA, RANGE, FREQ TRADER ID, OPTIONAL DATA, CLIENT ID, and AUCTION TIMER. The 'AUCTION TIMER' is set to 0 Min 3 Sec.

Fields highlighted in red will need to be completed to submit the order. When a leg is added, the user can update the Side, Type, Expiration, Strike, O/C, AM/PM, Ration, Quantity, and Price. If a leg is added using the + Add Leg, you will notice the Strick and Price fields are highlighted in red (because both need to be greater than 0). The user can hover over the red field and a description of the required action is provided.

This screenshot shows the same 'FLEX Ticket' window, but with the 'CLEARING DETAILS' section highlighted in red. The 'LEG INFORMATION' table now shows a quantity of 100.00 and a price of 100.00 for the single leg.

LEG	SIDE	TYPE	EXPIRATION	STRIKE	O/C	AM/PM	RATIO	QUANTITY	PRICE
1	B	C	7/6/2020	0.00	0	PM	1	100.00	100.00

The 'CLEARING DETAILS' section includes fields for ACCOUNT, GIVE-UP, CMTA, RANGE, FREQ TRADER ID, OPTIONAL DATA, CLIENT ID, and AUCTION TIMER. The 'AUCTION TIMER' is set to 0 Min 3 Sec.

Once the leg(s) is in the ticket, the user must now complete the Clearing Details window. Users can select the Account, Give-Up, CMTA, Range, Freq Trader ID, Optional Data, Client ID, and the Auction Timer. These fields can be set up and defaulted at onboarding.

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The screenshot shows the Cboe Silexx FLEX Ticket interface. At the top, there's a menu bar with 'File', 'Market', 'Trade', 'Form', 'Extras', 'Help', and a '9.01' version indicator. Below the menu, the 'FLEX Ticket' tab is active. The main area is divided into several sections: 'ORDER TYPE' (FLEX), 'PRICE TYPE' (Fixed), 'ROUTE' (CBOE), 'PRE-PAID PRICE' (.00), 'HEDGE INSTRUCTIONS', 'SETTLEMENT' (PM), 'EXPIRATION' (7/6/2020), 'PRODUCT TYPE' (STANDARD), 'OBSERVATION DAY' (1), 'CAP %' (0.00%), and 'STRATEGY ID'. Below these is the 'LEG INFORMATION' table with columns: LEG, SIDE, TYPE, EXPIRATION, STRIKE, O/C, AM/PM, RATIO, QUANTITY, PRICE. The table contains one row: 1, B, C, 7/6/2020, 3,100.00, O, PM, 1, 1, 100.00. At the bottom, the 'CLEARING DETAILS' section shows 'ACCOUNT' (c-kgurrola), 'GIVE-UP' (551), 'CMTA' (CUST), 'RANGE' (CUST), 'FREQ TRADER ID', 'OPTIONAL DATA', 'CLIENT ID', and 'AUCTION TIMES' (0 Min, 3 Sec). A red box highlights the 'Submit 1 @ 100.00' button at the bottom right.

Once the Clearing Details are provided and there are no other fields in red, the user can now Submit the order by clicking Submit at the bottom right.

The screenshot shows a 'Confirm Order' dialog box. The title bar says 'Confirm Order' with a close button. The main text area contains: 'BUY 1 4SPX/200706/3100C CALL OPEN \$3,100.00 Exp: 2020-07-06', 'At: \$100.00', and 'Acct: c-kgurrola Give-up: 551 Range: CUST Qty: 1'. At the bottom, there are two buttons: 'Send' and 'Dismiss'. The background shows the same FLEX Ticket interface as the previous screenshot, with the 'Total #' and 'Price' fields visible at the bottom.

Once the user selects Submit, a Confirm Order window will appear to the user. Once the user clicks Send, the order is routed to the C1 Matching Engine.

12.1.2 AIM Flex Option Order

The screenshot displays the Cboe Silexx AIM Flex Option Order ticket interface. The 'LEG INFORMATION' section shows a table with columns: LEG, SIDE, TYPE, EXPIRATION, STRIKE, Q/C, CONTRA, AM/PM, RATIO, QUANTITY, and PRICE. A red box highlights the 'Default Matching' dropdown menu in the 'CONTRA' column.

LEG	SIDE	TYPE	EXPIRATION	STRIKE	Q/C	CONTRA	AM/PM	RATIO	QUANTITY	PRICE
1	B	C	7/6/2020	3,100.00	Q	Q	PM	1	20	100.00

Below the table, there is a '1 Leg' summary and a 'Default Matching' dropdown menu. The 'CLEARING DETAILS' section shows fields for AGENCY, ACCOUNT, GIVE-UP, CMTA, RANGE, FREQ TRADER ID, OPTIONAL DATA, CLIENT ID, and AUCTION TIMER.

