Cboe Titanium U.S. Options Binary Order Entry Specification

Version 2.11.90

October 3, 2025

Contents

Introduction

Overview

This document describes Cboe Titanium US Options Binary Order Entry (BOE), the Cboe proprietary order entry protocol.

Where applicable, the terminology (e.g., time in force) used in this document is similar to that used by the FIX protocol to allow those familiar with FIX to more easily understand BOE. This document assumes the reader has basic knowledge of the FIX protocol.

BOE fulfills the following requirements:

- CPU and memory efficiency. Message encoding, decoding, and parsing are simpler to code and can be optimized to use less CPU and memory at runtime.
- Application level simplicity. State transitions are simple and unambiguous. They are easy to apply to a Member's representation of an order.
- Session level simplicity. The session level protocol (login, sequencing, replay of missed messages, logout) is simple to understand.

While Cboe strives to preserve feature parity between FIX and BOE where possible, some features may only be available in one protocol or the other.

All binary values are in little Endian (used by Intel x86 processors), and not network byte order.

Each message is identified by a unique message type. Not all message types are used in all Cboe's trading environments globally. A listing of the supported message types is provided in Quote Reason Codes on page 214.

All communication is via standard TCP/IP.

Certification Requirement

All customers must complete a formal certification in the appropriate Cboe Certification test environment before production orders or quotes will be accepted by Cboe. Formal certification scripts can be found in the Cboe Customer Web Portal. Customers may complete the formal certification using the Certification Tool app and selecting the applicable certification script. Customers are advised to test all functionality they plan to use in production in the Cboe Certification test environment.

Document Format

Blue highlighted sections highlight key differences between the Cboe US Options Exchanges (Cboe Options Exchange C1 only, C2 Options Exchange C2 only, and EDGX Options Exchange EDGX only).

Hours of Operation

All times noted are Eastern time zone (ET) based.

See the respective exchange websites for holiday schedules.

Cboe Options Exchanges support a Pre-Market Queuing Session that allows orders to be entered and queued prior to the start of the Global Trading Hours (GTH) session and the Regular Trading Hours (RTH) session. The GTH Queuing session allows SPX, VIX, and XSP orders marked as both GTH and RTH only order to be entered and queued. C1 also supports a Curb session in addition to GTH and RTH sessions.

For more information on the Cboe Opening Process, please refer to the Cboe Opening Process Specification.

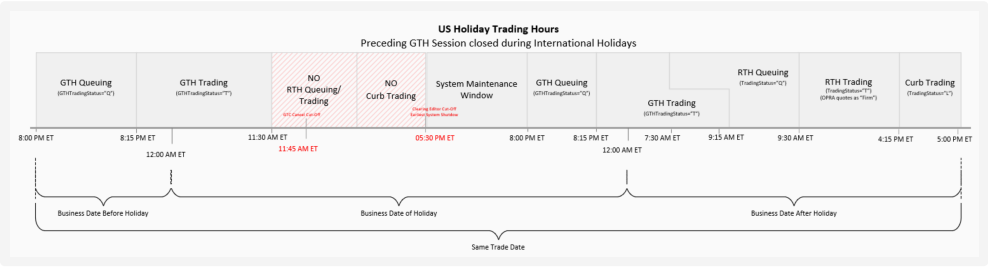
Cboe Options Exchanges do not support a closing auction, but do support extended trading for options on select ETF and index products. All orders remaining after the Regular Trading Session that are not eligible for Extended Trading will be cancelled automatically. All orders remaining after the Extended session will be cancelled automatically. Members will receive **`Order Cancelled`** messages for all automatically cancelled orders.

	C1	C2	EDGX
Order Acceptance	8:00 pm - 8:15 pm ET (SPX/VIX/XSP)	7:30 am - 9:30 am ET (All Products)	7:30 am - 9:30 am ET (All Products)
	7:30 am - 9:30 am ET (All Products)		
GTH	8:15 pm - 9:25 am ET (SPX/VIX/XSP)	N/A	N/A
RTH	9:30 am - 4:00 pm ET (All Products)	9:30 am - 4:00 pm ET (All Products)	9:30 am - 4:00 pm ET (All Products)
	9:30 am - 4:15 pm ET (Select ETF's/ETN's and Index Products)	9:30 am - 4:15 pm ET	9:30 am - 4:15 pm ET
Curb	4:30 pm - 5:00 pm ET (SPX/VIX/XSP)	N/A	N/A

Holiday Sessions (C1 only)

On certain US-centric holidays, where European and/or Asian markets are open, trading is suspended for RTH and Curb but continues for GTH, resulting in two sets of non-contiguous GTH sessions before RTH.

Figure 1. US Holiday Trading Hours



On days where the market closes early, RTH will conclude at 1:15 p.m. ET and there will not be a subsequent Curb session. The market will remain closed until the next GTH session.

On certain International Holidays (i.e. New Year's Day) there is no GTH or RTH trading and the C1 Options market is closed. Notice will be sent prior to any holiday communicating the specific hours and sessions that will be available.

Data Types

The following data types are used by BOE. The size of some data types varies by message. All data types have default values of binary zero, in both Member to Cboe and Cboe to Member contexts.

- Binary*:* Little Endian byte order, unsigned binary value. The number of bytes used depends on the context.
  - One byte: FE=254
  - Four bytes: 64 00 00 00=100
- Signed Binary*:* Little Endian byte order, signed two's complement, binary value. The number of bytes used depends on the context.
  - One byte: DF=-33
  - Four bytes: 64 00 00 00=+100
- Binary Price: Little Endian byte order value, signed two's complement, eight bytes in size, with four implied decimal places. So, if the value is -123,400, the actual value taking into account implied decimal places is -12.34.
  - 08 E2 01 00 00 00 00 00=123,400/10, 000=12.34
  - F8 1D FE FF FF FF FF FF= -123,400/10, 000=-12.34
- Short Binary Price*:* Little Endian byte order value, signed two's complement, four bytes in size, with four implied decimal places. So, if the value is 12,300, the actual value taking into account implied decimal places is 1.23.
  - 0C 30 00 00=12,300/10, 000=1.23
- Signed Binary Fee: Little Endian byte order value, signed two's complement, eight bytes in size, with five implied decimal places. So, the value is -123,000 is -1.23 after taking account for the five implied decimal places.
  - 88 1F FE FF FF FF FF FF=123,000/100, 000=-1.23
- Alpha*:* Uppercase letters (A-Z) and lowercase letters (a-z) only. ASCII NUL (0x00) filled on the right, if necessary. The number of bytes used depends on the context.
- Alphanumeric*:* Uppercase letters (A-Z), lowercase letters (a-z) and numbers (0-9) only. ASCII NUL (0x00) filled on the right, if necessary.
- Text*:* Printable ASCII characters only. ASCII NUL (0x00) filled on the right, if necessary.
- DateTime*:* Little Endian byte order, eight bytes. The date and time, in UTC, represented as nanoseconds past the UNIX epoch (00:00:00 UTC on 1 January 1970). This field is populated using nanoseconds.

  For example: 1,294,909,373,757,324, 000=2011-01-13 09:02:53.757324 UTC.
- Date*:* Little Endian byte order, unsigned binary value, 4 bytes in size. The YYYYMMDD expressed as an integer.

Optional Fields and Bit fields

Some messages such as **`New Order`** message and **`Modify Order`** message have a number of optional fields. A count and number of bitfields in the message specify which optional fields will be present at the end of the message. If a bit is set, the field will be present. Fields are appended to the end of the message. There is no implicit framing between the optional fields. In order to decode the optional fields, they must be appended in a particular order to the end of the message. The fields of the first bitfield are appended first, lowest order bit first. Next, the fields of the next bitfield are appended, lowest order bit first. This continues for all bitfields. While certain reserved bits within a defined bitfield are used within another Cboe market and will be ignored, bits that are reserved for future expansion must be set to 0 when noted in the bitfield description.

The size, data type, and values for each field are described in List of Optional Fields on page 196.

Note that the set of optional fields returned for each Cboe to Member message type is determined at session login (using the **`Login Request`** message); hence, the exact size and layout of each message received by the client application can be known in advance. **Any requested optional field, which is irrelevant in a particular context, will still be present in the returned message, but with all bytes set to binary zero (0x00)**.

Each return message from Cboe to Member indicates the optional fields which are present, even though the Member indicated during login which optional fields are to be sent. The reason for the inclusion (and duplication) is so that each message can be interpreted on its own, without having to find the corresponding login request or response to know which optional fields are present. So, for example, in a log file, decoding a message requires only that single message.

Example messages are shown with each message type, which should help to make this concept clear.

Protocol Features

The exchange does not guarantee messages sent by Members/TPHs to the exchange, including through protocols such as TCP. Members/TPHs are responsible to monitor the status of the messages they send to the exchange.

Architecture and Message in Flight Settings

Each BOE order handler process will allow a single TCP connection from a member. Connection attempts from unknown source IP ranges will be blocked to prevent unauthorized access to BOE ports. The Cboe NOC should be contacted in the event that a Member desires to connect from a new source IP range.

Each BOE order handler will connect, using a proprietary UDP protocol, to all matching units. Connections from order handlers to matching engines are latency equalized. The connections between order handlers and matching units are governed by an internal flow control mechanism to control burst rates.

The number of messages in flight between an order handler and a matching engine is 128. In addition, when the total number of unacknowledged messages exceeds 1,024, the BOE order handler will stop reading from the member-facing TCP socket. This will cause the order handler to stop removing bytes from the TCP receive buffer, and will prevent the member from sending more TCP data once the member's send buffer is full.

When the total number of unacknowledged messages falls below 960, the reading of the member facing TCP socket will be resumed.

For message in flight counting purposes the following logic will be used:

- A new order message will count as one message;
- A new complex order with up to 100 legs will count as one message;
- A new order cross or new complex order cross auction message with one agency side and up to 10 contra parties will count as one message;
- A quote update with up to 20 individual quote sides will count as one message.
- In contrast, a single TCP segment sent by a member containing two quote update messages, each with five quote sides, will count as two messages

Cboe may either update the message in flight or the total number of unacknowledged messages settings with notice. Changes to reduce either limit will be made only with two weeks' notice. Cboe reserves the ability to increase either limit immediately with notice.

Complex Instruments and Signed Prices (C1, C2, and EDGX only)

All price fields in the BOE protocol are signed values capable of accommodating complex instruments that can be negative (See Data Types on page 10) for a description and an example of using the Binary Price type with a negative price). For an example of the use of the Binary Price type with negative price values in an application message, see the example BOE message in New Complex Order Message Fields (C1, EDGX, and C2 Only) on page 66.

Done For Day Restatements

Good 'Til Cancel (GTC) and Good 'Til Day (GTD) orders can result in order persisting between sessions. The Cboe BOE protocol provides a mechanism for clients to request end-of-day restatement of GTC/GTD orders that will be persisted to the next trading session. See BOE Port Attributes on page 218 for information on available port attributes, including Done For Day Restatements.

When enabled, Done For Day Restatement messages are sent to connected clients after the trading session ends, for each order that will persist to the next trading session. Any time prior to the cutoff, customers may send **`Cancel Order`** messages for any open GTC and GTD orders.

Done For Day Restatements are represented using **`Order Acknowledgment`** messages with the following optional attributes set:

- *BaseLiquidityIndicator* = A (Added Liquidity), bitfield 5, bit position 7
- *SubLiquidityIndicator* = D (Done For Day), bitfield 7, bit position 1

To receive Done For Day Restatements, the Done For Day Restatement port attribute must be set (contact Cboe Trade Desk), and customers **must** register to receive *BaseLiquidityIndicator* and *SubLiquidityIndicator* optional fields on **`Order Acknowledgment`** messages via the **`Logon Request`** message (See Login Request Message Fields on page 48 for details on registering to receive optional fields on a per-message basis). If the Done For Day Restatement port attribute is set and the bitfield Logon Message registration for the **`Order Acknowledgment`** message does not include but *BaseLiquidityIndicator* and *SubLiquidityIndicator*, the logon attempt will fail.

Carried Order Restatements

GTC, GTD, and Day orders entered during partial holiday sessions can also persist between multiple trading sessions. The Cboe BOE protocol provides a mechanism for clients to request restatement of orders that have been carried forward from the previous business day trading session. See BOE Port Attributes on page 218 for information on available port attributes, including Carried Order Restatements.

When enabled, Carried Order Restatements are sent to connected clients for each product on the Options Exchange for which orders have been carried forward from the previous business day trading session. Carried Order Restatements are sent after connection establishment and before regular trading activity messages on a per-product basis.

Carried Order Restatements are represented using **`Order Acknowledgment`** messages with the following optional attributes set:

- *BaseLiquidityIndicator* = A (Added Liquidity), bitfield 5, bit position 7
- *SubLiquidityIndicator* = C (Carried), bitfield 7, bit position 1

To receive Carried Order Restatements, the Carried Order Restatement port attribute must be set (contact CFE Trade Desk), and customers **must** register to receive *BaseLiquidityIndicator* and *SubLiquidityIndicator* optional fields on **`Order Acknowledgment`** messages via the **`Logon Request`** message (See Login Request Message Fields on page 48 for details on registering to receive optional fields on a per-message basis). If the Carried Order Restatement port attribute is set and the bitfield Logon Message registration for the Order Acknowledgment message does not include but *BaseLiquidityIndicator* and *SubLiquidityIndicator*, the logon attempt will fail.

Cancellation of Carried Orders Between Trading Sessions

GTC and GTD orders persist within the Cboe Options Exchanges between business days. On EDGX and C2 the latest time when GTC/GTD orders may be cancelled is 4:45 p.m. ET.

On C1 Options the latest time when GTC/GTD orders may be cancelled is 5:15 p.m. ET (15 minutes following the close of the Curb Session).

GTC, GTD, and Day orders also persist between multiple GTH trading sessions on the same business day in connection with a holiday. On US holidays, **`Cancel Order`** messages for GTC orders may be issued until 11:45 a.m. ET, which is 15 minutes after the first GTH session ends at 11:30 a.m. ET. After the cancellation period, cancellation requests will be rejected with reason O: Order known, but cannot be canceled at this time until after the system restart completes. The Multi-Segment Holiday Day Order Handling port attribute will enable Members to designate if Day orders are cancelled or preserved across holiday trading segments comprising a single business date. See BOE Port Attributes on page 218 for information on available port attributes.

Display Indicator Features

Orders are eligible for all of the sliding features described below. Quotes are eligible for the sliding behaviors described below if they are received with a price that locks the NBBO and with a *PostingInstruction* eligible for price sliding. Quotes that also cross the NBBO or displayed Cboe book will be accepted if within a configurable buffer range through the NBBO or displayed Cboe book. The buffer is set to 5% with a minimum of $0.05 and a maximum of $1.00.

Price Adjust (C1, C2, and EDGX Only)

If the limit price of an order does not lock or cross the NBBO, then the order will be ranked and displayed at the nearest permissible quoting increment.

If the limit price of a Price Adjust eligible order locks or crosses the NBBO, the limit price will be adjusted on entry to the locking price of the NBBO, while the displayed price and ranked price will be temporarily adjusted to the nearest permissible quoting increment. Price Adjust orders will never be ranked at the locking price or at a non-displayable price increment. If the NBBO widens, the displayed price and ranked price will be readjusted to the adjusted limit price.

The limit price of a Multiple Price Adjust order will not be permanently adjusted on entry if the limit price crosses the NBBO. The displayed price and ranked price will be the nearest permissible quoting increment and will be adjusted towards the original limit price based on changes in the prevailing NBBO.

Default Exchange Risk Protections

Market Order NBBO Width Protection for Simple Orders

Market Orders are rejected if the NBBO width is greater than 100% of the midpoint (with a minimum value of $5.00 and maximum value of $10.00).

Example

- NBBO = $1.00 x $4.00
- Midpoint = $2.50 x 100% = $2.50 (minimum of 5.00 is used instead)
- NBBO Width= $4.00 - $1.00 = $3.00

Even though the width is greater than 100% of the midpoint, Market Orders entered are accepted since the $5.00 minimum applies in this example.

Drill-Through Protection for Simple Limit Orders

Each simple limit order will be assigned a drill-through price that allows simple orders to be executed up to an initial capped price through the contra side NBBO at time of order entry.

The drill-through mechanism will then repeatedly post the order at a more aggressive price. If the order reaches its limit price at any time during the iterative drill-through process, the order will remain at its limit price and the drill-through protection mechanism will not continue. The preset duration is one second.

Adjustments that would lock or invert an away displayed market will initiate a SUM auction.

Market orders submitted with a *TimeInForce* (FIX Tag 59) of Day along with elected stop orders will be eligible for iterative drill-through price protection.

- Sell market orders will drill-through down to the minimum tick for the class where they will rest until cancelled or executed in full.
- Buy market orders will drill-through to the maximum allowable price for the class where they will rest until cancelled or executed in full.
- Market orders submitted with a *TimeInForce* of IOC will trade on arrival, capped at the first drill-through price level.

Separate stop and stop limit orders elected as a result of the same election trigger (NBBO update or last sale) will all use the same drill-through reference price. This may include orders with multiple stop prices if the election trigger covers multiple price levels. When multiple stop orders are elected as a result of the same election trigger, they are sequenced in time priority based on their order entry time.

- If an iterative drill-through protection is in progress, newly-elected stop and stop limit orders will join the current drill-through price. The newly-elected stop and stop limit orders will be prioritized behind orders already in drill-through.
- If no iterative drill-through is in progress, the initial drill-through reference price for stop and stop limit orders elected by the same market data event will be set to the contra side NBBO

Triggered Market-On-Close and Limit-On-Close orders are handled the same as elected stop and stop limit orders with respect to drill-through reference price and priority.

- Existing market-width checks prevent market orders from executing if the bid/ask width is wider than a specified amount. This protection will be bypassed for triggered Market-On-Close orders and triggered stop orders.
- Existing Fat Finger limit price reasonability checks reject limit orders priced at an overly-aggressive level. Such protections will be bypassed for triggered Limit-On-Close orders and triggered stop limit orders.

The Drill-Through Price is calculated by taking the NBB or NBO and subtracting or adding, respectively, the Drill-Through Amount from the table below. Calculated drill-through prices at an invalid pick increment for the class will be widened to the next valid tick.

Table 1. NBBO Drill-Through Amount

NBBO PRICE	DRILL-THROUGH AMOUNT (ALL SYMBOLS)
$0.00 - $5.00	$0.10
$5.01 - $20.00	$0.20
$20.01 - $50.00	$0.30
$50.01 - $100.00	$0.40
$100.01 & Above	$0.50

Wide Market Protection Effective TBD (EDGX) and TBD (C1 and C2), *subject to regulatory review*.

Wide market protection (WMP) initiates a pause on inbound market orders, limit orders, or elected stop/stop limit orders, when the NBBO is deemed "wide" based on pre-established configurable parameters. Specifically, the NBBO is considered wide if the bid/ask spread is wider than the Wide Market Protection Determinant based on the NBB (Bid Price) in the table below. The WMP Determinants are purposely set tighter than Obvious Error levels, which are also provided for convenience.

Triggering conditions: Cboe will initiate WMP upon the following events:

1. A limit or market order is received when the NBBO is deemed wide.
2. A stop or stop limit order is triggered and the NBBO after the triggering event is deemed wide.

WMP functionality:

1. Once WMP is initiated, applicable incoming market, limit orders, and elected stop/stop limit orders will initially be paused and displayed at the WMP benchmark price (described below), for a pre-determined time interval, which will be configured at 500 milliseconds.
2. After a WMP is in progress, new incoming market orders, limit orders and elected stop/stop limit orders will be eligible to join orders that are already displayed in the existing WMP event.
3. Multiple orders displayed at the same price during a WMP event will be prioritized in time sequence based on the time the order was released into the book and will work at the displayed price.
4. Eligible un-executed orders in a WMP event will be displayed at progressively more-aggressive levels, up to their limit, through an iterative process. At the expiration of each iteration timer, the price will be aggressed by the WMP amount from the table below.
5. WMP will be disabled 30 seconds prior to the close of a trading session (RTH or curb session). New market, limit, and elected stop/stop limit orders received into the book during this time window will not initiate WMP.

Benchmark price determinations: The benchmark price at which protected orders will be initially displayed will be the least aggressive of:

1. The same-side NBB plus the NBBO Adjustment Amount (NAA) for buy orders; the NBO minus the NAA for sell orders; NBB of 0 plus the NAA for buy orders when the NBB is 0/blank; the

NBB plus the WMP Determinant for sell orders when the NBO is 0/blank (see table below for NAA values).

2. Last trade price, if better than or equal to the same side NBBO.
3. The NBBO midpoint (may not come into play depending on configured values for the Wide Market Determinant).

Table 2. Wide Market Protection Determinants

BID PRICE	WMP DETERMINANT		NBBO ADJUSTMENT AMOUNT (NAA)	
	SPX/SPXW	NON-SPX/SPXW	SPX/SPXW	NON-SPX/SPXW
<=3.00	>= 0.40	>= 0.70	0.20	0.40
3.01-5.00	>= 0.70	>= 1.20	0.30	0.70
5.01-10.00	>= 0.80	>= 1.40	0.40	0.80
10.01-20.00	>= 1.30	>= 2.30	0.60	1.30
20.01-50.00	>= 1.50	>= 2.70	0.70	1.60
50.01-100.00	>= 2.30	>= 4.10	1.10	2.40
>100.00	>= 3.00	>= 5.40	1.50	3.20

The examples below illustrate WMP functionality using the parameters for SPX/SPXW (see table above).

Example 1 - A limit or market order is received when the NBBO is wide. Same Side NBBO + NBBO Adjustment Amount (NAA) is least aggressive.

- MM1 Quote: 5 @ 1.95 x 5 @ 2.75 (NBBO, considered wide per table above)
- Order 1: Buy 5 @ 2.35. Order 1 is subject to wide market protection.
- Order 1 initiates WMP and is initially displayed at benchmark price of 2.15. Determined as least aggressive of:
  - Same side NBBO + NAA: 1.95 + 0.20 = 2.15
  - Last Trade Price: 2.30
  - NBBO Midpoint: 2.35

Example 2 - A stop or stop limit order is triggered and the NBBO after the triggering event is wide. Last trade price is least aggressive.

- MM1 Quote: 5 @ 1.95 x 5 @ 2.75
- MM2 Quote 5 @ 1.95 x 5 @ 2.10 (NBBO, not wide)
- Order 1: Stop Limit Buy 5 @ 2.85, ***StopPx*** = 2.05
- Order 2: Buy 5 @ 2.10 trades with MM2 Quote at 2.10. As a result, Order 1 is elected.
- Resulting NBBO after the triggering event is 1.95 x 2.75, per the table above this is considered wide. Order 1 is subject to wide market protection.

- Order 1 initiates WMP and is initially displayed at Benchmark price of 2.10, determined as least aggressive of:
  - Same side NBBO + NAA : 1.95 + 0.20 = 2.15
  - Last Trade Price: 2.10
  - NBBO Midpoint: 2.35

Example 3 - A stop or stop limit order is triggered and the NBBO after the triggering event is wide. Same side NBBO + NAA and NBBO midpoint are least aggressive at same price.

- MM1 Quote: 5 @ 1.95 x 5 @ 2.35
- MM2 Quote 5 @ 1.95 x 5 @ 2.20 (NBBO, not wide)
- Order 1: Stop Limit Buy 5 @ 2.40, ***StopPx***= 2.05

  text
- Order 2: Buy 5 @ 2.20 trades with MM2 Quote at 2.20. As a result, Order 1 is elected.
- Resulting NBBO after the triggering event is 1.95 x 2.35, per the table above this is considered wide. Order 1 is subject to wide market protection.
- Order 1 initiates WMP and is initially displayed at Benchmark price of 2.15, determined as least aggressive of:
  - Same side NBBO + NAA : 1.95 + 0.20 = 2.15
  - Last Trade Price: 2.20
  - NBBO Midpoint: 2.15

Subsequent drill-through pricing:

If the market is wide and the order has been paused at the benchmark price, the order will be handled by iterative drill-through logic. The order paused at its benchmark price will be considered the initial drill-through iteration, and subsequent iterations will use existing drill-through logic. Note that drill through amounts and timers may be modified.

Following the current drill-through logic, new incoming market and limit orders will join the protected order(s) at the current drill-through price. All existing drill-through logic for handling the priority of orders in a bundle will be applied. Market-Maker quotes, Immediate or Cancel (IOC) orders, and Intermarket Sweep Orders (ISO) will bypass drill-through protection and can book or trade ahead of the drill through bundle, as is the case with current drill through functionality. If an away market or Market-Maker quote (but not an order) is displayed more aggressively than the drill-through price, the drill-through bundle will move to that price.

To mitigate risk of orders being un-executed towards the end of a trading day, WMP will be bypassed starting at a configurable amount of time prior to the close of the RTH and Curb sessions for the series. Note this timer does not apply to Global Trading Hours (GTH).

During the end of session timeframe:

1. WMP will be disabled.
    - If no drill-through is in-progress, new non-marketable limit orders will simply book, and marketable limits and market orders will execute and be eligible to initiate drill-through after their initial execution.
2. Post-execution drill-through will continue to remain active and enabled. Any drill-through in progress will continue as normal. This includes drill-through which was previously initiated by WMP.
    - At the end of the timer and the RTH session, any RTH-only orders will be cancelled, and any drill-through that is in progress will continue for orders eligible for the Curb session. This follows existing drill-through functionality. WMP will be reactivated at the start of the Curb session and will function the same as it does in RTH.
3. Inbound orders and newly elected stop and stop limit orders will continue to join drill-through in progress.

Market/Limit Order Drill-Through for Complex Orders

Default Drill-Through Protections will be applied to all complex limit and market orders that will cap the price of the order relative to the SNBBO at the time of order entry. Exchange defaults are 5% through the contra-side of the SNBBO. For orders other than SPX/SPXW, the price cap level will be no larger than $0.25 through the contra-side SNBBO. For SPX/SPXW, the price cap will be no larger than $2.00 through the contra-side SNBBO. The price cap will be no smaller than $0.02 through the contra-side SNBBO for all orders.

For complex orders not specifying a drill-through override with *DrillThruProtection* (FIX Tag 6253), the drill-through mechanism will repeatedly post the order at a more aggressive price. If the order reaches its limit price at any time during the iterative drill-through process, the order will remain at its limit price and the drill-through protection mechanism will not continue. The preset duration is one second.

Sell market orders will drill through to the minimum tick for the class, where they will rest until cancelled or executed in full. Buy market orders will drill through to the maximum allowable price for the class, where they will rest until cancelled or executed in full. Market orders submitted with a *TimeInForce* of IOC will trade on arrival, capped at the first drill-through price level.

Customers can optionally set more or less restrictive Drill-Through Protections on individual orders using *DrillThruProtection* on the **`New Order Multileg`** message. Eligible complex orders may also initiate a COA throughout the iterative process.

Exchange Default Fat Finger Limits

Fat Finger Checks are mandatory for both Pre-Market and Regular Sessions and applied to both simple and complex orders. The following Exchange defaults are applied if not specified by the user. Fat Finger checks are not applicable for any Multi-Class Spread instruments that trade on the floor only. Fat Finger checks are applicable for Multi-Class complex instruments containing only SPX or SPXW legs as they are eligible for trading on the electronic book. See the Web Portal Port Controls Specification for additional details on how Members can manage fat finger settings intraday.

Table 3. Fat Finger Limits - Pre-Open Curb/GTH Session (VIX/XSP)

LIMIT PRICE RANGE	FAT FINGER % DEFAULT	FAT FINGER DOLLAR-BASED LIMIT DEFAULT
$0.00 - $1.99	No Value	$1.00
$2.00 - $5.00	No Value	$1.50
$5.01 - $10.00	No Value	$2.00
$10.01 - $20.00	No Value	$3.00
$20.01 - $50.00	No Value	$4.00
$50.01 - $100.00	No Value	$6.00
$100.01 & Above	8%	Not Valid

Table 4. Fat Finger Limits - Regular Session

LIMIT PRICE RANGE	FAT FINGER % DEFAULT	FAT FINGER DOLLAR-BASED LIMIT DEFAULT
$0.00 - $1.99	No Value	$0.50
$2.00 - $5.00	No Value	$0.75
$5.01 - $10.00	No Value	$1.00
$10.01 - $20.00	No Value	$1.50
$20.01 - $50.00	No Value	$2.00
$50.01 - $100.00	No Value	$3.00
$100.01 & Above	4%	Not Valid

SPX and SPXW are considered Exception Classes and have unique Fat Finger default values for the Pre-Open and Regular sessions.

Table 5. Fat Finger Limits - Exception Class Pre-Open Curb/GTH Session (SPX)

LIMIT PRICE RANGE	FAT FINGER % DEFAULT	FAT FINGER DOLLAR-BASED LIMIT DEFAULT
$0.00 - $1.99	No Value	$15.00
$2.00 - $5.00	No Value	$15.00
$5.01 - $10.00	No Value	$15.00
$10.01 - $20.00	No Value	$15.00
$20.01 - $50.00	No Value	$20.00
$50.01 - $100.00	No Value	$20.00
$100.01 & Above	No Value	$25.00

Table 6. Fat Finger Limits - Exception Class Regular Session

LIMIT PRICE RANGE	FAT FINGER % DEFAULT	FAT FINGER DOLLAR-BASED LIMIT DEFAULT
$0.00 - $1.99	No Value	$1.00
$2.00 - $5.00	No Value	$1.50
$5.01 - $10.00	No Value	$2.00
$10.01 - $20.00	No Value	$3.00
$20.01 - $50.00	No Value	$4.00
$50.01 - $100.00	No Value	$6.00
$100.01 & Above	16%	Not Valid

Default Fat Finger Limits for Quote Updates

Quotes that cross the NBBO or displayed Cboe book will be accepted if within a configurable buffer range through the NBBO or displayed Cboe book. The buffer is set to 5% with a minimum of $0.05 and a maximum of $1.00.

Maximum Open Order Limits

The exchange limits the maximum number of open orders allowed on a BOE or BOE Quote port to 200,000 per port. New orders will be rejected once this limit is breached until the number of open orders drops back below 200,000. Note this limit is only for orders and does not include open quotes sent over a BOE Quote port.

Risk Root

This document uses Risk Root to describe Cboe Options Risk Management functionality that is applied at the symbol-level. The Risk Root is defined as the underlying symbol. This impacts what value must be sent in the defined ***RiskRoot*** fields when performing a mass cancel or a risk trip reset. See the Risk Management Specification for more details.

Market Maker Trade Notifications (C1 Only)

Floor Trade Notifications (MMTNs) will be sent to Market Makers if they are identified as the contra party of a floor trade. MMTN messages will be sent over a designated FIXDrop or BOE order entry port. See BOE Port Attributes on page 218 for information on available port attributes related to MMTNs.

Market Makers that receive a Floor Trade Notification should use the Floor Trade Confirmation message to respond to the NNTN if they agree with the terms of the trade. Alternatively, a Market Maker can use the **`Add Floor Trade`** message to enter their own version of the trade.

Cabinet and Sub-Cabinet Orders (C1 Only)

Cabinet orders are identified via *PriceType* = 0 and must have a valid *TimeInForce* of Day or GTC. Cabinet orders can support a position status of Open or Close indentified via the *OpenClose* field. Cabinet orders will only trade with other cabinet orders on the book or floor depending on *FloorRoutingInst* and *FloorDestination* values.

Valid Pricing

Orders in non-penny classes must have a limit price **less than or equal to** $0.01 and orders in penny classes must have a limit price **less than** $0.01. Limit prices may be up to 4 decimal places.

Invalid Pricing

Orders in penny or non-penny classes priced **greater than** $0.01 and orders in penny classes priced **equal to** $0.01 will be rejected. Orders with a limit price that locks or crosses a resting non-cabinet order will be rejected.

Market Data

Cabinet orders or executions will not be disseminated on OPRA but will be available on the US Options Multicast PITCH and TOP feeds.

Auction Orders

For more information on the following Auction Only Orders, please refer to the Opening Process Specification.

ORDER TYPE	ORDER ENTRY DETAILS	
Market-On-Open (MOO)	OrdType = 1 (Market)	TimeInForce = 2 (At the open)
Limit-On-Open (LOO)	OrdType = 2 (Limit) Price = [price]	TimeInForce = 2 (At the open)
Settlement Liquidity On Open (SLOO)	OrdType = 2 (Limit) Price = [price]	TimeInForce = 2 (At the open) ExecInst = r (Settlement Liquidity)

Port Types

All BOE port types may be ordered using the Logical Port Request tool on the Customer Web Portal. Port attribute changes may also be requested through this tool by submitting a Modify request for one or more existing BOE ports.

BOE Order Ports

Standard BOE ports support simple and complex order entry but do not support the usage of **`Quote Update`** message types and **`Purge Orders`** message types. The attempted usage of any of these message types on standard BOE order ports will result in a rejection of the disallowed message.

Standard BOE ports are limited to 5,000 inbound messages per second. Once the inbound limit is reached new orders are rejected, modifies are handled as cancels, and cancels are processed normally.

