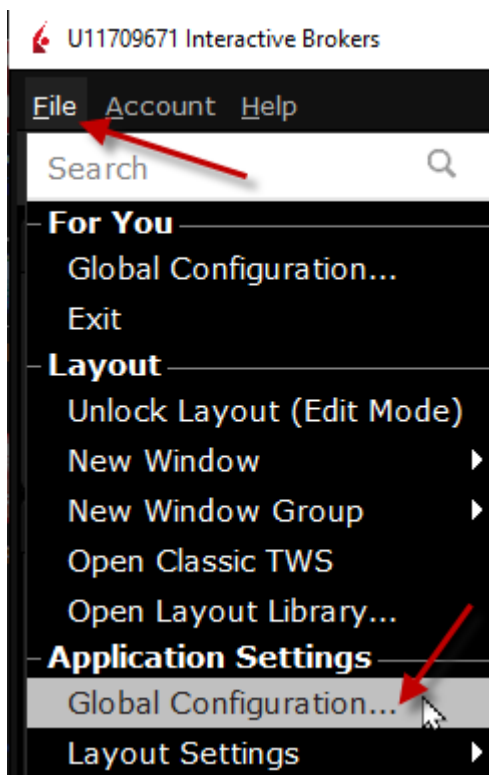


IB Enable ActiveX Setting

The Interactive Brokers Trader Workstation platform has a property that must be checked in order for Ensign 10 to receive data from the TWS. In the TWS platform, select menu File | Global Configuration.



API – Settings

On the Configuration menu, expand the API menu and select the 'Settings' sub-menu to display the API - Settings form. Check the box for 'Enable ActiveX and Socket Clients'. Check the box for 'Allow connections from localhost only.' Now the Ensign charting software will be able to connect to the TWS.

The screenshot displays the 'API - Settings' dialog box. On the left, a tree view shows the configuration structure, with 'API' expanded and 'Settings' selected. The main area is titled 'API - Settings' and contains the following settings:

- General**
 - Enable ActiveX and Socket Clients
 - [DDE replaced with DDE Bridge connecting via TWS Socket API](#)
 - Read-Only API
 - TotalQuantity field may be used to transmit monetary value for BUY o
 - Download open orders on connection
 - Include virtual FX positions when sending portfolio.
 - Prepare DailyPnL when downloading positions
 - Send status updates for Volatility orders with "Continuous Update" fla
 - Encode API messages, instrument names: **ASCII 7 (Python, Jav...**
 - Socket port: **7497**
 - Use negative numbers to bind automatic orders
 - Create API message log file
 - Include market data in API log file
 - Expose entire trading schedule to API
 - Split Insured Deposit from Cash Balance
 - Send zero positions for today's opening positions only
 - Use Account Groups with Allocation Methods
 - Logging Level: **Error**
 - Master API client ID: []
 - Timeout to send bulk data to API: **30**
 - Component Exch. Separator: []
 - Round Account values to nearest whole number
 - Send market data in lots for US stocks for dual-mode API clients
- Allow connections from localhost only
- Trusted IPs: []

Buttons at the bottom include 'Reset API order ID sequence', 'Create', 'Edit', 'Delete', 'OK', 'Apply', and 'Cancel'. A message at the bottom left states 'Some options are hidden...'.

Lock and Exit

Interactive Brokers imposes a daily shut down of their TWS platform. Launching the TWS then involves generating a Challenge Key as part of the login process.

Fortunately, logging in to your account can be reduced to a ONCE A WEEK action instead of a daily occurrence. Ensign strongly recommends that the following be set-up in the TWS properties.

On the Configuration menu, click the 'Lock and Exit' choice.

The screenshot shows the 'U11709671 Trader Workstation Configuration' window. On the left is a tree view of configuration categories. The 'Lock and Exit' category is selected and highlighted with a red arrow. The main panel on the right is titled 'Lock and Exit' and contains the following settings:

- Lock Trader Workstation**
 - Lock Trader Workstation after 10 minutes of inactivity
 - Never lock Trader Workstation
- Exit Options**
 - Warn on exit with position
 - Prompt when exiting
 - Auto save settings
 - Use/store settings on server
 - Save watchlists to cloud
 - Save market scanners to cloud
- Auto Logoff Timer**
 - Set Auto Restart Time (HH:MM): 05:00
 - AM PM
 - Auto logoff
 - Auto restart

At the bottom, a status message reads: 'The application will automatically restart at 05:00 PM'. Red arrows in the image point to the 'Lock and Exit' menu item, the 'Auto restart' radio button, and the '05:00' time field.