This is the ticket for an AIM FLEX Option order ticket. A key change from the regular ticket is the addition of a Contra Matching drop down at the bottom of the Leg Information window. This dropdown will dictate the aggressiveness of participation of the contra parties. There are three options (refer to the Cboe US Options Auction Process for more information): Default Matching, Auto-Match LMT, and Last Priority.

The screenshot displays the Cboe Silexx AIM Flex Option Order ticket interface. The 'CONTRA' section is highlighted with a red box, showing fields for CONTRA, ACCOUNT, GIVE-UP, CMTA, RANGE, FREQ TRADER ID, OPTIONAL DATA, CLIENT ID, and QUANTITY.

CONTRA	ACCOUNT	GIVE-UP	CMTA	RANGE	FREQ TRADER ID	OPTIONAL DATA	CLIENT ID	QUANTITY
1								1

Below the table, there is a '1 Contra' summary and an 'Add Contra' button. The 'KEEP OPEN' checkbox is checked, and the 'RESOLVE TIME' is set to 30 seconds.

Once the legs are in the ticket, the Contra Matching option is selected, and the Agency account information is selected, the user must add the contra parties. There can be up to 10 contra parties for each ticket. Fields for each Contra Party are the same as the Agency account fields, with the addition of a Quantity field. This Quantity will dictate the allocation of the quantity of the legs.

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The screenshot displays the Cboe Silexx trading interface. At the top, there's a menu bar with 'File', 'Market', 'Trade', 'Firm', 'Extras', and 'Help'. Below the menu, the 'FLEX Ticket' tab is active. The main area shows order entry details for a 'S&P 500 INDEX' with a last price of 3,178.31 and a bid of .00. The order type is 'AIM', underlying is 'SPX', price type is 'Fixed', and route is 'CBOE'. The settlement is 'PM', expiration is '7/6/2020', product type is 'STANDARD', creation date is '7/6/2020', observation day is '1', and cap % is '0.05%'. The 'LEG INFORMATION' section shows a table with one leg: LEG 1, SIDE B, TYPE C, EXPIRATION 7/6/2020, STRIKE 3,100.00, O/C 0, CONTRA 0, AM/PM PM, RATIO 1, QUANTITY 20, PRICE 100.00. Below this, the 'CLEARING DETAILS' section shows agency 'c-kgurrola', account '551', CMTA 'CUST', and range 'CUST'. The 'CONTRA' section shows two contra parties: 1. c-beck, account 161, CMTA 'FIRM', range 'FIRM', quantity 10; 2. c-gendo, account 551, CMTA 'FIRM', range 'FIRM', quantity 10. At the bottom right, the 'Submit 20 @ 100.00' button is highlighted with a red box.

Once the Quantity has been allocated amongst contra parties and there are no other red fields, the Submit button will become enabled in the bottom right.

The screenshot shows a 'Confirm Order' pop-up window. It displays the order details: AGENCY BUY 20 CALL OPEN \$3,100.00 Exp: 2020-07-06, Acct: c-kgurrola GiveUp: 551 Range: CUST QTY: 20. The CONTRA section shows two contra parties: 1. c-beck GiveUp: 161 Range: FIRM QTY: 10, 2. c-gendo GiveUp: 551 Range: FIRM QTY: 10. The window has 'Send' and 'Dismiss' buttons at the bottom.

A pop-up window will appear to confirm the order, including the allocation of the contra parties. Once the user clicks Send, the order is routed to the C1 Matching Engine.