BOE Bulk Quoting Ports

BOE Bulk Quoting ports are intended for use by market makers quoting large numbers of simple options series using **`Quote Update`** messages and complex series using **`Complex Quote Update`** messages. As a result, they are unthrottled in terms of number of messages that may be accepted within any given period of time from a TPH. However, market makers may still experience poor performance on Bulk Quoting ports if excessive message traffic is sent.

The *PreventMatch* field may not be specified on **`Quote Update`** or **`Complex Quote Update`** messages and Match Trade Prevention is only available if defaulted at the port level. For Bulk Quoting ports, only Cancel Newest, Cancel Oldest, or Cancel Both are permitted. If a Bulk Quoting port is not configured with both a default MTP Modifier and Unique ID Level, Match Trade Prevention will be disabled.

Table 7. Bulk Quoting Port Order Acceptance

MESSAGE	SIMPLE/COMPLEX	ACCEPTED OVER BULK QUOTING PORT?	OTHER CONDITIONS
Quote Update	Simple	Yes	
Quote Update (Short)	Simple	Yes	
Complex Quote Update	Complex	Yes	
Complex Quote Update (Short)	Complex	Yes	
New Order	Simple	Yes	Must have a *TimeInForce* value of Day or GTD with a same day expiration on C1, C2, and EDGX.
New Order (Auction Response)	Simple	Yes	
New Order Cross (AIM or QCC)	Simple	No	
New Order Cross Multileg	Simple	No	
Purge Orders	Simple/Complex	No	
Reset Risk	Simple/Complex	Yes	
New Complex Instrument	Complex	Yes	
Quote Update	Complex	No	
New Complex Order	Complex	Yes	Must be Post Only (*RoutingInst* = P). Must have a *TimeInForce* value of Day or GTD with a same day expiration on C1, C2, and EDGX.
New Complex Order (COA Response)	Complex	Yes	

Bulk Quoting Port Quote/Order Behavior Matrix

The following matrix describes the liquidity removal behavior of quotes and orders sent on Bulk Quoting ports. Bulk Quoting ports are available for use by all customers but only Market Makers may use **`Quote Update`** and **`Complex Quote Update`** messages. On C1, C2, and EDGX Options,

only registered Market Makers are allowed to remove resting Market Maker liquidity using **`New Order`** messages.

Once a quote or order is posted to the exchange book, liquidity removal against any contra capacity is always allowed in the case that a subsequent event causes the resting quote or order to be re-evaluated, such as the Opening/Re-Opening Process.

- Only Market-Makers can send **`Quote Update`** and **`Complex Quote Update`** messages, and such messages can only be sent on a Bulk Quoting Port.
- Liquidity removal using a **`New Order`** message on Bulk Quoting ports is restricted to appointed Market-Makers only. Removal of any resting order with a **`New Order`** message by a Market-Maker when not appointed in the class will result in an **`Order Rejected`** message with *OrderRejectReason* set to A = Market maker must be registered to remove liquidity on quoting port.
- Liquidity removal using **`Complex Quote Update`** messages on Bulk Quoting ports is not allowed and will result in a *QuoteResult* reject of P = Rejected, can't post.
- **`New Order`** messages can be sent over FIX/BOE Ports and Bulk Quoting Ports by all capacities. However, on C1, C2, and EDGX, non-Market-Maker **`New Order`** messages sent over a Bulk Quoting Port must be marked Post-Only and thus cannot remove liquidity.

Table 8. Bulk Quoting Port Quote/Order Behavior Matrix

	BULK QUOTING PORT			FIX/BOE PORT		
	C2	EDGX	C1	C2	EDGX	C1
Can a Market-Maker send **`New Order`** messages?	Yes	Yes	Yes	Yes	Yes	Yes
Can a Market-Maker send **`Quote Update`** messages?	Yes	Yes	Yes	No	No	No
Can a Market-Maker send **`Complex Quote Update`** messages?	N/A	N/A	Yes	N/A	N/A	No
Can a non-Market-Maker send **`New Order`** messages?	Yes	Yes	Yes	Yes	Yes	Yes
Can a non-Market-Maker send **`Quote Update`** messages?	No	No	No	No	No	No
Can a non-Market-Maker send **`Complex Quote Update`** messages?	N/A	N/A	No	N/A	N/A	No
Can an aggressing Market-Maker remove a resting Market-Maker quote or order?	No	No	No	Yes	Yes	Yes
Can an aggressing Market-Maker remove a resting non-Market-Maker order?	Yes	Yes	Yes	Yes	Yes	Yes
Can an aggressing non-Market-Maker remove a resting Market-Maker quote or order?	No	No	No	Yes	Yes	Yes
Can an aggressing non-Market-Maker remove a resting non-Market-Maker order?	No	No	No	Yes	Yes	Yes

** Under no circumstances can an order submitted with a **Complex Quote Update** message remove resting liquidity on entry to the order book.*

BOE Purge Ports

BOE Purge Ports support a single **`Purge Orders`** message type. Members may use this port type to request a cancellation of groups of orders, including orders across multiple BOE Order or Bulk Quoting ports.

Floor Routing (C1 Only)

All orders routed to the floor must include explicit routing instructions that includes two features: 1) floor routing instruction indicating Direct or Default routing behavior and 2) floor destination information. Floor routing behavior is specified in *FloorRoutingInst* (22303). Direct routing sends the order to the indicated PAR workstation, while default routing indicates that electronic execution is preferred, but the order may be routed to the indicated PAR if it cannot be processed electronically.

Examples of conditions which cause default routing to the Floor include:

- a complex order having an AON contingency
- a complex order with multiple underlying components
- not held orders

Floor destination instructions are specified in *FloorDestination* (22100), indicating a PAR workstation (ex. W001) to route to on the floor (or PARO to route to the Floor PAR Official of the underlying symbol) if not specified on the inbound message. See BOE Port Attributes on page 218 for information on available port attributes, including Default FloorRoutingInst and Default FloorDestination.

Table 9. Floor Routing Handling

ORDER TAGS/PORT SETTINGS				HANDLING OF THE ORDER	
ORDER FLOOR DESTINATION	ORDER FLOORROUTINGINST	PORT DEFAULT FLOOR DESTINATION	PORT DEFAULT FLOORROUTINGINST	ORDERS ONLY EXECUTED ON FLOOR (I.E. COMPLEX AON)	ALL OTHER ORDER TYPES
			E (default)	Reject: ineligible for electronic book	Process electronically
			D	Reject: requires a floor destination	Reject: requires a floor destination
			X	Reject: requires a floor destination	Reject: requires a floor destination
		W001	E (default)	Reject: ineligible for electronic book	Process electronically
		W001	D	Route to floor: W001	Route to floor: W001
		W001	X	Route to floor: W001	Process electronically
W009			E (default)	Reject: ineligible for electronic book	Process electronically
W009		W001	D	Route to floor: W009	Route to floor: W009
W009			X	Route to floor: W009	Process electronically
W009	E			Reject: ineligible for electronic book	Process electronically
W009	D			Route to floor: W009	Route to floor: W009

ORDER TAGS/PORT SETTINGS				HANDLING OF THE ORDER	
ORDER FLOOR DESTINATION	ORDER FLOORROUTINGINST	PORT DEFAULT FLOOR DESTINATION	PORT DEFAULT FLOORROUTINGINST	ORDERS ONLY EXECUTED ON FLOOR (I.E. COMPLEX AON)	ALL OTHER ORDER TYPES
W009	X			Route to floor: W009	Process electronically
	E			Reject: ineligible for electronic book	Process electronically
	D			Reject: requires a floor destination	Reject: requires a floor destination
	X			Reject: requires a floor destination	Process electronically

E = Electronic only D = Direct X = Route to floor if unable to process electronically

Floor Representation Restatements (C1 Only)

Orders routed to the trading floor will be represented to the open outcry crowd before being traded in the crowd. The Cboe BOE protocol provides a mechanism for clients to receive restatement of orders at the time of representation.

BOE Floor Representation Restatements are sent to connected clients for each order when the floor broker reports representation of the order to the crowd. Floor Representation Restatements sent to BOE ports will also be sent to connected Order by Order Drop clients having the *Floor Representation Restatements* port attribute enabled.

`Order Restated` messages for floor representation will have *RestatementReason* = `F` (Represented on Floor). The *TransactTime* (60) will be the recorded time of the representation.

Stale NBBO

A stale NBBO will occur when the Cboe trading system determines that one or more SIP quote channels is impaired or down completely. If the trading system detects that an NBBO is stale new orders for the affected class(es) will be rejected. Any existing orders will remain on the book but will not be allowed to update (user updates or sliding updates). Members will be allowed to cancel any open orders. Regular trading will resume when the NBBO for a given class is determined to be healthy by the Cboe trading system.

Session

Message Header Fields

Each message has a ten byte header. The two initial *StartOfMessage* bytes are present to aid in message reassembly for network capture purposes. The *MatchingUnit* field is only populated on sequenced, non-session level messages sent from Cboe to the Member. Messages from Member to Cboe and all session level messages must always set this value to 0.

Table 10. Message Header Fields

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	Message type.
MatchingUnit	5	1	Binary	The matching unit which created this message. Matching units in BOE correspond to matching units on Multicast PITCH. **For session level traffic, the unit is set to 0.** **For messages from Member to Cboe, the unit must be 0.**
SequenceNumber	6	4	Binary	The sequence number for this message. Messages from Cboe to Member are sequenced distinctly per matching unit. Messages from Member to Cboe are sequenced across all matching units with a single sequence stream. Member can optionally send a 0 sequence number on all messages from Member to Cboe. Cboe highly recommends that Members send sequence numbers on all inbound messages.

Login, Replay and Sequencing

Session level messages, both inbound (Member to Cboe) and outbound (Cboe to Member) are unsequenced.

Inbound (Member to Cboe) application messages are sequenced. Upon reconnection, Cboe informs the Member of the last processed sequence number; the Member may choose to resend any messages with sequence numbers greater than this value. A gap forward in the Member's incoming sequence number is permitted at any time and is ignored by Cboe. Gaps backward in sequence number (including the same sequence number used twice) are never permitted and will always result in a **`Logout`** message being sent and the connection being dropped.

Most (but not all) outbound (Cboe to Member) application messages are monotonically sequenced per matching unit. Each message's documentation will indicate whether it is sequenced or unsequenced. While matching units on BOE correspond directly to matching units on Multicast PITCH, sequence numbers do not.

Upon reconnection, a Member sends the last received sequence number per matching unit in a **`Login Request`** message. Cboe will respond with any missed messages. However, when the *NoUnspeciedUnitReplay* flag is enabled in the **`Login Request`** message, Cboe will exclude messages from unspecified matching units during replay. Cboe will send a **`Replay Complete`** message when replay is finished. If there are no messages to replay, a **`Replay Complete`** message will be sent immediately after a **`Login Response`** message. Cboe **will reject all orders during replay.**

Assuming a Member has requested replay messages using a properly formatted **`Login Request`** message after a disconnect, any unacknowledged orders remaining with the Member after the **`Replay Complete`** message is received should be assumed to be unknown to Cboe.

Unsequenced messages will not be included during replay.

A session is identified by the username and session sub-identifier (both supplied by Cboe). Only one concurrent connection per username and session sub-identifier is permitted.

If a login is rejected, an appropriate **`Login Response`** message will be sent and the connection will be terminated.

Sequence Reset

A reset sequence operation is not available for Binary Order Entry. However, a Member can send a **`Login Request`** message with *NoUnspecifiedUnitReplay* field enabled, and *NumberOfUnits* field set to zero. Then, upon receiving a **`Login Response`** message from Cboe, the Member can use the *LastReceivedSequenceNumber* field as the sequence starting point for sending future messages.

Heartbeats

`Client Heartbeat` messages are sent from Member to Cboe and **`Server Heartbeat`** messages are sent from Cboe to Member if no other data has been sent in that direction for one second. Like other session level messages, heartbeats from Cboe to the Member do not increment the sequence number. If Cboe receives no inbound data or heartbeats for 5 seconds, a **`Logout`** message will be sent and the connection will be terminated. **Members are encouraged to have a one second heartbeat interval and to perform similar connection staleness logic.**

Logging Out

To gracefully log out of a session, a **`Logout Request`** message should be sent by the Member. Cboe will finish sending any queued data for that port and will then respond with its own **`Logout`** message and close the connection. After receipt of a **`Logout Request`** message, Cboe will ignore all other inbound (Member to Cboe) messages except for **`Client Heartbeat`** messages.

Session Messages

Member to Cboe

Login Request Message Fields

A **`Login Request`** message must be sent as the first message upon connection.

A number of repeating parameter groups, some of which may be required, are sent at the end of the message. Ordering of parameter groups is not important. New parameter groups may be added in the future with no notice.

Table 11. Login Request Message Fields

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x37`
MatchingUnit	5	1	Binary	Always 0 for inbound (Member to Cboe) messages.
SequenceNumber	6	4	Binary	Always 0 for session level messages.
SessionSubID	10	4	Alphanumeric	Session Sub ID supplied by Cboe.
Username	14	4	Alphanumeric	Username supplied by Cboe.
Password	18	10	Alphanumeric	Password supplied by Cboe.
NumberOfParam Groups	28	1	Binary	A number, n (possibly 0), of parameter groups to follow.
$ParamGroup_1$				First parameter group.
…				
$ParamGroup_n$				Last parameter group.

Unit Sequences Parameter Group

This parameter group includes the last consumed sequence number per matching unit received by the Member. Cboe uses these sequence numbers to determine what outbound (Cboe to Member) traffic, if any, was missed by the Member. If this parameter group is not sent, it's assumed the Member has not received any messages (e.g., start of day).

The Member does not need to include a sequence number for a unit if they have never received messages from it. For example, if the Member has received responses from units 1, 3, and 4, the **`Login Request`** message need not include unit 2. If the Member wishes to send a value for unit 2 anyway, 0 would be the only allowed value.

Only one instance of this parameter group may be included.

Table 12. Login Request - Unit Sequences Parameter Group

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
ParamGroupLength	0	2	Binary	Number of bytes for the parameter group, including this field.
ParamGroupType	2	1	Binary	`0x80`

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
NoUnspecified UnitReplay	3	1	Binary	Flag indicating whether to replay missed outgoing (Cboe to Member) messages for unspecified units. `0x00` = False (Replay Unspecified Units) `0x01` = True (Suppress Unspecified Units Replay)
NumberOfUnits	4	1	Binary	A number, n (possibly 0), of unit/sequence pairs to follow, one per unit from which the Member has received messages.
UnitNumber $_1$		1	Binary	A unit number.
UnitSequence$_1$		4	Binary	Last received sequence number for the unit.
…				
UnitNumber $_n$		1	Binary	A unit number.
UnitSequence$_n$		4	Binary	Last received sequence number for the unit.

Return Bitfields Parameter Group

This parameter group, which may be repeated, indicates which attributes of a message will be returned by Cboe for the remainder of the session. This allows Members to tailor the echoed results to the needs of their system without paying for bandwidth or processing they do not need.

Listing of the return bitfields which are permitted per message is contained in Return Bitfields Per Message on page 179.

Table 13. Login Request - Return Bitfields Parameter Group

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
ParamGroupLength	0	2	Binary	Number of bytes for the parameter group, including this field.
ParamGroupType	2	1	Binary	`0x81`
MessageType	3	1	Binary	Return message type for which the bitfields are being specified (e.g., 0x25 for an **`Order Acknowledgment`** message).
NumberOfReturn Bitfields	4	1	Binary	Number of bitfields to follow.
ReturnBitfield$_1$	5	1	Binary	Bitfield identifying fields to return.
…				
ReturnBitfield$_n$		1	Binary	Last bit field.

Note this example is for illustrative purposes only. Actual login messages will contain specification of return bitfields for a larger set messages and each return bitfield specification will be complete, whereas the example below is only an illustration for purposes of demonstrating the construction of the **`Login Request`** message.

Table 14. Login Request Message Example

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	`BA BA`	Start of message bytes.
MessageLength	`3D 00`	61 bytes
MessageType	`37`	**`Login Request`**
MatchingUnit	`00`	Always 0 for inbound messages
SequenceNumber	`00 00 00 00`	Always 0 for session level messages

FIELD NAME	HEXADECIMAL	NOTES
SessionSubID	30 30 30 31	0001
Username	54 45 53 54	TEST
Password	54 45 53 54 49 4E 47 00 00 00	TESTING
NumberOfParam Groups	03	3 parameter groups
ParamGroupLength	0F 00	15 bytes for this parameter group
ParamGroupType	80	0x80 = Unit Sequences
NoUnspecified UnitReplay	01	True (replay only specified units)
NumberOfUnits	02	Two unit/sequence pairs to follow;
UnitNumber$_1$	01	Unit 1
UnitSequence$_1$	4A BB 01 00	Last received sequence of 113,482
UnitNumber $_2$	02	Unit 2
UnitSequence$_2$	00 00 00 00	Last received sequence of 0
ParamGroupLength	08 00	8 bytes for this parameter group
ParamGroupType	81	0x81 = Return Bitfields
MessageType	25	0x25 =Order Acknowledgment
NumberOfReturn Bitfields	03	3 bitfields to follow
ReturnBitfield$_1$	00	No bitfields from byte 1
ReturnBitfield$_2$	41	*Symbol, Capacity*
ReturnBitfield$_3$	05	*Account, ClearingAccount*
ParamGroupLength	0B 00	11 bytes for this parameter group
ParamGroupType	81	0x81 = Return Bitfields
MessageType	2C	0x2C =Order Execution
NumberOfReturn Bitfields	06	6 bitfields to follow
ReturnBitfield$_1$	00	No bitfields from byte 1
ReturnBitfield$_2$	41	*Symbol, Capacity*
ReturnBitfield$_3$	07	*Account, ClearingFirm, ClearingAccount*
ReturnBitfield$_4$	00	No bitfields from byte 4
ReturnBitfield$_5$	40	*BaseLiquidityIndicator*
ReturnBitfield$_6$	00	No bitfields from byte 6

Logout Request Message Fields

To end the session, the Member should send a **`Logout Request`** message. Cboe will finish sending any queued data and finally respond with a **`Logout`** message and close the connection.

A Member may simply close the connection without logging out, but may lose any queued messages by doing so.

Table 15. Logout Request Message Fields

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x02`
MatchingUnit	5	1	Binary	Always 0 for inbound (Member to Cboe) messages.
SequenceNumber	6	4	Binary	Always 0 for session level messages.

Table 16. Logout Request Message Example

Field Name	Hexadecimal	Notes
StartOfMessage	`BA BA`	Start of message bytes.
MessageLength	`08 00`	8 bytes
MessageType	`02`	**`Logout Request`**
MatchingUnit	`00`	Always 0 for inbound messages
SequenceNumber	`00 00 00 00`	Always 0 for session level messages

Client Heartbeat Message Fields

See Heartbeats on page 46 for more information about heartbeats and the session level protocol.

Table 17. Client Heartbeat Message Fields

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x03`
MatchingUnit	5	1	Binary	Always 0 for inbound (Member to Cboe) messages.
SequenceNumber	6	4	Binary	Always 0 for session level messages.

Table 18. Client Heartbeat Message Example

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	`BA BA`	Start of message bytes.
MessageLength	`08 00`	8 bytes
MessageType	`03`	**`Client Heartbeat`**
MatchingUnit	`00`	Always 0 for inbound messages
SequenceNumber	`00 00 00 00`	Always 0 for session level messages

Cboe to Member

Login Response Message Fields

`A Login Response` message is sent in response to a **`Login Request`** message. On a successful login, the *LoginResponseStatus* will be set to A. On a failed login, *LoginResponseStatus* will be set to a value other than A, and *LoginResponseText* will be set to an appropriate failure description. The length of the *LoginResponse* will vary depending on acceptance or rejection of the *LoginRequest* and the parameter groups included on the *LoginResponse*. Customers should be prepared to handle variable length *LoginResponse* messages.

Cboe will verify Return Bitfields at login time. If the Return Bitfields in a Return Bitfields Parameter Group are invalid, *LoginResponseStatus* will be set to F, and *LoginResponseText* will include a description of which byte and bit are invalid. This is done to ensure that reserved fields are not used, and only options that apply to the local market are set. See Return Bitfields Per Message on page 179 for additional information.

Note that two sets of sequence numbers are available on the **`Login Response`** message. The set of sequence numbers in the body are the actual Cboe to Member sequence numbers indicating the highest sequence numbers available per matching unit. If specified during login, the Unit Sequences Parameter Group will be returned as an echo of the sequence numbers the Member presented during login as the highest received. If the sequence numbers are different, the gap will be filled by Cboe during the replay. A subset of units can be provided in the **`Login Request`** message; however, all units will be provided in the **`Login Response`** message.

Table 19. Login Response Message Fields

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x24`
MatchingUnit	5	1	Binary	Always 0 for session level messages.
SequenceNumber	6	4	Binary	Always 0 for session level messages.
LoginResponseStatus	10	1	Alphanumeric	Accepted, or the reason for the rejection. A = Login Accepted N = Not authorized (invalid username/password) D = Session is disabled B = Session in use S = Invalid session Q = Sequence ahead in Login message I = Invalid unit given in Login message F = Invalid return bit field in login message M = Invalid Login Request message structure
LoginResponseText	11	60	Text	Human-readable text with additional information about the reason for rejection. ASCII NUL (0x00) filled on the right, if necessary.

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
NoUnspecified UnitReplay	71	1	Binary	Echoed back from the original **Login Request** message.
LastReceived SequenceNumber	72	4	Binary	Last inbound (Member to Cboe) message sequence number processed by Cboe.
NumberOfUnits	76	1	Binary	A number, n, of unit/sequence pairs to follow, one per unit. A pair for every unit will be sent, even if no messages have been sent to this port today. For unsuccessful logins, this will be 0.
UnitNumber $_1$		1	Binary	A unit number.
UnitSequence$_1$		4	Binary	Highest available Cboe to Member sequence number for the unit.
…				
UnitNumber $_n$		1	Binary	A unit number.
UnitSequence$_n$		4	Binary	Highest available Cboe to Member sequence number for the unit.
NumberOfParam Groups		1	Binary	Echoed back from the original **Login Request** message.
ParamGroup$_1$				Echoed back from the original **Login Request** message.
…				
ParamGroup$_n$				Echoed back from the original **Login Request** message.

Table 20. Login Response Message Example

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	`BA BA`	Start of message bytes.
MessageLength	`88 00`	136 bytes
MessageType	`24`	**Login Response**
MatchingUnit	`00`	Always 0 for session messages
SequenceNumber	`00 00 00 00`	Always 0 for session level messages
LoginResponseStatus	`41`	`A` = Login Accepted
LoginResponseText	`41 63 63 65 70 74 65 64 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00`	`Accepted`
NoUnspecified	`01`	True (replay only specified units)
UnitReplay		
Last Received	`54 4A 02 00`	Last sequence Cboe received of 150,100
Sequence Number		
NumberOfUnits	`04`	Four unit/sequence pairs to follow;
UnitNumber 1	`01`	Unit 1
UnitSequence 1	`4A BB 01 00`	Actual last sequence of 113,482
UnitNumber 2	`02`	Unit 2
UnitSequence 2	`00 00 00 00`	Actual last sequence of 0
UnitNumber 3	`02`	Unit 3

FIELD NAME	HEXADECIMAL	NOTES
UnitSequence3	`00 00 00 00`	Actual last sequence of 0
UnitNumber 4	`02`	Unit 4
UnitSequence 4	`79 A1 00 00`	Actual last sequence of 41,337
NumberOfParamGroups	`03`	3 parameter groups
ParamGroupLength	`14 00`	20 bytes for this parameter group
ParamGroupType	`80`	`0x80` = Unit Sequences
NoUnspecified	`01`	True (replay unspecified units)
UnitReplay		
NumberOfUnits	`03`	Three unit/sequence pairs to follow;
UnitNumber 1	`01`	Unit 1
UnitSequence 1	`4A BB 01 00`	Last received sequence of 113,482
UnitNumber 2	`02`	Unit 2
UnitSequence 2	`00 00 00 00`	Last received sequence of 0
UnitNumber 3	`04`	Unit 4
UnitSequence 3	`79 A1 00 00`	Last received sequence of 41,337
ParamGroupLength	`08 00`	8 bytes for this parameter group
ParamGroupType	`81`	0x81 = Return Bitfields
MessageType	`25`	0x25 = `Order Acknowledgment`
NumberOfReturnBitfields	`03`	3 bitfields to follow
ReturnBitfield 1	`00`	No bitfields from byte 1
ReturnBitfield 2	`41`	*Symbol, Capacity*
ReturnBitfield 3	`05`	*Account, ClearingAccount*
ParamGroupLength	`0C 00`	12 bytes for this parameter group
ParamGroupType	`81`	`0x81` = Return Bitfields
MessageType	`2C`	0x2C = `Order Execution`
NumberOfReturn Bitfields	`07`	7 bitfields to follow
ReturnBitfield1	`00`	No bitfields from byte 1
ReturnBitfield 2	`41`	*Symbol, Capacity*
ReturnBitfield 3	`07`	*Account, ClearingFirm, ClearingAccount*
ReturnBitfield 4	`00`	No bitfields from byte 4
ReturnBitfield 5	`40`	*BaseLiquidityIndicator*
ReturnBitfield 6	`00`	No bitfields from byte 6
ReturnBitfield 7	`01`	*SubLiquidityIndicator*

Logout Message Fields

A **Logout** message is usually sent in response to a **Logout Request** message. Any queued data is transmitted, a **Logout** message is sent, and Cboe will close the connection. However, a **Logout** message may also be sent if the Member violates the protocol specification (e.g., by moving backwards in sequence number).

A **Logout** message is also sent for any ports that are connected when the Cboe Options Exchanges shut down. The shut down time for Cboe Options Exchanges is variable each day but is scheduled to occur at 17:30 ET. The message is sent without first receiving a logout request from the Member. The message contains *LogoutReason* = E for End of Day.

The **Logout** message contains the last transmitted sequence number for each unit, allowing the Member to check that their last received sequence number matches.

Table 21. Logout Message Fields

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be 0xBA 0xBA.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	0x08
MatchingUnit	5	1	Binary	Always 0 for session level messages.
SequenceNumber	6	4	Binary	Always 0 for session level messages.
LogoutReason	10	1	Alphanumeric	The reason why the Logout message was sent. U = User Requested E = End of Day A = Administrative ! = Protocol Violation
LogoutReasonText	11	60	Text	Human-readable text with additional information about the reason for logout. Particularly useful if *LogoutReason* = ! (Protocol Violation).
LastReceived SequenceNumber	71	4	Binary	Last inbound (Member to Cboe) message sequence number processed by Cboe.
NumberOfUnits	75	1	Binary	A number, *n* (possibly 0), of unit/sequence pairs to follow, one per unit from which the client has received messages.
UnitNumber $_1$		1	Binary	A unit number.
UnitSequence$_1$		4	Binary	Highest available sequence number for the unit.
…				
UnitNumber $_n$		1	Binary	A unit number.
UnitSequence$_n$		4	Binary	Highest available sequence number for the unit.

Table 22. Logout Response Message Example

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	BA BA	Start of message bytes.
MessageLength	55 00	85 bytes
MessageType	08	Logout

FIELD NAME	HEXADECIMAL	NOTES
MatchingUnit	`00`	Always 0 for session level messages
SequenceNumber	`00 00 00 00`	Always 0 for session level messages
LogoutReason	`55`	`U` = User Requested

LogoutReasonText	`55 73 65 72 00 00 00 00 00 00`
	`00 00 00 00 00 00 00 00 00 00`
	`00 00 00 00 00 00 00 00 00 00`
	`00 00 00 00 00 00 00 00 00 00`
	`00 00 00 00 00 00 00 00 00 00`
	`00 00 00 00 00 00 00 00 00 00`
		`User`

LastReceived	`54 5A 02 00`	Last Cboe received sequence of 150,100
SequenceNumber		
NumberOfUnits	`02`	Two unit/sequence pairs to follow;
UnitNumber $_1$	`01`	Unit 1
UnitSequence$_1$	`4A BB 01 00`	Last sent sequence of 113,482
UnitNumber $_2$	`02`	Unit 2
UnitSequence$_2$	`00 00 00 00`	Last sent sequence of 0

Server Heartbeat Message Fields

See Heartbeats on page 46 for more information about heartbeats and the session level protocol.

Table 23. Server Heartbeat Message Fields

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x09`
MatchingUnit	5	1	Binary	Always 0 for session level messages.
SequenceNumber	6	4	Binary	Always 0 for session level messages.

Table 24. *Server Heartbeat Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	`BA BA`	Start of message bytes.
MessageLength	`08 00`	8 bytes
MessageType	`09`	**`Server Heartbeat`**
MatchingUnit	`00`	Always 0 for inbound messages
SequenceNumber	`00 00 00 00`	Always 0 for session level messages

Replay Complete Message Fields

See Login, Replay and Sequencing on page 44 for more information.

Table 25. Replay Complete Message Fields

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x13`
MatchingUnit	5	1	Binary	Always 0 for session level messages.
SequenceNumber	6	4	Binary	Always 0 for session level messages.

Table 26. *Replay Complete Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	`BA BA`	Start of message bytes.
MessageLength	`08 00`	8 bytes
MessageType	`13`	**`Replay Complete`**
MatchingUnit	`00`	Always 0 for inbound messages
SequenceNumber	`00 00 00 00`	Always 0 for session level messages

Application Messages

Member to Cboe

New Order Message Fields

A **`New Order`** message consists of a number of required fields followed by a number of optional fields. The optional fields used are specified by setting bits in the ***NewOrderBitfields***. Fields must be appended at the end of the message, starting with the lowest order enabled bit in the first bit field first.

Permitted input optional fields are described in New Order on page 171.

Table 27. New Order Message Fields

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x38`
MatchingUnit	5	1	Binary	Always 0 for inbound (Member to Cboe) messages.
SequenceNumber	6	4	Binary	The sequence number for this message.
ClOrdID	10	20	Text	Corresponds to *ClOrdID* (11) in Cboe FIX. ID chosen by the client. Characters in the ASCII range 33-126 are allowed, except for comma, semicolon, pipe, the 'at' symbol (@) and double quotes. If the *ClOrdID* matches a live order, the order will be rejected as duplicate. Note: Cboe only enforces uniqueness of *ClOrdID* values among currently live orders, **which includes long-lived, persisting GTC/GTD orders**. However, we strongly recommend that you keep your *ClOrdID* values unique.
Side	30	1	Alphanumeric	Corresponds to *Side* (54) in Cboe FIX. `1` = Buy `2` = Sell
OrderQty	31	4	Binary	Corresponds to *OrderQty* (38) in Cboe FIX. Order quantity. System limit is 999,999 contracts.
NumberOfNewOrderBitfields	35	1	Binary	Bitfield identifying which bitfields are set. Field values must be appended to the end of the message.
NewOrderBitfield[1]	36	1	Binary	Bitfield identifying fields to follow.
….				
NewOrderBitfield[n]		1	Binary	Last bitfield.
Optional fields. . .				

Required Order Attributes:

The following are required to be sent on new orders:

- Some form of symbology (see **Symbology** below);

- *Price* (limit orders) or *Price* and/or *OrdType* (limit or market orders. Note market and stop/stop limit orders are not supported during GTH or Curb sessions); and,
- *Capacity*;

All price fields (***Price, StopPx***) must be entered as non-negative values.

All other values have defaults. See List of Optional Fields on page 196 for additional information about each optional field, including its default value. For additional information on symbology, see the Cboe US Symbology Reference.

Table 28. *New Order Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	BA BA	Start of message bytes.
MessageLength	59 00	89 bytes
MessageType	38	**New Order**
MatchingUnit	00	Always 0 for inbound messages
SequenceNumber	64 00 00 00	Sequence number 100
ClOrdID	41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00 00 00 00 00	ABC123
Side	31	Buy
OrderQty	64 00 00 00	100 contracts
NumberOfNewOrder Bitfields	04	Four bitfields to follow
NewOrderBitfield1	04	*Price*
NewOrderBitfield2	C1	*Symbol, Capacity, RoutingInst*
NewOrderBitfield3	01	*Account*
NewOrderBitfield4	17	*MaturityDate, StrikePrice, PutOrCall, OpenClose*
Price	70 17 00 00 00 00 00 00	*0.60*
Symbol	4D 53 46 54 00 00 00 00	MSFT
Capacity	43	C = Customer
RoutingInst	52 00 00 00	R = Routable
Account	44 45 46 47 00 00 00 00 00 00 00 00 00 00 00 00	DEFG
MaturityDate	EF DB 32 01	2011-03-19
StrikePrice	98 AB 02 00 00 00 00 00	17.50
PutOrCall	31	1 = Call
OpenClose	4F	O = Open

New Order Cross Message Fields (C1 and EDGX Only)

A **`New Order Cross`** message contains the details for both the agency (initiating) and contra side(s) of a cross order (such as an AIM order). The message consists of a number of required fields including *Symbol*, *Price*, *OrderQty*, and relevant clearing information for all parties, as well as a number of optional fields.

The first order in the list is the agency order, while the rest are contra side responses. There is a maximum of ten (10) contra-parties that can be supplied with the order, for a total of eleven (11) repeating groups, as described below.