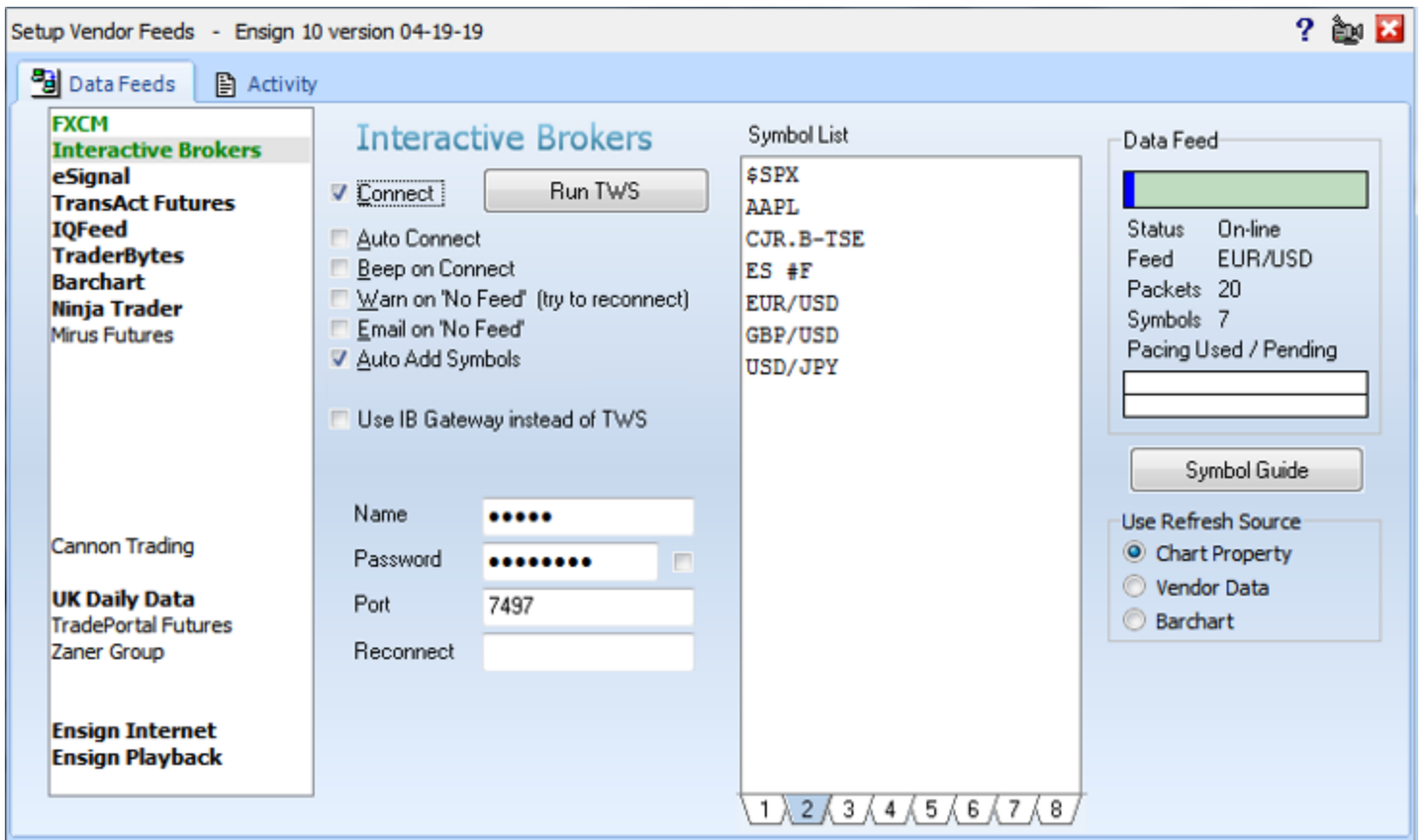
In the 'Auto Logoff Timer' section select the 'Auto restart' bullet. Enter a local time for when TWS will shut down and automatically restart each day.