12.1.3 SAM Flex Option Order

The screenshot shows the Cboe Silexx FLEX Ticket interface. At the top, there's a menu bar with 'File', 'Market', 'Trade', 'Firm', 'Extras', 'Help', and a 'FLEX' button. Below the menu, the 'FLEX Ticket' tab is active. The main area displays order details for a SAM Flex Option order. The 'ORDER TYPE' is 'SAM', 'UNDERLYING' is 'SPX', 'PRICE TYPE' is 'Fixed', and 'ROUTE' is 'CBOE'. The 'SETTLEMENT' is 'PM', 'EXPIRATION' is '7/6/2020', 'PRODUCT TYPE' is 'STANDARD', 'CREATION DATE' is '7/6/2020', 'OBSERVATION DAY' is '1', 'CAP %' is '0.05%', and 'STRATEGY ID' is empty. The 'HEDGE INSTRUCTIONS' section is empty. Below this, the 'LEG INFORMATION' section shows a table with one leg. The table has columns: LEG, SIDE, TYPE, EXPIRATION, STRIKE, O/C, CONTRA, AM/PM, RATIO, QUANTITY, PRICE, and a status column. The first leg is '1', 'B', 'C', '7/6/2020', '3,100.00', 'O', 'O', 'PM', '1', '20', '100.00', and has a red 'X' in the status column. Below the table, it says '1 Leg' and 'Total # Net #: 20 20 100.00'. There are buttons for '+ Add Leg' and 'Flip Legs'. The 'CLEARING DETAILS' section shows fields for 'AGENCY', 'ACCOUNT', 'GIVE-UP', 'CMTA', 'RANGE', 'FREQ TRADER ID', 'OPTIONAL DATA', 'CLIENT ID', and 'AUCTION TIMER'. The 'AGENCY' is 'c-kurrola', 'ACCOUNT' is '551', 'GIVE-UP' is '551', 'CMTA' is 'CUST', 'RANGE' is 'CUST', 'FREQ TRADER ID' is empty, 'OPTIONAL DATA' is empty, 'CLIENT ID' is 'Client Id', and 'AUCTION TIMER' is '0 Min 3 Sec'. Below this, the 'CONTRA' section shows two contras. The first contra is '1', 'c-beck', '161', 'FIRM', 'FIRM', empty, empty, 'Client Id', and '10'. The second contra is '2', 'c-gendo', '551', 'FIRM', 'FIRM', empty, empty, 'Client Id', and '10'. Both contras have a red 'X' in the status column. Below the contras, it says '2 Contrs' and '20 of 20'. There is a button for 'Add Contra'. At the bottom, there are checkboxes for 'Keep Open' and 'Receive Time', and buttons for 'Submit 20 @ 100.00' and 'Dismiss'.

This is the ticket for a SAM FLEX Option order ticket. SAM is like the AIM auction strategy, but the contra party's allocation is considered "all-or-none" (refer to the Cboe US Options Auction Process for more information), therefore there is no Contra Matching option.

12.1.4 DAC Flex Option Order

DAC orders are limit orders for FLEX options that execute intraday and receive a delta-adjusted price based on that day's official closing price of the underlying security or index value. Both simple and complex FLEX DAC orders are supported.

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FLEX Order Ticket

MORGAN STANLEY COM NEW LAST: 104.05 BID: 104.04 ASK 104.05

UNDERLYING: MS ORDER TYPE: AIM PRICE TYPE: Fixed % ROUTE: DAC CBOE

SETTLEMENT: PM EXPIRATION: Amer Euro PRODUCT TYPE: STANDARD CREATION DATE: 8/13/2021 OBSERVATION DAY: 1 CAP %: 0.05%

HEDGE INSTRUCTIONS

LEG INFORMATION

LEG	SIDE	TYPE	EXPIRATION	STRIKE	O/C	CONTRA	AM/PM	RATIO	QUANTITY	PRICE	DELTA
1	B	C	9/17/2021	4,465.00	O	O	PM	1	1	1.60	0.59

1 Leg Total #: 1 Net #: 1 Price: 1.60

Add Leg Flip Legs Default Matching 0.00

CLEARING DETAILS

AGENCY	ACCOUNT	GIVE-UP	CMTA	RANGE	SENDER IMID	CLIENT ID	FREQ TRADER ID	AUCTION TIMER
Test1Test	551		CUST	Sender IMID	Client Id		0 Min 3 Sec	
Tag1				Billing Code		Optional Data		

CONTRA	ACCOUNT	GIVE-UP	CMTA	RANGE	IMID/FDID	CLIENT ID	FREQ TRADER ID	QUANTITY
1	The Future	222		FIRM	Sender FDID	Client Id		1
	Tag1				Billing Code		Optional Data	

1 Contra 1 of 1

Add Contra

Receive Time Reference Price Submit 1 @ 1.60 Queue Dismiss

Confirm Order

AGENCY

⇒ BUY 1 CALL OPEN \$4,465.00 Exp: 2021-09-17

Acct: Test1Test GiveUp: 551 Range: CUST QTY: 1

CONTRA

⇒ SELL 1 CALL OPEN \$4,465.00 Exp: 2021-09-17

Acct: The Future GiveUp: 222 Range: FIRM QTY: 1

Send Dismiss

13.2 Crossing Orders

The Cboe Options Crossing Guide is available [here](#).

12.2.1 Qualified Contingent Cross (“QCC”) Orders

A qualified contingent cross (QCC) is a type of block trade facility. The orders are multi-leg trades that involve both stocks and options. The QCC allows institutional brokers to cross these orders electronically without exposing them to the market. The order must be priced at or better than the best bid or offer.