In each repeating group, the *Side*, *AllocQty*, *ClOrdID*, *Capacity*, *OpenClose*, and *ClearingFirm* are always required. Beyond that, the bits in the *NewOrderCrossBitfields* control which fields are expected. Any fields that are specified in *NewOrderCrossBitfields* that appear in the repeating groups should not be supplied in the optional fields that come after the repeating groups.

Permitted input optional fields are described in New Order Cross (C1 and EDGX Only) on page 172.

Table 29. New Order Cross Message Fields (C1 and EDGX Only)

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x41`
MatchingUnit	5	1	Binary	Always 0 for inbound (Member to Cboe) messages.
SequenceNumber	6	4	Binary	The sequence number for this message.
CrossID	10	20	Text	Corresponds to *CrossID* (548) in Cboe FIX. Day-unique identifier for the cross order chosen by the client. Characters in the ASCII range 33-126 are allowed, except for comma, semicolon, pipe, the 'at' symbol and double quotes.
CrossType	30	1	Alphanumeric	Corresponds to *CrossType* (549) in Cboe FIX. Type of auction order being submitted. This indicates the type of auction that will be initiated upon order entry. 1 = Automated Improvement Mechanism (AIM) 2 = Qualified Contingent Cross (QCC) 3 = Solicitation Cross (SAM) 4 = Position Compression Cross (PCC) (C1 Only)
CrossPrioritization	31	1	Alphanumeric	Corresponds to *CrossPrioritization* (550) in Cboe FIX. Indicates which side of the cross order will be prioritized for execution. This identifies the Agency side. 1 = Buy 2 = Sell
Price	32	8	Binary Price	Corresponds to *Price* (44) in Cboe FIX. Auction Price. Must be non-negative.

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
OrderQty	40	4	Binary	Corresponds to *OrderQty* (38) in Cboe FIX. Order quantity. System limit is 999,999 contracts.
NumberOfNewOrderCrossBitfields	44	1	Binary	Bitfield identifying which bitfields are set
NewOrderCrossBitfield[1]	45	1	Binary	Bitfield identifying fields to follow.
….				
NewOrderCrossBitfield[n]		1	*Binary*	*Last bitfield.*
GroupCnt		2	Binary	Number of order allocations represented by repeating groups included in this cross order. Must be at least 2 (One agency and one contra), and no more than 11.
Repeating Groups of…				
Side		1	Alphanumeric	Corresponds to *Side* (54) in Cboe FIX. 1 = Buy 2 = Sell
AllocQty		4	Binary	Corresponds to AllocQty (80) in Cboe FIX. Number of contracts for this party.
ClOrdID		20	Text	Corresponds to *ClOrdID* (11) in Cboe FIX. Day-unique ID chosen by the client. Characters in the ASCII range 33-126 are allowed, except for comma, semicolon, pipe, the 'at' symbol and double quotes. If the *ClOrdID* matches a live order, the order will be rejected as duplicate. **Note: Cboe only enforces uniqueness of *ClOrdID* values among currently live orders. However, we strongly recommend that you keep your *ClOrdID* values day-unique.**
Capacity		1	Alpha	Corresponds to *OrderCapacity* (47) in Cboe FIX. C = Customer M = Market Maker F = Firm U = Professional Customer N = AwayMarket Maker B = Broker-Dealer J = Joint Back Office
OpenClose		1	Alphanumeric	Corresponds to *OpenClose* (77) in Cboe FIX. Indicates status of client position in the option leg. O = Open C = Close N = None* *Option legs with *Capacity* = M or 'N' will not be required to specify *OpenClose* on their legs or may optionally specify a value of 'N', unless the series is limited to closing only. If the leg is limited to closing only transactions, only *Capacity* = M will be permitted to submit *OpenClose* = O if the order has TimeInForce = '3' (IOC) and *RoutingInst* = B , or the order has a *RoutingInst* = P .

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
				An Open position cannot trade with an Open position for series limited to Closing Only transactions, even if the inbound IOC from the aggressing market maker is sent with that combination of tags.
GiveUpFirmID		4	Alpha	Corresponds to *GiveUpFirmID* (9946) in Cboe FIX. EFID that will clear the trade.
Account (Optional)		16	Text	See List of Optional Fields on page 196.
CMTANumber (Optional)		4	Binary	See List of Optional Fields on page 196.
ClearingAccount (Optional)		4	Text	See List of Optional Fields on page 196.
ClearingOptionalData (Optional)		16	Text	See List of Optional Fields on page 196.
FrequentTraderID (Optional)		6	Text	See List of Optional Fields on page 196.
Optional fields. . .				Optional fields as set in the bitmap. Note, optional fields that occur in the repeating groups appear above, repeating per group, not within this block.

Required Order Attributes:

- Some form of symbology (see **Symbology** below)
- Agency order's *Side* must match the cross order's *CrossPrioritization*
- Each contra-party allocation must have the opposite *Side*
- Each side's cumulative *AllocQty* must equal the cross order's *OrderQty*

Symbology:

For additional information, refer to the Cboe US Symbology Reference.

Table 30. *New Order Cross Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	BA BA	Start of message bytes.
MessageLength	B0 00	176 bytes
MessageType	41	**New Order Cross**
MatchingUnit	00	Always 0 for inbound messages
SequenceNumber	64 00 00 00	Sequence number 100
CrossID	4E 5A 31 56 37 42 4A 5F 41 63 63 65 70 74 42 75 79 00 00 00	NZ1V7BJ_AcceptBuy
CrossType	31	1 = AIM Order
CrossPrioritization	31	1 = Agency Buy
Price	20 4E 00 00 00 00 00 00	$2.00
OrderQty	64 00 00 00	100 contracts
NumberOfNewOrderCrossBitfields	02	Two bitfields to follow
NewOrderCrossBitfield1	41	*Symbol, TargetPartyID*
NewOrderCrossBitfield2	30	*CMTANumber, ClearingAccount*
GroupCnt	03 00	Three repeating groups to follow
Side	31	1 = Buy
AllocQty	64 00 00 00	100 contracts
ClOrdID	51 4C 37 53 5A 37 43 5F 61 67 65 6E 63 79 00 00 00 00 00 00	QL7SZ7C_agency

FIELD NAME	HEXADECIMAL	NOTES
Capacity	43	C = Customer
OpenClose	43	C = Close
GiveUpFirmID	44 45 46 47	DEFG
CMTANumber	00 00 00 00	No *CMTANumber* for this order
ClearingAccount	00 00 00 00	No *ClearingAccount* for this order
Side	32	2 = Sell
AllocQty	28 00 00 00	40 contracts
ClOrdID	51 4C 39 4B 38 55 56 5F 63 6F 6E 74 72 61 31 00 00 00 00 00	QL9K8UV_contra1
Capacity	46	F = Firm
OpenClose	4F	O = Open
GiveUpFirmID	41 42 43 44	ABCD
CMTANumber	27 02 00 00	551
ClearingAccount	57 58 59 5A	WXYZ
Side	32	2 = Sell
AllocQty	3C 00 00 00	60 contracts
ClOrdID	51 4C 39 54 35 59 44 5F 63 6F 6E 74 72 61 32 00 00 00 00 00	QL9T5YD_contra2
Capacity	46	F = Firm
OpenClose	4F	O = Open
GiveUpFirmID	41 42 43 44	ABCD
CMTANumber	7B 00 00 00	123
ClearingAccount	57 58 59 5A	WXYZ
Symbol	30 30 51 30 6B 41 00 00	00Q0kA
Target Party ID	43 44 45 46	CDEF

New Complex Order Message Fields (C1, EDGX, and C2 Only)

A **`New Complex Order`** message contains the details required to enter an order on a complex instrument created with previously entered **`New Complex Instrument`** message request. The message is similar to a **`New Order`** message with an additional repeating group of the positions for each leg. The positions must be in the order returned by the system in the **`Complex Instrument Accepted`** message response, not the order supplied in the **`New Complex Instrument`** message request. Complex orders in cross product spreads (i.e., SPX/SPXW, IWM/RUT, DIA/DJX, VIX/VXX, MNX/NDX) where the products do not operate on the same matching unit cannot leg into the simple book.

Permitted input optional fields are described in New Complex Order (C1, C2, and EDGX Only) on page 173.

Table 31. New Complex Order Message Fields (C1, EDGX, and C2 Only)

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA.`
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x4B`
MatchingUnit	5	1	Binary	Always 0 for inbound (Member to Cboe) messages.
SequenceNumber	6	4	Binary	The sequence number for this message.
ClOrdID	10	20	Text	Corresponds to *ClOrdID* (11) in Cboe FIX. ID chosen by the client. Characters in the ASCII range 33-126 are allowed, except for comma, semicolon, and pipe. If the *ClOrdID* matches a live order, the order will be rejected as duplicate. Note: Cboe only enforces uniqueness of *ClOrdID* values among currently live orders, **which includes long-lived, persisting GTC/GTD orders**. However, we strongly recommend that you keep your *ClOrdID* values unique.
Side	30	1	Alphanumeric	Corresponds to *Side* (54) in Cboe FIX. `1` = Buy `2` = Sell
OrderQty	31	4	Binary	Corresponds to *OrderQty* (38) in Cboe FIX. Order quantity. System limit is 999,999 contracts.
NumberOfNewComplexOrderBitfields	35	1	Binary	Bitfield identifying which bitfields are set. Field values must be appended to the end of the message.
NewComplexOrderBitfield[1]	36	1	Binary	Bitfield identifying fields to follow.
….				
NewComplexOrderBitfield[n]		1	Binary	Last bitfield.
NoLegs		1	Binary	Corresponds to *NoLegs* (555) in Cboe FIX.

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
				Indicates the number of repeating groups to follow. Must be a minimum of 2 and a maximum of 16.
Repeating Group *ComplexLegOrderInfo* must occur the number of times specified in *NoLegs*. Each field occurs in each group in order as shown below. Optional fields occur only if corresponding bits in bitfields are set.				

Table 32. New Complex Order Message Fields (C1, EDGX, and C2 Only)

LegPositionEffect	1	Alphanumeric	Corresponds to *LegPositionEffect* (564) in Cboe FIX. Indicates status of client position in option for this leg. O = Open C = Close N = None* *Only Orders with an *OrderCapacity* of 'M' or 'N' will be allowed to specify 'N' for *LegPositionEffect*. If the leg is limited to closing only transactions, only *Capacity* = M will be permitted to submit *OpenClose* = O if the order has TimeInForce = '3' (IOC) and *RoutingInst* = B .
Optional fields…			Optional fields as set in the bitmap. Note, optional fields that occur in the repeating groups appear above, repeating per group, not within this block.

Required Order Attributes:

The following are required to be sent:

- *Symbol*
- *Price* only (limit orders) or *Price* and/or *OrdType* (limit or market orders. Note market and stop/stop limit orders are not supported during GTH or Curb sessions); and,
- *Capacity*
- *LegPositionEffect*

All other values have defaults. See List of Optional Fields on page 196 for additional information about each optional field, including its default value.

See the Cboe US Equities and Options Symbology Reference for information on symbology.

Table 33. *New Complex Order Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	BA BA	Start of message bytes.
MessageLength	4D 00	77 bytes
MessageType	4B	**New Complex Order**
MatchingUnit	00	Always 0 for inbound messages
SequenceNumber	64 00 00 00	Sequence number 100
ClOrdID	41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00 00 00 00 00	ABC123
Side	31	Buy
OrderQty	64 00 00 00	100 contracts

FIELD NAME	HEXADECIMAL	NOTES
NumberOfNewOrder Bitfields	02	Two bitfields to follow
NewOrderBitfield1	E4	*Price, Symbol, Capacity, RoutingInst*
NewOrderBitfield2	01	*Account*
NoLegs	03	*Three legs*
LegPositionEffect	4F	O = Open
LegPositionEffect	4F	O = Open
LegPositionEffect	4F	O = Open
Price	38 FF FF FF FF FF FF FF	-0.02
Symbol	30 30 30 30 43 31 00 00	0000C1
Capacity	43	C = Customer
RoutingInst	42 00 00 00	B = Book only, COA eligible
Account	44 45 46 47 00 00 00 00 00 00 00 00 00 00 00 00	DEFG

New Order Cross Multileg Message Fields (C1 and EDGX Only)

A **`New Order Cross Multileg`** message contains the details for both the agency (initiating) and contra side(s) of a cross order (such as an AIM order). The two-sided order consists of a number of required fields including *Symbol*, P*rice*, *OrderQty*, and relevant clearing information for both the agency and contra sides, as well as a number of optional fields. A maximum of ten (10) contra-parties will be accepted per order.

`Cross Order Acknowledgement`, **`Cross Order Rejected`**, and **`Cross Order Cancelled`** message types will be used by the Exchange to respond to **`New Order Cross Multileg`** messages.

Permitted input optional fields are described in New Order Cross Multileg (C1 and EDGX Only) on page 174.

Table 34. New Order Cross Multileg Message Fields (C1 and EDGX Only)

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x5A`
MatchingUnit	5	1	Binary	Always 0 for inbound (Member to Cboe) messages.
SequenceNumber	6	4	Binary	The sequence number for this message.
CrossID	10	20	Text	Corresponds to *CrossID* (548) in Cboe FIX. Day-unique identifier for the cross order chosen by the client. Characters in the ASCII range 33-126 are allowed, except for comma, semicolon, pipe, the 'at' symbol and double quotes will not be allowed.
CrossType	30	1	Alphanumeric	Corresponds to *CrossType* (549) in Cboe FIX. Type of auction order being submitted. This indicates the type of auction that will be initiated upon order entry. 1 = Automated Improvement Mechanism (AIM) 2 = Qualified Contingent Cross (QCC) 3 = Solicitation Cross (SAM) 4 = Position Compression Cross (PCC)* (C1 Only) 5 = Related Futures Cross (RFC) (C1 Only)

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
				*Entry of SPX versus SPXW as a complex spread is not supported for PCC.
CrossPrioritization	31	1	Alphanumeric	Corresponds to *CrossPrioritization* (550) in Cboe FIX. Indicates which side of the cross multileg order will be prioritized for execution. This identifies the Agency side. 1 = Buy 2 = Sell
Price	32	8	Binary Price	Corresponds to *Price* (44) in Cboe FIX. Auction Price.
OrderQty	40	4	Binary	Corresponds to *OrderQty* (38) in Cboe FIX. Order quantity. System limit is 999,999 contracts.
NumberOfNewOrderCrossMultilegBitfields	44	1	Bit Field	Bitfield identifying which bitfields are set.
NewOrderCrossMultilegBitfield[1]	45	1	Bit Field	Bitfield identifying fields to follow.
….				
NewOrderCrossMultilegBitfield[n]		1	Bit Field	Last *bitfield.*
GroupCnt		2	Binary	Number of order allocations represented by repeating groups included in this cross order. Must be at least 2 (One agency and one contra), and no more than 11.
Repeating Groups of…				
Side		1	Alphanumeric	Corresponds to *Side* (54) in Cboe FIX. 1 = Buy 2 = Sell
AllocQty		4	Binary	Corresponds to *AllocQty* (80) in Cboe FIX. Number of contracts for this party.
ClOrdID		20	Text	Corresponds to *ClOrdID* (11) in Cboe FIX. Day-unique ID chosen by the client. Characters in the ASCII range 33-126 are allowed, except for comma, semicolon, pipe, the 'at' symbol and double quotes. If the *ClOrdID* matches a live order, the order will be rejected as duplicate. **Note: Cboe only enforces uniqueness of *ClOrdID* values among currently live orders. However, we strongly recommend that you keep your *ClOrdID* values day-unique.**
Capacity		1	Alpha	Corresponds to *OrderCapacity* (47) in Cboe FIX. C = Customer

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
				M = Market Maker F = Firm U = Professional Customer N = Away Market Maker B = Broker-Dealer J = Joint Back Office L = Non-Trading Permit Holder Affiliate
GiveUpFirmID		4	Alpha	Corresponds to GiveUpFirmID (9946) in Cboe FIX. EFID that will clear the trade.
LegPositionEffects		12	Alpha	Indicates status of the client position in the option for each complex option leg. This value String of characters 'O', 'C', and 'N', equal in length to the number of option legs of the instrument. If an equity leg is present it will always be the last leg, and the position effect must be set to 'N'. This field can be used for complex instruments with up to 12 legs. For more than 12 legs, fill this field with spaces (0x20) and use the optional *LegPositionEffectsExt* field. O = Open C = Close N = None* *Orders with *Capacity* = M or 'N' will not be required to specify a position effect on their orders or may specify a value of 'N'. A <blank> will be sent to OCC. If the leg is limited to closing only transactions, only *Capacity* = M will be permitted to submit *OpenClose* = O if the order has TimeInForce = '3' (IOC) and *RoutingInst* = B .
Account *(Optional)*		16	Text	See List of Optional Fields on page 196.
CMTANumber *(Optional)*		4	Binary	See List of Optional Fields on page 196.
ClearingAccount *(Optional)*		4	Text	See List of Optional Fields on page 196.
ClearingOptionalData *(Optional)*		16	Text	See List of Optional Fields on page 196.
EquityPartyId *(Optional)*		4	Alpha	See List of Optional Fields on page 196.
EquityLegShortSell *(Optional)*		1	Alpha	See List of Optional Fields on page 196.
FrequentTraderID		6	Text	See List of Optional Fields on page 196.

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
(Optional)				
LegPositionEffectsExt (Optional)		16	Alpha	See List of Optional Fields on page 196.
Optional fields. . .				Optional fields as set in the bitmap. Note, optional fields that occur in the repeating groups appear above, repeating per group, not within this block.

Required Order Attributes:

- Some form of symbology (see **Symbology** below)
- Agency order's *Side* must match the cross order's *CrossPrioritization*
- Each contra-party allocation must have the opposite *Side*
- Each side's cumulative *AllocQty* must equal the cross order's *OrderQty*

Table 35. *New Order Cross Multileg Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	BA BA	Start of message bytes.
MessageLength	15 01	277 bytes
MessageType	5A	New Order Cross Multileg
MatchingUnit	00	Always 0 for inbound messages
SequenceNumber	64 00 00 00	Sequence number 100
CrossID	4E 5A 31 56 37 42 4A 5F 41 63 63 65 70 74 42 75 79 00 00 00	NZ1V7BJ_AcceptBuy
CrossType	31	1 = AIM Order
CrossPrioritization	31	1 = Agency Buy
Price	A8 61 00 00 00 00 00 00	$2.50
OrderQty	64 00 00 00	100 contracts
NumberOfNewOrderCrossMultileg Bitfields	05	Five bitfields to follow
NewOrderCrossMultilegBitfield1	61	*Symbol, TargetPartyID,AttributedQuote*
NewOrderCrossMultilegBitfield2	30	*CMTANumber, ClearingAccount*
NewOrderCrossMultilegBitfield3	01	*ClientID*
NewOrderCrossMultilegBitfield4	00	*No bitfields from byte 4*
NewOrderCrossMultilegBitfield5	04	*LegPositionEffectsExt*
GroupCnt	03 00	Three repeating groups to follow
Side	31	1 = Buy
AllocQty	64 00 00 00	100 contracts
ClOrdID	51 4C 37 53 5A 37 43 5F 61 67 65 6E 63 79 00 00 00 00 00 00	QL7SZ7C_agency
Capacity	43	C = Customer
GiveUpFirmID	44 45 46 47	DEFG
LegPositionEffects	20 20 20 20 20 20 20 20 20 20 20 20	Not used when there are more than 12 legs

FIELD NAME	HEXADECIMAL	NOTES
CMTANumber	00 00 00 00	No *CMTANumber* for this order
ClearingAccount	00 00 00 00	No *ClearingAccount* for this order
LegPositionEffectsExt	43 4F 43 4F 43 4F 43 4F 43 4F 43 4F 43 4F 43 4F	COCOCOCOCOCOCOCO - Instrument has 16 legs, alternating Close and Open legs
Side	32	2 = Sell
AllocQty	28 00 00 00	40 contracts
ClOrdID	51 4C 39 4B 38 55 56 5F 63 6F 6E 74 72 61 31 00 00 00 00 00	QL9K8UV_contra1
Capacity	46	F = Firm
GiveUpFirmID	41 42 43 44	ABCD
LegPositionEffects	20 20 20 20 20 20 20 20 20 20 20 20 20	Not used when there are more than 12 legs
CMTANumber	27 02 00 00	551
ClearingAccount	57 58 59 5A	WXYZ
LegPositionEffectsExt	4F 4F 4F 4F 4F 4F 4F 4F 4F 4F 4F 4F 4F 4F 4F 4F	OOOOOOOOOOOOOOOO - Instrument has 16 legs, Open on all legs
Side	32	2 = Sell
AllocQty	3C 00 00 00	60 contracts
ClOrdID	51 4C 39 54 35 59 44 5F 63 6F 6E 74 72 61 32 00 00 00 00 00	QL9T5YD_contra2
Capacity	46	F = Firm
GiveUpFirmID	41 42 43 44	ABCD
LegPositionEffects	20 20 20 20 20 20 20 20 20 20 20 20 20	Not used when there are more than 12 legs
CMTANumber	7B 00 00 00	123
ClearingAccount	57 58 59 5A	WXYZ
LegPositionEffectsExt	43 43 43 43 43 43 43 43 43 43 43 43 43 43 43 43	CCCCCCCCCCCCCCCC - Instrument has 16 legs, Clsoe on all legs
Symbol	30 30 51 30 6B 41 00 00	00Q0kA
Target Party ID	43 44 45 46	CDEF
AttributedQuote	5A	Z = Attribute EFID and Client ID
ClientID	52 32 44 32	R2D2

Cancel Order Message Fields

Request to cancel either a single order or mass cancellation of a group of orders. Note that this does not apply to open orders across multiple sessions.

A single order cancellation references the ***ClOrdID*** from a previous order (***OrigClOrdID*** field). An Order Cancel Request message cannot be used to cancel a single quote, referencing a previous ***OrderID*** from a quote will be rejected.

`Cancel Order` messages for GTC and GTD orders may continue to be issued anytime after the trading session ends. All other order message types received after the market closes will be rejected. See Cancellation of Carried Orders Between Trading Sessions on page 16 for more details on when orders are allowed to be cancelled following the close of trading.

Mass cancellation of a group of orders can be done with the ***MassCancelInst*** optional field.

- Specify the *MassCancelInst* optional field.
- Specify the *ClearingFirm* field, optionally the *RiskRoot* field, and optionally *MassCancelId* if the Acknowledgement Style is set to `S` or `B`.
- Risk lockout is optionally specified using the *MassCancelInst* field.
- EFID values specified in *OnBehalfOfCompId* that are not allowed to clear for the firm will be rejected.

When specifying the ***RiskRoot*** field, using the underlying symbol is strongly recommended. Mass cancellations are always performed at the risk root (underlying) level.

The system limits the rate at which identical Mass Cancel requests can be submitted to the system. Requests are restricted to ten (10) messages per second per port.

An identical Mass Cancel message is defined as a message having all of the same ***CustomGroupID***, ***Symbol***, ***Clearing Firm***, ***Lockout Instruction***, ***Instrument Type Filter*** and ***GTC Order Filter*** field values, as a previously received message.

All Members that send mass cancellations **must** include the ***SendTime*** field. This is required to ensure that a valid cancellation send time is captured and reported to the CAT.

Permitted input optional fields are described in Cancel Order on page 175.

Table 36. Cancel Order Message Fields

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x39`
MatchingUnit	5	1	Binary	Always 0 for inbound (Member to Cboe) messages.
SequenceNumber	6	4	Binary	The sequence number for this message.

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
OrigClOrdID	10	20	Text	Corresponds to *OrigClOrdID* (41) in Cboe FIX. *ClOrdID* of the order to cancel. For mass cancel requests, must be empty (all zeroes).
NumberOf CancelOrder Bitfields	30	1	Binary	Bitfield identifying bitfields which are set. May be 0. Field values must be appended to the end of the message.
CancelOrder Bitfield[1]	31	1	Binary	Bitfield identifying fields to follow. Only present if *NumberOfCancelOrderBitfields* is non-zero.
…				
CancelOrder Bitfield[n]		1	Binary	Last bitfield.
Optional fields. . .				

Table 37. *Cancel Order Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	BA BA	Start of message bytes.
MessageLength	2A 00	42 bytes
MessageType	39	**Cancel Order**
MatchingUnit	0	Always 0 for inbound messages
SequenceNumber	64 00 00 00	Sequence Number 100
OrigClOrdID	41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00 00 00 00 00	ABC123
NumberOfCancel	02	Two bitfields to follow
OrderBitfields		
CancelOrderBitfield1	01	*ClearingFirm*
CancelOrderBitfield2	08	*SendTime*
ClearingFirm	54 45 53 54	TEST
SendTime	E0 7A B9 DA 13 3B 42 16	1,603,909,373,757,324,000 = Wed, Oct 28, 2020 at 14:22:53.757324 ET.

Table 38. *Mass Cancel Order Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	BA BA	Start of message bytes.
MessageLength	54 00	84 bytes
MessageType	39	**Cancel Order**
MatchingUnit	00	Always 0 for inbound messages
SequenceNumber	64 00 00 00	Sequence Number 100
OrigClOrdID	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	(empty)
NumberOfCancel	02	Two bitfields to follow
OrderBitfields		
CancelOrderBitfield1	19	*ClearingFirm, RiskRoot, MassCancelId*
CancelOrderBitfield2	09	*MassCancelInst, SendTime*
ClearingFirm	54 45 53 54	TEST
RiskRoot	4D 53 46 54 00 00	MSFT
MassCancelId	41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00 00 00 00 00	ABC123
MassCancelInst	46 53 4C 42 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	F = Cancel orders matching clearing firm TEST S = Single ack

FIELD NAME	HEXADECIMAL	NOTES
		L = Lockout symbol MSFT B = Cancel simple and complex
SendTime	`E0 7A B9 DA 13 3B 42 16`	1,603,909,373,757,324,000 = Wed, Oct 28, 2020 at 14:22:53.757324 ET.

Modify Order Message Fields

Request to modify an order. The order attributes to be modified are selected using *NumberOfModifyBitfields* and some number of bitfields to follow. *Price, OrderQty, OrdType, MaxFloor* (C1 and C2 only), and *StopPx* may be adjusted. *OrdType* may be adjusted from Limit to Market (market and stop/stop limit orders are not supported during GTH or Curb sessions).

- Time priority will be maintained on an order modification in the following cases:
  - A decrease in *OrderQty* with no other changes
  - An update to *StopPx* on an unelected stop order with no other changes
  - An update to *MaxFloor* with no other changes
- An order modification combining two or more of the specific items above will not lose priority.
- An order modification involving one of the items above and changes to any other attribute will lose priority.
- An order modification with no change to any attribute will lose priority.

Changes in *OrderQty* result in an adjustment of the current order's *OrderQty*. The new *OrderQty* does not directly replace the current order's *LeavesQty*. Rather, a delta is computed from the current *OrderQty* and the replacement *OrderQty*. This delta is then applied to the current *LeavesQty*. If the resulting *LeavesQty* is less than or equal to zero, the order is cancelled. This results in safer behavior when the modification request overlaps partial fills for the current order, leaving the Member in total control of the share exposure of the order.

A **`Modify Order`** message should not be issued until the **`Order Acknowledgement`** message for the previous **`New Order`** or **`Order Modified`** message for the previous **`Modify Order`** message has been received. The BOE handler will reject a new **`Modify Order`** message if it has not been accepted or it has not seen the result of the prior modification from the Matching Engine. However, **`Modify Order`** requests that merely reduce *OrderQty* may be overlapped if the existing *ClOrdID* is reused, as long as the trading identifier has not been opted-in to daily limit trading risk controls. This is the only case where reuse of the *ClOrdID* is allowed.

The *OrderQty* and *Price* fields in the optional field block must be present on allModify Ordermessage requests. Messages sent without *OrderQty* or *Price* fields will be rejected. *Price* is optional for market orders.

A maximum of 1,295 **`Modify Order`** message requests may be made to a single order each trading day. Once the 1,295th modification is made, the next user-generated message on the order should be a **`Cancel Order`** message request.

Permitted input optional fields are described in Modify Order on page 176.

Table 39. Modify Order Message Fields

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x3A`
MatchingUnit	5	1	Binary	Always 0 for inbound (Member to Cboe) messages.
SequenceNumber	6	4	Binary	The sequence number for this message.
ClOrdID	10	20	Text	New *ClOrdID* for this order.
OrigClOrdID	30	20	Text	Corresponds to *OrigClOrdID* (41) in Cboe FIX. *ClOrdID* of the order to replace. In the case of multiple changes to a single order, this will be the *ClOrdID* of the most recently accepted change.
NumberOf ModifyOrderBitfields	50	1	Binary	Bitfield identifying bitfields which are set. May be 0. Field values must be appended to the end of the message.
ModifyOrder Bitfield[1]	51	1	Binary	Bitfield identifying fields to follow.
...				
ModifyOrder Bitfield[n]		1	Binary	Last bitfield.
Optional fields. . .				

Table 40. *Modify Order Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	`BA BA`	Start of message bytes
MessageLength	`3E 00`	82 bytes
MessageType	`3A`	**`Modify Order`**
MatchingUnit	`00`	Always 0 for inbound messages
SequenceNumber	`64 00 00 00`	Sequence Number 100
ClOrdID	`41 42 43 31 32 34 00 00 00 00 00 00 00 00 00 00 00 00 00 00`	ABC124
OrigClOrdID	`41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00 00 00 00 00`	ABC123
NumberOfModify	`01`	One bitfield to follow
OrderBitfields		
ModifyOrderBitfield1	`0C`	*OrderQty, Price*
OrderQty	`64 00 00 00`	100 contracts
Price	`08 E2 01 00 00 00 00 00`	12.34

Quote Update Message Fields

Request to enter or update one or more quotes. **`Quote Update`** message requests will be forwarded in their entirety to the matching engine instance as a single message and will be applied in a single transaction. Optional bitfields are not supported for any response messages for quotes. The system will only accept **`Quote Update`** message requests entered via a BOE Bulk Quoting port that are marked with the *Capacity* = M (Market Maker). A valid registered Market-Maker account value must be provided in the *ClearingAccount* field or the system will respond with the **`QuoteUpdateRejected`** message containing the *QuoteRejectReason* = C (InvalidClearing).

All options in a single **`Quote Update`** message must trade under a single risk root. Requests which include options trading under multiple risk roots will be rejected in their entirety.

A quote is unique per port, EFID, and side. You may quote multiple price levels of depth using either multiple EFIDs on a single port or with the same EFID on multiple ports.

Quote requests are one-sided. To delete a quote, send an update with a zero price and/or size.

Quotes may utilize simple options only; complex options quotes may not be submitted.

By default quotes are valid for a given trading date, which may span multiple calendar dates in the event of a holiday. Quotes may be cancelled at the end of a given trading segment rather than carried forward to the next segment by updating the Multi-Segment Holiday Day Order Handling Port attribute.

Quotes may be marked post only. Quotes that cross the NBBO or displayed Cboe book will be accepted if within a configurable buffer range through the NBBO or displayed Cboe book. The buffer is set to 5% with a minimum of $0.05 and a maximum of $1.00. If a quote would be displayed at a price that locks the NBBO, it will be accepted/slid or rejected based on the *PostingInstruction* on the quote. Quotes can be opted out of the price-sliding functionality by specifying Book Only, No Slide or Post Only, No Slide in the *PostingInstruction* field on the quote message.

On BZX only, quote prices at non-displayable increments are permitted. Prices will be adjusted to the most aggressive non-locking price. Quotes may work (but not display) to lock an away market. Once posted, quotes act as a Display Price Sliding order. C2 and EDGX quotes act as Price Adjust orders.

If a quote modification is rejected, the resting quote being modified is also cancelled.

Executions, unsolicited cancels, and unsolicited modification response messages from the exchange are different from those for orders. They are optimized for efficiency and contain some different data elements (e.g., *QuoteUpdateID*) than the respective messages for orders.

The *PreventMatch* field may not be specified on the **`Quote Update`** message and Match Trade Prevention is only available if defaulted at the port level. For Bulk Quoting ports, only Cancel Newest, Cancel Oldest, or Cancel Both are permitted. If a Bulk Quoting port is not configured with both a default MTP Modifier and Unique ID Level, Match Trade Prevention will be disabled.

The Quote Execution message will be the only Quote related message available over ODROP and FIXDROP.

`Quote Update` requests sent without any changes to the currently resting quote (no change quotes) will result in a loss of priority and will be reported back with a *QuoteResult* = L(Modified; loss of priority) in the **`Quote Update Acknowledgement`** message.

- Time priority will be maintained on a quote modification if there is a decrease in *OrderQty* with no other changes.
- A quote modification decreasing size and changes to any other attribute will lose priority.
- A quote modification with no change to any attribute will lose priority.