The example shows shutting down each day at 5 p.m. (appropriate for the Mountain Zone time)

This daily restart does not require entering your username, password or entering a Challenge Key.

However, TWS will log off on the weekend. Restarting the TWS on Sunday will require entering our username, password, and manually entering the Challenge Key.

Connect



Connect – Check this box to connect to the data feed. Uncheck the box to disconnect from the data feed.

Auto Connect – Check this box to have Ensign automatically connect to the data feed when Ensign runs.

Beep on Connect – When checked, Ensign will make a sound when the data feed connects.

Warn on 'No Feed' – Display a warning message when data is not seen for 2 minutes.

Email on 'No Feed' – Send an email if the data is not seen for 2 minutes.

Auto Add Symbols – Check this box to have Ensign add symbols to the Symbol list automatically when a chart is opened for a new symbol.

Use IB Gateway instead of TWS – Launch the IB Gateway program instead of the workstation platform.

Name – Enter the User name associated with your data feed account.

Password – Enter the Password associated with your data feed account.

Port – This value must match the port used in the TWS Global settings. Typical port value is 7497.

Reconnect – Enter a time when Ensign 10 will reconnect to the TWS. This time should be 1 minute after the TWS executes its daily restart. In the 'Lock and Exit' example the daily restart time was entered as 5:00 p.m. Therefore, the appropriate 'Reconnect' time would be entered as 17:01 which is 5:01 p.m. Now the feed from the TWS will flow to Ensign unattended for a full week.

Symbol List – The Symbol List is your personalized Watch List. Ensign will only receive real-time data for those symbols entered in this list. Type directly in the list to add, remove, or rearrange the symbols. There are tabs below the Symbol List that allow you to setup 8 different customized symbol lists. Only the list that is showing will be active.

Data Feed – The Data Feed panel displays status information about the data feed connection. IB imposes a restriction on the frequency of refresh requests. Ensign has implemented a queue to hold excess refresh request until the time out period imposed by IB has timed out and additional refresh request can be made. The top gauge (pacing) shows the refresh quantity used (pacing), and the bottom gauge (pending) shows the queue of waiting requests.

Symbol Guide – Click this button to open and view the data feed Symbol Guide on the web.

Refresh Source - Some data feeds show this frame for selecting the Refresh Source used to refresh charts for that vendor. The 1st selection will refresh each chart according to the Refresh selection on the chart's property form. The 2nd selection will globally force the refresh to use the data feed. The 3rd selection will globally change the source to refresh from Barchart, etc.

Tick Refresh from Interactive Brokers

IB does not have a true tick refresh. Therefore, Ensign requests their 1-second refresh and attempts to reconstitute ticks from the 1-second records by examining the open, high, low and last prices in the record.

Ensign makes the following assumptions.

If the Open differs from either the High or the Low, then the Open price is treated as a tick.

If the High differs from the Open and the Last, then it is treated as a tick.

If the Low differs from the Open and the Last, then it is treated as a tick.

If the High and the Low are treated as ticks, the order of which comes first is based on which is closest to the Open.

And the Last is treated as a tick if it differs from the Open.

Thus, the IB tick refresh using 1-second records will typically have a lower tick count than the number of ticks collected by a live data stream from Interactive Brokers.

Symbol Guide

This symbol guide documents how to enter symbols into Ensign 10 for the Interactive Brokers data feed. All the Indices symbols in Ensign 10 begin with a '\$' character. Symbols from a few exchanges require that you specify the Currency that they are quoted in. The Interactive Brokers web site has a detailed description of all exchanges, symbols, and currencies.

Futures Contract Month Codes

- F - January
- G - February
- H - March
- J - April
- K - May
- M - June Example: ES M9 E-mini S&P June 2019 Futures Contract
- N - July
- Q - August
- U - September
- V - October
- X - November
- Z - December

Symbol Format for Futures [Symbol Root] [Month Code][Year][–][Exchange][\$][Currency]

- ES M1 Emini S&P 500 June 2021
- NQ U1 Emini Nasdaq September 2021
- VIX K1 Volatility Index, May 2021
- YM U1 Emini Dow September 2021
- CAC40 M1-MONEP CAC 40 Futures June 2021
- I Z1-LIFFE\$EUR 3 Month Euribor Interest Rate Futures December 2021, Euro currency
- Z U1-LIFFE Financial Times Stock Exchange 100 Futures September 2021

