



Cboe Titanium Cboe Quoted Spread Book User Manual

Version 1.0.7

May 14, 2026

This content is owned or licensed by Cboe Global Markets, Inc. or its affiliates ("Cboe") and protected by copyright under U.S. and international copyright laws. Other than for internal business purposes, you may not copy, reproduce, distribute, publish, display, perform, modify, create derivative works, transmit, or in any way exploit the content, sell or offer it for sale, use the content to construct any kind of database, or alter or remove any copyright or other notice from copies of the content.

Table of Contents

Table of Contents	2
Cboe Titanium Cboe Quoted Spread Book User Manual	3
Introduction	4
QSB Symbol Reference Data	5
Cboe.com Reference Data	5
Exchange Designated Complex Instrument Definition Message	6
QSB Instrument Type Detail	7
QSB Box Spread	7
QSB Box Swap	7
QSB Jelly Roll	7
CPM XSP Vertical Spreads	8
Revision History	10

Cboe Titanium Cboe Quoted Spread Book User Manual

Introduction

The Cboe Quoted Spread Book (QSB) service introduces the ability for Market Makers (MMs) to quote select complex instruments designated by the Exchange. Prior to QSB, bulk quoting was not available to MMs for any complex instrument. The Binary Order Entry (BOE) protocol Complex Quoting Interface enables MMs to submit quotes for select exchange designated complex instruments.

Complex instruments designed by the Exchange will be available for quoting during Regular Trading Hours (RTH). Symbol reference data identifying the designated instruments is available on the [Cboe Titanium U.S. Options Complex Multicast PITCH Specification](#) and [Cboe Titanium U.S. Options Complex Multicast TOP Specification](#) data feeds, and on the Cboe.com website, prior to the start of RTH. Specifically, customers can access designated instrument reference data via the **Exchange Designated Complex Instrument Definition** message disseminated on the U.S. Options Complex Multicast PITCH and TOP data feeds, and via a JSON-formatted file downloaded from the [Cboe US Options Reference Data](#) webpage.

QSB Symbol Reference Data

Access to QSB symbol reference data is available on Cboe.com as a JSON-formatted file download and an HTML presentation from the Cboe Exchange Reference data page. The same symbol reference data information is provided via Exchange Designated Complex Instrument Definition messages on the Cboe U.S. Options Complex Multicast PITCH and TOP market data feeds. For both delivery mechanisms, QSB symbol reference data are available starting at 7:00am ET.

Cboe.com Reference Data

Market maker and brokerage trading platforms requiring access to QSB symbol reference data prior to the start of RTH may download a JSON file using a URL on the [Cboe US Options Reference Data](#) page titled "Quoted Spread Book (JSON)". The JSON file format is outlined in the example below:

Figure 1. QSB Symbol Reference Data JSON File Format

```
[
{
  "Complex Instrument Type": "QSB",
  "Complex Instrument Subtype": "BOX_SPREAD",
  "Symbols":
  [
    {
      "Complex Instrument Id": "000u56",
      "Leg Count": "4",
      "Leg Data": [
        {
          "Leg Symbol": "000ab1",
          "Leg Ratio": "1.0",
          "OSI Symbol": "SPX 231117C04000000"
        },
        {
          "Leg Symbol": "000ab2",
          "Leg Ratio": "1.0",
          "OSI Symbol": "SPX 231117P05000000"
        },
        {
          "Leg Symbol": "000ab3",
          "Leg Ratio": "-1.0",
          "OSI Symbol": "SPX 231117C05000000"
        },
        {
          "Leg Symbol": "000ab4",
          "Leg Ratio": "-1.0",
          "OSI Symbol": "SPX 231117P04000000"
        }
      ]
    },
    ...
  ]
},
{
  "Complex Instrument Type": "QSB",
  "Complex Instrument Subtype": "BOX_SWAP",
  "Symbols":
  [
    {
```

```

...
}
],
{
  "Complex Instrument Type": "QSB",
  "Complex Instrument Subtype": "JELLY_ROLL",
  "Symbols":
  [
    {
      ...
    }
  ]
}
]

```

The JSON file is a list comprising distinct dictionaries for each designated complex instrument type and subtype combination. Within each dictionary is a list of the Symbols (i.e., distinct complex instruments of that type), each specifying the complex symbol id (i.e., Complex Instrument Id) and the leg metadata associated with each symbol id.