The screenshot displays the Cboe Silexx trading interface for a Qualified Contingent Cross (QCC) order. The top section shows the underlying stock, TSLA, with a last price of 189.69, a bid of 189.68, and an ask of 189.70. The order type is set to QCC. The order details section shows a quantity of 1,000, a strike price of 220.00, and an expiration date of March 28, 2024. The order is currently in a pending state, with a price of 193.06. The interface includes sections for Order Details, Agency Details, and Contra Details.

RATIO	SIDE	QTY	EXPIRATION	STRIKE	TYPE	PRICE	C/D	Q/C	BID	ASK	DELTA	THEO	PREV CLOSE	M SIDE	M O...	USE
100	B	100,000	Mar 28, 24 Q	220	S				189.68	189.70	1.00	189.69	187.58	S		X
1	B	1,000	Mar 28, 24 Q	220	C				3.10	3.50	.21	3.2914	0	S	C	X

ORDER DETAILS

ROUTE: W500, TYPE: LMT, TIF: DAY, CNTGY: CUST, STRATEGY: RESERVE, STKEX DESTINATION: Default, T.H. Compression, ORS

AGENCY DETAILS

1. ACCOUNT: c1.atg.test, GIVE UP: 813, CMTA: CUST, RANGE: CUST, CLIENT ID: , FREQ TRADER: , EQ GIVE UP: , MPID: , BILLING CODE: , OPTIONAL DATA:

CONTRA DETAILS

1. ACCOUNT: c1.test, GIVE UP: 999, CMTA: FIRM, RANGE: FIRM, CLIENT ID: , FREQ TRADER: , QTY: 1,000, EQ GIVE UP: 999, MPID: , BILLING CODE: , OPTIONAL DATA:

The requirements for this order type are:

1. The quantity must be 1,000 minimum.
2. Must be at or within the NBBO and must improve customer order on Cboe Book.
3. Must be fully hedged with stock, either included in the order, or traded separately.
 - a. If trading the stock leg separately, details of the transaction are required in the **Eq Trade Details** box

ROUTE: CBOE, QCC: Eq Trade Details

TRADE PRICE: [dropdown], TRADE SIZE: [dropdown]

BUY CLEARING FIRM: [text box], SELL CLEARING FIRM: [text box]

TRADE VENUE: [red rectangle], TRANSACTION TIME: [dropdown]

Buttons: Clear, Close

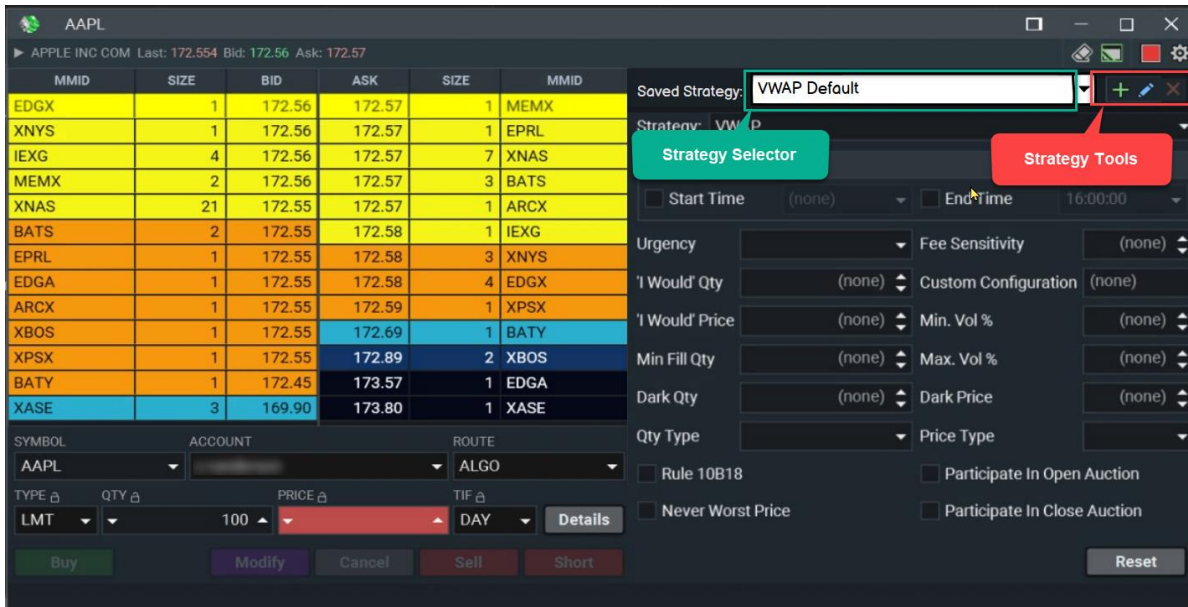
b. The **Trade Venue** must be populated with a value from the list below:

A = NYSE American¹
B = NASDAQ BX¹
C = NYSE National
I = Investors Exchange
H = MIAX Pearl
J = EDGA¹
K = EDGX^{1,2}
L = Long Term Stock Exchange
M = CHX
N = NYSE¹
P = NYSE Arca¹
Q = NASDAQ¹
U = MEMX
X = NASDAQ PSX
Y = BYX¹
Z = BZX¹

13.3 Saving Algo Strategies

Cboe Silexx provides for the creation and saving of algo strategies from within the order ticket(s). This feature will improve workflow by reducing the number of clicks it takes when routing to your preferred broker algo strategies.