Symbol Format for Futures Options [Symbol Root] [Month Code][Year][C or P][Strike]

- ES M1C1370 Emini S&P 500 June 2021, Call at 1370
- ES M1P1375 Emini S&P 500 June 2021, Put at 1375

Symbol Format for Stock Options (enter in the 'Setup | Manager' symbol list)

[Underlying Symbol]<space>[TwoDigitYear][TwoDigitDay][Put/Call and Expiration Month Code]
[StrikePrice]

- Symbol Root = Generally the underlying equity ticker symbol for the contract (e.g. MSFT) or variant based on significant corporate action being applicable (e.g. MSFT1). Multiple roots can coexist.
- Space = Blank space separates the root from the rest of the options symbol.
- TwoDigitYear = Expiration Year (2 digits)
- TwoDigitDay = Expiration Day in the expiration month for symbols with a weekly expiry.
- Put/Call and Month Code = Put/Call and Expiration month indicator (A-L = January-December Calls) (M-X = January-December Puts)
- StrikePrice = Include a decimal only if the strike price has cents. No trailing zeros are used. Example: Use 17.5 for a strike at 17.50.

- MSFT 21B20 Microsoft Feb 2021 Call for 20.00
- MSFT 21N29 Microsoft Feb 2021 Put for 29.00

For a symbol with a weekly expiry, add the day of the month after the year digits.

- CSCO 2118W17 Cisco 2021 Nov 18th, Put for 17.00,
- SPY 2118K107 SPY 2021 Nov 18th, Call for 107.00

- NIFTY50 2021E9350 NIFTY50 2020 May 21st, May Call at a strike of 9350
- BANKNIFTY 2004F19000 BANKNIFTY 2020 June 4th, June Call at a strike of 19000

How to Specify the Currency

Interactive Brokers requires that all symbols include the Currency that the symbol is quoted in. All of the symbols for each trading Exchange have a default currency assigned by Ensign Windows. However, there are many symbols which do not trade in the default currency. An override is necessary to specify the currency for the symbol. Append a '\$' and the Currency at the end of a symbol to specify the currency. For specific symbols and their currency, see the Interactive Brokers web site.

- ABSI-EBS\$USD Stock symbol on the EBS exchange, quoted in US Dollars
- IH1-LIFFE\$EUR 3 Month Euribor Interest Rate Futures, quoted in Euros
- JDW-VIRTX\$GBP Stock symbol on the VIRTX exchange, quoted in British Pound

IB FX - IDEAL Forex Currency Symbols

Combine root symbols in Ensign 10 as follows (root/root). Examples:

- USD/JPY U.S. Dollar quoted in Japanese Yen
- EUR/USD Euros quoted in U.S. Dollars
- JPY/USD Japanese Yen quoted in U.S. Dollars

The following root symbols are available to combine into various Currency symbols:

- AUD Australian Dollar
- CAD Canadian Dollar
- CHF Swiss Franc
- EUR Euros
- GBP British Pound
- HKD Hong Kong Dollar
- JPY Japanese Yen
- USD U.S. Dollar

The exchange will default to use IDEAL. Append a dash to use IDEALPRO. Example:

- EUR/USD- Changes the exchange from IDEAL to IDEALPRO
- EUR/USD-(BID) Uses IDEALPRO and charts the BID

Australia - Sydney Futures Exchange

- SPI H1-SNFE Standard and Poors / Australian Stock Exchange 200 Index (March 2021)

Belgium - Euronext Brussels Futures Exchange

- BFX H1-BELFOX BEL 20 Index Futures (March 2021)
- \$BFX BEL 20 Index

Canada - Toronto Stock Exchange

All Stock symbols from the Toronto Stock Exchange should have -TSE or -VENTURE appended to the symbol. Examples: BBD.SV.B-TSE, BAB-TSE, HAE-TSE, GEM-VENTURE, JNN-VENTURE, etc. The default Currency is CAD.