Table 41. Quote Update Message Fields

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x55`
MatchingUnit	5	1	Binary	Always 0 for inbound (Member to Cboe) messages.
SequenceNumber	6	4	Binary	The sequence number for this message.
QuoteUpdateID	10	16	Text	ID chosen by the client. Characters in the ASCII range 33-126 are allowed, except for comma, semicolon, pipe, the 'at' symbol and double quotes. Responses, both to the Quote Update and any Quote Executions, Quote Cancellations, and Quote Modification messages will include this identifier. Note: Cboe strongly recommends that *QuoteUpdateID* be kept unique for a trading day, and CAT reporting requirements mandate that *QuoteUpdateID* is unique for each Quote Update message sent to the Exchange.
ClearingFirm	26	4	Alpha	EFID that will clear the trade. If left blank, the port attribute value of 'Default EFID' is used.
ClearingAccount	30	4	Alpha	Corresponds to *OnBehalfOfSubID* (116) and *ClearingAccount* (440) in Cboe FIX. See List of Optional Fields on page 196 for additional information.
CMTANumber	34	4	Binary	Corresponds to *ClearingFirm* (439) in Cboe FIX. See List of Optional Fields on page 196 for additional information.
Account	38	16	Text	Corresponds to *Account* (1) in Cboe FIX. See List of Optional Fields on page 196 for additional information.
CustomGroupID	54	2	Binary	Optional. Used to group orders for use in **`Purge Orders`**. Set to 0 if functionality not needed.
Capacity	56	1	Alpha	Corresponds to *OrderCapacity* (47) in Cboe FIX.

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
				See List of Optional Fields on page 196 for additional information.
Reserved	57	15	Binary	Reserved for future expansion. To maintain forward compatibility, fill with 0.
SendTime	72	8	DateTime	All Market Maker (Capacity=M) quote updates must populate with a timestamp representing the UTC time when the quote was sent by the Market Maker to the exchange. This timestamp is required to be at least in millisecond granularity but the CAT NMS Plan requires that Industry Members report the *SendTime* with the finest increment that is supported by the Industry Member. The *SendTime* is required in order to report Market Maker quotes to the CAT in accordance with the CAT NMS Plan. Market Makers are required to provide a valid, non-zero value for this field for any **`Quote Update`** messages entered via a BOE Bulk Quoting port. A zero value for *SendTime* will result in a rejection of the entire **`Quote Update`** message.
PostingInstruction	80	1	Text	P = Post Only (do not remove liquidity) B = Book Only (allow removal of liquidity, available for Market Makers only) N = Book Only, No Slide R = Post Only, No Slide (do not remove liquidity) I = Book Only IOC
SessionEligibility (C1 only)	81	1	Text	R = Regular Trading Hours (RTH) only A = Participates in both Global and Regular Trading Hours. Also allows for participation in Curb Trading Session. B = Participates in both RTH and Curb Session. Note market and stop/stop limit orders are not supported during GTH and Curb sessions.
QuoteCnt	82	1	Binary	Number of repeating groups included in this quote update. Allowed values are 1-20.
Repeating Groups of …				
Symbol		6	Alphanumeric	Cboe native identifier
Side		1	Text	1 = Buy 2 = Sell
OpenClose		1	Text	Corresponds to *OpenClose* (77) in Cboe FIX. See List of Optional Fields on page 196 for additional information.
Price		8	Binary Price	Limit price. To cancel an existing quote, specify a size of 0.
OrderQty		4	Binary	Order quantity. System limit is 999,999 contracts. To cancel an existing quote, specify a size of 0.
Reserved		12	Binary	Reserved for future expansion. To maintain forward compatibility, fill with 0.

Table 42. Quote Update Message Fields

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x55`
MatchingUnit	5	1	Binary	Always 0 for inbound (Member to Cboe) messages.
SequenceNumber	6	4	Binary	The sequence number for this message.
QuoteUpdateID	10	16	Text	ID chosen by the client. Characters in the ASCII range 33-126 are allowed, except for comma, semicolon, pipe, the 'at' symbol and double quotes. Responses, both to the Quote Update and any Quote Executions, Quote Cancellations, and Quote Modification messages will include this identifier. Note: Cboe strongly recommends that *QuoteUpdateID* be kept unique for a trading day, and CAT reporting requirements mandate that *QuoteUpdateID* is unique for each quote submitted to the exchange.
ClearingFirm	26	4	Alpha	EFID that will clear the trade. If left blank, the port attribute value of 'Default EFID' is used.
ClearingAccount	30	4	Alpha	Corresponds to *OnBehalfOfSubID* (116) and *ClearingAccount* (440) in Cboe FIX. See List of Optional Fields on page 196 for additional information.
CMTANumber	34	4	Binary	Corresponds to *ClearingFirm* (439) in Cboe FIX. See List of Optional Fields on page 196 for additional information.
Account	38	16	Text	Corresponds to *Account* (1) in Cboe FIX. See List of Optional Fields on page 196 for additional information.
CustomGroupID	54	2	Binary	Optional. Used to group orders for use in **`Purge Orders`**. Set to 0 if functionality not needed.
Capacity	56	1	Alpha	Corresponds to *OrderCapacity* (47) in Cboe FIX. Value must be set to M.
Reserved	57	15	Binary	Reserved for future expansion. To maintain forward compatibility, fill with 0.
SendTime	72	8	DateTime	All Market Maker (Capacity=M) quote updates must populate with a timestamp representing the GMT time when the quote was sent by the Market Maker to the exchange. This timestamp is required to be at least in millisecond granularity but the CAT NMS Plan requires that Industry Members report the *SendTime* with the finest increment that is supported by the Industry Member. The *SendTime* is required in order to report Market Maker quotes to the CAT in accordance with the CAT NMS Plan. Market Makers are required to provide a valid, non-zero value for this field for any **`Quote Update`** messages entered via a BOE Bulk Quoting port. A zero value for

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
				SendTime will result in a rejection of the entire **`Quote Update`** message.
PostingInstruction	80	1	Text	P = Post Only (do not remove liquidity) B = Book Only (allow removal of liquidity, available for Market Makers only) N = Book Only, No Slide R = Post Only, No Slide (do not remove liquidity) I = Book Only IOC
SessionEligibility (C1 only)	81	1	Text	R = Regular Trading Hours (RTH) only A = Participates in both Global and Regular Trading Hours. Also allows for participation in Curb Trading Session. B = Participates in both RTH and Curb Session. Note market and stop/stop limit orders are not supported during GTH and Curb sessions.
QuoteCnt	82	1	Binary	Number of repeating groups included in this quote update. Allowed values are 1-20.
Repeating Groups of …				
Symbol		6	Alphanumeric	Cboe native identifier
Side		1	Text	1 = Buy 2 = Sell
OpenClose		1	Text	Corresponds to *OpenClose* (77) in Cboe FIX. See List of Optional Fields on page 196 for additional information.
Price		8	Binary Price	Limit price. To cancel an existing quote, specify a price of 0.
OrderQty		4	Binary	Order quantity. System limit is 999,999 contracts. To cancel an existing quote, specify a size of 0.
Reserved		12	Binary	Reserved for future expansion. To maintain forward compatibility, fill with 0.

Table 43. *Quote Update Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	BA BA	Start of message bytes.
MessageLength	91 00	145 bytes
MessageType	55	**`Quote Update`**
MatchingUnit	00	Always 0 for inbound messages
SequenceNumber	64 00 00 00	Sequence number 100
QuoteUpdateID	41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00	ABC123
ClearingFirm	41 42 43 44	ABCD
ClearingAccount	57 58 59 5A	WXYZ
CMTANumber	31 32 33 34	1234
Account	44 45 46 47 41 42 43 44 00 00 00 00 00 00 00 00	DEFGABCD
CustomGroupID	C8 00	200
Capacity	4D	M = Market Maker

FIELD NAME	HEXADECIMAL	NOTES
Reserved	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	Reserved
SendTime	E0 FA 20 F7 36 71 F8 11	1,294,909,373,757,324,000
PostingInstruction	50	P (Post Only)
SessionEligibility	52	R (RTH Only)
QuoteCnt	02	Two Quotes
Symbol	30 30 36 69 70 41	006ipA
Side	31	1 = Buy
OpenClose	4F	O = Open
Price	C8 32 00 00 00 00 00 00	1.30
OrderQty	64 00 00 00	100 contracts
Reserved	00 00 00 00 00 00 00 00 00 00 00 00 00 00	Reserved
Symbol	30 30 34 63 53 73	004cSs
Side	32	2 = Sell
OpenClose	4F	O = Open
Price	AC 07 01 00 00 00 00 00	6.75
OrderQty	F4 01 00 00	500 contracts
Reserved	00 00 00 00 00 00 00 00 00 00 00 00 00 00	Reserved

Quote Update (Short) Message Fields

A shorter version of **`Quote Update`** messages which restricts the information which can be presented. Uses less bandwidth than the **`Quote Update`** message but messages presented to the Matching Engine are identical between both **`Quote Update`** and **`Quote Update (Short)`** messages. The system will only accept Quote Update requests entered via a BOE Bulk Quoting port that are marked with the *Capacity* = M (Market Maker).

`Quote Update (Short)` message does not allow sending *Account* but a default for this field may be set at the port level. *CMTANumber* may never be included on a **`Quote Update (Short)`** message.

This message uses a smaller format *Price* and *OrderQty* on each quote update.

All other comments concerning **`Quote Update`** messages in the previous section apply to **`Quote Update (Short)`** equally.

Table 44. Quote Update (Short) Message Fields

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x59`
MatchingUnit	5	1	Binary	Always 0 for inbound (Member to Cboe) messages.
SequenceNumber	6	4	Binary	The sequence number for this message.
QuoteUpdateID	10	16	Text	ID chosen by the client. Characters in the ASCII range 33-126 are allowed, except for comma, semicolon, pipe, the 'at' symbol and double quotes. Responses, both to the Quote Update and any Quote Executions, Quote Cancellations, and Quote Modification messages will include this identifier. Note: Cboe strongly recommends that *QuoteUpdateID* be kept unique for a trading day, and CAT reporting requirements mandate that *QuoteUpdateID* is unique for each quote submitted to the exchange.
ClearingFirm	26	4	Alpha	EFID that will clear the trade. If left blank, the port attribute value of 'Default EFID' is used.
ClearingAccount	30	4	Alpha	Corresponds to *OnBehalfOfSubID* (116) and *ClearingAccount* (440) in Cboe FIX. See List of Optional Fields on page 196 for additional information.
CustomGroupID	34	2	Binary	Optional. Used to group orders for use in **`Purge Orders`** messages. Set to 0 if functionality not needed.
Capacity	36	1	Alpha	Corresponds to *OrderCapacity* (47) in Cboe FIX. Value must be set to M.
Reserved	37	3	Binary	Reserved for future expansion. To maintain forward compatibility, fill with 0.

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
SendTime	40	8	DateTime	All Market Maker (Capacity=M) quote updates must populate with a timestamp representing the UTC time when the quote was sent by the Market Maker to the exchange. This timestamp is required to be at least in millisecond granularity but the CAT NMS Plan requires that Industry Members report the *SendTime* with the finest increment that is supported by the Industry Member. The *SendTime* is required in order to report Market Maker quotes to the CAT in accordance with the CAT NMS Plan. Market Makers are required to provide a valid, non-zero value for this field for any **`Quote Update`** messages entered via a BOE Bulk Quoting port. A zero value for *SendTime* will result in a rejection of the entire **`Quote Update`** message.
PostingInstruction	48	1	Text	`P` = Post Only (do not remove liquidity) `B` = Book Only (allow removal of liquidity, available for Market Makers only) `N` = Book Only, No Slide `R` = Post Only, No Slide (do not remove liquidity) `I` = Book Only IOC
SessionEligibility (C1 only)	49	1	Text	`R` = Regular Trading Hours (RTH) only `A` = Participates in both Global and Regular Trading Hours. Also allows for participation in Curb Trading Session. `B` = Participates in both RTH and Curb Session
QuoteCnt	50	1	Binary	Number of repeating groups included in this quote update. Allowed values are 1-20.
Repeating Groups of …				
Symbol		6	Alphanumeric	Cboe native identifier
Side		1	Text	`1` = Buy `2` = Sell
OpenClose		1	Text	Corresponds to *OpenClose* (77) in Cboe FIX. See List of Optional Fields on page 196 for additional information.
Price		4	Short Binary Price	Limit price. To cancel an existing quote, specify a size of 0.
OrderQty		2	Binary	Order quantity. System limit is 999,999 contracts. To cancel an existing quote, specify a size of 0.
Reserved		2	Binary	Reserved for future expansion. To maintain forward compatibility, fill with 0.

Table 45. *Quote Update (Short) Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	`BA BA`	Start of message bytes.
MessageLength	`91 00`	145 bytes
MessageType	`59`	**`Quote Update (Short)`**
MatchingUnit	`00`	Always 0 for inbound messages
SequenceNumber	`64 00 00 00`	Sequence number 100

FIELD NAME	HEXADECIMAL	NOTES
QuoteUpdateID	41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00	ABC123
ClearingFirm	41 42 43 44	ABCD
ClearingAccount	57 58 59 00	WXY
CustomGroupID	C8 00	200
Capacity	4D	M = Market Maker
Reserved	00 00 00	Reserved
SendTime	E0 FA 20 F7 36 71 F8 11	1,294,909,373,757,324,000
PostingInstruction	50	P (Post Only)
SessionEligibility	52	R (RTH Only)
QuoteCnt	02	Two Quotes
Symbol	30 30 36 69 70 41	006ipA
Side	31	1 = Buy
OpenClose	4F	O = Open
Price	C8 32 00 00	1.30
OrderQty	64 00	100 contracts
Reserved	00 00	Reserved
Symbol	30 30 34 63 53 73	004cSs
Side	32	2 = Sell
OpenClose	4F	O = Open
Price	AC 07 01 00	6.75
OrderQty	F4 01	500 contracts
Reserved	00 00	Reserved

Complex Quote Update Message Fields (C1 Only)

Request to enter or update one or more quotes for quotable complex options. Quotable complex instruments are defined by the exchange and are disseminated on U.S. Options Complex Multicast PITCH and U.S. Options Complex Multicast TOP data feeds as Exchange Designated Complex Instrument Definition messages.

`Complex Quote Update` message requests will be forwarded in their entirety to the matching engine instance as a single message and will be applied in a single transaction. Optional bitfields are not supported for any response messages for quotes. The system will only accept **`Complex Quote Update`** message requests entered via a BOE Bulk Quoting port that are marked with the Capacity value of M = Market Maker. A valid registered Market-Maker account value must be provided in the *ClearingAccount* field or the system will respond with the **`Quote Update Rejected`** message containing the *QuoteRejectReason* value of C = InvalidClearing.

All options in a single **`Complex Quote Update`** message must trade under a single risk root. Requests which include options trading under multiple risk roots will be rejected in their entirety.

A quote is unique per port, EFID, and side. You may quote multiple price levels of depth using either multiple EFIDs on a single port or with the same EFID on multiple ports.

Complex quote requests are one-sided. To delete a quote, send an update with a zero size.

`Complex Quote Update` messages may be submitted for exchange designated complex options only; simple options quotes and quotes for complex options that are not exchange designated complex options may not be submitted. One or more unsupported options presented in the message repeating group will cause the **`Complex Quote Update`** to be rejected in its entirety with a **`Quote Update Rejected`** being returned to the user.

By default, complex quotes are valid for a given trading date, which may span multiple calendar dates in the event of a holiday. Complex quotes may be cancelled at the end of a given trading segment rather than carried forward to the next segment by updating the Multi-Segment Holiday Day Order Handling on page 218Port attribute.

Complex quotes are post-only. Individual quotes in a **`Complex Quote Update`** message that lock or cross the displayed Cboe complex book or SBBO will be rejected. Each individual quote that is rejected for this reason is indicated to the user with the *QuoteResult* value P = Rejected, can't post in the associated **`Quote Update Acknowledgment`** message.

If a complex quote modification is rejected, the resting complex quote being modified is also cancelled. Executions, unsolicited cancels, and unsolicited modification response messages from the exchange are different from those for orders. They are optimized for efficiency and contain some different data elements (e.g., *QuoteUpdateID*) than the respective messages for orders.

The *PreventMatch* field may not be specified on the **`Complex Quote Update`** message, and Match Trade Prevention is only available if defaulted at the port level.

Executions involving complex quotes submitted using the **`Complex Quote Update`** message are reported to the user via the **`Complex Quote Execution`** message.

The **`Complex Quote Execution`** message will be the only complex quote related message available over ODROP and FIXDROP.

`Complex Quote Update` requests sent without any changes to the currently resting quote (no change quotes) will result in a loss of priority and will be reported back with a *QuoteResult* value of L (Modified; loss of priority) in the **`Quote Update Acknowledgement`** message. In addition:

- Time priority will be maintained on a complex quote modification if there is a decrease in *OrderQty* with no other changes.
- A complex quote modification decreasing size and changes to any other attribute will lose priority.
- A complex quote modification with no change to any attribute will lose priority.

Table 46. Complex Quote Update Message Fields

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x84`
MatchingUnit	5	1	Binary	Always 0 for inbound (Member to Cboe) messages.
SequenceNumber	6	4	Binary	The sequence number for this message.
QuoteUpdateID	10	16	Text	ID chosen by the client. Characters in the ASCII range 33-126 are allowed, except for comma, semicolon, pipe, the 'at' symbol and double quotes. Responses, both to the Quote Update and any Quote Executions, Quote Cancellations, and Quote Modification messages will include this identifier. Note: Cboe strongly recommends that *QuoteUpdateID* be kept unique for a trading day, and CAT reporting requirements mandate that *QuoteUpdateID* be unique for each quote submitted to the exchange.
ClearingFirm	26	4	Alpha	EFID that will clear the trade. If left blank, the port attribute value of 'Default EFID' is used.
ClearingAccount	30	4	Alpha	Corresponds to *OnBehalfOfSubID* (116) and *ClearingAccount* (440) in Cboe FIX. See List of Optional Fields on page 196 for additional information.
CMTANumber	34	4	Binary	Corresponds to *ClearingFirm* (439) in Cboe FIX. See List of Optional Fields on page 196 for additional information.
Account	38	16	Text	Corresponds to *Account* (1) in Cboe FIX. See List of Optional Fields on page 196 for additional information.
CustomGroupID	54	2	Binary	Used to group orders for use in **`Purge Orders`**. Set to 0 if functionality not needed.

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
Capacity	56	1	Alpha	Corresponds to *OrderCapacity* (47) in Cboe FIX. Value must be set to M.
Reserved	57	15	Binary	Reserved for future expansion. To maintain forward compatibility, fill with 0.
SendTime	72	8	DateTime	All Market Maker (Capacity=M) complex quote updates must populate with a timestamp representing the GMT time when the quote was sent by the Market Maker to the exchange. This timestamp is required to be at least in millisecond granularity but the CAT NMS Plan requires that Industry Members report the *SendTime* with the finest increment that is supported by the Industry Member. The *SendTime* is required in order to report Market Maker complex quotes to the CAT in accordance with the CAT NMS Plan. Market Makers are required to provide a valid, non-zero value for this field for any **`Quote Update`** messages entered via a BOE Bulk Quoting port. A zero value for *SendTime* will result in a rejection of the entire **`Quote Update`** message.
PostingInstruction	80	1	Text	Value must be set to R as **`Complex Quote Update`** messages are post-only and cannot remove liquidity on entry to the book. `R` = Post Only, No Slide (do not remove liquidity)
SessionEligibility	81	1	Text	`R` = Regular Trading Hours (RTH) only `B` = Participates in both RTH and Curb Session.
QuoteCnt	82	1	Binary	Number of repeating groups included in this quote update. Allowed values are 1-20.
Repeating Groups of …				
Symbol		6	Alphanumeric	Cboe native identifier
Side		1	Text	`1` = Buy `2` = Sell
OpenClose		1	Text	Corresponds to *OpenClose* (77) in Cboe FIX. The value specified for OpenClose applies to all single leg executions comprising a complex quote execution See List of Optional Fields on page 196 for additional information.
Price		8	Binary Price	Limit price.
OrderQty		4	Binary	Order quantity. System limit is 999,999 contracts. To cancel an existing quote, specify a size of 0.
Reserved		12	Binary	Reserved for future expansion. To maintain forward compatibility, fill with 0.

Table 47. *Complex Quote Update Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	`BA BA`	Start of message bytes.
MessageLength	`91 00`	145 bytes
MessageType	`84`	**`Complex Quote Update`**
MatchingUnit	`00`	Always 0 for inbound messages

FIELD NAME	HEXADECIMAL	NOTES
SequenceNumber	64 00 00 00	Sequence number 100
QuoteUpdateID	41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00	ABC123
ClearingFirm	41 42 43 44	ABCD
ClearingAccount	57 58 59 5A	WXYZ
CMTANumber	31 32 33 34	1234
Account	44 45 46 47 41 42 43 44 00 00 00 00 00 00 00 00	DEFGABCD
CustomGroupID	C8 00	200
Capacity	4D	M = Market Maker
Reserved	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	Reserved
SendTime	E0 FA 20 F7 36 71 F8 11	1,294,909,373,757,324,000
PostingInstruction	52	R (Post Only)
SessionEligibility	52	R (RTH Only)
QuoteCnt	02	Two Quotes
Symbol	54 31 47 51 35 33	T1GQ53
Side	31	1 = Buy
OpenClose	4E	N = None
Price	C8 32 00 00 00 00 00 00	1.30
OrderQty	64 00 00 00	100
Reserved	00 00 00 00 00 00 00 00 00 00 00 00	Reserved
Symbol	54 31 47 51 35 34	T1GQ54
Side	32	2 = Sell
OpenClose	4E	N = None
Price	AC 07 01 00 00 00 00 00	6.75
OrderQty	F4 01 00 00	500
Reserved	00 00 00 00 00 00 00 00 00 00 00 00	Reserved

Complex Quote Update (Short) Message Fields (C1 Only)

A shorter version of **`Complex Quote Update`** messages which restricts the information which can be presented. Uses less bandwidth than the **`Complex Quote Update`** message but messages presented to the Matching Engine are identical between both **`Complex Quote Update`** and **`Complex Quote Update (Short)`** messages.The system will only accept **`Complex Quote Update (Short)`** requests entered via a BOE Bulk Quoting port that are marked with the Capacity value M = Market Maker.

`Complex Quote Update (Short)` message does not allow sending *Account* but a default for this field may be set at the port level. *CMTANumber* may never be included on a **`Quote Update (Short)`** message.

This message uses a smaller format *Price* and *OrderQty* on each complex quote update.

All other comments concerning **`Complex Quote Update`** messages in the previous section apply to **`Complex Quote Update (Short)`** equally.

Table 48. Complex Quote Update (Short) Message Fields

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA.`
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x86`
MatchingUnit	5	1	Binary	Always 0 for inbound (Member to Cboe) messages.
SequenceNumber	6	4	Binary	The sequence number for this message.
QuoteUpdateID	10	16	Text	ID chosen by the client. Characters in the ASCII range 33-126 are allowed, except for comma, semicolon, pipe, the 'at' symbol and double quotes. Responses, both to the Quote Update and any Quote Executions, Quote Cancellations, and Quote Modification messages will include this identifier. Note: Cboe strongly recommends that *QuoteUpdateID* be kept unique for a trading day, and CAT reporting requirements mandate that *QuoteUpdateID* be unique for each quote submitted to the exchange.
ClearingFirm	26	4	Alpha	EFID that will clear the trade. If left blank, the port attribute value of 'Default EFID' is used.
ClearingAccount	30	4	Alpha	Corresponds to *OnBehalfOfSubID* (116) and *ClearingAccount* (440) in Cboe FIX. See List of Optional Fields on page 196 for additional information.
CustomGroupID	34	2	Binary	Used to group orders for use in **`Purge Orders`**. Set to 0 if functionality not needed.
Capacity	36	1	Alpha	Corresponds to *OrderCapacity* (47) in Cboe FIX. Value must be set to M.
Reserved	37	3	Binary	Reserved for future expansion. To maintain forward compatibility, fill with 0.

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
SendTime	40	8	DateTime	All Market Maker (Capacity = M) complex quote updates must populate with a timestamp representing the GMT time when the quote was sent by the Market Maker to the exchange. This timestamp is required to be at least in millisecond granularity but the CAT NMS Plan requires that Industry Members report the *SendTime* with the finest increment that is supported by the Industry Member. The *SendTime* is required in order to report Market Maker complex quotes to the CAT in accordance with the CAT NMS Plan. Market Makers are required to provide a valid, non-zero value for this field for any **`Quote Update`** messages entered via a BOE Bulk Quoting port. A zero value for *SendTime* will result in a rejection of the entire **`Quote Update`** message.
PostingInstruction	48	1	Text	Value must be set to R as **`Complex Quote Update`** messages are post-only and cannot remove liquidity on entry to the book. `R` = Post Only, No Slide (do not remove liquidity)
SessionEligibility (C1 only)	49	1	Text	`R` = Regular Trading Hours (RTH) only `B` = Participates in both RTH and Curb Session.
QuoteCnt	50	1	Binary	Number of repeating groups included in this quote update. Allowed values are 1-20.
Repeating Groups of …				
Symbol		6	Alphanumeric	Cboe native identifier
Side		1	Text	`1` = Buy `2` = Sell
OpenClose		1	Text	Corresponds to *OpenClose* (77) in Cboe FIX. The value specified for OpenClose applies to all single leg executions comprising a complex quote execution See List of Optional Fields on page 196 for additional information.
Price		4	Short Binary Price	Limit price.
OrderQty		2	Binary	Order quantity. System limit is 999,999 contracts. To cancel an existing quote, specify a size of 0.
Reserved		2	Binary	Reserved for future expansion. To maintain forward compatibility, fill with 0.

Table 49. *Complex Quote Update(Short) Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	`BA BA`	Start of message bytes.
MessageLength	`51 00`	81 bytes
MessageType	`86`	**`Complex Quote Update (Short)`**
MatchingUnit	`00`	Always 0 for inbound messages
SequenceNumber	`64 00 00 00`	Sequence number 100
QuoteUpdateID	`41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00`	ABC123

FIELD NAME	HEXADECIMAL	NOTES
ClearingFirm	41 42 43 44	ABCD
ClearingAccount	57 58 59 00	WXY
CustomGroupID	C8 00	200
Capacity	4D	M = Market Maker
Reserved	00 00 00	Reserved
SendTime	E0 FA 20 F7 36 71 F8 11	1,294,909,373,757,324,000
PostingInstruction	52	R (Post Only)
SessionEligibility	52	R (RTH Only)
QuoteCnt	02	Two Quotes
Symbol	54 31 47 51 35 33	T1GQ53
Side	31	1 = Buy
OpenClose	4F	O = Open
Price	C8 32 00 00	1.30
OrderQty	64 00	100
Reserved	00 00	Reserved
Symbol	54 31 47 51 35 34	T1GQ54
Side	32	2 = Sell
OpenClose	4F	O = Open
Price	AC 07 01 00	6.75
OrderQty	F4 01	500
Reserved	00 00	Reserved

Purge Orders Message Fields

Request to cancel a group of orders across all the firm's sessions. This differs from a mass cancel request sent via a **`Cancel Order`** message as the purge is applied across all of the firm's sessions, not just the session on which the message was received.

A purge requires populating the *MassCancelInst* field. The *ClearingFirm (EFID)* is also required if a list of configured/allowed EFIDS has not been configured on the session. If a list of configured EFIDs is present, sending a blank (0x00) ClearingFirm value will result in the purge applying to all configured EFIDs. In addition, a firm may choose to further filter the purge to target specific orders using either the *CustomGroupID* or *RiskRoot* fields. If both *RiskRoot* and a list of *CustomGroupID* values are specified, the **`Purge Orders`** message request will be rejected. The items below should also be considered.

- Users must specify the *MassCancelId* if the Acknowledgement Style is set to `S` or `B`.
- Users may Initiate a self-imposed, risk lockout using the *MassCancelInst* field.
- EFID values specified in the *ClearingFirm* field that are not allowed to clear for the firm will be rejected.
- *CustomGroupID* or EFID (*ClearingFirm*) purges with no *RiskRoot* may be directed to a specific matching unit using the *MatchingUnit* optional field. If *MatchingUnit* is zero or not specified, these purge types will be sent to all matching units starting with unit 1. **Note that this may result in self-imposed, risk lockouts occurring on select units while other units are still trading.**

When specifying the *RiskRoot* field, using the underlying symbol is strongly recommended. Mass cancellations are always performed at the risk root (underlying) level.

All Members that send purges **must** include the *SendTime* field. This is required to ensure that a valid cancellation send time is captured and reported to CAT.

The system limits the rate at which identical **`Purge Orders`** message requests can be submitted to the system. Requests are restricted to ten (10) messages per second per port.

An identical purge message is defined as a message having all of the same *CustomGroupID*, *Symbol*, *Clearing Firm*, *MatchingUnit*, *Lockout Instruction*, *Instrument Type Filter* and *GTC Order Filter* field values, as a previously received message.

Permitted input optional fields are described in Purge Orders on page 177.

Table 50. Purge Orders Message Fields

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x47`
MatchingUnit	5	1	Binary	Always 0 for inbound (Member to Cboe) messages.

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
SequenceNumber	6	4	Binary	The sequence number for this message.
Reserved	10	1	Binary	Reserved for future expansion. To maintain forward compatibility, fill with 0.
NumberOfPurgeOrdersBitfields	11	1	Binary	Bitfield identifying bitfields which are set. May be 0. Field values must be appended to the end of the message.
PurgeOrderBitfield[1]	12	1	Binary	Bitfield identifying fields to follow. Only present if *NumberOfPurgeOrdersBitfields* is non-zero.
CustomGroupIDCnt	13	1	Binary	Number of repeating *CustomGroupID* included in this message. Integer 0-10.
CustomGroupID[1]		2	Binary	First *CustomGroupID*. Only present if *CustomGroupIDCnt* is non-zero.
…				
CustomGroupID[n]		2	Binary	Last *CustomGroupID*.
Optional fields. . .				

Table 51. *Purge Orders Message with CustomGroupID and Lockout Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	`BA BA`	Start of message bytes
MessageLength	`41 00`	65 bytes
MessageType	`47`	**`Purge Orders`**
MatchingUnit	`00`	Always 0 for inbound messages
SequenceNumber	`64 00 00 00`	Sequence number 100
Reserved	`00`	Reserved
NumberOfPurge	`02`	Two bitfields to follow
OrderBitfields		
PurgeOrdersBitfield1	`15`	*ClearingFirm,MassCancelInst, MassCancelID*
PurgeOrdersBitfield2	`40`	*SendTime*
CustomGroupIDCnt	`02`	Two CustomGroupIDs to follow
CustomGroupID1	`BF BE`	First *CustomGroupID* of 48831
CustomGroupID2	`CO BE`	Second *CustomGroupID* of 48832
ClearingFirm	`54 45 53 54`	TEST
MassCancelInst	`46 53 4C 42 00 00 00 00 00 00 00 00 00 00 00 00`	F=Cancel orders matching clearing firm TEST S=Single ack L=Lockout both *CustomGroupIDs* B=Cancel simple and complex
MassCancelID	`41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00 00 00 00 00`	ABC123
SendTime	`E0 7A B9 DA 13 3B 42 16`	1,603,909,373,757,324,000 = Wed, Oct 28, 2020 at 14:22:53.757324 ET.

Table 52. *Purge Orders Message with Product Level Filter and no Lockout Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	`BA BA`	Start of message bytes
MessageLength	`43 00`	67 bytes
MessageType	`47`	**`Purge Orders`**
MatchingUnit	`00`	Always 0 for inbound messages

FIELD NAME	HEXADECIMAL	NOTES
SequenceNumber	64 00 00 00	Sequence number 100
Reserved	00	Reserved
NumberOfPurge	02	Two bitfields to follow
OrderBitfields		
PurgeOrdersBitfield1	1D	*ClearingFirm, MassCancelInst, RiskRoot, MassCancelID*
PurgeOrdersBitfield2	40	*SendTime*
CustomGroupIDCnt	00	No CustomGroupIDs to follow
ClearingFirm	54 45 53 54	TEST
MassCancelInst	46 53 4E 42 00 00 00 00 00 00 00 00 00 00 00 00	F=Cancel orders matching clearing firm TEST S=Single ack N=No lockout B=Cancel simple and complex
RiskRoot	41 42 43 00 00 00	ABC
MassCancelID	41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00 00 00 00 00	ABC123
SendTime	E0 7A B9 DA 13 3B 42 16	1,603,909,373,757,324,000 = Wed, Oct 28, 2020 at 14:22:53.757324 ET.

Reset Risk Message Fields

Reset or release Firm, Risk Root, or Custom Group ID level lockout conditions resulting from risk profile trips or self-imposed lockouts issued via **`Cancel Order`** or **`Purge Orders`** messages. Risk resets can be performed using this message or by using the *RiskReset* field on a **`New Order`** message.

When specifying the *RiskRoot* field, using the underlying symbol is strongly recommended. Risk Resets are always performed at the risk root (underlying) level.

Only one unique risk reset of a given type (EFID Group, EFID, Risk Root, CustomGroupID) is allowed per 100 milliseconds per port. Additional resets will be ignored (*RiskResetResult* = <space>). For example, a customer may reset risk for *CustomGroupID* = 1 and may not reset risk again for *CustomGroupID* = 1 until 100 milliseconds has elapsed. This restriction is designed to safeguard the trading platform from excessive risk messaging. On C1 only, If a risk limit is tripped or manually locked out at the end of the RTH session, the trip/lockout will persist into the Curb session.