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When an Algo Strategy route is selected in the Order Ticket, the ATDL window will be displayed on the right side of the ticket. A new optional 'Saved Strategy' field will be visible, displaying a list of saved strategies.

To the right of the Saved Strategy field, are the Strategy Tools:

Clicking the green '+' will turn the Saved Strategy field red, showing a new strategy name is needed. This will allow the user to specify a name, choose a strategy and populate any additional parameters. Clicking Save at the bottom of the ATDL window will add this new strategy to the Saved Strategy dropdown.

The blue pencil can be used to edit an existing strategy that has been selected from the Saved Strategy dropdown. After edits have been made the user will click the Save button at the bottom of the ATDL window.

Clicking the red 'X' icon will prompt the user to delete the selected strategy in the Saved Strategy field.

13.4 Trading

GTH (Global Trading Hours)+ - means orders participate in GTH, RTH (Regular Trading Hours) and Curb

RTH - means orders participate in RTH only

RTH+ - means orders participate in RTH and Curb

14 Appendix D - Risk Settings

All Silexx users can view their limits, however only designated firm Risk Administrators, entitled by Silexx Support, can edit limits set on Users and Accounts. Silexx Support can set Risk Settings on the backend as default for all FIRM users as part of Cboe Silexx firm setup procedure. Note these Risk Settings are subject to change without official notice. Updates to Risk Settings are instantaneous; logout/login is not required.

14.1 RiskSettings Accessible on Silexx OEMS

Warning Limits are considered “warnings” that users can click through, while Max Limits are “hard rejects” users cannot breach unless the designated firm Risk Administrator allows the user to override.¹ Warnings and hard rejects can be set at both Account and User levels. Firm level settings result in hard rejects. Designated firm Risk Administrators determine if a user has the right to override hard rejects with the Allow Risk Override risk setting.

Risk Setting	Description
Max Quantity Per Order (Order Qty)	Maximum quantity per order <i>Formula(s):</i> Qty. > Limit <ul style="list-style-type: none"> Options: Quantity Complex: Largest of total option buy leg qty OR total option sell leg qty
Max Notional ² Per Order (Order Notional)	Maximum \$ amount per order. <i>Formula(s):</i> Notional > Limit <ul style="list-style-type: none"> Options: Qty * contract size * price Complex-option only: ((Sum ([Buy side leg] Qty * Price (leg offer quote) * contract size)) - (Sum ([Sell side leg] Qty * Price (leg bid quote) * contract size))
Max Net Quantity – Day (Net Qty Day)	The net quantity of buys and sells for an entire trading day. <i>Formula(s):</i> Abs (Daily Buy Qty. – Daily Sell Qty.) > Limit <ul style="list-style-type: none"> Options: Buy option qty + net option qty OR net option qty - sell option qty. (daily qty bought + outstanding buy leaves) - (daily qty sold + outstanding sell leaves) Complex: Net option qty + total option buy leg qty - total option sell leg qty

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Max Gross ³ Quantity – Day (Gross Qty Day)	The aggregate quantity of buys and sells for an entire trading day. <i>Formula(s):</i> Daily Buy Qty. + Daily Sell Qty. > Limit <ul style="list-style-type: none"> Gross Option = (daily qty bought + outstanding buy leaves) + (daily qty sold + outstanding sell leaves) Options: Qty + gross option qty Complex: Total buy leg qty + total sell leg qty + gross option qty
Max gross Notional – Day (Gross Notional Day)	The aggregate value of buys and sells for an entire trading day. <i>Formula(s):</i> Daily Buy Notional + Daily Sell Notional > Limit <ul style="list-style-type: none"> (Order qty * limit price * contract size) + gross option value Gross Option Value = ((options bought * fill price * contract size) + (buy lvs * limit price * contract size)) + ((options sold * fill price * contract size) + (sell lvs * limit price * contract size)) Complex is based on sum of all legs + gross option value
Net Position	The maximum allowed position
Allow Market Order	Market orders will be rejected if this is not enabled
Allow Cancel Order	Allows orders to be cancelled
Allow GTC Order	Allows Good-Until-Cancelled orders
Allow Order Modify	Allows for Order Modifications
Allow Staged Child Orders	Allows intermediate staged child orders (a large block of shares that can be sliced by dividing it into smaller lots in execution of a transaction).
Max Loss	The trigger amount for Max Loss Action
Max Loss Action	Action taken when Max Loss is breached
Allow Sell to Open	Allows user to Sell Options to open a position
Process Option Open/Close	Process Option Open/Close as entered
Allow Long Sale	There is no long position required to sell if this is enabled
Check Open Orders for Allow EqOrderLongSale	Include open buy orders as long volume when allowing Sell Short.
Exempt from Hard-to-Borrow ⁴	When enabled, there is no restriction to Sell Short