Toronto Stock Exchange Indices:

- \$SXA Gold Index
- \$SXB Financials Index
- \$SXH Info Tech Index
- \$SXY Energy Index
- \$TSE35 TSE35 Index
- \$TSE60 S&P Canada 60 Index Futures
- \$TICK-TSE TSE Tick
- \$TRIN-TSE TSE Trin
-

Canada - Montreal Futures Exchange

- BAX H1-CDE 3 Month Canadian Banker's Acceptance Futures (March 2021)
- CGB H1-CDE 10 Year Government of Canada Bonds Futures (March 2021)
- TSE60 H1-CDE S&P Canada 60 Index Futures (March 2021)

France - Euronext Futures Exchange

- CAC40 H1-MONEP CAC 40 Futures (March 2021)
- \$CAC40 CAC 40 Index
- \$N100 Euronext 100 Index
- \$NBNP DJ Stoxx L&M Bank Index
- \$NENP DJ Stoxx L&M Energy Index
- \$NINP DJ Stoxx L&M Insurance Index
- \$NMDP DJ Stoxx L&M Media Index
- \$NPHP DJ Stoxx L&M Pharmaceutical Index
- \$NTEP DJ Stoxx L&M Telecom Index
- \$NTHP DJ Stoxx L&M Technology Index
- \$SXMP Dow Jones Stoxx Media

Germany - Eurex Futures

All the examples below use March 2021 (H1) as the futures contract month.

- DAX H1-DTB Dax Index Futures
- ESTX50 H1-DTB DJ Euro Stoxx50 Futures
- EU1 H1-DTB One Month Euribor Futures
- EU3 H1-DTB Three Month Euribor Futures
- FOX H1-DTB Finish Stock Index Futures
- GBL H1-DTB Euro Bund Futures
- GBM H1-DTB Euro BobL Futures
- GBS H1-DTB Euro Shaz Futures
- GBX H1-DTB Fut on 15-30 Year Bond
- GTI H1-DTB DJ Global Titans Index 50 Futures
- NMAX H1-DTB Nemax 50 Performance Index Futures
- STX H1-DTB DJ Stoxx50 Futures
- SX7E H1-DTB DJ Euro Stoxx Banks Index Futures
- SX7P H1-DTB DJ Stoxx 600 Banks Futures
- SX8E H1-DTB DJ Euro Stoxx Technology Futures
- SX8P H1-DTB DJ Stoxx 600 Technology Futures
- SXDE H1-DTB DJ Euro Stoxx Healthcare Futures
- SXDP H1-DTB DJ Stoxx 600 Healthcare Futures
- SXKE H1-DTB DJ Euro Stoxx Telecommunications Futures
- SXKP H1-DTB DJ Stoxx 600 Telecommunications Futures

The following Indices can be entered in Ensign 10 for the Eurex (DTB) exchange. See the Interactive Brokers web site for a detailed description list of the Indices.

- \$DAX \$EFE \$EFP \$ESA \$ESB \$ESE \$ESF \$ESH \$ESI \$ESM \$ESTX50 \$ESU \$ESY \$FOX
\$GBX \$GTI \$NMAX \$STB \$STH \$STT \$STX \$STY \$SX1E \$SX2E \$SX3E \$SX4E \$SX6P \$SX7E
\$SX7P \$SX8E \$SX8P \$SXDE \$SXDP \$SXEP \$SXHE \$SXIP \$SXKE \$SXKP \$SXNE \$SXOE
\$SXPE \$TDX

Germany - Xetra (FWB) Stock Exchange

All Stock symbols from FWB should have –FWB appended to the symbol. The default Currency is EUR.

- JNPR-FWB, JDSU-FWB, IBM-FWB, etc.
- \$TICK-FWB FWB Tick
- \$TRIN-FWB FWB Trin

Hong Kong Futures Exchange

- HHI.HK M1-HKFE Hang Seng China Enterprise Index (June 2021)
- HSI M1-HKFE Hang Seng Stock Index Futures (June 2021)
- MHI M1-HKFE Mini Hang Send Index Futures (June 2021)

- \$HSI Hang Seng Stock Index
- \$MHI Mini Hang Seng Index
- \$HHI.HK China Enterprise Index

Hong Kong - Stock Exchange

All Stock symbols from SEHK should have –SEHK appended to the symbol.