CustomGroupID or EFID (*ClearingFirm*) risk resets may be directed to a specific matching unit using the *TargetMatchingUnit* optional field. If *TargetMatchingUnit* is zero, the risk reset will be sent to all matching units starting with unit 1.

Table 53. Reset Risk Message Fields

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x56`
MatchingUnit	5	1	Binary	Always 0 for inbound (Member to Cboe) messages.
SequenceNumber	6	4	Binary	The sequence number for this message.
RiskStatusID	10	16	Text	Unique identifier for this Reset Risk request. Response message will have this corresponding identifier. **Note: Cboe only enforces uniqueness of *RiskStatusID* values among currently unacknowledged requests. However, we strongly recommend that you keep your *RiskStatusID* values day-unique.**
RiskReset	26	8	Text	Corresponds to *RiskReset* (7692) in Cboe FIX. Indicates Risk Root, Firm, or CustomGroupID lockout reset. See List of Optional Fields on page 196 for allowed values.
TargetMatchingUnit	34	1	Binary	Direct the reset risk to a specific matching unit. A zero value will cause the reset risk to be sent to all matching units. Ignored for risk root level resets.
Reserved	35	3	Binary	Reserved for future expansion. To maintain forward compatibility, fill with 0.
ClearingFirm	38	4	Alpha	Risk will be reset for this EFID.
RiskRoot	42	6	Alphanumeric	Populate with Risk Root for resets at the Risk Root level. Leave empty for resets at the EFID level.

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
CustomGroupID	48	2	Binary	Populate with an identifier for resets including a CustomGroupID. Set to 0 to ignore.

Table 54. *Reset Risk Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	BA BA	Start of message bytes.
MessageLength	30 00	48 bytes
MessageType	56	**Reset Risk**
MatchingUnit	00	Always 0 for inbound messages
SequenceNumber	64 00 00 00	Sequence number 100
RiskStatusID	41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00	ABC123
RiskReset	53 46 00 00 00 00 00 00	SF = Symbol and EFID level reset
TargetMatchingUnit	00	0 = target all matching units
Reserved	00 00 00	
ClearingFirm	54 45 53 54	TEST
RiskRoot	41 42 43 00 00 00	ABC
CustomGroupID	00 00	No *CustomGroupID*

Table 55. *Reset Risk Message Targeting a Matching Unit Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	BA BA	Start of message bytes.
MessageLength	30 00	48 bytes
MessageType	56	**Reset Risk**
MatchingUnit	00	Always 0 for inbound messages
SequenceNumber	64 00 00 00	Sequence number 100
RiskStatusID	41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00	ABC123
RiskReset	53 46 00 00 00 00 00 00	SF = Symbol and EFID level reset
TargetMatchingUnit	1A	26 = target matching unit 26
Reserved	00 00 00	
ClearingFirm	54 45 53 54	TEST
RiskRoot	00 00 00 00 00 00	No *RiskRoot*
CustomGroupID	00 00	No *CustomGroupID*

New Complex Instrument Message Fields (C1, C2, and EDGX Only)

A **`New Complex Instrument`** message is used to request that the system create a complex strategy. The resulting symbol (if accepted by the system) will be returned in a **`Complex Instrument Accepted`** message; a **`Complex Instrument Rejected`** message will be sent if it is not accepted. All legs must have the same underlying product which can be different OSI Roots (i.e. XYZ and XYZ1).

A *ClearingFirm* must be sent on each **`New Complex Instrument`** message unless a Default Executing Firm ID is set at the port-level.

Permitted input optional fields are described in New Complex Instrument (C1, C2, and EDGX Only) on page 178.

Table 56. New Complex Instrument Message Fields (C1, C2, and EDGX Only)

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x4C`
MatchingUnit	5	1	Binary	Always 0 for inbound (Member to Cboe) messages.
SequenceNumber	6	4	Binary	The sequence number for this message.
ClOrdID	10	20	Text	Corresponds to *ClOrdID* (11) in Cboe FIX. Day-unique ID chosen by the client. Characters in the ASCII range 33-126 are allowed, except for comma, semicolon, pipe, the 'at' symbol and double quotes. If the *ClOrdID* matches a live order, the order will be rejected as duplicate. **Note: Cboe only enforces uniqueness of *ClOrdID* values among currently live orders. However, we strongly recommend that you keep your *ClOrdID* values day-unique.**
NumberOfNewComplexInstrumentBitfields	30	1	Binary	Bitfield identifying which bitfields are set. Field values must be appended to the end of the message.
NewComplexInstrumentBitfield[1]	31	1	Binary	Bitfield identifying fields to follow.
….				
NewComplexInstrumentBitfield[n]		1	Binary	Last bitfield.
NoLegs		1	Binary	Corresponds to *NoLegs* (555) in Cboe FIX. Indicates the number of repeating groups to fol- low. Must be a minimum of 2 and a maximum of 16.

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
Repeating Group *ComplexLeg* must occur the number of times specified in *NoLegs*. Each field occurs in each group, in order as shown below. Optional fields occur only if corresponding bits in bitfields are set.				

Table 57. New Complex Instrument Message Fields (C1, C2, and EDGX Only)

LegSymbol	8	Alphanumeric	Corresponds to *LegSymbol* (600) in Cboe FIX. Entire Cboe format symbol or OSI Root. **Must send *LegCFICode*, *LegMaturityDate*, and *LegStrikePrice* if using OSI format.**
LegCFICode (Optional)	6	Alphanumeric	Corresponds to *LegCFICode* (608) in Cboe FIX. CFI Code for leg. Required if *LegSymbol* is in OSI format. `OP` = Options Put `OC` = Options Call `E` = Equity
LegMaturityDate (Optional)	4	Date	Corresponds to *LegMaturityDate* (611) in Cboe FIX. Required if *LegSymbol* is in OSI format.
LegStrikePrice (Optional)	8	Binary Price	Corresponds to *LegStrikePrice* (612) in Cboe FIX. Option strike price. System maximum is 99,999,999. Must be non-negative. Required if *LegSymbol* is in OSI format.
LegRatioQty	4	Binary	Corresponds to *LegRatioQty* (623) in Cboe FIX. Ratio of number of contracts in this leg per order quantity. Accepted values are 1-999,999.
LegSide	1	Alphanumeric	Corresponds to *LegSide* (624) in Cboe FIX. `1` = Buy `2` = Sell

Optional fields…				Optional fields as set in the bitmap. Note, optional fields that occur in the repeating groups appear above, repeating per group, not within this block.

Table 58. *New Complex Instrument Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	`BA BA`	Start of message bytes.
MessageLength	`61 00`	97 bytes
MessageType	`4C`	**`New Complex Instrument`**
MatchingUnit	`00`	Always 0 for inbound messages
SequenceNumber	`64 00 00 00`	Sequence number 100
ClOrdID	`41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00 00 00 00 00`	ABC123
NumberOfNewComplex InstrumentBitfields	`01`	One bitfield to follow
NewComplexInstrumentBitfield1	`0F`	*LegCFICode, LegMaturityDate, LegStrikePrice, ClearingFirm*
NoLegs	`02`	Two legs
LegSymbol	`4D 53 46 54 00 00 00 00`	MSFT
LegCFICode	`4F 43 00 00 00 00`	`OC` = Option Call

FIELD NAME	HEXADECIMAL	NOTES
LegMaturityDate	`EF DB 32 01`	2011-03-19
LegStrikePrice	`98 AB 02 00 00 00 00 00`	17.50
LegRatioQty	`02 00 00 00`	Ratio of 2
LegSide	`31`	Buy
LegSymbol	`4D 53 46 54 00 00 00 00`	MSFT
LegCFICode	`4F 50 00 00 00 00`	OP = Option Put
LegMaturityDate	`F6 DB 32 01`	2011-03-26
LegStrikePrice	`30 E6 02 00 00 00 00 00`	19.00
LegRatioQty	`01 00 00 00`	Ratio of 1
LegSide	`32`	Sell
ClearingFirm	`54 45 53 54`	TEST

Add Floor Trade Message Fields (C1 Only)

TPHs having in-person Market Makers on the Cboe trading floor can enter their version of a floor trade via the **`Add Floor Trade`** message type.

This message may be used to report any floor trades, but is primarily meant to be used to report floor trades between Market Makers. TPHs are encouraged to use **`Floor Trade Confirmation`** messages to respond to floor broker allocations (**`Floor Trade Notification`** messages) if they agree with the terms of the trade.

The Exchange will respond to an **`Add Floor Trade`** message with an **`Add Floor Trade Rejected`** message or an **`Order Acknowledgement`** message followed by one or more **`Order Executed`** messages.

Table 59. Add Floor Trade Message Fields (C1 Only)

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x5C`
MatchingUnit	5	1	Binary	Always 0 for inbound (Member to Cboe) messages.
SequenceNumber	6	4	Binary	The sequence number for this message.
ClOrdID	10	20	Text	Corresponds to *ClOrdID* (11) in Cboe FIX. Day-unique ID chosen by the client. Characters in the ASCII range 33-126 are allowed, except for comma, semicolon, pipe, the 'at' symbol and double quotes. If the *ClOrdID* matches a live order, the order will be rejected as duplicate. **Note: Cboe only enforces uniqueness of *ClOrdID* values among currently live orders. However, we strongly recommend that you keep your *ClOrdID* values day-unique.**
Symbol	30	8	Alphanumeric	Corresponds to *Symbol* (55) in Cboe FIX. Entire Cboe format symbol or OSI symbol if using long format.
PutOrCall	38	1	Alphanumeric	Corresponds to *PutOrCall* (201) in Cboe FIX. 0 = Put 1 = Call NULL (0x00) filled if using Cboe format symbol.
StrikePrice	39	8	Binary Price	Corresponds to *StrikePrice* (202) in Cboe FIX. Strike Price for option, 0 - 999,999.99 NULL (0x00) filled if using Cboe format symbol.
MaturityDate	47	4	Date	Corresponds to *MaturityMonth* (200) and *MaturityDay* (205) in Cboe FIX. NULL (0x00) filled if using Cboe format symbol.
MultilegReportingType	51	1	Alphanumeric	Corresponds to *MultilegReportingType* (442) in Cboe FIX. Indicates the type of **`Order Execution`** message. 1 = Single-leg instrument

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
				2 = Individual leg of multi-leg instrument
ComboOrder	52	1	Alpha	Corresponds to *ComboOrder* (22005) in Cboe FIX. Declare the order as a Combo (for regulatory relief if trading SPX on the floor). N = (Default) No Y = Yes
Account	53	16	Text	Corresponds to *Account* (1) in Cboe FIX. Reflected back on execution reports associated with this order and also passed through to the OCC in the Optional Data field (16 characters) and Customer ID field (max 10 characters). May be made available in the Member's clearing file. A maximum of 10 characters will be passed through to the OCC Customer ID Field but up to 16 characters will be maintain internally. Characters in ASCII range 33-126 are allowed. *Account* (1) will only be mapped to the OCC via the Customer ID field (max 10 characters) and the new *ClearingOptionalData* (9324) field will be mapped to the OCC via the Optional Data field (16 characters).
ClearingOptionalData	69	16	Text	Corresponds to *ClearingOptionalData* (9324) in Cboe FIX. This field will be reflected back on execution reports, FIX DROP ports, and it will be passed through to the OCC in the Optional Data field.
ClearingAccount	85	4	Text	Corresponds to *ClearingAccount* (440) in Cboe FIX. When *Capacity* is set to a value of M or N for Market Maker, this field should be filled with the desired market maker ID. When using CMTA, this value is the Market Maker ID for the CMTA member instead of the Cboe member executing the trade. This field will be sent to the OCC. If *OrderCapacity* (47) is not set to 'M' or 'N' and *ClearingAccount* is populated, the order will be rejected by default on C1 and C2 and will be accepted by default for EDGX Only. This field is recorded and returned in execution reports. Available via FIX Drop.
CMTANumber	89	4	Binary	Corresponds to *CMTANumber* (439) in Cboe FIX. CMTA Number of the firm that will clear the trade. Must be specified for CMTA orders and left unspecified for non-CMTA orders.
FloorTraderAcronym	93	3	Alpha	Floor acronym of participant submitting trade.
Side	96	1	Alphanumeric	Corresponds to *Side* (54) in Cboe FIX. 1 = Buy 2 = Sell
OrderQty	97	4	Binary	Corresponds to *OrderQty* (38) in Cboe FIX. Order quantity. System limit is 999,999 contracts.
Price	101	8	Binary Price	Corresponds to *Price* (44) in Cboe FIX. Limit price. Order rejected if priced finer than the minimum trading increment for the option.
TransactionTime	109	8	DateTime	Report send time (for audit).

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
OpenClose	117	1	Alphanumeric	Corresponds to *OpenClose* (77) in Cboe FIX. Indicates status of client position in the option. O = Open C = Close N = None* *Orders with *Capacity* = M or 'N' will not be required to specify *OpenClose* on their orders or may optionally specify a value of 'N', unless the series is limited to closing only. If the series is limited to closing only transactions, only *Capacity* = M will be permitted to submit *OpenClose* = O if the order has TimeInForce= '3' (IOC) and *RoutingInst* = B , or the order has a *RoutingInst* = P . An Open position cannot trade with an Open position for series limited to Closing Only transactions, even if the inbound IOC from the aggressing market maker is sent with that combination of tags.
FloorTradeTime	118	8	Date Time	Trade time
ContraTrader	126	4	Alphanumeric	Displays the EFID (*ClearingFirm*) of the contra side firm on all internally matched executions.
Reserved	130	16	Reserved	Reserved

Table 60. *Add Floor Trade Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	BA BA	Start of message bytes.
MessageLength	90 00	144 bytes
MessageType	5C	**Add Floor Trade**
MatchingUnit	00	Always 0 for inbound messages
SequenceNumber	64 00 00 00	Sequence number 100
ClOrdID	41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00 00 00 00 00	ABC123
Symbol	30 30 36 69 70 41 00 00	006ipA
PutorCall	00	
StrikePrice	00 00 00 00 00 00 00 00	
MaturityDate	00 00 00 00	
MultilegReportingType	31	1=Single leg instrument
ComboOrder	4E	N=No
Account	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	
ClearingOptionalData	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	
ClearingAccount	41 42 43 00	ABC
CMTANumber	00 00 00 00	
FloorTraderAcronym	44 45 46	DEF
Side	31	1=Buy
OrderQty	64 00 00 00	100 contracts
Price	C8 32 00 00 00 00 00 00	1.30
TransactionTime	00 5C DB E2 27 12 B4 15	1,563,894,933,123,456,000

FIELD NAME	HEXADECIMAL	NOTES
OpenClose	4F	O=Open
FloorTradeTime	68 23 4A 8B 27 12 B4 15	1,563,894,931,654,321,000
ContraTrader	57 58 59	WXY
Reserved	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	Reserved

Floor Trade Confirmation Message Fields (C1 Only)

TPHs are encouraged to use **`Floor Trade Confirmation`** messages to respond to **`Floor Trade Notification`** messages if they agree with the terms of the trade. Alternatively, an **`Add Floor Trade`** message may be used to enter their version of the floor trade. If the floor trade notification is not known to the user (for example, if the TPH is misidentified as a contra party to a floor trade), the message can be disregarded; a response is not required.

The Exchange will respond to a Floor Trade Confirmation message with an Order Executed message or Floor Trade Confirmation Rejected message.

Table 61. Floor Trade Confirmation Message Fields (C1 Only)

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x5B`
MatchingUnit	5	1	Binary	Always 0 for inbound (Member to Cboe) messages.
SequenceNumber	6	4	Binary	The sequence number for this message.
ClOrdID	10	20	Text	Corresponds to *ClOrdID* (11) in Cboe FIX. Day-unique ID chosen by the client. Characters in the ASCII range 33-126 are allowed, except for comma, semicolon, pipe, the 'at' symbol and double quotes. If the *ClOrdID* matches a live order, the order will be rejected as duplicate. **Note: Cboe only enforces uniqueness of *ClOrdID* values among currently live orders.** **However, we strongly recommend that you keep your *ClOrdID* values day-unique.**
ExecID	30	8	Binary	Corresponds to *ExecID* (17) in Cboe FIX. Execution ID. Unique across all matching units on a given day. Note: *ExecIDs* will be represented on ODROP and FIXDROP ports as nine character, base 36 ASCII. Leading zeros should be added if the converted base 36 value is shorter than nine characters. Table 62. Example Conversion DECIMAL / BASE 36 28294005440239 / A1234B567 76335905726621 / R248BC23H 728557228187 / 09AP05V2Z
Symbol	38	8	Alphanumeric	Corresponds to *Symbol* (55) in Cboe FIX. Entire Cboe format symbol or OSI symbol if using long format.
PutOrCall	46	1	Alphanumeric	Corresponds to *PutOrCall* (201) in Cboe FIX. 0 = Put 1 = Call

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
				NULL (0x00) filled if using Cboe format symbol.
StrikePrice	47	8	Binary Price	Corresponds to *StrikePrice* (202) in Cboe FIX. Strike Price for option, 0 - 999,999.99 NULL (0x00) filled if using Cboe format symbol.
MaturityDate	55	4	Date	Corresponds to *MaturityMonth* (200) and *MaturityDay* (205) in Cboe FIX. NULL (0x00) filled if using Cboe format symbol.
TransactionTime	59	8	DateTime	Report send time (for audit).
PriceType	67	1	Alphanumeric	Corresponds to *PriceType* (423) in Cboe FIX. 1 = Traded as percentage 2 = (Default) Price per unit (contract)
Reserved	68	15	Reserved	Reserved

Table 63. *Floor Trade Confirmation Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	BA BA	Start of message bytes.
MessageLength	51 00	81 bytes
MessageType	5B	**Floor Trade Confirmation**
MatchingUnit	00	Always 0 for inbound messages
SequenceNumber	64 00 00 00	Sequence number 100
ClOrdID	41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00 00 00 00 00	ABC123
ExecID	01 F0 B7 D9 71 21 00 00	D19800001 (base 36)
Symbol	30 30 36 69 70 41 00 00	006ipA
PutorCall	00	
StrikePrice	00 00 00 00 00 00 00 00	
MaturityDate	00 00 00 00	
TransctionTime	00 5C DB E2 27 12 B4 15	1,563,894,933,123,456,000
PriceType	32	2 = Price per unit
Reserved	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	Reserved

Delete Floor Trade (C1 Only)

TPHs having in-person Market Makers on the Cboe trading floor can request the deletion of their version of a floor trade via the Delete Floor Trade message type. The trade report to delete will be identified by the *ExecId*. The TPH entering the floor trade deletion message must be on the specified side of the identified trade. The Exchange will respond to a **`Delete Floor Trade`** message with a **`Delete Floor Trade Reject`** message or with a **`Delete Floor Trade Acknowledgement`** message if the floor trade report is successfully deleted.

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x5D`
MatchingUnit	5	1	Binary	Always 0 for inbound (Member to Cboe) messages.
SequenceNumber	6	4	Binary	The sequence number for this message.
ClOrdID	10	20	Text	Corresponds to *ClOrdID* (11) in Cboe FIX. Day-unique ID chosen by the client. Characters in the ASCII range 33-126 are allowed, except for comma, semicolon, pipe, the 'at' symbol and double quotes If the *ClOrdID* matches a live order, the order will be rejected as duplicate. **Note: Cboe only enforces uniqueness of *ClOrdID* values among currently live orders.** **However, we strongly recommend that you keep your *ClOrdID* values day-unique.**
ExecID	30	8	Binary	Corresponds to *ExecID* (17) in Cboe FIX. Execution ID. Unique across all matching units on a given day. Note: *ExecIDs* will be represented on ODROP and FIXDROP ports as nine character, base 36 ASCII. Leading zeros should be added if the converted base 36 value is shorter than nine characters. Table 64. Example Conversion DECIMAL: 28294005440239 → BASE 36: A1234B567 DECIMAL: 76335905726621 → BASE 36: R248BC23H DECIMAL: 728557228187 → BASE 36: 09AP05V2Z
Symbol	38	8	Alphanumeric	Corresponds to *Symbol* (55) in Cboe FIX. Entire Cboe format symbol or OSI symbol if using long format.
PutOrCall	46	1	Alphanumeric	Corresponds to *PutOrCall* (201) in Cboe FIX. 0 = Put 1 = Call NULL (0x00) filled if using Cboe format symbol.
StrikePrice	47	8	Binary Price	Corresponds to *StrikePrice* (202) in Cboe FIX. Strike Price for option, 0 - 999,999.99 NULL (0x00) filled if using Cboe format symbol.

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
MaturityDate	55	4	Date	Corresponds to *MaturityMonth* (200) and *MaturityDay* (205) in Cboe FIX. NULL (0x00) filled if using Cboe format symbol.
Side	59	1	Alphanumeric	Corresponds to *Side* (54) in Cboe FIX. 1 = Buy 2 = Sell
Reserved	60	16	Reserved	Reserved

Table 65. *Delete Floor Trade Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	`BA BA`	Start of message bytes.
MessageLength	`4A 00`	74 bytes
MessageType	`5D`	**`Delete Floor Trade`**
MatchingUnit	`00`	Always 0 for inbound messages
SequenceNumber	`64 00 00 00`	Sequence number 100
ClOrdID	`41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00 00 00 00 00`	ABC123
ExecID	`01 F0 B7 D9 71 21 00 00`	D19800001 (base 36)
Symbol	`30 30 36 69 70 41 00 00`	006ipA
PutorCall	`00`	
StrikePrice	`00 00 00 00 00 00 00 00`	
MaturityDate	`00 00 00 00`	
Side	`31`	Buy
Reserved	`00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00`	Reserved

Cboe to Member

Order Acknowledgment Message Fields

`Order Acknowledgment` messages are sent in response to **`New Order`** and **`New Complex Order`** messages. The message corresponds to a FIX Execution Report with *ExecType* (150) = 0 (New).

Per the instructions given in a Return Bitfields Parameter Group on the **`Login Request`** (see Login Request Message Fields on page 48), optional fields may be appended to echo back information provided in the original **`New Order`** message. Fields which have been requested to be echoed back but which were not filled in will still be sent, but filled with binary zero (`0x00`).

Permitted return optional fields are described in Order Acknowledgment on page 180.

Table 66. Order Acknowledgment Message Fields

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x25`
MatchingUnit	5	1	Binary	The matching unit which created this message. Matching units in BOE correspond to matching units on Multicast PITCH.
SequenceNumber	6	4	Binary	The sequence number for this message. Distinct per matching unit.
TransactionTime	10	8	DateTime	The time the event occurred in the Cboe Matching Engine (not the time the message was sent).
ClOrdID	18	20	Text	Echoed back from the original order.
OrderID	38	8	Binary	Corresponds to *OrderID* (37) in Cboe FIX. Order identifier supplied by Cboe. This identifier corresponds to the identifiers used in Cboe market data products.
ReservedInternal	46	1	Binary	Reserved for Cboe internal use.
NumberOfReturnBitfields	47	1	Binary	Number of bitfields to follow.
ReturnBitfield[1]	48	1	Binary	Bitfield identifying fields to return.
...				
ReturnBitfield[n]		1	Binary	Last bitfield.
Optional fields. . .				

Table 67. *Order Acknowledgment Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	`BA BA`	Start of message bytes.
MessageLength	`4E 00`	78 bytes
MessageType	`25`	**`Order Acknowledgment`**
MatchingUnit	`03`	Matching Unit 3
SequenceNumber	`64 00 00 00`	Sequence number 100
TransactionTime	`E0 FA 20 F7 36 71 F8 11`	1,294,909,373,757,324,000

FIELD NAME	HEXADECIMAL	NOTES
ClOrdID	41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00 00 00 00 00	ABC123
OrderID	05 10 1E B7 5E 39 2F 02	171WC1000005 (base 36)
ReservedInternal	00	Ignore
NumberOfReturn Bitfields	03	Three bitfields to follow
ReturnBitfield1	00	No bitfields from byte 1
ReturnBitfield2	41	*Symbol, Capacity*
ReturnBitfield3	05	*Account, ClearingAccount*
Symbol	31 32 33 61 42 63 00 00	*123aBc*
Capacity	50	P = Principal
Account	41 42 43 00 00 00 00 00 00 00 00 00 00 00 00 00	ABC
ClearingAccount	00 00 00 00	

Table 68. *Minimal Order Acknowledgment Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	BA BA	Start of message bytes.
MessageLength	2E 00	46 bytes
MessageType	25	**`Order Acknowledgment`**
MatchingUnit	03	Matching Unit 3
SequenceNumber	64 00 00 00	Sequence number 100
TransactionTime	E0 FA 20 F7 36 71 F8 11	1,294,909,373,757,324,000
ClOrdID	41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00 00 00 00 00	ABC123
OrderID	05 10 1E B7 5E 39 2F 02	171WC1000005 (base 36)
ReservedInternal	00	Ignore
NumberOfReturn Bitfields	00	No bitfields to follow

Cross Order Acknowledgment Message Fields (C1 and EDGX Only)

`Cross Order Acknowledgment` messages are sent in response to **`New Order Cross`** and **`New Order Cross Multileg`** messages. The message corresponds to a FIX Execution Report with *ExecType* (150) = 0 (New). In FIX, multiple execution reports could be generated from one new cross order message.

Per the instructions given in a Return Bitfields Parameter Group on the **`Login Request`** message (see Login Request Message Fields on page 48), optional fields may be appended to echo back information provided in the original **`New Order Cross`** message. Fields which have been requested to be echoed back but which were not filled in will still be sent, but filled with binary zero (0x00).

In each repeating group, the *ClOrdID* and *OrderId* are always returned. Beyond that, the bits specified in the optional return bitfields parameter group control which fields are returned. Any fields that appear in the repeating groups will not appear in the optional fields that come after the repeating groups.

Permitted return optional fields are described in Cross Order Acknowledgment (C1 and EDGX only) on page 181.

Table 69. Cross Order Acknowledgment Message Fields (C1 and EDGX Only)

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x43`
MatchingUnit	5	1	Binary	The matching unit which created this message. Matching units in BOE correspond to matching units on Multicast PITCH.
SequenceNumber	6	4	Binary	The sequence number for this message. Distinct per matching unit.
TransactionTime	10	8	DateTime	The time the event occurred in the Cboe Matching Engine (not the time the message was sent).
CrossID	18	20	Text	Corresponds to *CrossID* (548) in Cboe FIX. Echoed back from the original order.
AuctionId	38	8	Binary	Corresponds to *AuctionId* (9370) in Cboe FIX. Auction order identifier supplied by Cboe. This identifier corresponds to the identifiers used in Cboe market data products.
ReservedInternal	46	1	Binary	Reserved for Cboe internal use.
NumberOfReturnBitfields	47	1	Binary	Number of bitfields to follow.
ReturnBitfield[1]	48	1	Binary	Bitfield identifying fields to return.
…				
ReturnBitfield[n]		1	Binary	Last bitfield.
GroupCnt		2	Binary	Number of order allocations represented by repeating groups included in this message.

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
Repeating Groupsof...				
ClOrdId		20	Text	Echoed back from the original order.
OrderId		8	Binary	OrderId assigned by the matching engine.
Side (Optional)		1	Alphanumeric	See List of Optional Fields on page 196.
AllocQty (Optional)		4	Binary	See List of Optional Fields on page 196.
Capacity (Optional)		1	Alpha	See List of Optional Fields on page 196.
OpenClose (Optional)		1	Alphanumeric	See List of Optional Fields on page 196.
GiveUpFirmID (Optional)		4	Alpha	See List of Optional Fields on page 196.
Account (Optional)		16	Text	See List of Optional Fields on page 196.
CMTANumber (Optional)		4	Binary	See List of Optional Fields on page 196.
ClearingAccount (Optional)		4	Text	See List of Optional Fields on page 196.
Optional fields. . .				Optional fields as set in the bitmap. Note, optional fields that occur in the repeating groups appear above, repeating per group, not within this block.

Table 70. *Cross Order Acknowledgment Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	BA BA	Start of message bytes.
MessageLength	91 00	145 bytes
MessageType	43	**Cross Order Acknowledgment**
MatchingUnit	02	Matching Unit 2
SequenceNumber	01 00 00 00	Sequence number 1
TransactionTime	E0 FA 20 F7 36 71 F8 11	1,294,909,373,757,324,000
CrossID	4E 5A 31 56 37 42 4A 5F 41 63 63 65 70 74 42 75 79 00 00 00	NZ1V7BJ_AcceptBuy
AuctionId	01 C0 91 A2 94 AB 78 04	2G4GYK000001 (base 36)
ReservedInternal	00	Ignore
NumberOfReturn Bitfields	02	Two bitfields to follow
ReturnBitfield1	00	No bitfields from byte 1
ReturnBitfield2	41	*Symbol, Capacity*
GroupCnt	03 00	Three repeating groups to follow
ClOrdID	4E 5A 31 56 37 47 4E 5F 61 67 65 6E 63 79 00 00 00 00 00 00	NZ1V7GN_agency
OrderID	02 C0 91 A2 94 AB 78 04	2G4GYK000002 (base 36)
Capacity	43	C = Customer
ClOrdID	4E 5A 31 56 37 4B 46 5F 63 6F 6E 74 72 61 31 00 00 00 00 00	NZ1V7KF_contra1
OrderID	03 C0 91 A2 94 AB 78 04	2G4GYK000003 (base 36)
Capacity	46	F = Firm

FIELD NAME	HEXADECIMAL	NOTES
ClOrdID	4E 5A 31 56 37 4E 48 5F 63 6F 6E 74 72 61 32 00 00 00 00 00	NZ1V7NH_contra2
OrderID	04 C0 91 A2 94 AB 78 04	2G4GYK000004 (base 36)
Capacity	46	F = Firm
Symbol	30 30 51 30 6B 41 00 00	00Q0kA

Quote Update Acknowledgment Message Fields

`Quote Update Acknowledgment` messages are sent in response to **`Quote Update`** and **`Complex Quote Update`** messages. The effect of each requested update will be found in this response. The ordering between request and response is preserved.

For quotes which may remove liquidity or which may post and cause additional Matching Engine action to be taken, such as the early termination of an in progress auction, *QuoteResult* values of `D` or `d` will be returned. In these cases, executions, cancellations, or modifications (as needed) will immediately follow as additional messages. PITCH messaging behavior may also change (e.g. Delete+Add rather than standard Order Modified) for these cases to ensure correct sequencing of events.

In some cases, a new *OrderID* will be assigned for an existing quote. There are currently two situations where this occurs, but others may be added in the future:

1. An order which has received a large number of quote updates over its life will be assigned a new *OrderID* if receiving an update which would cause a loss in priority.
2. A quote update sent to modify the *PostingInstruction* will be assigned a new *OrderID* if there is an existing quote in that symbol on that port and for that EFID.

If using the *OrderID* in your system or to correlate with an *OrderID* on PITCH, always be prepared to receive an update on an **`Quote Update Acknowledgment`** message.

Table 71. Quote Update Acknowledgment Message Fields

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x51`
MatchingUnit	5	1	Binary	Unsequenced application message. *MatchingUnit* will be set to 0.Unsequenced application message. *MatchingUnit* will be set to 0.
SequenceNumber	6	4	Binary	Unsequenced application message. *SequenceNumber* will be set to 0.This will be an unsequenced application message. The sequence number will be set to 0.
TransactionTime	10	8	DateTime	The time the event occurred in the Cboe Matching Engine (not the time the message was sent).
QuoteUpdateID	18	16	Text	Echoed back from the **`Quote Update`** or **`Complex Quote Update`** request.
QuoteRejectReason	34	1	Text	Reason for rejection of an entire **`Quote Update`** message by the matching engine. If an error is indicated, then no quotes were entered or updated. *QuoteCnt* will be 0. <space> = Success See Quote Reason Codes on page 214 for a list of possible quote reject codes.

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
				Additional reasons may be added in the future without warning.
Reserved	35	17	Binary	Reserved for future expansion. Filled with 0.
QuoteCnt	52	1	Binary	Number of repeating groups included in this acknowledgment. Allowed values are 1-20.
Repeating Groups of ...				
OrderID		8	Binary	Order ID assigned by the matching engine. Corresponds to order ID on PITCH.
QuoteResult		1	Text	Result of the quote request. *Acceptance:* A = New Quote I = IOC Quote Accepted L = Modified; loss of priority R = Modified; retains priority (size reduction) N = No change, matches existing quote D = New Quote, but may remove liquidity d = Modified, but may remove liquidity V = No change, existing constituent series quote modify attempt after cutoff time (C1 only) *Cancellation:* U = User cancelled (zero size/price requested) *Rejection:* a = Admin O = Rejected, doesn't match a known quote P = Rejected, can't post f = Risk management firm or Custom Group ID level S = Rejected, symbol not found p = Rejected, invalid price r = Invalid Remove s = Risk management risk root level u = Rejected, other reason + = Risk management EFID Group level c = Rejected, closing only series v = Rejected, attempt to add constituent series quote after cutoff time (C1 only) Additional reasons indicating a reject may be added in the future with no notice.
SubLiquidityIndicator		1	Text	N = Normal S = NBBO Setter J = NBBO Joiner U = Market Turner (C1 only) <space> = No quote on book New values may be added in the future without warning.
Subreason		1	Text	Additional detail for a quote rejection. See Order and Quote Subreason Codes on page 215 for a list of possible subreasons.
Reserved		5	Binary	Reserved for future expansion. Filled with 0.