¹ Designated firm Risk Administrators can permission individual traders to override the maximum limit, which typically disallows orders past a certain amount. This breach is only available to users with *Allow Risk Override* enabled, allowing these users to click through this alert. Reports are available showing overridden orders.

² Notional: Refers to the total \$ amount bought and sold. Notional price is checked on a market order using Bid/Ask.

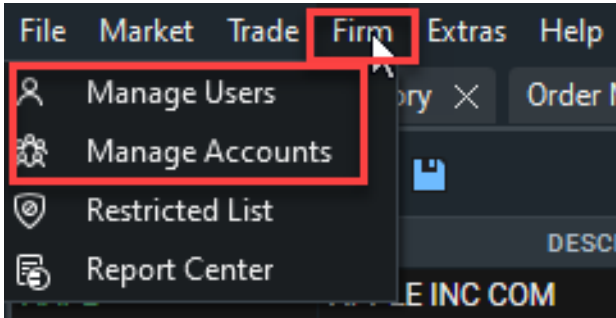
³ Gross: Refers to the total amount of shares/contracts bought and sold.

⁴ Hard to Borrow: List of stocks that are difficult to borrow for short sale transactions, provided by the broker and/or clearing firms.

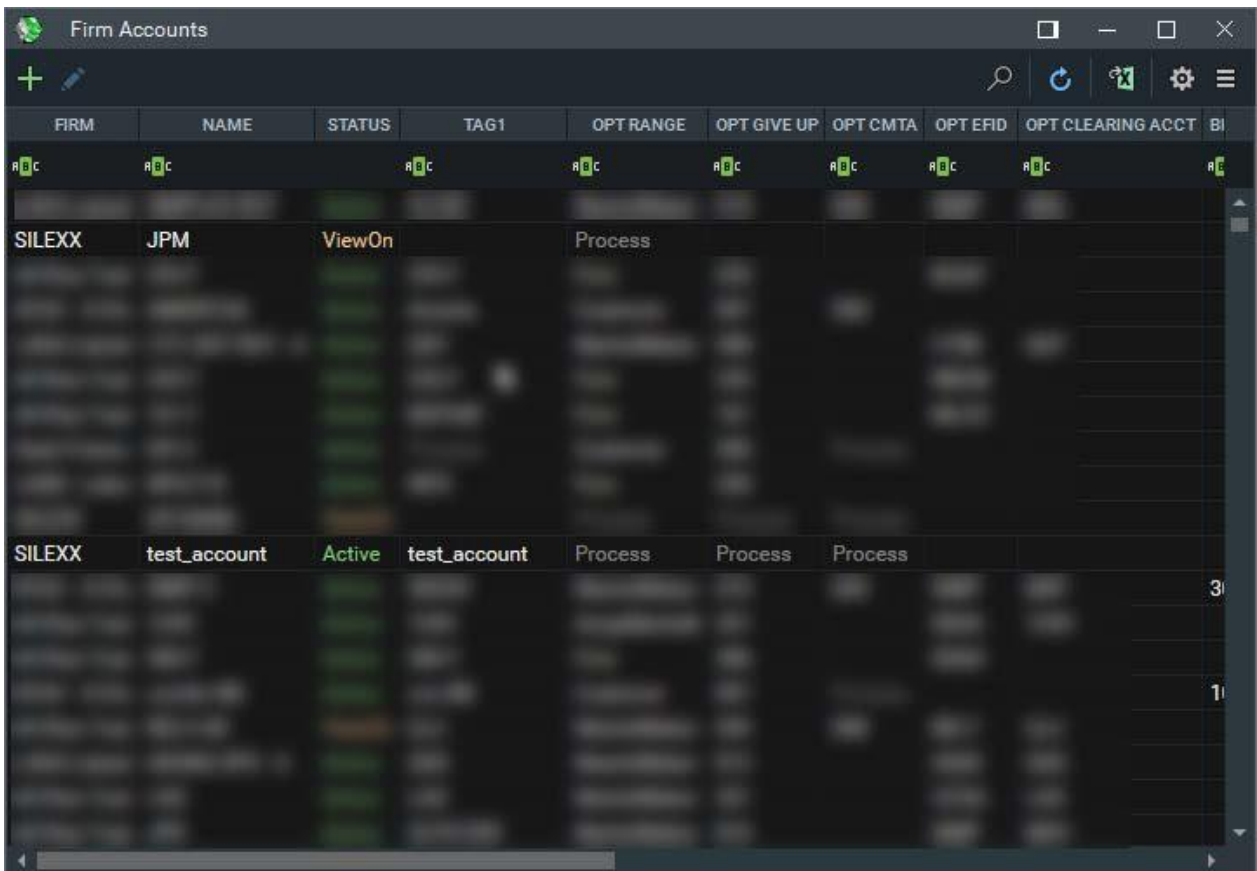
14.2 Process to Edit User / Account Risk Settings