- 1299-SEHK

Italy - Borsa Italiana (IDEM) Exchange

- MINI M1-IDEM Mini MIB30 Index Futures (June 2021)
- SPMIB M1-IDEM Milan MIB30 Index Futures (June 2021)

Japan - Osaka Securities Exchange (OSE.JPN)

- N225 Z1-OSE.JPN Nikkei 225 Futures (Dec 2021)
- N225M Z1-OSE.JPN Nikkei 225 Mini Futures (Dec 2021)
- \$N225 Nikkei 225 Index

Japan - Tokyo Stock Exchange

- JTI M1-TSE.JPN Topix Index Futures (June 2021)
- \$TOPX Topix Index
- \$TICK-TSEJ Tokyo Tick
- \$TRIN-TSEJ Tokyo Trin

Korea - Korea Stock Exchange (Unavailable to U.S. citizens)

- \$K200 KOSPI200 Index
- K200 H1-KSE KOSPI200 Futures (March 2021)
- \$TICK-KSE Korea Tick
- \$TRIN-LSE Korea Trin

Netherlands - Euronext NL (FTA)

- AEXL H1-FTA AEX Index Light Futures
- EOE H1-FTA AMS EOE Index Futures (March 2021)

The following Indices can be entered in Ensign 10 for the Euronext (FTA) exchange. See the Interactive Brokers web site for a detailed description list of the Indices.

- \$AEXL \$APC \$AVC \$E100 \$EOE \$FDE \$FED \$STARS \$TOP5

Singapore Exchange - SGX

- ED H1-SGX\$USD 3 Mo Eurodollar Interest Rate (March 2021)
- SEY H1-SGX Euroyen (Tibor) Index
- SJB H1-SGX SGX: Mini JGB Index
- SGXNK H1-SGX SGX: Nikkei 225
- STW H1-SGX\$USD MCSI Taiwan Index
- STW H1-SDX\$USD Tiawan Future
- SSG H1-SGX\$SGD Singapore Dollar

- \$SEY Euroyen (Tibor) Index
- \$SGXNK SGX: Nikkei 225

- \$SJB SGX: Mini JGB Index
- \$STW MSCI Taiwan Index

Spain - Meffrv Futures

- MN H1-MEFFRV IBEX 35 Index Mini Futures (March 2021)
- IX H1-MEFFRV IBEX 35 Index Futures (March 2021)
- \$SPEUP S&P Euro 350 Eur Index
- \$SPFN S&P 350 Financials Index
- \$SPIT S&P 350 Information Technology
- \$SPTS S&P 350 Telecom Technology

Switzerland - Eurex (SOFFEX)

- SMI H1-SOFFEX Swiss Market Index Futures (March 2021)
- \$SMI Swiss Market Index

Switzerland - Swiss Exchange (EBS)

All Stock symbols from the Swiss Stock Exchange should have –EBS appended to the symbol. The default Currency is CHF.

- JPM-EBS, INTC-EBS, MEK-EBS, etc.
- \$TICK-EBS EBS Tick
- \$TRIN-EBS EBS Trin

Indicate the Currency if not quoted in Swiss Francs (CHF).

- ABSI-EBS\$USD, ABSE-EBS\$EUR, ALT-EBS\$USD

Switzerland - VIRTX

All Stock symbols from the VIRTX Exchange should have –VIRTX appended to the symbol. Indicate the Currency that the symbol is Quoted in.

- JDW-VIRTX\$GBP, BAY-VIRTX\$GBP, POP-VIRTX\$EUR, etc.
- \$TICK-VIRTX VIRTX Tick
- \$TRIN-VIRTX VIRTX Trin

United Kingdom - International Petroleum Exchange - IPE

The following Futures Symbols all use June 2021 (M1) in the examples.

- COIL M1 Brent Crude
- GOIL M1 Gas Oil
- NGF M1 Natural Gas

United Kingdom - LIFFE

The following Futures Symbols all use March 2021 (H1) in the examples.

- I H1-LIFFE\$EUR 3 Month Euribor Interest Rate Futures
- L H1-LIFFE 3 Month Sterling Interest Rate Futures

- MCP H1-LIFFE\$EUR Morgan Stanley Pan-Euro Index Futures
- MCU H1-LIFFE\$EUR Morgan Stanley Euro Index Futures
- O H1-LIFFE\$EUR 5 Year Euro Swap Note Futures
- P H1-LIFFE\$EUR 10 Year Euro Swap Note Futures
- R H1-LIFFE Long Gilt Futures
- TWS H1-LIFFE\$EUR 2 Year Euro Swap Note Futures
- USO H1-LIFFE\$USD 5 Year \$ Swap Note Futures
- USP H1-LIFFE\$USD 10 Year \$ Swap Note Futures
- Z H1-LIFFE Financial Times Stock Exchange 100 Futures

- \$C 3 Month Euribor Interest Rate
- \$D Robusta Coffee (LIFFE-NF)
- \$EON One Month Eonia Indexed Future
- \$XC Cocoa
- \$XD Robusta Coffee
- \$Z Financial Times Stock Exchange 100

United Kingdom - London Stock Exchange (LSE)

All Stock symbols from the LSE Exchange should have –LSE appended to the symbol. The default Currency is GBP.