Table 72. *Quote Update Acknowledgment Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	BA BA	Start of message bytes.
MessageLength	53 00	83 bytes
MessageType	51	**Quote Update Acknowledgment**
MatchingUnit	03	Matching Unit 3
SequenceNumber	64 00 00 00	Sequence number 100
TransactionTime	E0 FA 20 F7 36 71 F8 11	1,294,909,373,757,324,000
QuoteUpdateID	41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00	ABC123
QuoteRejectReason	20	<space> = Success
Reserved	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	
QuoteCnt	02	Two Quotes
OrderID	05 10 1E B7 5E 39 2F 02	171WC1000005 (base 36)
QuoteResult	64	d = Modified, but may remove liquidity
SubLiquidityIndicator	4E	N = Normal
Subreason	20	<space> = None
Reserved	00 00 00 00 00	
OrderID	06 10 1E B7 5E 39 2F 02	171WC1000006 (base 36)
QuoteResult	4C	L = Modified, loss of priority
SubLiquidityIndicator	53	S = NBBO Setter
Subreason	20	<space> = None
Reserved	00 00 00 00 00	

Order Rejected Message Fields

`Order Rejected` messages are sent in response to a **`New Order`** message which must be rejected. This message corresponds to a FIX Execution Report with *ExecType* (150) = 8 (Rejected). **`Order Rejected`** messages are unsequenced.

Permitted return optional fields are described in Order Rejected on page 182.

Table 73. Order Rejected Message Fields

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x26`
MatchingUnit	5	1	Binary	Unsequenced application message. Matching unit will be set to 0.
SequenceNumber	6	4	Binary	Unsequenced application message. Sequence number will be set to 0.
TransactionTime	10	8	DateTime	The time the event occurred in the Cboe Matching Engine (not the time the message was sent).
ClOrdID	18	20	Text	Echoed back from the original order.
OrderRejectReason	38	1	Text	Reason for an order rejection. See Order Reason Codes on page 213 for a list of possible reasons.
Text	39	60	Text	Human readable text with more information about the reject reason.
ReservedInternal	99	1	Binary	Reserved for Cboe internal use.
NumberOfReturn Bitfields	100	1	Binary	Number of bitfields to follow.
ReturnBitfield[1]	101	1	Binary	Bitfield identifying fields to return.
...				
ReturnBitfield[n]		1	Binary	Last bitfield.
Optional fields. . .				

Table 74. *Order Rejected Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	`BA BA`	Start of message bytes
MessageLength	`85 00`	133 bytes
MessageType	`26`	**`Order Rejected`**
MatchingUnit	`0`	Unsequenced message, unit = 0
SequenceNumber	`00 00 00 00`	Unsequenced message, sequence = 0
TransactionTime	`E0 FA 20 F7 36 71 F8 11`	1,294,909,373,757,324,000
ClOrdID	`41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00 00 00 00 00`	ABC123
OrderRejectReason	`44`	D

FIELD NAME	HEXADECIMAL	NOTES
Text	`44 75 70 6C 69 63 61 74 65 20 43 6C 4F 72 64 49 44 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00`	Duplicate ClOrdID
ReservedInternal	`00`	Ignore
NumberOfReturn Bitfields	`04`	Four bitfields to follow
ReturnBitfield1	`00`	No bitfields from byte 1
ReturnBitfield2	`01`	*Symbol*
ReturnBitfield3	`06`	*ClearingFirm, ClearingAccount*
ReturnBitfield4	`0F`	*MaturityDate, StrikePrice, PutOrCall, OpenClose*
Symbol	`54 4E 44 4D 00 00 00 00`	TNDM
ClearingFirm	`54 45 53 54`	TEST
ClearingAccount	`00 00 00 00`	(empty)
MaturityDate	`EF DB 32 01`	2011-03-19
StrikePrice	`98 AB 02 00 00 00 00 00`	17.50
PutOrCall	`31`	1 = Call
OpenClose	`4F`	O = Open

Cross Order Rejected Message Fields (C1 and EDGX Only)

`Cross Order Rejected` messages are sent in response to a **`New Order Cross`** and **`New Order Cross Multileg`** messages which must be rejected. This message corresponds to a FIX Execution Report with *ExecType* (150) = 8 (Rejected). **`Order Rejected`** messages are unsequenced.

Permitted return optional fields are described in Cross Order Rejected (C1 and EDGX Only) on page 183.

Table 75. Cross Order Rejected Message Fields (C1 and EDGX Only)

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x44`
MatchingUnit	5	1	Binary	Unsequenced application message. Matching unit will be set to 0.
SequenceNumber	6	4	Binary	Unsequenced application message. Sequence number will be set to 0.
TransactionTime	10	8	DateTime	The time the event occurred in the Cboe Matching Engine (not the time the message was sent).
CrossID	18	20	Text	Echoed back from the original order.
OrderRejectReason	38	1	Text	Reason for an order rejection. See Order Reason Codes on page 213 for a list of possible reasons.
Text	39	60	Text	Human readable text with more information about the reject reason.
ReservedInternal	99	1	Binary	Reserved for Cboe internal use.
NumberOfReturn Bitfields	100	1	Binary	Number of bitfields to follow.
ReturnBitfield[1]	101	1	Binary	Bitfield identifying fields to return.
...				
ReturnBitfield[n]		1	Binary	Last bitfield.
Optional fields. . .				

Table 76. *Cross Order Rejected Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	`BA BA`	Start of message bytes
MessageLength	`59 00`	89 bytes
MessageType	`44`	**`Cross Order Rejected`**
MatchingUnit	`0`	Unsequenced message, unit = 0
SequenceNumber	`00 00 00 00`	Unsequenced message, sequence = 0
TransactionTime	`E0 FA 20 F7 36 71 F8 11`	1,294,909,373,757,324,000
ClOrdID	`41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00 00 00 00 00`	ABC123
OrderRejectReason	`41`	A

FIELD NAME	HEXADECIMAL	NOTES
Text	53 65 72 69 65 73 20 6E 6F 74 20 63 75 72 72 65 6E 74 6C 79 20 74 72 61 64 69 6E 67 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	Series not currently trading
ReservedInternal	00	Ignore
NumberOfReturn Bitfields	02	Two bitfields to follow
ReturnBitfield1	00	No bitfields from byte 1
ReturnBitfield2	01	*Symbol*
Symbol	30 30 51 30 6B 41 00 00	00Q0kA

Quote Update Rejected Message Fields

`Quote Update Rejected` messages are sent in response to **`Quote Update`** and **`Complex Quote Update`** messages when the entire quote block is rejected by the order handler. No existing quotes are updated or cancelled as a result.

Table 77. Quote Update Rejected Message Fields

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x58`
MatchingUnit	5	1	Binary	Unsequenced application message. Matching unit will be set to 0.
SequenceNumber	6	4	Binary	Unsequenced application message. Sequence number will be set to 0.
TransactionTime	10	8	DateTime	The time the event occurred in the Cboe Matching Engine (not the time the message was sent).
QuoteUpdateID	18	16	Text	Echoed back from the **`Quote Update`** or **`Complex Quote Update`** request.
QuoteRejectReason	34	1	Text	Reason for rejection of an entire **`Quote Update`** message. See Quote Reason Codes on page 214 for a list of possible quote reject codes. Additional reasons may be added in the future without warning.
Reserved	35	17	Binary	Reserved for future expansion. Filled with 0.

Table 78. *Quote Update Rejected Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	`BA BA`	Start of message bytes
MessageLength	`32 00`	50 bytes
MessageType	`58`	**`Quote Update Rejected`**
MatchingUnit	`0`	Unsequenced message, unit = 0
SequenceNumber	`00 00 00 00`	Unsequenced message, sequence = 0
TransactionTime	`E0 FA 20 F7 36 71 F8 11`	1,294,909,373,757,324,000
QuoteUpdateID	`41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00 00 00 00 00`	ABC123
QuoteRejectReason	`4D`	M = symbols not on same matching engine
Reserved	`00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00`	Reserved

Order Modified Message Fields

`Order Modified` messages are sent in response to a **`Modify Request`** message to indicate that the order has been successfully modified.

Note: You must opt-in to receiving *LeavesQty* in Order Modified messages. In some cases, the last message to be received on an order's lifecycle will be an **`Order Modified`** message. The way to know the order is no longer live is to inspect ***LeavesQty***. An example of this would be modification of an order whilst an execution is being generated, resulting in the order being reduced to zero outstanding quantity.

Permitted return optional fields are described in Order Modified on page 184.

Table 79. Order Modified Message Fields

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x27`
MatchingUnit	5	1	Binary	The Matching Unit which created this message. Matching units in BOE correspond to Matching Units on Multicast PITCH.
SequenceNumber	6	4	Binary	The sequence number for this message. Distinct per Matching Unit.
TransactionTime	10	8	DateTime	The time the event occurred in the Cboe Matching Engine (not the time the message was sent).
ClOrdID	18	20	Text	Client order ID. This is the *ClOrdID* from the Modify Order message.
OrderID	38	8	Binary	Corresponds to *OrderID* (37) in Cboe FIX. The unique *OrderID*. Modifications do *not* change the *OrderID*.
ReservedInternal	46	1	Binary	Reserved for Cboe internal use.
NumberOfReturn Bitfields	47	1	Binary	Number of bitfields to follow.
ReturnBitfield[1]	48	1	Binary	Bitfield identifying fields to return.
...				
ReturnBitfield[n]		1	Binary	Last bitfield.
Optional fields. . .				

Table 80. *Order Modified Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	`BA BA`	Start of message bytes.
MessageLength	`35 00`	63 bytes
MessageType	`27`	**`Order Modified`**
MatchingUnit	`03`	Matching Unit 3
SequenceNumber	`64 00 00 00`	Sequence number 100
TransactionTime	`E0 FA 20 F7 36 71 F8 11`	1,294,909,373,757,324,000
ClOrdID	`41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00 00 00 00 00`	ABC123

FIELD NAME	HEXADECIMAL	NOTES
OrderID	`05 10 1E B7 5E 39 2F 02`	171WC1000005 (base 36)
ReservedInternal	`00`	Ignore
NumberOfReturn Bitfields	`05`	Five bitfields to follow
ReturnBitfield1	`04`	*Price*
ReturnBitfield2	`00`	No fields from byte 2
ReturnBitfield3	`00`	No fields from byte 3
ReturnBitfield4	`00`	No fields from byte 4
ReturnBitfield5	`02`	*LeavesQty*
Price	`08 E2 01 00 00 00 00 00`	12.34
LeavesQty	`00 00 00 00`	0 (order done)

Order Restated Message Fields

`Order Restated` messages are sent to inform the Member that an order has been asynchronously modified

for some reason without an explicit **`Modify Order`** message request having been sent. Some example (non-exhaustive) reasons for **`Order Restated`** messages being sent:

- A reserve (iceberg) order has been reloaded (C1 and C2 Only).
- An order's remaining quantity was decremented because of a prevented wash trade.
- An order is represented on the Cboe Options Trading Floor (C1 Only).
- A routed order has returned to rest on the book after matching liquidity on another market.

Members should be prepared to accept and apply **`Order Restated`** messages for any reason. The return bitfields indicate the characteristics of the order which have changed. Optional fields will be present at the end of the message with the new values.

Note: You must opt-in to receiving *LeavesQty* in Order Restated messages. In some cases, the last message to be received on an order's lifecycle will be an **`Order Restated`** message. The way to know the order is no longer live is to inspect *LeavesQty*. An example of this would be restatement of an order in some cases due to *PreventMatch* being set to `d`.

Permitted return optional fields are described in Order Restated on page 185.

Table 81. Order Restated Message Fields

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x28`
MatchingUnit	5	1	Binary	The Matching Unit which created this message. Matching units in BOE correspond to Matching Units on Multicast PITCH.
SequenceNumber	6	4	Binary	The sequence number for this message. Distinct per Matching Unit.
TransactionTime	10	8	DateTime	The time the event occurred in the Cboe Matching Engine (not the time the message was sent).
ClOrdID	18	20	Text	The *ClOrdID* is the identifier from the open order.
OrderID	38	8	Binary	Corresponds to *OrderID* (37) in Cboe FIX. The unique *OrderID*. For informational purposes only. Restatements do not change the *OrderID*.
RestatementReason	46	1	Alphanumeric	The reason for this Order Restated message. `E` = Reduction of OrdQty due to Equity Leg Reject(C1 only) `F` = Represented on Floor(C1 only) `L` = Reload `P` = Price Sliding Reprice `Q`= Liquidity Updated `R` = Reroute

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
				S = Ship and Post (SWP) W= Wash f = Unsolicited Floor Action(C1 only) Cboe reserves the right to add new values as necessary without prior notice.
ReservedInternal	47	1	Binary	Reserved for Cboe internal use.
NumberOfReturn Bitfields	48	1	Binary	Number of bitfields to follow.
ReturnBitfield[1]	49	1	Binary	Bitfield identifying fields to return.
...				
ReturnBitfield[n]		1	Binary	Last bitfield.
Optional fields. . .				

Table 82. *Order Restated Message for a Reserve (Iceberg) Reload Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	`BA BA`	Start of message bytes.
MessageLength	`41 00`	65 bytes
MessageType	`28`	**`Order Restated`**
MatchingUnit	`03`	Matching Unit 3
SequenceNumber	`64 00 00 00`	Sequence number 100
TransactionTime	`E0 FA 20 F7 36 71 F8 11`	1,294,909,373,757,324,000
ClOrdID	`41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00 00 00 00 00`	ABC123
OrderID	`05 10 1E B7 5E 39 2F 02`	171WC1000005 (base 36)
RestatementReason	`4C`	L=Reload
ReservedInternal	`00`	Ignore
NumberOfReturn Bitfields	`06`	Six bitfields to follow
ReturnBitfield1	`00`	No fields from byte 1
ReturnBitfield2	`00`	No fields from byte 2
ReturnBitfield3	`00`	No fields from byte 3
ReturnBitfield4	`00`	No fields from byte 4
ReturnBitfield5	`02`	*LeavesQty*
ReturnBitfield6	`01`	*SecondaryOrderID*
LeavesQty	`64 00 00 00`	100 contracts
SecondaryOrderID	`0A 10 1E B7 5E 39 2F 02`	171WC100000A (base 36)

Quote Restated Message Fields

`Quote Restated` messages are sent to inform the Member that an order has been asynchronously modified for some reason by the Exchange. For quotes, this could happen if the MTP decrement method has been used by an inbound order against a resting quote. Additional reasons may be added in the future.

This message may be expanded in length in the future with new fields added to the end. To maintain forward compatibility, be prepared to receive a message longer than the documented length and to gracefully ignore those extra fields.

Table 83. Quote Restated Message Fields

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x52`
MatchingUnit	5	1	Binary	The Matching Unit which created this message. Matching units in BOE correspond to Matching Units on Multicast PITCH.
SequenceNumber	6	4	Binary	The sequence number for this message. Distinct per Matching Unit.
TransactionTime	10	8	DateTime	The time the event occurred in the Cboe Matching Engine (not the time the message was sent).
QuoteUpdateID	18	16	Text	Echoed back from the most recent **`Quote Update`** or **`Complex Quote Update`** request for this quote.
OrderID	34	8	Binary	Corresponds to *OrderID* (37) in Cboe FIX. The unique *OrderID*. For informational purposes only. Restatements do *not* change the *OrderID*.
LeavesQty	42	4	Binary	New quantity available for execution
WorkingPrice	46	8	Binary	New working price
Symbol	54	6	Alphanumeric	Cboe native identifier
Side	60	1	Alphanumeric	`1` = Buy `2` = Sell
RestatementReason	61	1	Alphanumeric	The reason for this Quote Restated message. `Q`= Liquidity `W`= Wash Cboe reserves the right to add new values as necessary without prior notice.

Table 84. *Quote Restated Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	`BA BA`	Start of message bytes.
MessageLength	`3C 00`	60 bytes
MessageType	`52`	**`Quote Restated`**
MatchingUnit	`03`	Matching Unit 3
SequenceNumber	`64 00 00 00`	Sequence number 100

FIELD NAME	HEXADECIMAL	NOTES
TransactTime	E0 FA 20 F7 36 71 F8 11	1,294,909,373,757,324,000
QuoteUpdateID	41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00	ABC123
OrderID	05 10 1E B7 5E 39 2F 02	171WC1000005 (base 36)
LeavesQty	14 00 00 00	20 contracts
WorkingPrice	AC 07 01 00 00 00 00 00	6.75
Symbol	30 30 34 63 53 73	004cSs
Side	31	1=Buy
RestatementReason	4C	L=Reload

User Modify Rejected Message Fields

`User Modify Rejected` messages are sent in response to a **`Modify Order`** message for an order which cannot be modified. **`User Modify Rejected`** messages are unsequenced.

This message corresponds to a FIX Execution Report with *MsgType* (35) = 9 (Order Cancel Reject) and *CxlRejResponseTo* (434) = 2 (Order Cancel/Replace Request).

Permitted return optional fields are described in User Modify Rejected on page 186.

Table 85. User Modify Rejected Message Fields

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x29`
MatchingUnit	5	1	Binary	Unsequenced application message. Matching unit will be set to 0.
SequenceNumber	6	4	Binary	Unsequenced application message. Sequence number will be set to 0.
TransactionTime	10	8	DateTime	The time the event occurred in the Cboe Matching Engine (not the time the message was sent).
ClOrdID	18	20	Text	The *ClOrdID* of the modify request which was rejected.
ModifyRejectReason	38	1	Text	Reason for a modify rejection. See Order Reason Codes on page 213 for a list of possible reasons.
Text	39	60	Text	Human readable text with more information about the reject reason.
ReservedInternal	99	1	Binary	Reserved for Cboe internal use.
NumberOfReturn Bitfields	100	1	Binary	Number of bitfields to follow.
ReturnBitfield[1]	101	1	Binary	Bitfield identifying fields to return.
...				
ReturnBitfield[n]		1	Binary	Last bitfield.
Optional fields. . .				

Table 86. *User Modify Rejected Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	`BA BA`	Start of message bytes.
MessageLength	`63 00`	99 bytes
MessageType	`29`	**`User Modify Rejected`**
MatchingUnit	`00`	Unsequenced Message, unit = 0
SequenceNumber	`00 00 00 00`	Unsequenced Message, sequence = 0
TransactionTime	`E0 FA 20 F7 36 71 F8 11`	1,294,909,373,757,324,000
ClOrdID	`41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00 00 00 00 00`	ABC123
ModifyRejectReason	`50`	Pending Fill

FIELD NAME	HEXADECIMAL	NOTES
Text	50 65 6E 64 69 6E 67 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	Pending
ReservedInternal	00	Ignore
NumberOfReturn	00	No optional fields
Bitfields		

Order Cancelled Message Fields

An order has been cancelled. Permitted return optional fields are described in Order Cancelled on page 187.

Table 87. Order Cancelled Message Fields

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x2A`
MatchingUnit	5	1	Binary	The matching unit which created this message. Matching units in BOE correspond to matching units on Multicast PITCH.
SequenceNumber	6	4	Binary	The sequence number for this message. Distinct per matching unit.
TransactionTime	10	8	DateTime	The time the event occurred in the Cboe Matching Engine (not the time the message was sent).
ClOrdID	18	20	Text	The order which was cancelled.
CancelReason	38	1	Text	Reason for the order cancellation. See Order Reason Codes on page 213 for a list of possible reasons.
ReservedInternal	39	1	Binary	Reserved for Cboe internal use.
NumberOfReturn Bitfields	40	1	Binary	Number of bitfields to follow.
ReturnBitfield[1]	41	1	Binary	Bitfield identifying fields to return.
...				
ReturnBitfield[n]		1	Binary	Last bitfield.
Optional fields. . .				

Table 88. *Order Cancelled Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	`BA BA`	Start of message bytes
MessageLength	`48 00`	72 bytes
MessageType	`2A`	**`Order Cancelled`**
MatchingUnit	`03`	Matching Unit 3
SequenceNumber	`64 00 00 00`	Sequence number 100
TransactionTime	`E0 FA 20 F7 36 71 F8 11`	1,294,909,373,757,324,000
ClOrdID	`41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00 00 00 00 00`	ABC123
CancelReason	`55`	U = User Requested
ReservedInternal	`00`	Ignore
NumberOfReturn Bitfields	`05`	Five bitfields to follow
ReturnBitfield1	`00`	No fields from byte 1
ReturnBitfield2	`00`	No fields from byte 2
ReturnBitfield3	`06`	*ClearingFirm*, *ClearingAccount*
ReturnBitfield4	`00`	No fields from byte 4
ReturnBitfield5	`01`	*OrigClOrdID*
ClearingFirm	`54 45 53 54`	TEST

FIELD NAME	HEXADECIMAL	NOTES
ClearingAccount	31 32 33 34	1234
OrigClOrdID	41 42 43 31 32 31 00 00 00 00 00 00 00 00 00 00 00 00 00 00	ABC121

Quote Cancelled Message Fields

A **`Quote Cancelled`** message will be sent to indicate an unsolicited cancellation of a quote entered with a **`Quote Update`** or **`Complex Quote Update`** message. An unsolicited cancellation is used, for example, when a resting quote is cancelled due to MTP with an inbound order or quotes are being cancelled due to a risk trip.

This message may be expanded in length in the future with new fields added to the end. To maintain forward compatibility, be prepared to receive a message longer than the documented length and to gracefully ignore those extra fields.

Table 89. Quote Cancelled Message Fields

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x53`
MatchingUnit	5	1	Binary	Unsequenced application message. *MatchingUnit* will be set to 0.
SequenceNumber	6	4	Binary	Unsequenced application message. *SequenceNumber* will be set to 0.
TransactionTime	10	8	DateTime	The time the event occurred in the Cboe Matching Engine (not the time the message was sent).
QuoteUpdateID	18	16	Text	Echoed back from the most recent **`Quote Update`** or **`Complex Quote Update`** request for this quote.
OrderID	34	8	Binary	Order ID assigned by the matching engine
Symbol	42	6	Alphanumeric	Cboe native identifier
Side	48	1	Alphanumeric	`1` = Buy `2` = Sell
CancelReason	49	1	Text	Reason for the quote cancellation. See Order Reason Codes on page 213 for a list of possible reasons.
CancelSubreason	50	1	Text	Additional detail for the quote cancellation. See Order and Quote Subreason Codes on page 215 for a list of possible reasons.

Table 90. *Quote Cancelled Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	`BA BA`	Start of message bytes.
MessageLength	`31 00`	49 bytes
MessageType	`53`	**`Quote Cancelled`**
MatchingUnit	`03`	Matching Unit 3
SequenceNumber	`64 00 00 00`	Sequence number 100
TransactionTime	`E0 FA 20 F7 36 71 F8 11`	1,294,909,373,757,324,000
QuoteUpdateID	`41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00`	ABC123
OrderID	`05 10 1E B7 5E 39 2F 02`	171WC1000005 (base 36)

FIELD NAME	HEXADECIMAL	NOTES
Symbol	`30 30 36 69 70 41`	006ipA
Side	`32`	2 = Sell
CancelReason	`55`	U = User
CancelSubreason	`42`	B = Purge/mass cancel symbol level by user

Cross Order Cancelled Message Fields (C1 and EDGX Only)

A **`New Order Cross`** message has been cancelled. Individual order allocations from the original **`New Order Cross`** and **`New Order Cross Multileg`** message will be echoed back in the repeating groups.

In each repeating group, the *ClOrdID* and *OrderId* are always returned. Beyond that, the bits specified in the optional return bitfields parameter group control which fields are returned. Any fields that appear in the repeating groups will not appear in the optional fields that come after the repeating groups.

Permitted return optional fields are described in Cross Order Cancelled (C1 and EDGX Only) on page 188.

Table 91. Cross Order Cancelled Message Fields (C1 and EDGX Only)

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x46`
MatchingUnit	5	1	Binary	The matching unit which created this message. Matching units in BOE correspond to matching units on Multicast PITCH.
SequenceNumber	6	4	Binary	The sequence number for this message. Distinct per matching unit.
TransactionTime	10	8	DateTime	The time the event occurred in the Cboe Matching Engine (not the time the message was sent).
CrossID	18	20	Text	The cross order which was cancelled.
CancelReason	38	1	Text	Reason for the order cancellation. See Order Reason Codes on page 213 for a list of possible reasons.
ReservedInternal	39	1	Binary	Reserved for Cboe internal use.
NumberOfReturn Bitfields	40	1	Binary	Number of bitfields to follow.
ReturnBitfield[1]	41	1	Binary	Bitfield identifying fields to return.
...				
ReturnBitfield[n]		1	Binary	Last bitfield.
GroupCnt		2	Binary	Number of order allocations represented by repeating groups included in this message.
Repeating Groupsof...				
ClOrdID		20	Text	Copied from original cross order.
OrderID		8	Binary	The order id of the cross order that was cancelled.
Side (Optional)		1	Alphanumeric	See List of Optional Fields on page 196.
AllocQty (Optional)		4	Binary	See List of Optional Fields on page 196.
Capacity (Optional)		1	Alpha	See List of Optional Fields on page 196.
OpenClose		1	Alphanumeric	See List of Optional Fields on page 196.

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
(Optional)				
GiveUpFirmID (Optional)		4	Alpha	See List of Optional Fields on page 196.
Account (Optional)		16	Text	See List of Optional Fields on page 196.
CMTANumber (Optional)		4	Binary	See List of Optional Fields on page 196.
ClearingAccount (Optional)		4	Text	See List of Optional Fields on page 196.
Optional fields. . .				Optional fields as set in the bitmap. Note, optional fields that occur in the repeating groups appear above, repeating per group, not within this block.

Table 92. *Cross Order Cancelled Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	BA BA	Start of message bytes
MessageLength	8A 00	138 bytes
MessageType	46	**Cross Order Cancelled**
MatchingUnit	02	Matching Unit 2
SequenceNumber	01 00 00 00	Sequence number 1
TransactionTime	E0 FA 20 F7 36 71 F8 11	1,294,909,373,757,324,000
ClOrdID	4E 5A 31 56 37 42 4A 5F 41 63 63 65 70 74 42 75 79 00 00 00	NZ1V7BJ_AcceptBuy
CancelReason	55	U = User Requested
ReservedInternal	00	Ignore
NumberOfReturn Bitfields	02	Two bitfields to follow
ReturnBitfield1	00	No fields from byte 1
ReturnBitfield2	41	*Symbol, Capacity*
GroupCnt	03 00	Two repeating groups to follow
ClOrdID	4E 5A 31 56 37 47 4E 5F 61 67 65 6E 63 79 00 00 00 00 00 00	NZ1V7GN_agency
OrderID	02 C0 91 A2 94 AB 78 04	2G4GYK000002 (base 36)
Capacity	43	C = Customer
ClOrdID	4E 5A 31 56 37 4B 46 5F 63 6F 6E 74 72 61 31 00 00 00 00 00	NZ1V7KF_contra1
OrderID	03 C0 91 A2 94 AB 78 04	2G4GYK000003 (base 36)
Capacity	46	F = Firm
ClOrderID	4E 5A 31 56 37 4E 48 5F 63 6F 6E 74 72 61 32 00 00 00 00 00	NZ1V7NH_contra2
OrderID	04 C0 91 A2 94 AB 78 04	2G4GYK000004 (base 36)
Capacity	46	F = Firm
Symbol	30 30 51 30 6B 41 00 00	00Q0kA

Cancel Rejected Message Fields

A **`Cancel Rejected`** message is sent in response to a **`Cancel Order`** message to indicate that the cancellation cannot occur. **`Cancel Rejected`** messages are unsequenced.

Permitted return bitfields are described in Cancel Rejected on page 189.

Table 93. Cancel Rejected Message Fields

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA.`
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x2B`
MatchingUnit	5	1	Binary	Unsequenced application message. Matching unit will be set to 0.
SequenceNumber	6	4	Binary	Unsequenced application message. Sequence number will be set to 0.
TransactionTime	10	8	DateTime	The time the event occurred in the Cboe Matching Engine (not the time the message was sent).
ClOrdID	18	20	Text	The order whose cancel was rejected.
CancelRejectReason	38	1	Text	Reason for the order cancellation. See Order Reason Codes on page 213 for a list of possible reasons.
Text	39	60	Text	Human readable text with more information about the reject reason.
ReservedInternal	99	1	Binary	Reserved for Cboe internal use.
NumberOfReturn Bitfields	100	1	Binary	Number of bitfields to follow.
ReturnBitfield[1]	101	1	Binary	Bitfield identifying fields to return.
. . .				
ReturnBitfield[n]		1	Binary	Last bitfield.
Optional fields. . .				

Table 94. *Cancel Rejected Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	`BA BA`	Start of message bytes
MessageLength	`63 00`	99 bytes
MessageType	`2B`	**`Cancel Rejected`**
MatchingUnit	`00`	Unsequenced Message, unit = 0
SequenceNumber	`00 00 00 00`	Unsequenced Message, sequence = 0
TransactionTime	`E0 FA 20 F7 36 71 F8 11`	1,294,909,373,757,324,000
ClOrdID	`41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00 00 00 00 00`	ABC123
CancelRejectReason	`4A`	J
Text	`54 4F 4F 20 4C 41 54 45 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00`	TOO LATE

FIELD NAME	HEXADECIMAL	NOTES
ReservedInternal	00	Ignore
NumberOfReturn	00	No optional fields
Bitfields		

Order Execution Message Fields

An **`Order Execution`** message is sent for each fill on an order.

Rather than returning a monetary value indicating the rebate or charge for an execution, the *FeeCode* is an indication of a fee classification corresponding to an item on the venue's fee schedule.

For executions involving complex orders (C1, C2, and EDGX only), an **`Order Execution`** message will be generated for the complex order, with *MultilegReportingType* = 3, followed by **`Order Execution`** messages for each leg, with *MultilegReportingType* = 2. You must opt-in to receiving this optional field on **`Order Execution`** messages at login in order to receive this field. If both sides of a complex/spread trade are on the same order entry session, Cboe does not guarantee that the leg executions will not be interleaved between sides.

The symbology used on executions for complex orders, including the legs, will **always** be Cboe symbology.

Permitted return bitfields are described in Order Execution on page 190.

Table 95. Order Execution Message Fields

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x2C`
MatchingUnit	5	1	Binary	The matching unit which created this message. Matching units in BOE correspond to matching units on Multicast PITCH.
SequenceNumber	6	4	Binary	The sequence number for this message. Distinct per matching unit.
TransactionTime	10	8	DateTime	The time the event occurred in the Cboe Matching Engine (not the time the message was sent).
ClOrdID	18	20	Text	Order receiving the execution.
ExecID	38	8	Binary	Corresponds to *ExecID* (17) in Cboe FIX. Execution ID. Unique across all matching units on a given day. Note: *ExecIDs* will be represented on ODROP and FIXDROP ports as nine character, base 36 ASCII. Leading zeros should be added if the converted base 36 value is shorter than nine characters. Table 96. Example Conversion DECIMAL: 28294005440239 → BASE 36: A1234B567 76335905726621 → R248BC23H 728557228187 → 09AP05V2Z
LastShares	46	4	Binary	Corresponds to *LastShares* (32) in Cboe FIX. Executed share quantity.
LastPx	50	8	Binary Price	Corresponds to *LastPx* (31) in Cboe FIX.