Update User/Account Risk Settings:

- Select the **Manage Users** (or **Manage Accounts**) under **Firm** in the main Cboe Silexx window.



- Right-click on the user/account and click **Edit**.



- Adjust risk parameters in the **Settings** tab.

Account(JPM)

Setup **Settings** Reporting

General

Allow GTC Order ☒

Allow Order Wash Trades ☒

Allow Staged Child Orders ☐

Max Working Orders

Order Throttle Limits

Window (in seconds)

Max Order Count

Equities

Allow Market Order ☒

Allow EqOrder LongSale ☒

Check OpenOrders For Allow EqOrderLongSale ☒

Exempt From Htb ☐

	Warning Limits	Max Limits
Order Qty	<input type="text"/>	100,000 <input type="text"/>
Order Notional	<input type="text"/>	1,000,000 <input type="text"/>
Net Qty Day	<input type="text"/>	<input type="text"/>
Gross Qty Day	<input type="text"/>	<input type="text"/>
Gross Notional Day	<input type="text"/>	<input type="text"/>
Net Position	<input type="text"/>	<input type="text"/>

Delete Account Save Cancel

- Click **Save**.

15 Appendix E - P&L

The Cboe Silexx OEMS provides five methods of calculated Profit & Loss ("P&L").

ACCOUNT	SYMBOL	DESCRIPTION	COST BASIS	MARK	QTY	P&L DAY	P&L TRADING	P&L REALIZED	P&L UNREALIZED	P&L NET
	IBM	INTERNATIONAL BUSINESS MACHS COM	124.7609	134.25	-355,900	181,509	0	0	(3,377,186)	(3,377,186)
	JNJ/220121/60C	JNJ Jan-21-22 60 Call	101.9661	107.75	+3,400	(350,268)	0	0	1,966,511	1,966,511
	JNJ	JOHNSON & JOHNSON COM	165.26	167.87	+10,000	(8,900)	0	0	26,100	26,100
	AAPL/220121/100P	AAPL Jan-21-22 100 Put	3.9095	.01	+60	57	0	0	(23,397)	(23,397)
	AAPL/220121/100C	AAPL Jan-21-22 100 Call	38.6858	71.875	-60	3,168	0	0	(199,135)	(199,135)
	AAPL	APPLE INC COM	134.3704	171.835	+6,000	(2,130)	0	0	224,788	224,788
	MSFT	MICROSOFT CORP COM	.02	307.71	+200	582	0	0	61,538	61,538
	MSFT	MICROSOFT CORP COM	.02	307.71	+200	582	0	0	61,538	61,538
	AKAM	AKAMAI TECHNOLOGIES INC COM	108.69	112.14	+100,000	(77,000)	0	0	345,000	345,000
	IBM	INTERNATIONAL BUSINESS MACHS COM	123.73	134.25	+10,000	(5,100)	0	0	105,200	105,200
	ZTST/990101/5C	ZTST Jan-01-99 5 Call				55	55	25	0	25

Heading	Description
P&L Day	Based on the current position from the Previous Close to the Mark (for options this is the BidxAsk average/midpoint.) (Mark - Prev Close) * Opening Qty * Contract Size - Trading P&L
Trading P&L	Based on intra-day activity. (Mark - Trading Avg \$) * Trading Qty * Contract Size
Realized P&L	Based on Positions that have been closed. (Trading Avg Cost - Cost Basis) * Trading Qty * Contract Size
Unrealized P&L	Based on current positions that have yet to be closed. (Mark - Cost Basis) * (Current) Qty * Contract Size
P&L Net	Based on Realized P&L plus Unrealized P&L. Realized + Unrealized

Regarding the Mark

Before the market opens, **Options** are calculated at the BidxAsk average/midpoint. This price is available in the **PrevClose** Column.

The **PrevClose** column is populated by **Silexx** by taking an Average of the Bid and Ask Prices from the Pico (Spryware) Data feed from the Previous Day.