- BAA-LSE, PMO-LSE, VCT-LSE, etc.

Indicate the Currency if not quoted in British Pounds (GBP).

- BIR-LSE\$EUR, TATN-LSE\$USD, DRX-LSE\$EUR
- \$TICK-LSE LSE Tick
- \$TRIN-LSE LSE Trin

United States - American Stock Exchange (AMEX)

- \$ADR, \$BTK, \$DRG, \$IBH, \$MMI, \$TMW, \$XAL, \$XCI, \$XOI, \$TICK-AMEX, \$TRIN-AMEX
- \$AD-AMEX(A) Issues Advance
- \$AD-AMEX(D) Issues Decline
- \$AD-AMEX(U) Issues Unchanged
- \$VOL-AMEX(A) Volume Up
- \$VOL-AMEX(D) Volume Down
- \$VOL-AMEX(U) Volume Unchanged

United States - Chicago Board of Trade (CBOT) Futures

The following Futures examples use March 2021 (H1) as the contract month and year.

- YE H1 Mini sized Eurodollar Futures
- YG H1 Mini sized New York Gold Futures
- YH H1 Mini sized Bond Futures
- YI H1 Mini sized NY Silver Futures
- YM H1 Mini sized Dow Jones Industrial Futures
- YN H1 Mini sized 10 Year T-Note Futures

- ZB H1 30 Year US Bond Futures
- ZF H1 5 Year US Treasury Note Futures
- ZN H1 10 Year US Treasury Note Futures
- ZQ H1 30 Day Fed Funds Futures
- ZT H1 2 Year US Treasury Note Futures

United States - Chicago Board Options Exchange (CBOE)

Stock options are entered with the underlying stock symbol, a space, the month letter, and the strike letter. Some stock options also need the strike price to be entered after the strike letter.

- QQQQ LI35 QQQQ option, December Call, 35 Strike
- SPY WO119 SPY option, November Put, 119 Strike
- \$AUX, \$BIX, \$FSX, \$OEX, \$RUA, \$SGX, \$SPX, \$VIX, etc.

United States - Chicago Mercantile Exchange (GLOBEX) Futures

The following Futures examples use March 2021 (H1) as the contract month and year.

- AUD H1 Australian Dollar / USD Exchange Rate Futures
- BRE H1 Brazilian Real Futures
- CAD H1 Canadian Dollar Futures
- CHF H1 Swiss Franc Exchange Rate Futures
- E7 H1 Emini Euro Futures
- EMD H1 Emini S&P Midcap 400 Futures
- ER2 H1 Emini Russell 2000 Futures
- ES H1 Emini S&P 500 Futures
- EUR H1 Euro FX Futures
- F0 H1 10 Year Agency Note Futures
- F5 H1 5 Year Agency Note Futures
- FEX H1 Fortune E-50 Futures
- FIN H1 S&P 500 Financial Sector Index Futures
- GBP H1 British Pound Futures
- GE H1 Globex Euro Dollar Futures
- J7 H1 Emini Japanese Yen Futures
- JPY H1 Japanese Yen Futures
- MXP H1 Mexican Peso Futures
- NIY H1 Yen Denominated Nikkei 225 Index Futures
- NKD H1 Dollar Denominated Nikkei 225 Index Futures
- NQ H1 Emini Nasdaq 100 Futures
- NZD H1 New Zealand Dollar Futures
- QB H1 Quarterly Bankruptcy Index
- QCN H1 Emini Nasdaq Composite Futures
- RUI H1 Russell 1000 Index Futures
- RUR H1 Russian Ruble Futures
- SGX H1 S&P 500 / Barra Growth Index Futures
- SML H1 S&P 500 Smallcap 600 Index Futures
- SVX H1 S&P 500 / Barra Value Index Futures
- TZ H1 Fed Funds Turn Rate Futures
- ZAR H1 South African Rand Futures

United States – Crypto Currencies

- BTC-PAXOS Bitcoin cryptocurrency on the PAXOS exchange

Crypto Futures examples:

- BRR H2 CF Bitcoin Reference Rate on the @CMECRYPTO exchange
- ETHUSDRR H2 CF Ether-Dollar Reference Rate on the @CMECRYPTO exchange

United States - Eurex US

The following Futures examples use March 2021 (H1) as the contract month and year.