The JSON element names "Complex Instrument Id", "Leg Count", "Leg Symbol", and "Leg Ratio" are chosen specifically to align with the fields of the **Complex Instrument Definition Expanded** message from the Cboe U.S. Options Complex Multicast PITCH and TOP data feeds. The "OSI Symbol" element associated with each leg is provided for convenience.

The same Cboe Reference Data webpage also provides an HTML formatted display of the QSB symbols on a trading date.

Exchange Designated Complex Instrument Definition Message

Market makers and brokerage trading platform vendors may access QSB symbol reference data by processing the **Exchange Designated Complex Instrument Definition** (EDCID) message on the Cboe U.S. Options Complex Multicast PITCH and TOP market data feeds.

The EDCID message is disseminated in addition to the **Complex Instrument Definition Expanded** message for the QSB complex instruments. In other words, the EDCID message is supplementary information that provides and mapping of the Cboe Exchange complex instruments that are QSB instruments and their group associations.

EDCID messages are available on Complex PITCH and TOP market data feeds in a background loop throughout the trading day. In addition, EDCID messages will appear in the Complex PITCH and TOP Spin Request and Instrument Definition Request output.

See the [Cboe Titanium U.S. Options Complex Multicast PITCH Specification](#) and [Cboe Titanium U.S. Options Complex Multicast TOP Specification](#) for details on the EDCID message.

QSB Instrument Type Detail

The following sections detail the current universe of Exchange Designated Complex Instruments.

QSB Box Spread

QSB Box Spreads are created each trading date using strike spacing of 1000 (i.e., \$100,000 notional) on the first four serial, the first three quarterly, and the first three December standard SPX expirations. By convention, Buying a QSB Box Spread is buying the low strike Call, selling the high strike Call, selling the low strike Put, and buying the high strike Put. The QSB Box Spread Expirations figure below illustrates the QSB Box Spreads created each trading date.

The EDCID message EDCI Type value for QSB Box Spreads is "QSB" and the EDCI Subtype value is "BOX_SPREAD".

Figure 1. QSB Box Spread Expirations

Serial-1	Serial-2	Serial-3	Serial-4	Qtr-1	Qtr-2	Qtr-3	Dec-1	Dec-2	Dec-3
X	X	X	X	X	X	X	X	X	X

Note - On dates where two expirations are identical, only one spread is created

QSB Box Swap

QSB Box Swaps are used for rolling expirations of standard SPX expiration 1000 strike space Box Spreads to forward standard SPX expirations. By convention, buying a QSB Box Swap is rolling a long Box Spread forward in time (i.e., selling the earlier expiration and buying the later expiration). The figure below illustrates the QSB Box Swap roll expiration pairs.

The EDCID message EDCI Type value for QSB Box Swaps is "QSB" and the EDCI Subtype value is "BOX_SWAP".

Figure 1. QSB Box Swap Expirations

		TO EXPIRY								
FROM EXPIRY		Serial-2	Serial-3	Serial-4	Qtr-1	Qtr-2	Qtr-3	Dec-1	Dec-2	Dec-3
	Serial-1	<u>X</u>	X	X	X	X	X			
	Serial-2		X	X	X	X	X			
	Serial-3			X		X	X			
	Serial-4					X	X			
	Qtr-1		X	X		X	X	X	X	X
	Qtr-2						X			

Note - On dates where the From and To expiry are identical, no associated spread is created

The shaded expiration pairs in Figure 3 above are pairs in which the time order of the pair may switch over time. For example, there are times when the first serial contract (Serial-1) expiration is before the first quarterly expiration (Qtr-1) and times when it is after. The shaded expiration pairs indicated in Figure 3 will flip the FROM and TO expirations to maintain the convention that buying the Box Swap rolls a long Box Spread forward in time.

The outlined cell in Figure 3 above indicates a singular expiration pair for which there are times within the calendar year when Qtr-1 and Dec-1 refer to the same contract expiration. During those times when Qtr-1 and Dec-1 resolve to the same contract expiration date, no associated contract spread is created.

QSB Jelly Roll

QSB Jelly Rolls are used for rolling combos (i.e., long Call and short Put at the same strike and expiration) from one expiration to another. Jelly Rolls are typically used for managing delta in portfolios of options positions. By convention buying a QSB Jelly Roll rolls a long combo from the earlier expiration to a later expiration (i.e., selling the earlier expiration combo and buying the later expiration combo). Figure 4 below illustrates the Jelly Roll expiration pairs.

The EDCID message EDCI Type value for QSB Jelly Rolls is "QSB" and the EDCI Subtype value is "JELLY_ROLL".