On competitor's systems the Previous Close is often stored from the Last Day that the Option traded; making Silexx **P&L Day** much more accurate Day to Day.

For **Equities**, the calculation is from the **Last** Column, which is the last trade as reported by the Exchange; pre-open this same price is also available in the **PrevClose** Column.

DESCRIPTION	COST BASIS	QTY	PREV CLOSE	MARK	LAST	P&L DAY
INTERNATIONAL BUSINESS MACHS COM	124.7609	-355,900	134.76	134.3919	134.3919	131,007
JNJ Jan-21-22 60 Call	101.9661	+3,400	108.7802	107.75		(350,268)
JOHNSON & JOHNSON COM	165.26	+10,000	168.76	167.71	167.71	(10,500)
AAPL Jan-21-22 100 Put	3.9095	+60	.0005	.005	.01	27
AAPL Jan-21-22 100 Call	38.6858	-60	72.403	72.05	73.37	2,118
APPLE INC COM	134.3704	+6,000	172.19	172.0317	172.0317	(950)
MICROSOFT CORP COM	.02	+200	304.80	307.82	307.82	604
MICROSOFT CORP COM	.02	+200	304.80	307.82	307.82	604
AKAMAI TECHNOLOGIES INC COM	108.69	+100,000	112.91	112.20	112.20	(71,000)
INTERNATIONAL BUSINESS MACHS COM	123.73	+10,000	134.76	134.3919	134.3919	(3,681)
ZTST Jan-01-99 5 Call						55

A Note Regarding Equities Before the Market Open

P&L for Equities are calculated from the **Last** Trade from the **Prev Close**.

15.1 Calculations

Simple

P&L Net is calculated using the position cost basis and the current mark.

P&L Day is calculated using the previous day close and the current mark.

Trading AvgCost vs. Cost Basis

Trading Average Cost calculates using all transactions throughout the trading day and returns an average value based on that activity. It does not consider realized P&L from closing positions.

Cost Basis calculates the running cost basis for the position in a FIFO (first in, first out) style accounting. Where traders may have sold x number of shares to open, bought some back to close, then sold more to open. The Cost Basis diverges from the TradingAvgCost because of the Realized P&L that was introduced when traders bought the shares back. This removes x shares from Cost Basis calculation which remain in the TradingAvgCost calculation.

The Price used in the following formulas changes based on the security type.

For options, the mark is used, calculated from the average of the bid and ask.

For equities, the last price is used.

If Marked Cost is set, it is used in place of the Previous Close.

Previous Close is calculated differently for international products, involving thorough custom logic to achieve an accurate result.

The following formulas are simplified forms of code logic.

15.2 Realized P&L

$(\text{Trading Sell Quantity} * \text{Trading Sell Avg} - \text{Trading Buy Quantity} * \text{Trading Buy Avg}) * \text{Lot Size}$

15.3 Unrealized P&L

$(\text{Price} - \text{Cost Basis}) * \text{Qty} * \text{Lot Size}$

15.4 P&L Day

$((\text{NetQty} * \text{MarketPrice}) - (\text{OpeningQty} * (\text{MarkedCost} == 0 ? \text{Security.Trade.PrevClose} : \text{MarkedCost})) - (\text{TradingBuyAvgPrice} * \text{TradingBuyQty} - \text{TradingSellAvgPrice} * \text{TradingSellQty})) * \text{Security.Multiplier}$

15.5 Trading P&L

$((\text{Trading Buy Quantity} - \text{Trading Sell Quantity}) * \text{Price} - (\text{Trading Buy Average Price} * \text{Trading Buy Quantity} - \text{Trading Sell Average Price} * \text{Trading Sell Quantity})) * \text{Lot Size}$

15.6 P&L Net

Realized P&L + Unrealized P&L

Additional Information

Trading Average Cost is calculated throughout the day from all transactions.

Cost Basis calculates running cost with first in, first out accounting.

The two differ when positions are opened and closed throughout the day.

*Cost Basis keeps track of the current quantity.

*Trading Average Cost accounts for all transactions.

Revision History

Version	Date	Description
0.1		Initial draft version.
1.0		Release 1.0 distributed.
1.0.1	11/02/2021	Final release for distribution
1.0.2	1/14/2022	Added P&L and Trading Session data
1.0.3	2/24/22	Updated to include Corporate Calendar module
1.0.4	5/2/2022	Updated Ticket settings
1.0.5	8/2/2022	Add OCC TIMS, Position Analyzer, Allocation Ticket. Update T&S
1.0.6	12/12/2022	Updated Watchlist and Portfolio Modules
1.0.7	3/2/2023	Updated for recent enhancements