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
				Price of this fill. Note the use *of Binary Price* type to represent positive and negative prices, which can occur with complex instruments.
LeavesQty	58	4	Binary	Corresponds to *LeavesQty* (151) in Cboe FIX. Quantity still open for further execution. If zero, the order is complete.
BaseLiquidity Indicator	62	1	Alphanumeric	Indicates whether the trade added or removed liquidity. A = Added Liquidity R = Removed Liquidity X = Routed to Another Market C = Auction/Uncrossing
SubLiquidityIndicator	63	1	Alphanumeric	**Cboe may add additional values without notice. Members must gracefully ignore unknown values.** ASCII NUL (`0x00`) = No additional information S = Execution from order that set the NBBO B = Step Up Mechanism (C1 and EDGX Only) U = Market Turner (C1 Only) b = AIM (C1 and EDGX Only) Q = QCC (C1 and EDGX Only) s = SAM (C1 and EDGX Only) P = PCC (C1 Only) F = RFC (C1 Only)
ContraBroker	64	4	Alphanumeric	Corresponds to *ContraBroker* (375) in Cboe FIX. **Simple Instrument Fills** Internally matched simple executions will identify the OCC clearing number of the contra on the execution. This includes leg fill reports (*MultilegReportingType*=2) that are sent as a result of a complex trade. Executions matched on the C1 trading floor will contain a value of 'FBKR' for *ContraBroker* for the first reporter of a Broker to Broker floor trade otherwise, this will identify the OCC clearing number of the contra (C1 only). **Complex Package Fills** *ContraBroker* will be sent and populated on electronic, complex package fills (*MultilegReportingType*=3) when the contra side is also a complex order. When legging in to the simple books *ContraBroker* will be blank. *ContraBroker* will be blank on complex package fills (*MultilegReportingType*=3) executed on the Cboe Options trading floor (C1 only). **Routed Fills** All externally matched (routed, *BaseLiquidityIndicator* = X) executions will identify the away exchange with the following possible values. AMEX = Routed to NYSE American ARCA = Routed to NYSE Arca BATS = Routed to Cboe BZX Options BOX = Routed to BOX CBOE = Routed to Cboe Options

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
				CTWO = Routed to C2 Options EDGX = Routed to Cboe EDGX Options EMLD = Routed to MIAX Emerald GMNI = Routed to Nasdaq GEMX ISE = Routed to Nasdaq ISE MEMX = Routed to MEMX MERC = Routed to Nasdaq MRX MIAX = Routed to MIAX Options Exchange NOMX = Routed to Nasdaq NOBX = Routed to Nasdaq BX PERL = Routed to MIAX PEARL PHLX = Routed to Nasdaq PHLX SPHR = Routed to MIAX Sapphire
ReservedInternal	68	1	Binary	Reserved for Cboe internal use.
NumberOfReturn Bitfields	69	1	Binary	Number of bitfields to follow.
ReturnBitfield[1]	70	1	Binary	Bitfield identifying fields to return.
…				
ReturnBitfield[n]		1	Binary	Last bitfield.
Optional fields…				

Table 97. *Order Execution Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	BA BA	Start of message bytes
MessageLength	53 00	83 bytes
MessageType	2C	**Order Execution**
MatchingUnit	03	Matching Unit 3
SequenceNumber	64 00 00 00	Sequence number 100
TransactionTime	E0 FA 20 F7 36 71 F8 11	1,294,909,373,757,324,000
ClOrdID	41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00 00 00 00 00	ABC123
ExecID	01 F0 B7 D9 71 21 00 00	D19800001 (base 36)
LastShares	64 00 00 00	100 contracts
LastPx	08 E2 01 00 00 00 00 00	12.34
LeavesQty	14 00 00 00	20 contracts
BaseLiquidityIndicator	41	A = Added
SubLiquidityIndicator	00	(unset)
ContraBroker	42 41 54 53	BATS
ReservedInternal	00	Ignore
NumberOfReturn Bitfields	03	Three bitfields to follow
ReturnBitfield1	00	No bitfields from byte 1
ReturnBitfield2	00	No bitfields from byte 2
ReturnBitfield3	46	*ClearingFirm, ClearingAccount, OrderQty*
ClearingFirm	54 45 53 54	TEST
ClearingAccount	31 32 33 43	1234
OrderQty	78 00 00 00	120 contracts

Quote Execution Message Fields

A **`Quote Execution`** message is used to indicate an execution has occurred on a resting non-complex quote (i.e., quote introduced to the exchange using the **`Quote Update`** message).

This message may be expanded in length in the future with new fields added to the end. To maintain forward compatibility, be prepared to receive a message longer than the documented length and to gracefully ignore those extra fields.

Table 98. Quote Execution Message Fields

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x54`
MatchingUnit	5	1	Binary	The matching unit which created this message. Matching units in BOE correspond to matching units on Multicast PITCH.
SequenceNumber	6	4	Binary	The sequence number for this message. Distinct per matching unit.
TransactionTime	10	8	DateTime	The time the event occurred in the Cboe Matching Engine (not the time the message was sent).
QuoteUpdateID	18	16	Text	Echoed back from the most recent **`Quote Update`** request for this quote.
OrderID	34	8	Binary	Order ID assigned by the matching engine
ExecID	42	8	Binary	Corresponds to *ExecID* (17) in Cboe FIX. Execution ID. Unique across all matching units on a given day. Note: *ExecIDs* will be represented on FIXDROP ports as nine character, base 36 ASCII. Leading zeros should be added if the converted base 36 value is shorter than nine characters. Table 99. Example Conversion DECIMAL / BASE 36 28294005440239 / A1234B567 76335905726621 / R248BC23H 728557228187 / 09AP05V2Z
Symbol	50	6	Alphanumeric	Cboe native identifier
ClearingFirm	56	4	Alpha	Echoed back from the original quote
LastShares	60	4	Binary	Coresponds to *LastShares* (32) in Cboe FIX. Number of contracts being traded.
LastPx	64	8	Binary Price	Corresponds to *LastPx* (31) in Cboe FIX. Price of this fill.
LeavesQty	72	4	Binary	Corresponds to *LeavesQty* (151) in Cboe FIX. Quantity still open for further execution. If zero, the order is complete.
ContraTrader	76	4	Alphanumeric	Displays the EFID (*ClearingFirm*) of the contra side firm.

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
ContraCapacity	80	1	Alphanumeric	Capacity of the contra for this execution.
Side	81	1	Alphanumeric	`1` = Buy `2` = Sell
BaseLiquidityIndicator	82	1	Alpha	Indicates whether the trade added or removed liquidity. `A` = Added Liquidity `R` = Removed Liquidity `C` = Auction/Uncrossing
SubLiquidityIndicator	83	1	Alpha	**Cboe may add additional values without notice. Members must gracefully ignore unknown values.** ASCII NUL (`0x00`) = No additional information `S` = Execution from order that set the NBBO `B` = Step Up Mechanism (C1 and EDGX Only) `b` = AIM (C1 and EDGX Only) `Q` = QCC (C1 and EDGX Only) `s` = SAM (C1 and EDGX Only)
FeeCode	84	2	Alphanumeric	Corresponds to *FeeCode* (9882) in Cboe FIX.
MarketingFeeCode	86	2	Alphanumeric	Corresponds to *MarketingFeeCode* (5937) in Cboe FIX. EDGX Only. Will be blank on other Exchanges.

Table 100. *Quote Execution Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	`BA BA`	Start of message bytes.
MessageLength	`56 00`	86 bytes
MessageType	`54`	**`Quote Execution`**
MatchingUnit	`03`	Matching Unit 3
SequenceNumber	`64 00 00 00`	Sequence number 100
TransactionTime	`E0 FA 20 F7 36 71 F8 11`	1,294,909,373,757,324,000
QuoteUpdateID	`41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00`	ABC123
OrderID	`05 10 1E B7 5E 39 2F 02`	171WC1000005 (base 36)
ExecID	`01 F0 B7 D9 71 21 00 00`	D19800001 (base 36)
Symbol	`30 30 36 69 70 41`	006ipA
ClearingFirm	`41 42 43 44`	ABCD
LastShares	`64 00 00 00`	100 contracts
LastPx	`70 17 00 00 00 00 00 00`	0.60
LeavesQty	`00 00 00 00`	0 (order done)
ContraTrader	`41 42 43 44`	ABCD
ContraCapacity	`43`	`C` = Customer
Side	`31`	`1` = Buy
BaseLiquidity Indicator	`41`	`A` = Added
SubLiquidityIndicator	`4E`	`N` = Normal
FeeCode	`41 42`	AB
MarketingFeeCode	`58 59`	XY

Complex Quote Execution Message Fields (C1 Only)

A **`Complex Quote Execution`** message is used to indicate an execution has occurred on a resting complex quote (i.e., quote introduced to the exchange using the **`Complex Quote Update`** message).

The execution of a complex quote will produce multiple **`Complex Quote Execution`** messages. The first will be the package-level fill having *MultilegReportingType* = 3 (entire multi-leg instrument package) and the complex symbol in the *Symbol* field. This will be followed by the leg execution messages having the leg symbol in the *Symbol* field and *MultiLegReportingType* = 2 (individual leg of mutil-leg instrument) or (for the last fill of the execution) *MultiLegReportingType* = 4 (last individual leg of a multi-leg instrument).

This message may be expanded in length in the future with new fields added to the end. To maintain forward compatibility, be prepared to receive a message longer than the documented length and to gracefully ignore those extra fields.

Table 101. Complex Quote Execution Message Fields

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x87`
MatchingUnit	5	1	Binary	The matching unit which created this message. Matching units in BOE correspond to matching units on Multicast PITCH.
SequenceNumber	6	4	Binary	The sequence number for this message. Distinct per matching unit.
TransactionTime	10	8	DateTime	The time the event occurred in the Cboe Matching Engine (not the time the message was sent).
QuoteUpdateID	18	16	Text	Echoed back from the most recent **`Complex Quote Update`** request for this quote.
OrderID	34	8	Binary	Order ID assigned by the matching engine
ExecID	42	8	Binary	Corresponds to *ExecID* (17) in Cboe FIX. Execution ID. Unique across all matching units on a given day. Note: *ExecIDs* will be represented on FIXDROP ports as nine character, base 36 ASCII. Leading zeros should be added if the converted base 36 value is shorter than nine characters. Table 102. Example Conversion DECIMAL / BASE 36 28294005440239 / A1234B567 76335905726621 / R248BC23H 728557228187 / 09AP05V2Z

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
Symbol	50	6	Alphanumeric	Cboe native identifier
ClearingFirm	56	4	Alpha	Echoed back from the original quote
LastShares	60	4	Binary	Corresponds to *LastShares* (32) in Cboe FIX. Number of contracts being traded.
LastPx	64	8	Binary Price	Corresponds to *LastPx* (31) in Cboe FIX. Price of this fill.
LeavesQty	72	4	Binary	Corresponds to *LeavesQty* (151) in Cboe FIX. Quantity still open for further execution. If zero, the order is complete.
ContraTrader	76	4	Alphanumeric	Displays the EFID (*ClearingFirm*) of the contra side firm.
ContraCapacity	80	1	Alphanumeric	Capacity of the contra for this execution.
Side	81	1	Alphanumeric	`1` = Buy `2` = Sell
BaseLiquidityIndicator	82	1	Alpha	Indicates whether the trade added or removed liquidity. `A` = Added Liquidity `R` = Removed Liquidity `C` = Auction/Uncrossing
SubLiquidityIndicator	83	1	Alpha	**Cboe may add additional values without notice. Members must gracefully ignore unknown values.** ASCII NUL (`0x00`) = No additional information `b` = AIM `Q` = QCC `s` = SAM
FeeCode	84	2	Alphanumeric	Corresponds to *FeeCode* (9882) in Cboe FIX.
MarketingFeeCode	86	2	Alphanumeric	Corresponds to *MarketingFeeCode* (5937) in Cboe FIX. EDGX Only. Will be blank on other Exchanges.
MultilegReportingType	88	1	Alphanumeric	Corresponds to *MultilegReportingType*(442) in Cboe FIX. Indicates the type of **`Complex Order Execution`** message `2` = Individual leg of mutil-leg instrument `3` = Entire multi-leg instrument package. `4` = Last individual leg of a multi-leg instrument.
SecondaryExecID	89	8	Binary	If *SecondaryExecID* is the same as *ExecID*, the fill represents a complex execution for which the associated single leg fills will follow. The value of *SecondaryExecID* for single leg fills associated with a complex execution will contain the *ExecID* value associated with the complex execution **`Complex Quote Execution Message`**.

Table 103. *Complex Quote Execution Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	`BA BA`	Start of message bytes.
MessageLength	`61 00`	97 bytes
MessageType	`87`	**`Complex Quote Execution`**
MatchingUnit	`03`	Matching Unit 3
SequenceNumber	`64 00 00 00`	Sequence number 100

FIELD NAME	HEXADECIMAL	NOTES
TransactionTime	E0 FA 20 F7 36 71 F8 11	1,294,909,373,757,324,000
QuoteUpdateID	41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00	ABC123
OrderID	05 10 1E B7 5E 39 2F 02	171WC1000005 (base 36)
ExecID	01 F0 B7 D9 71 21 00 00	D19800001 (base 36)
Symbol	54 30 36 69 70 41	T06ipA
ClearingFirm	41 42 43 44	ABCD
LastShares	64 00 00 00	100 contracts
LastPx	70 17 00 00 00 00 00 00	0.60
LeavesQty	00 00 00 00	0 (order done)
ContraTrader	41 42 43 44	ABCD
ContraCapacity	43	C=Customer
Side	31	1=Buy
BaseLiquidity Indicator	41	A=Added
SubLiquidityIndicator	4E	N=Normal
FeeCode	41 42	AB
MarketingFeeCode	0000	(blank)
MultilegReportingType	32	3=Entire multi-leg instrument package
SecondaryExecID	01 F0 B7 D9 71 21 00 00	*Same as ExecID*

Trade Cancel or Correct Message Fields

Used to relay a trade which has been cancelled (busted) or corrected (price or size change only). The *CorrectedPrice* and optional *CorrectedSize* fields will be set to 0 for cancelled trades and to the new trade price and/or size for corrected trades. **`Trade Cancel or Correct`** messages **can be sent for same day as well as previous day trades.**

Trade cancels or corrections to complex instruments will result in individual **`Trade Cancel or Correct`** messages being sent for each leg. No cancels or corrections will be sent for complex instruments.

Permitted return bitfields are described in Trade Cancel or Correct on page 191.

Table 104. Trade Cancel or Correct Message Fields

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x2D`
MatchingUnit	5	1	Binary	The matching unit which created this message. Matching units in BOE correspond to matching units on Multicast PITCH.
SequenceNumber	6	4	Binary	The sequence number for this message. Distinct per matching unit.
TransactionTime	10	8	DateTime	The time the event occurred in the Cboe Matching Engine (not the time the message was sent).
ClOrdID	18	20	Text	*ClOrdID* of the order whose fill is being cancelled or corrected.
OrderID	38	8	Binary	Corresponds to *OrderID* (37) in Cboe FIX. Order whose fill is being cancelled or corrected.
ExecRefID	46	8	Binary	Corresponds to *ExecRefID* (19) in Cboe FIX. Refers to the *ExecID* of the fill being cancelled or corrected.
Side	54	1	Alphanumeric	Side of the order.
BaseLiquidity Indicator	55	1	Alphanumeric	Indicates whether the trade added or removed liquidity. A = Added Liquidity R = Removed Liquidity X = Routed to Another Market C = Auction/Uncrossing
ClearingFirm	56	4	Alpha	Echoed back from the original order.
ClearingAccount	60	4	Text	Echoed back from the original order.
LastShares	64	4	Binary	Number of shares of the trade being cancelled.
LastPx	68	8	Binary Price	Price of the trade being cancelled. Note the use of *Binary Price* type to represent positive and negative prices, which can occur with complex instruments.
CorrectedPrice	76	8	Binary Price	For trade corrections, this is the new trade price. For trade breaks, this is set to 0.

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
OrigTime	84	8	DateTime	Corresponds to *OrigTime* (42). The date and time of the original trade, in GMT. The UTC date and time of the original trade are available in nanoseconds.
ReservedInternal	92	1	Binary	Reserved for Cboe internal use.
NumberOfReturnBitfields	93	1	Binary	Number of bitfields to follow.
ReturnBitfield[1]	94	1	Binary	Bitfield identifying fields to return.
...				
ReturnBitfield[n]		1	Binary	Last bitfield.
Optional fields. . .				

Table 105. *Trade Cancel or Correct Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	BA BA	Start of message bytes.
MessageLength	76 00	118 bytes
MessageType	2D	**Trade Cancel or Correct**
MatchingUnit	03	Matching Unit 3
SequenceNumber	64 00 00 00	Sequence number 100
TransactionTime	E0 FA 20 F7 36 71 F8 11	1,294,909,373,757,324,000
ClOrdID	41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00 00 00 00 00	ABC123
OrderID	05 10 1E B7 5E 39 2F 02	171WC1000005 (base 36)
ExecRefID	01 F0 B7 D9 71 21 00 00	D19800001 (base 36)
Side	31	Buy
BaseLiquidity Indicator	41	A=Added
ClearingFirm	54 45 53 54	TEST
ClearingAccount	00 00 00 00	(empty)
LastShares	64 00 00 00	100 contracts
LastPx	70 17 00 00 00 00 00 00	0.60
CorrectedPrice	00 00 00 00 00 00 00 00	0 (cancelled)
OrigTime	E0 BA 75 95 15 4C EB 11	1,291,209,373,757,324,000
ReservedInternal	00	Ignore
NumberOfReturn Bitfields	04	Four bitfields to follow
ReturnBitfield1	00	No fields from byte 1
ReturnBitfield2	01	*Symbol*
ReturnBitfield3	00	No fields from byte 3
ReturnBitfield4	17	*MaturityDate, StrikePrice, PutOrCall, OpenClose*
Symbol	30 30 51 30 6B 41 00 00	00Q0kA
MaturityDate	EF DB 32 01	2011-03-19
StrikePrice	98 AB 02 00 00 00 00 00	17.50
PutOrCall	31	1=Call
OpenClose	4F	O=Open

Purge Rejected Message Fields

A **Purge Rejected** message is sent in response to a **Purge Orders** message to indicate that the mass cancellation cannot occur. **Purge Rejected** messages are unsequenced.

Permitted return bitfields are described in Purge Rejected on page 192.

Table 106. Purge Rejected Message Fields

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x48`
MatchingUnit	5	1	Binary	Unsequenced application message. Matching unit will be set to 0.
SequenceNumber	6	4	Binary	Unsequenced application message. Sequence number will be set to 0.
TransactionTime	10	8	DateTime	The time the event occurred in the Cboe Matching Engine (not the time the message was sent).
PurgeRejectReason	18	1	Text	Reason for a purge rejection. See Order Reason Codes on page 213 for a list of possible reasons.
Text	19	60	Text	Human readable text with more information about the reject reason.
ReservedInternal	79	1	Binary	Reserved for Cboe internal use.
NumberOfReturnBitfields	80	1	Binary	Number of bitfields to follow.
ReturnBitfield$_1$	81	1	Binary	Bitfield identifying fields to return.
...				
ReturnBitfield$_n$		1	Binary	Last bitfield.
Optional fields. . .				

Table 107. *Purge Rejected Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	`BA BA`	Start of message bytes.
MessageLength	`72 00`	114 bytes
MessageType	`48`	**Purge Rejected**
MatchingUnit	`00`	Unsequenced Message, unit = 0
SequenceNumber	`00 00 00 00`	Unsequenced Message, sequence = 0
TransactionTime	`E0 FA 20 F7 36 71 F8 11`	1,294,909,373,757,324,000
PurgeRejectReason	`41`	A

Text	`41 44 4D 49 4E 00 00 00 00 00 00`
	`00 00 00 00 00 00 00 00 00 00 00`
	`00 00 00 00 00 00 00 00 00 00 00`
	`00 00 00 00 00 00 00 00 00 00 00`
	`00 00 00 00 00 00 00 00 00 00 00`
	`00 00 00 00 00`
		ADMIN

ReservedInternal	`00`	Ignore
NumberOfReturn Bitfields	`0F`	15 bitfields to follow

FIELD NAME	HEXADECIMAL	NOTES
ReturnBitfield1	00	No fields from byte 1
ReturnBitfield2	00	No fields from byte 2
ReturnBitfield3	00	No fields from byte 3
ReturnBitfield4	00	No fields from byte 4
ReturnBitfield5	00	No fields from byte 5
ReturnBitfield6	00	No fields from byte 6
ReturnBitfield7	00	No fields from byte 7
ReturnBitfield8	00	No fields from byte 8
ReturnBitfield9	00	No fields from byte 9
ReturnBitfield10	00	No fields from byte 10
ReturnBitfield11	00	No fields from byte 11
ReturnBitfield12	00	No fields from byte 12
ReturnBitfield13	00	No fields from byte 13
ReturnBitfield14	00	No fields from byte 14
ReturnBitfield15	08	*MassCancelID*
MassCancelID	54 45 53 54 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	TEST

Reset Risk Acknowledgment Message Fields

Response to a **`Reset Risk`** message request.

Table 108. Reset Risk Acknowledgment Message Fields

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA.`
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x57`
MatchingUnit	5	1	Binary	Unsequenced application message. Matching unit will be set to 0.
SequenceNumber	6	4	Binary	Unsequenced application message. Sequence number will be set to 0.
RiskStatusID	10	16	Text	Unique identifier for this Reset Risk request. Response message will have this corresponding identifier.
RiskResetResult	26	1	Text	<space> = Ignored; exceeds 1 reset per 100 milliseconds C = Rejected; exceeds Custom Group ID limit D = Rejected; automatic risk resets are disabled E = Rejected; empty *ResetRisk* field F = Rejected; exceeds firm reset limit I = Rejected; incorrect data center M = Rejected; invalid matching unit S = Rejected; exceeds risk root reset limit U = Rejected; invalid *RiskRoot* Y = Success c = Rejected; invalid EFID/*ClearingFirm* y = Rejected; in replay Additional reject values may be added in the future with no notice.

Table 109. *Risk Reset Acknowledgment Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	`BA BA`	Start of message bytes.
MessageLength	`19 00`	25 bytes
MessageType	`57`	**`Risk Reset Acknowledgement`**
MatchingUnit	`00`	Unsequenced Message, unit = 0
SequenceNumber	`00 00 00 00`	Unsequenced Message, sequence = 0
RiskStatusID	`41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00`	ABC123
RiskResetResult	`00`	Y = Success

Mass Cancel Acknowledgment Message Fields

A **`Mass Cancel Acknowledgment`** message is an unsequenced message sent when a **`Cancel Order`** or **`Purge Orders`** message requesting a mass cancellation has completed canceling all individual orders.

Multiple **`Mass Cancel Acknowledgment`** messages will be sent in response to Mass Cancel requests for multi-unit orders (*MassCancelInst*, 2nd character = I). An acknowledgment message will be sent for each matching unit followed by a final acknowledgment containing the total number of orders cancelled due to the purge request across all matching units. This final acknowledgment will have a *SourceMatchingUnit* value of 0.

Table 110. Mass Cancel Acknowledgment Message Fields

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA.`
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x36`
MatchingUnit	5	1	Binary	Unsequenced application message. Matching unit will be set to 0.
SequenceNumber	6	4	Binary	Unsequenced application. Message. Sequence number will be set to 0.
TransactionTime	10	8	DateTime	The time the event occurred in the Cboe Matching Engine (not the time the message was sent).
MassCancelID	18	20	Text	Copied from the *MassCancelID* passed on the original **`Cancel Order`** or **`Purge Orders`** messages. This field corresponds to *MassCancelID* (7695) in Cboe FIX.
CancelledOrder Count	38	4	Binary	Number of orders cancelled. This field corresponds to *CancelledOrderCount* (7696) in Cboe FIX.
ReservedInternal	42	1	Binary	Reserved for Cboe internal use.
SourceMatchingUnit	43	1	Binary	Matching unit number on which orders were cancelled by **`Purge Orders`**. The default value of this field is '0' unless *MassCancelInst*, 2nd character = 'I'. This field corresponds to *MatchingUnit* (25017) in Cboe FIX.

Table 111. *Mass Cancel Acknowledgment Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	`BA`	Start of message bytes.
MessageLength	`29 00`	41 bytes
MessageType	`36`	**`Mass Cancel Acknowledgment`**
MatchingUnit	`00`	Unsequenced Message, unit = 0
SequenceNumber	`00 00 00 00`	Unsequenced Message, sequence = 0
TransactionTime	`E0 FA 20 F7 36 71 F8 11`	1,294,909,373,757,324,000
MassCancelID	`41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00 00 00 00 00`	ABC123
CancelledOrderCount	`63 00 00 00`	99 orders were cancelled
ReservedInternal	`00`	Ignore

FIELD NAME	HEXADECIMAL	NOTES
SourceMatchingUnit	00	

Purge Notification Message Fields

A **`Purge Notification`** message is an unsequenced message sent when the Acknowledgement Style of a Purge Request is A. One **`Pure Notification`** message is sent for each matching unit that cancelled orders for that order entry port.

Permitted return bitfields are described in Purge Notification on page 193.

Table 112. Purge Notification Message Fields

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA.`
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x63`
MatchingUnit	5	1	Binary	Unsequenced application message. Matching unit will be set to 0.
SequenceNumber	6	4	Binary	Unsequenced application. Message. Sequence number will be set to 0.
TransactionTime	10	8	DateTime	The time that the mass cancel was completed in the matching engine.
MassCancelID	18	20	Text	Copied from the *MassCancelID* passed on the original **`Cancel Order`** or **`Purge Orders`**. This field corresponds to *MassCancelID* (7695) in Cboe FIX.
CancelledOrder Count	38	4	Binary	Number of orders cancelled from the specified matching unit that originated on this port. This field corresponds to *CancelledOrderCount* (7696) in Cboe FIX.
SourceMatchingUnit	42	1	Binary	The matching unit on which the orders were cancelled. This field corresponds to *MatchingUnit* (25017) in Cboe FIX.
ClearingFirm	43	4	Alpha	EFID used to filter the purge. If EFID was not used, this will be blank. This field corresponds to *OnBehalfOfCompId* (115) in Cboe FIX.
RiskRoot	47	6	Text	Copied from original Purge Orders, if present. This field corresponds to *Symbol* (55) in Cboe FIX.
MassCancelLockOut	53	1	Alpha	Reported back with the following possible values. `Y` = Lockout `N` = No Lockout This field corresponds to *Lockout* (7697) in Cboe FIX.
ReservedInternal	54	1	Binary	Reserved for Cboe internal use.
NumberOfReturnBitfields	55	1	Binary	Number of bitfields to follow.
ReturnBitfield	56	1	Binary	Bitfield identifying fields to return.
Optional fields. . .				

Table 113. *Purge Notification Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	`BA`	Start of message bytes.
MessageLength	`38 00`	56 bytes
MessageType	`63`	**`Purge Notification`**
MatchingUnit	`00`	Unsequenced Message, unit = 0

FIELD NAME	HEXADECIMAL	NOTES
SequenceNumber	00 00 00 00	Unsequenced Message, sequence = 0
TransactionTime	E0 FA 20 F7 36 71 F8 11	1,294,909,373,757,324,000
MassCancelID	41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00 00 00 00 00	ABC123
CancelledOrderCount	63 00 00 00	99 orders were cancelled
SourceMatchingUnit	03	Matching Unit 3
ClearingFirm	54 45 53 54	TEST
RiskRoot	4D 53 46 54 00 00	MSFT
MassCancelLockOut	31	Y = lockout
ReservedInternal	00	Ignore
NumberOfReturnBitfields	0	0

Complex Instrument Accepted Message Fields (C1, C2, and EDGX Only)

The **`Complex Instrument Accepted`** message is used to indicate acceptance of a complex strategy. The leg order sent back may differ from the originating request; ***RevisedLegs*** indicates if the leg order has been altered from the original request.

Permitted return bitfields are described in Complex Instrument Accepted (C1, C2 and EDGX Only) on page 194.

Table 114. Complex Instrument Accepted Message Fields (C1, C2, and EDGX Only)

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x4D`
MatchingUnit	5	1	Binary	The matching unit which created this message. Matching units in BOE correspond to matching units on Multicast PITCH.
SequenceNumber	6	4	Binary	The sequence number for this message. Distinct per matching unit.
TransactionTime	10	8	DateTime	The time the event occurred in the Cboe Matching Engine (not the time the message was sent).
ClOrdID	18	20	Text	Echoed back from the original request.
Symbol	38	8	Alphanumeric	The complex instrument id.
RevisedLegs	46	1	Alphanumeric	Indicates if the legs on the created complex strategy have been reordered from the original request. If the legs were reordered, the order of the Open-Close fields on a **`New Complex Order`** must be the order returned by the exchange, not the order from the original request. `1` = Legs were not reordered `2` = Legs were reordered
NoOfSecurities	47	4	Binary	Corresponds to *NoOfSecurities* (8641) in Cboe FIX. Indicates the number of securities created by the member in the trading session.
ReservedInternal	51	1	Binary	Reserved for Cboe internal use.
NumberOfReturnBitfields	52	1	Binary	Number of bitfields to follow.
ReturnBitfield[1]	53	1	Binary	Bitfield identifying fields to follow.
…				
ReturnBitfield[n]		1	Binary	Last bitfield.
NoLegs		1	Binary	Echoed back from the original request.

Repeating Group *ComplexLeg* must occur the number of times specified in *NoLegs*. Each field occurs in each group, in order as shown below. Optional fields occur only if corresponding bits in bitfields are set.

Table 115. Complex Instrument Accepted Message Fields (C1, C2, and EDGX Only)

LegSymbol	8	Alphanumeric	Corresponds to *LegSymbol* (600) in Cboe FIX. Entire Cboe format symbol or OSI Root.

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
				Must send *LegCFICode*, *LegMaturityDate*, and *LegStrikePrice* if using OSI format.
LegCFICode	6	Alphanumeric		Corresponds to *LegCFICode* (608) in Cboe FIX. CFI Code for leg. Required if *LegSymbol* is in OSI format. OP = Options Put OC = Options Call E = Equity
LegMaturityDate	4	Date		Corresponds to *LegMaturityDate* (611) in Cboe FIX. Required if *LegSymbol* is in OSI format.
LegStrikePrice	8	Binary Price		Corresponds to *LegStrikePrice* (612) in Cboe FIX. Option strike price. System maximum is 99,999,999. Must be non-negative. Required if *LegSymbol* is in OSI format.
LegRatioQty	4	Binary		Corresponds to *LegRatioQty* (623) in Cboe FIX. Ratio of number of contracts in this leg per order quantity. Accepted values must be between 1 and 999,999.
LegSide	1	Alphanumeric		Corresponds to *LegSide* (624) in Cboe FIX. 1 = Buy 2 = Sell
Optional fields…				Optional fields as set in the bitmap. Note, optional fields that occur in the repeating groups appear above, repeating per group, not within this block.

Table 116. *Complex Instrument Accepted Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	BA BA	Start of message bytes.
MessageLength	7C 00	124 bytes
MessageType	4D	**Complex Instrument Accepted**
MatchingUnit	03	Matching Unit 3
SequenceNumber	64 00 00 00	Sequence number 100
TransactionTime	E0 FA 20 F7 36 71 F8 11	1,294,909,373,757,324,000
ClOrdID	41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00 00 00 00 00	ABC123
Symbol	5A 4E 4B 38 46 43 00 00	ZNK8FC
RevisedLegs	31	Legs were not reordered
NoOfSecurities	04 00 00 00	Four complex strategies created by sender
ReservedInteral	00	Ignore
NumberOfReturnBitfields	0D	13 bitfields to follow
ReturnBitfield1	00	No fields from byte 1
ReturnBitfield2	00	No fields from byte 2
ReturnBitfield3	00	No fields from byte 3
ReturnBitfield4	00	No fields from byte 4
ReturnBitfield5	00	No fields from byte 5
ReturnBitfield6	00	No fields from byte 6

FIELD NAME	HEXADECIMAL	NOTES
ReturnBitfield7	00	No fields from byte 7
ReturnBitfield8	00	No fields from byte 8
ReturnBitfield9	00	No fields from byte 9
ReturnBitfield10	00	No fields from byte 10
ReturnBitfield11	00	No fields from byte 11
ReturnBitfield12	00	No fields from byte 12
ReturnBitfield13	06	*LegCFICode, LegMaturityDate, LegStrikePrice*
NoLegs	02	Two legs
LegSymbol	4D 53 46 54 00 00 00 00	MSFT
LegCFICode	4F 43 00 00 00 00	OC = Option Call
LegMaturityDate	EF DB 32 01	2011-03-19
LegStrikePrice	98 AB 02 00 00 00 00 00	17.50
LegRatioQty	02 00 00 00	Ratio of 2
LegSide	31	Buy
LegSymbol	4D 53 46 54 00 00 00 00	MSFT
LegCFICode	4F 50 00 00 00 00	OP = Option Put
LegMaturityDate	F6 DB 32 01	2011-03-26
LegStrikePrice	30 E6 02 00 00 00 00 00	19.00
LegRatioQty	01 00 00 00	Ratio of 1
LegSide	32	Sell

Table 117. *Minimal Complex Instrument Accepted Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	BA BA	Start of message bytes.
MessageLength	47 00	71 bytes
MessageType	4D	**`Complex Instrument Accepted`**
MatchingUnit	03	Matching Unit 3
SequenceNumber	64 00 00 00	Sequence number 100
TransactionTime	E0 FA 20 F7 36 71 F8 11	1,294,909,373,757,324,000
ClOrdID	41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00 00 00 00 00	ABC123
Symbol	5A 4E 4B 38 46 43 00 00	ZNK8FC
RevisedLegs	30	Legs accepted as sent
NoOfSecurities	04 00 00 00	Four complex strategies created by sender
NumberOfReturnBitfields	00	No bitfields follow
NoLegs	02	Two legs
LegSymbol	30 30 51 30 6B 41 00 00	00Q0kA
LegRatioQty	02 00 00 00	Ratio of 2
LegSide	31	Buy
LegSymbol	30 30 51 33 6B 43 00 00	00Q3kC
LegRatioQty	01 00 00 00	Ratio of 1
LegSide	32	Sell

Complex Instrument Rejected Message Fields (C1, C2, and EDGX Only)

The **`Complex Instrument Rejected`** message is used to indicate that a requested complex strategy has been rejected. **`Complex Instrument Rejected`** messages are unsequenced.

Permitted return bitfields are described in Complex Instrument Rejected (C1, C2, and EDGX Only) on page 195.