Figure 1. QSB Jelly Roll Expirations

		TO EXPIRY							
FROM EXPIRY		Tmr	Friday-1	Serial-1	Serial-2	Serial-3	Qtr-1	Qtr-2	Qtr-3
	Today	WW	WW	WX			WX	WX	
	Tmr						WX	WX	
	Friday-1						WX	WX	
	Serial-1						XX	XX	
	Serial-2						XX	XX	
	Serial-3							XX	XX
	Qtr-1							XX	
	Qtr-2								XX

Note - On dates where Tmr and/or Friday-1 are identical to Qtr-1, no associated spread is created

The expirations labeled Today and Tmr are the 0-DTE and 1-DTE expirations respectively. Note 0-DTE and 1-DTE options are technically weekly expiring SPXW contracts. Friday-1 is the next Friday expiring weekly SPXW contract. Serial-1, Serial-2 and Serial-3 are standard monthly SPX contract expirations that skip the quarterly March, June, September and December standard contract expiration. Lastly, Qtr-1, Qtr-2 and Qtr-3 are quarterly standard monthly SPX contract expirations in the set comprising March, June, September and December.

The cells in Figure 4 marked WW roll a weekly expiration combo to a weekly expiration combo forward in time. The cells marked WX roll a weekly expiration combo to a forward standard expiration combo. The cells marked XX roll a standard expiration combo to a forward standard expiration. These distinctions are significant as SPX-SPX complex order books are hosted on matching unit 33, SPXW-SPXW complex order books are hosted on matching unit 34, and the cross SPX-SPXW complex order books are hosted on matching unit 35.

The shaded expiration pairs in Figure 4 above are pairs in which the time order of the pair may switch over time. For example, there are times when the first serial expiration (Serial-1) is before the first quarterly expiration and times when it is after. The shaded expiration pairs will flip as appropriate to maintain the convention that buying a Jelly Roll is to roll a long combo position from the earlier to the later expiration.

The outlined cell in Figure 4 above indicates a two expiration pairs for which there are time within the calendar year when the pair refer to the same expiration date. The two are 1) when Tmr expiration date is the same as the Qtr-1 expiration date (i.e., the day before the expiration of the first quarterly contract), and 2) when the Friday-1 expiration date is the same as the Qtr-1 expiration date. On those specific dates, when the expiration dates comprising pair resolve to the same contract expiration, no associated contract spread is created.

Each trading date, an "Anchor Strike" is calculated by using the put-call parity implied forward price at the next Lead contract expiration rounded to the nearest \$50. The Lead contract is defined as the next quarterly contract on a date advanced 9 days forward from the current date. In other words, the Lead contract in this context is the next quarterly control pre-rolled by 9 trading days.

For each Jelly Roll expiration combination shown in Figure 4 above, seven distinct Jelly Rolls are created as QSB instruments differing only by strike. The anchor strike comprises one of the seven. Three additional strikes above the anchor strike in increments of \$50, and three additional strikes below the anchor strike in increments of \$50 complete the seven.

CPM XSP Vertical Spreads

Cboe Prediction Markets (CPM) introduced Quoted XSP Vertical spreads. Each day, based on currently listed XSP option strikes, all possible \$1 wide Vertical Call Spreads and Vertical Put Spreads are exchange designated complex instruments and are available to MMs for quoting using the BOE Complex Quoting Interface.

The EDCID message EDCI Type value used for all Cboe Prediction Markets designated instruments is "CPM". The EDCI Subtype value for Bull Vertical Call Spreads is "VERT_CALL_SPRD". The EDCI Subtype value for Bear Vertical Put Spreads is "VERT_PUT_SPRD".

Revision History

Version	Date	Description
1.0.0	04/02/24	Initial version.
1.0.1	06/21/24	Minor correction made to figure 1.
1.0.2	01/22/25	Updated with Cboe Titanium branding.
1.0.3	07/02/25	Updated Introduction to indicate MMs will be able to use BOE Complex Quote Update and Complex Quote Update (Short) messages to quote QSB instruments over BOE Bulk Quoting Ports (effective 09/15/25 08/18/25).
1.0.4	07/21/25	Updated description of QSB Box Spread and QSB Box Swap instruments to indicate 1000 wide Box Spreads.
1.0.5	08/11/25	Updated Complex Quote Update and Complex Quote Update (short) message effective date to 09/15/25.
1.0.6	04/01/26	Introduced Cboe Prediction Markets (CPM) XSP Vertical Spreads designed instruments (effective 06/15/26 06/01/26).
1.0.7	05/14/26	Updated XSP Vertical spreads effective date to 06/15/26.