- TBX H1 30 Year Treasury Bond Futures (EurexUS)
- TN2 H1 Jumbo 2 Year US Treasury Note (EurexUS)
- TN3 H1 3 Year US Treasury Note (EurexUS)
- TNL H1 10 Year Treasury Note Futures (EurexUS)
- TNM H1 5 Year Treasury Note Futures (EurexUS)
- TNS H1 2 Year Treasury Note Futures (EurexUS)
- WR1 H1 Russell 1000 Index Futures (EurexUS)
- WR2 H1 Russell 2000 Index Futures (EurexUS)
- EUR H1-EUREX\$USD Euro quoted in US dollar
- EUR H1-EUREX\$JPY Euro quoted in Japanese Yen
- EUR H1-EUREX\$GBP Euro quoted in British Pound
- EUR H1-EUREX\$CAD Euro quoted in Canadian \$
- EUR H1-EUREX\$AUD Euro quoted in Australian \$

United States - Nasdaq

All Indices that originate from the Nasdaq must have -NASD appended to the symbol.

- \$BANK-NASD, \$COMP-NASD, \$IXO-NASD, \$NDX-NASD, \$TICK-NASD, \$TRIN-NASD, etc.
- \$AD-NASD(A) Issues Advance
- \$AD-NASD(D) Issues Decline
- \$AD-NASD(U) Issues Unchanged
- \$VOL-NASD(A) Volume Up
- \$VOL-NASD(D) Volume Down
- \$VOL-NASD(U) Volume Unchanged
-

United States - New York Mercantile Exchange (NYMEX) Futures

- QG H1 Natural Gas E-mini Futures (March 2021)
- QM H1 Crude Oil E-mini Futures (March 2021)

United States - New York Stock Exchange (NYSE)

- \$INDU Dow Jones Industrial Average
- \$NHZ NYSE Transportation Index
- \$NNA NYSE Utility Index
- \$NYA NYSE Composite Index
- BRK B Berkshire Hathaway Inc. common stock
- \$TICK-NYSE NYSE Tick
- \$TRIN-NYSE NYSE Trin
- \$AD-NYSE(A) Issues Advance

- \$AD-NYSE(D) Issues Decline
- \$AD-NYSE(U) Issues Unchanged
- \$VOL-NYSE(A) Volume Up
- \$VOL-NYSE(D) Volume Down
- \$VOL-NYSE(U) Volume Unchanged

Preferred stocks have a space and a three letter suffix. Add a '-' character suffix if the exchange is VALUE.

- PSA PRD- Public Storage preferred Value
- PSA PRP Public Storage
- PSA PRJ Public Storage

United States - One Chicago (ONE)

The single stock futures have a space, month, year, and -ONE suffix. Example: IBM M1-ONE

- \$XARO Aerospace Index
- \$XBNK Bank Index
- \$XBTC BioTech Index
- \$XCMT Communications Index
- \$XDRG Pharmaceuticals Index
- \$XELC Electric Utilities Index
- \$XFIS Diversified Financials Index
- \$XIDD Diversified Industrial Index
- \$XOIL Oil Companies Index
- \$XPCS Precious Metals Index
- \$XRTS Retail Index
- \$XSCR Investment Services Index
- \$XSEM Semiconductors Index
- \$XTHQ Technology Hardware & Equipment Index

United States - Pacific Stock Exchange (PSE)

- \$PSE PSE Technology Index
- \$TIX PSE Telegraph LTD Israel Index
- \$WSX Wilshire Smallcap Index

United States - Philadelphia Stock Exchange (PHLX)

- Examples: \$BKO, \$HGX, \$OTX, \$SOX, \$UTY, \$VLE, \$XAU, \$XOC, etc.