Table 118. Complex Instrument Rejected Message Fields (C1, C2, and EDGX Only)

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x4E`
MatchingUnit	5	1	Binary	Unsequenced application message. Matching unit will be set to 0.
SequenceNumber	6	4	Binary	Unsequenced application message. Sequence number will be set to 0.
TransactionTime	10	8	DateTime	The time the event occurred in the Cboe Matching Engine (not the time the message was sent).
ClOrdID	18	20	Text	Echoed back from the original request.
OrderRejectReason	38	1	Text	Reason for an order rejection. See Order Reason Codes on page 213 for a list of possible reasons.
Text	39	60	Text	Human readable text with more information about the reject reason.
NoOfSecurities	99	4	Binary	Indicates the number of securities created by the member in this trading session.
ReservedInternal	103	1	Binary	Reserved for Cboe internal use.
NumberOfReturn Bitfields	104	1	Binary	Number of bitfields to follow.
ReturnBitfield[1]	105	1	Binary	Bitfield identifying fields to return.
...				
ReturnBitfield[n]		1	Binary	Last bitfield.
Optional fields. . .				

Table 119. *Complex Instrument Rejected Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	`BA BA`	Start of message bytes
MessageLength	`67 00`	103 bytes
MessageType	`4E`	**`Complex Instrument Rejected`**
MatchingUnit	`0`	Unsequenced message, unit = 0
SequenceNumber	`00 00 00 00`	Unsequenced message, sequence = 0
TransactionTime	`E0 FA 20 F7 36 71 F8 11`	1,294,909,373,757,324,000
ClOrdID	`41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00 00 00 00 00`	ABC123
OrderRejectReason	`44`	D

FIELD NAME	HEXADECIMAL	NOTES
Text	44 75 70 6C 69 63 61 74 65 20 43 6C 4F 72 64 49 44 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	Duplicate ClOrdID
NoOfSecurities	04 00 00 00	Four complex strategies created by sender
ReservedInternal	00	Ignore
NumberOfReturn Bitfields	00	No bitfields follow

Floor Trade Notification Message Fields (C1 Only)

TPHs having in-person Market Makers on the Cboe trading floor may optionally receive **`Floor Trade Notification`** messages. TPHs must request the Enable Floor Trade Notifications port attribute be enabled for one or more floor acronyms in order to receive these messages. TPHs are encourage to use **`Floor Trade Confirmation`** messages to respond to **`Floor Trade Notification`** messages if they agree with the terms of the trade. Alternatively, an **`Add Floor Trade`** message may be used to enter their version of the floor trade. If the floor trade notification is not known to the Market Maker (for example, if the TPH is misidentified as a contra party to the floor trade), the message can be disregarded; a response is not required. TPHs configured to be automatically endorsed to floor trades will not receive a **`Floor Trade Notification`** message; only an **`Order Executed`** message.

Table 120. Floor Trade Notification Message Fields (C1 Only)

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x62`
MatchingUnit	5	1	Binary	Always 0 for inbound (Member to Cboe) messages.
SequenceNumber	6	4	Binary	The sequence number for this message.
ExecID	10	8	Binary	Corresponds to *ExecID* (17) in Cboe FIX. Execution ID. Unique across all matching units on a given day. Note: *ExecIDs* will be represented on ODROP and FIXDROP ports as nine character, base 36 ASCII. Leading zeros should be added if the converted base 36 value is shorter than nine characters. Table 121. Example Conversion DECIMAL / BASE 36 28294005440239 / A1234B567 76335905726621 / R248BC23H 728557228187 / 09AP05V2Z
Symbol	18	8	Alphanumeric	Corresponds to *Symbol* (55) in Cboe FIX. Entire Cboe format symbol or OSI symbol if using long format.
PutOrCall	26	1	Alphanumeric	Corresponds to *PutOrCall* (201) in Cboe FIX. `0` = Put `1` = Call NULL (0x00) filled if using Cboe format symbol.
StrikePrice	27	8	Binary Price	Corresponds to *StrikePrice* (202) in Cboe FIX. Strike Price for option, 0 - 999,999.99 NULL (0x00) filled if using Cboe format symbol.
MaturityDate	35	4	Date	Corresponds to *MaturityMonth* (200) and *MaturityDay* (205) in Cboe FIX.

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
				NULL (0x00) filled if using Cboe format symbol.
OrderQty	39	4	Binary	Corresponds to *OrderQty* (38) in Cboe FIX. System limit is 999,999 contracts.
Price	43	8	Binary Price	Corresponds to *Price* (44) in Cboe FIX. Execution price.
Side	51	1	Alphanumeric	Corresponds to *Side* (54) in Cboe FIX. 1 = Buy 2 = Sell
ContraTrader	52	4	Alpbanumeric	Displays the Contra Trader floor acronym.
FloorTraderAcronym	56	3	Alpha	Floor Acronym of participant submitting trade.
FloorTradeTime	59	8	DateTime	Trade time
TradeThroughAlertType	67	1	Alphanumeric	Corresponds to *TradeThroughAlertType* (21098) in Cboe FIX. Indication of a type of trade through. 0 = No trade through 1 = NBBO 2 = BBO (local best bid or offer) 3 = SBBO (market quote of complex derived by legs) 4 = Book trade through (trade through customer size) 5 = Due Dilligence trade through
PriceType	68	1	Alphanumeric	Corresponds to *PriceType* (423) in Cboe FIX. 2 = (Default) Price per unit (contract)
Reserved	69	15	Reserved	Reserved

Table 122. *Floor Trade Notification Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	BA BA	Start of message bytes.
MessageLength	52 00	82 bytes
MessageType	62	**Floor Trade Notification**
MatchingUnit	00	Always 0 for inbound messages
SequenceNumber	64 00 00 00	Sequence number 100
ExecID	01 F0 B7 D9 71 21 00 00	D19800001 (base 36)
Symbol	30 30 36 69 70 41 00 00	006ipA
PutorCall	00	
StrikePrice	00 00 00 00 00 00 00 00	
MaturityDate	00 00 00 00	
OrderQty	64 00 00 00	100
Price	C8 32 00 00 00 00 00 00	1.30
Side	31	1 = Buy
ContraTrader	41 41 41 41	AAAA
FloorTraderAcronym	42 42 42	BBB
FloorTradeTime	68 23 4A 8B 27 12 B4 15	1,563,894,931,654,321,000
TradeThroughAlertType	30	0 = No trade through
PriceType	32	2 = Price per unit
Reserved	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	Reserved

Add Floor Trade Rejected Message Fields (C1 Only)

The **`Add Floor Trade Rejected`** message is used to indicate that a requested **`Add Floor Trade`** message has been rejected. **`Add Floor Trade Rejected`** messages are unsequenced.

Table 123. Add Floor Trade Rejected Message Fields (C1 Only)

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x5F`
MatchingUnit	5	1	Binary	Always 0.
SequenceNumber	6	4	Binary	Unsequenced application message. Sequence number will be set to 0.
ClOrdID	10	20	Text	Echoed back from the original request.
Symbol	30	8	Alphanumeric	Corresponds to *Symbol* (55) in Cboe FIX. Entire Cboe format symbol or OSI symbol if using long format.
PutOrCall	38	1	Alphanumeric	Corresponds to *PutOrCall* (201) in Cboe FIX. `0` = Put `1` = Call NULL (0x00) filled if using Cboe format symbol.
StrikePrice	39	8	Binary Price	Corresponds to *StrikePrice* (202) in Cboe FIX. Strike Price for option, 0 - 999,999.99 NULL (0x00) filled if using Cboe format symbol.
MaturityDate	47	4	Date	Corresponds to *MaturityMonth* (200) and *MaturityDay* (205) in Cboe FIX. NULL (0x00) filled if using Cboe format symbol.
MultilegReportingType	51	1	Alphanumeric	Echoed back from the original request.
ComboOrder	52	1	Alpha	Echoed back from the original request.
Account	53	16	Text	Echoed back from the original request.
ClearingOptionalData	69	16	Text	Echoed back from the original request.
ClearingAccount	85	4	Text	Echoed back from the original request..
CMTANumber	89	4	Binary	Echoed back from the original request.
FloorTraderAcronym	93	3	Alpha	Echoed back from the original request.
Side	96	1	Alphanumeric	Echoed back from the original request.
OrderQty	97	4	Binary	Echoed back from the original request.
Price	101	8	Binary Price	Echoed back from the original request.
TransactionTime	109	8	DateTime	Echoed back from the original request.
OpenClose	117	1	Alphanumeric	Echoed back from the original request.
FloorTradeTime	118	8	DateTime	Echoed back from the original request.
ContraTrader	126	4	Alphanumeric	Echoed back from the original request.
Reserved	130	16	Reserved	Reserved
RejectText	146	60	Text	Human readable text with more information about the reject reason.

Table 124. *Add Floor Trade Rejected Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	BA BA	Start of message bytes.
MessageLength	CC 00	204 bytes
MessageType	5F	**Add Floor Trade Rejected**
MatchingUnit	00	Always 0 for inbound messages
SequenceNumber	00 00 00 00	Unsequenced message, sequence = 0
ClOrdID	41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00 00 00 00 00	ABC123
Symbol	30 30 36 69 70 41 00 00	006ipA
PutorCall	00	
StrikePrice	00 00 00 00 00 00 00 00	
MaturityDate	00 00 00 00	
MultilegReportingType	31	1 = Single leg instrument
ComboOrder	4E	N = No
Account	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	
ClearingOptionalData	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	
ClearingAccount	41 42 43 00	ABC
CMTANumber	00 00 00 00	
FloorTraderAcronym	41 41 41	AAA
Side	31	1 = Buy
OrderQty	64 00 00 00	100 contracts
Price	C8 32 00 00 00 00 00 00	1.30
TransactionTime	00 5C DB E2 27 12 B4 15	1,563,894,933,123,456,000
OpenClose	4F	O = Open
FloorTradeTime	68 23 4A 8B 27 12 B4 15	1,563,894,931,654,321,000
ContraTrader	57 58 59	WXY
Reserved	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	Reserved
RejectText	41 3A 20 46 6C 6F 6F 72 54 72 61 64 65 72 41 63 72 6F 6E 79 6D 3D 41 41 41 20 64 6F 65 73 20 6E 6F 74 20 68 61 76 65 20 61 20 66 6C 6F 6F 72 20 70 65 72 6D 69 74 00 00 00 00 00 00	A:FloorTraderAcronym=AAA does not have a floor permit

Floor Trade Confirmation Rejected Message Fields (C1 Only)

The **`Floor Trade Confirmation Rejected`** message is used to indicate that a requested **`Floor Trade Confirmation`** message has been rejected. **`Floor Trade Confirmation Rejected`** messages are unsequenced.

Table 125. Floor Trade Confirmation Rejected Message Fields (C1 Only)

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x5E`
MatchingUnit	5	1	Binary	Always 0.
SequenceNumber	6	4	Binary	Unsequenced application message. Sequence number will be set to 0.
ClOrd	10	20	Text	Echoed back from the original request.
ExecID	30	8	Binary	Echoed back from the original request.
Symbol	38	8	Alphanumeric	Corresponds to *Symbol* (55) in Cboe FIX. Entire Cboe format symbol or OSI symbol if using long format.
PutOrCall	46	1	Alphanumeric	Corresponds to *PutOrCall* (201) in Cboe FIX. `0` = Put `1` = Call NULL (0x00) filled if using Cboe format symbol.
StrikePrice	47	8	Binary Price	Corresponds to *StrikePrice* (202) in Cboe FIX. Strike Price for option, 0 - 999,999.99 NULL (0x00) filled if using Cboe format symbol.
MaturityDate	55	4	Date	Corresponds to *MaturityMonth* (200) and *MaturityDay* (205) in Cboe FIX. NULL (0x00) filled if using Cboe format symbol.
TransactionTime	59	8	DateTime	Echoed back from the original request.
PriceType	67	1	Alphanumeric	Corresponds to *PriceType* (423) in Cboe FIX. `2` = (Default) Price per unit (contract)
Reserved	68	15	Reserved	Reserved
RejectText	83	60	Text	Human readable text with more information about the reject reason.

Table 126. *Floor Trade Confirmation Rejected Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	`BA BA`	Start of message bytes.
MessageLength	`8D 00`	141 bytes
MessageType	`5E`	**`Floor Trade Confirmation Rejected`**
MatchingUnit	`00`	Always 0 for inbound messages
SequenceNumber	`00 00 00 00`	Unsequenced message, sequence = 0
ClOrdID	`41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00 00 00 00 00`	ABC123
ExecID	`00 00 00 00 00 00 00 00`	
Symbol	`30 30 36 69 70 41 00 00`	006ipA

FIELD NAME	HEXADECIMAL	NOTES
PutorCall	00	
StrikePrice	00 00 00 00 00 00 00 00	
MaturityDate	00 00 00 00	
TransactionTime	68 23 4A 8B 27 12 B4 15	1,563,894,931,654,321,000
PriceType	32	2 = Price per unit
Reserved	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	Reserved
RejectText	41 3A 20 45 78 65 63 49 64 3A 20 45 78 65 63 75 74 69 6F 6E 49 64 20 65 6D 70 74 79 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	A: ExecId: ExecutionId empty

Delete Floor Trade Rejected Message Fields (C1 Only)

The **`Delete Floor Trade Rejected`** message is used to indicate that a requested **`Delete Floor Trade`** message has been rejected. Delete **`Floor Trade Rejected`** messages are unsequenced.

Table 127. Delete Floor Trade Rejected Message Fields (C1 Only)

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x60`
MatchingUnit	5	1	Binary	Always 0.
SequenceNumber	6	4	Binary	Unsequenced application message. Sequence number will be set to 0.
ClOrdID	10	20	Text	Echoed back from the original request.
ExecID	30	8	Binary	Echoed back from the original request.
Symbol	38	8	Alphanumeric	Corresponds to *Symbol* (55) in Cboe FIX. Entire Cboe format symbol or OSI symbol if using long format.
PutOrCall	46	1	Alphanumeric	Corresponds to *PutOrCall* (201) in Cboe FIX. `0` = Put `1` = Call NULL (0x00) filled if using Cboe format symbol.
StrikePrice	47	8	Binary Price	Corresponds to *StrikePrice* (202) in Cboe FIX. Strike Price for option, 0 - 999,999.99 NULL (0x00) filled if using Cboe format symbol.
MaturityDate	55	4	Date	Corresponds to *MaturityMonth* (200) and *MaturityDay* (205) in Cboe FIX. NULL (0x00) filled if using Cboe format symbol.
Side	59	1	Alphanumeric	Echoed back from the original request.
Reserved	60	16	Reserved	Reserved
RejectText	76	60	Text	Human readable text with more information about the reject reason.

Table 128. *Delete Floor Trade Rejected Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	`BA BA`	Start of message bytes.
MessageLength	`86 00`	134 bytes
MessageType	`60`	**`Delete Floor Trade Rejected`**
MatchingUnit	`00`	Always 0
SequenceNumber	`00 00 00 00`	Unsequenced message, sequence = 0
ClOrdID	`41 42 43 31 32 33 00 00 00 00`	ABC123
ExecID	`01 F0 B7 D9 71 21 00 00`	D19800001 (base 36)
Symbol	`30 30 36 69 70 41 00 00`	006ipA
PutorCall	`00`	
StrikePrice	`00 00 00 00 00 00 00 00`	

FIELD NAME	HEXADECIMAL	NOTES
MaturityDate	`00 00 00 00`	
Side	`31`	1=Buy
Reserved	`00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00`	Reserved
RejectText	`55 6E 6B 6E 6F 77 6E 20 73 79 6D 62 6F 6C 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00`	Unknown symbol

Delete Floor Trade Acknowledgement Message Fields (C1 Only)

A **`Delete Floor Trade Acknowledgment`** message is an unsequenced message sent when a **`Delete Floor Trade`** message requesting has completed.

Table 129. Delete Floor Trade Acknowledgement Message Fields (C1 Only)

FIELD	OFFSET	LENGTH	DATA TYPE	DESCRIPTION
StartOfMessage	0	2	Binary	Must be `0xBA 0xBA`.
MessageLength	2	2	Binary	Number of bytes for the message, including this field but not including the two bytes for the *StartOfMessage* field.
MessageType	4	1	Binary	`0x61`
MatchingUnit	5	1	Binary	Always 0 for inbound (Member to Cboe) messages.
SequenceNumber	6	4	Binary	Unsequenced application message. Sequence number will be set to 0.
ClOrdID	10	20	Text	Echoed back from the original request.
ExecID	30	8	Binary	Corresponds to *ExecID* (17) in Cboe FIX. Execution ID. Unique across all matching units on a given day. Note: *ExecIDs* will be represented on ODROP and FIXDROP ports as nine character, base 36 ASCII. Leading zeros should be added if the converted base 36 value is shorter than nine characters. **Table 130. Example Conversion** DECIMAL / BASE 36 28294005440239 / A1234B567 76335905726621 / R248BC23H 728557228187 / 09AP05V2Z
Reserved	68	16	Reserved	Reserved

Table 131. *Delete Floor Trade Acknowledgement Message Example*

FIELD NAME	HEXADECIMAL	NOTES
StartOfMessage	`BA BA`	Start of message bytes.
MessageLength	`24 00`	82 bytes
MessageType	`61`	**`Delete Floor Trade Acknowledgement`**
MatchingUnit	`00`	Always 0
SequenceNumber	`00 00 00 00`	Unsequenced message, sequence = 0
ClOrdID	`41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00 00 00 00 00`	ABC123
ExecID	`01 F0 B7 D9 71 21 00 00`	D19800001 (base 36)
Reserved	`00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00`	Reserved

Input Bitfields Per Message

Table 132. Bitfield Table Legend

ENTRY	DESCRIPTION
R	Indicates that the field must be specified for a message
O	Indicates that the field can be specified for a message
-	Indicates that the field cannot be specified for a message
(Blank)	Indicates that the field is not used by Cboe Options and cannot be specified for a message

Input messages containing invalid fields (i.e., Blank) will be rejected. In the case of rejected input messages, the associated **`Reject`** message sent back to the customer will contain a *RejectReason* code non-optional field (See Order Reason Codes on page 213) and a *Text* non-optional field containing descriptive text.

New Order

BYTE	BIT	FIELD	
1	1	*ClearingFirm*	O
	2	*ClearingAccount*	O
	4	*Price*	O
	8	*ExecInst*	O
	16	*OrdType*	O
	32	*TimeInForce*	O
	64	*MinQty*	O
	128	*MaxFloor*	O
2	1	*Symbol*	R
	2	*SymbolSfx*	
	4	*Currency*	
	8	*IdSource*	
	16	*SecurityId*	
	32	*SecurityExchange*	
	64	*Capacity*	R
	128	*RoutingInst*	O
3	1	*Account*	O
	2	*DisplayIndicator*	O
	4	*(Reserved)*	
	8	*DiscretionAmount*	
	16	*PegDifference*	
	32	*PreventMatch*	O
	64	*LocateReqd*	
	128	*ExpireTime*	O
4	1	*MaturityDate*	O
	2	*StrikePrice*	O
	4	*PutOrCall*	O
	8	*RiskReset*	O
	16	*OpenClose*	O
	32	*CMTANumber*	O
	64	*TargetPartyID*	O
	128	*(Reserved)*	
5	1	*SessionEligibility*	O
	2	*AttributedQuote*	O
	4	*BookingType*	
	8	*ExtExecInst*	
	16	*ClientID*	
	32	*InvestorID*	
	64	*ExecutorID*	
	128	*OrderOrigination*	

BYTE	BIT	FIELD	
6	1	*DisplayRange*	O
	2	*StopPx*	O
	4	*RoutStrategy*	O
	8	*RouteDeliveryMethod*	O
	16	*ExDestination*	O
	32	*EchoText*	O
	64	*AuctionId*	O
	128	*RoutingFirmID*	O
7	1	*AlgorithmicIndicator*	
	2	*CustomGroupId*	O
	4	*ClientQualifiedRole*	
	8	*InvestorQualifiedRole*	
	16	*ExecutorQualifiedRole*	
	32	*CtiCode*	
	64	*ManualOrderIndicator*	
	128	*OperatorId*	
8	1	*(Reserved)*	
	2	*(Reserved)*	
	4	*ClearingOptionalData*	O
	8	*ClientIDAttr*	O
	16	*FrequentTraderID*	O
	32	*Compression*	O
	64	*FloorDestination*	O
	128	*FloorRoutingInst*	O
9	1	*OrderOrigin*	O
	2	*ORS*	O
	4	*PriceType*	O
	8	*(Reserved)*	
	16	*(Reserved)*	
	32	*(Reserved)*	
	64	*CrossTradeFlag*	
	128	*(Reserved)*	
10	1	*Held*	O
	2	*LocateBroker*	
	4	*(Reserved)*	
	8	*(Reserved)*	
	16	*(Reserved)*	
	32	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	

New Order Cross (C1 and EDGX Only)

BYTE	BIT	FIELD	
1	1	*Symbol*	R
	2	*MaturityDate*	O
	4	*StrikePrice*	O
	8	*PutOrCall*	O
	16	*ExecInst*	O
	32	*AttributedQuote*	O
	64	*TargetPartyID*	O
	128	*PreventMatch*	O
2	1	*AutoMatch*	O
	2	*AutoMatchPrice*	O
	4	*LastPriority*	O
	8	*Account*	O
	16	*CMTANumber*	O
	32	*ClearingAccount*	O
	64	*RoutingFirmID*	O
	128	*ClearingOptionalData*	O

BYTE	BIT	FIELD	
3	1	*ClientIDAttr*	O
	2	*EquityTradePrice*	O
	4	*EquityTradeSize*	O
	8	*EquityTradeVenue*	O
	16	*EquityTransactTime*	O
	32	*EquityBuyClearingFirm*	O
	64	*EquitySellClearingFirm*	O
	128	*SessionEligibility*	O
4	1	*Compression*	O
	2	*ORS*	O
	4	*FrequentTraderID*	O
	8	*(Reserved)*	
	16	*(Reserved)*	
	32	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	

New Complex Order (C1, C2, and EDGX Only)

BYTE	BIT	FIELD	
1	1	*ClearingFIrm*	O
	2	*ClearingAccount*	O
	4	*Price*	O
	8	*OrdType*	O
	16	*TimeInForce*	O
	32	*Symbol*	O
	64	*Capacity*	O
	128	*RoutingInst*	O
2	1	*Account*	O
	2	*PreventMatch*	O
	4	*ExpireTime*	O
	8	*CMTANumber*	O
	16	*TargetPartyID*	O
	32	*AttributedQuote*	O
	64	*EchoText*	O
	128	*AuctionId*	O
3	1	*RoutingFirmID*	O
	2	*DrillThruProtection*	O
	4	*RiskReset*	O
	8	*CustomGroupId*	O
	16	*LegSide*	
	32	*EquityPartyId*	O
	64	*(Reserved)*	
	128	*ClearingOptionalData*	O
4	1	*ClientIDAttr*	O
	2	*FrequentTraderID*	O
	4	*SessionEligibility*	O
	8	*MaxFloor*	O
	16	*DisplayRange*	O
	32	*ComboOrder*	O
	64	*Compression*	O
	128	*EquityExDestination*	O

BYTE	BIT	FIELD	
5	1	*EquityLegShortSell*	O
	2	*FloorDestination*	O
	4	*FloorRoutingInst*	O
	8	*MultiClassSprd*	O
	16	*OrderOrigin*	O
	32	*ORS*	O
	64	*PriceType*	O
	128	*StrategyID*	O
6	1	*(Reserved)*	
	2	*ExecInst*	O
	4	*TiedHedge*	O
	8	*(Reserved)*	
	16	*(Reserved)*	
	32	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	
7	1	*(Reserved)*	
	2	*(Reserved)*	
	4	*(Reserved)*	
	8	*(Reserved)*	
	16	*(Reserved)*	
	32	*(Reserved)*	
	64	*(Reserved)*	
	128	*Held*	O
8	1	*(Reserved)*	
	2	*CrossInitiator*	O
	4	*CrossOnBehalfOfID*	O
	8	*(Reserved)*	
	16	*(Reserved)*	
	32	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	

New Order Cross Multileg (C1 and EDGX Only)

BYTE	BIT	FIELD	
1	1	*Symbol*	R
	2	*(Reserved)*	
	4	*(Reserved)*	
	8	*(Reserved)*	
	16	*ExecInst*	O
	32	*AttributedQuote*	O
	64	*TargetPartyID*	O
	128	*PreventMatch*	O
2	1	*AutoMatch*	O
	2	*AutoMatchPrice*	O
	4	*LastPriority*	O
	8	*Account*	O
	16	*CMTANumber*	O
	32	*ClearingAccount*	O
	64	*RoutingFirmID*	O
	128	*ClearingOptionalData*	O
3	1	*ClientIDAttr*	O
	2	*EquityTradePrice*	O
	4	*EquityTradeSize*	O
	8	*EquityTradeVenue*	O
	16	*EquityTransactTime*	O
	32	*EquityBuyClearingFirm*	O
	64	*EquitySellClearingFirm*	O
	128	*SessionEligibility*	O

BYTE	BIT	FIELD	
4	1	*EquityPartyId*	O
	2	*EquityLegShortSell*	O
	4	*Reserved*	
	8	*Reserved*	
	16	*DrillThruProtection*	O
	32	*PriceType*	
	64	*EquityExDestination*	O
	128	*Compression*	O
5	1	*ORS*	O
	2	*FrequentTraderID*	O
	4	*CrossInitiator*	O
	8	*LegPositionEffectsExt*	O
	16	*CrossOnBehalfOfID*	O
	32	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	

Cancel Order

BYTE	BIT	FIELD	
1	1	*ClearingFirm*	O
	2	*MassCancelLockout*	
	4	*MassCancel*	
	8	*RiskRoot*	O
	16	*MassCancelID*	O
	32	*RoutingFirmID*	O
	64	*ManualOrderIndicator*	
	128	*OperatorId*	
2	1	*MassCancelInst*	O
	2	*Symbol*	
	4	*SymbolSfx*	
	8	*SendTime*	R
	16	*(Reserved)*	
	32	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	

ClearingFirm is required for service bureau ports. *SendTime* is required for all **`Cancel Order`** messages.

Modify Order

BYTE	BIT	FIELD	
1	1	*ClearingFirm*	O
	2	*(Reserved)*	
	4	*OrderQty*	R
	8	*Price*	R
	16	*OrdType*	O
	32	*CancelOrigOnReject*	O
	64	*ExecInst*	O
	128	*Side*	-
2	1	*MaxFloor*	O
	2	*StopPx*	O
	4	*RoutingFirmID*	O
	8	*ManualOrderIndicator*	
	16	*OperatorId*	
	32	*FrequentTraderID*	-
	64	*(Reserved)*	
	128	*LocateBroker*	

The *OrderQty* and *Price* fields in the optional field block must be present on all Modify Order message requests. Messages sent without both fields will be rejected. *Price* is optional for market orders.

ClearingFirm is required for service bureau ports.

Purge Orders

BYTE	BIT	FIELD	
1	1	*ClearingFirm*	O
	2	*MassCancelLockout*	
	4	*MassCancelInst*	O
	8	*RiskRoot*	O
	16	*MassCancelID*	O
	32	*RoutingFirmID*	O
	64	*ManualOrderIndicator*	
	128	*OperatorId*	
2	1	*Symbol*	
	2	*SymbolSfx*	
	4	*(Reserved)*	
	8	*(Reserved)*	
	16	*(Reserved)*	
	32	*(Reserved)*	
	64	*SendTime*	R
	128	*MatchingUnit*	O

ClearingFirm is required for service bureau ports. *SendTime* is required for all **`Purge Orders`** messages.

New Complex Instrument (C1, C2, and EDGX Only)

BYTE	BIT	FIELD	
1	1	*LegCFICode*	O
	2	*LegMaturityDate*	O
	4	*LegStrikePrice*	O
	8	*ClearingFirm*	O
	16	*(Reserved)*	
	32	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	

Return Bitfields Per Message

Table 133. Bitfield Table Legend

ENTRY	DESCRIPTION
R	Indicates that the field must be specified for a message
O	Indicates that the field can be specified for a message
-	Indicates that the field cannot be specified for a message
(Blank)	Indicates that the field is not used by Cboe Options and cannot be specified for a message

Input messages containing invalid fields (i.e., Blank) will be rejected. In the case of rejected input messages, the associated **`Reject`** message sent back to the customer will contain a *RejectReason* code non-optional field (See Order Reason Codes on page 213) and a *Text* non-optional field containing descriptive text.

Order Acknowledgment

BYTE	BIT	FIELD	
1	1	*Side*	0
	2	*PegDifference*	
	4	*Price*	0
	8	*ExecInst*	0
	16	*OrdType*	0
	32	*TimeInForce*	0
	64	*MinQty*	0
	128	*(Reserved)*	
2	1	*Symbol*	0
	2	*SymbolSfx*	
	4	*Currency*	
	8	*IdSource*	
	16	*SecurityId*	
	32	*SecurityExchange*	
	64	*Capacity*	0
	128	*ContraTrader*	-
3	1	*Account*	0
	2	*ClearingFirm*	0
	4	*ClearingAccount*	0
	8	*DisplayIndicator*	0
	16	*MaxFloor*	0
	32	*DiscretionAmount*	
	64	*OrderQty*	0
	128	*PreventMatch*	0
4	1	*MaturityDate*	0
	2	*StrikePrice*	0
	4	*PutOrCall*	0
	8	*OpenClose*	0
	16	*ClOrdIdBatch*	
	32	*CorrectedSize*	0
	64	*PartyID*	
	128	*AccessFee*	
5	1	*OrigClOrdID*	0
	2	*LeavesQty*	0
	4	*LastShares*	0
	8	*LastPx*	0
	16	*DisplayPrice*	0
	32	*WorkingPrice*	0
	64	*BaseLiquidityIndicator*	0
	128	*ExpireTime*	0
6	1	*SecondaryOrderID*	0
	2	*CCP*	
	4	*ContraCapacity*	0
	8	*AttributedQuote*	0
	16	*ExtExecInst*	
	32	*BulkOrderIds*	
	64	*BulkRejectReasons*	
	128	*PartyRole*	

BYTE	BIT	FIELD	
7	1	*SubLiquidityIndicator*	0
	2	*TradeReportTypeReturn*	
	4	*TradePublishIndReturn*	
	8	*Text*	
	16	*Bid*	
	32	*Offer*	
	64	*LargeSize*	
	128	*LastMkt*	
8	1	*FeeCode*	-
	2	*EchoText*	0
	4	*StopPx*	0
	8	*RoutingInst*	0
	16	*RoutStrategy*	0
	32	*RouteDeliveryMethod*	0
	64	*ExDestination*	0
	128	*TradeReportRefID*	
9	1	*MarketingFeeCode*	0
	2	*TargetPartyID*	0
	4	*AuctionId*	0
	8	*OrderCategory*	
	16	*LiquidityProvision*	
	32	*CmtaNumber*	0
	64	*CrossType*	-
	128	*CrossPrioritization*	-
10	1	*CrossId*	0
	2	*AllocQty*	0
	4	*GiveUpFirmID*	0
	8	*RoutingFirmID*	0
	16	*WaiverType*	
	32	*CrossExclusionIndicator*	0
	64	*PriceFormation*	
	128	*ClientQualifiedRole*	
11	1	*ClientID*	
	2	*InvestorID*	
	4	*ExecutorID*	
	8	*OrderOrigination*	
	16	*Algo*	
	32	*DeferralReason*	
	64	*InvestorQualifiedRole*	
	128	*ExecutorQualifiedRole*	
12	1	*CtiCode*	
	2	*ManualOrderIndicator*	
	4	*OperatorId*	
	8	*TradeDate*	-
	16	*ClearingPrice*	
	32	*ClearingSize*	
	64	*ClearingSymbol*	
	128	*ClearingOptionalData*	0

BYTE	BIT	FIELD	
13	1	*CumQty*	-
	2	*DayOrderQty*	-
	4	*DayCumQty*	-
	8	*AvgPx*	-
	16	*DayAvgPx*	-
	32	*PendingStatus*	
	64	*DrillThruProtection*	0
	128	*MultilegReportingType*	-
14	1	*LegCFICode*	-
	2	*LegMaturityDate*	-
	4	*LegStrikePrice*	-
	8	*RoomId*	
	16	*SecondaryExecId*	-
	32	*UserRequestID*	
	64	*SISUsername*	
	128	*UserStatus*	
15	1	*TradeReportingIndicator*	
	2	*EquityPartyId*	0
	4	*EquityNBBOProtect*	
	8	*MassCancelId*	-
	16	*TradePublishInd*	
	32	*ReportTime*	
	64	*LegSymbolSfx*	
	128	*ClientIDAttr*	0
16	1	*FrequentTraderID*	0
	2	*SessionEligibility*	0
	4	*ComboOrder*	0
	8	*Compression*	0
	16	*FloorDestination*	0
	32	*FloorRoutingInst*	0
	64	*MultiClassSprd*	0
	128	*OrderOrigin*	0
17	1	*PriceType*	0
	2	*StrategyID*	0
	4	*TradingSessionId*	
	8	*TradeThroughAlertType*	-
	16	*SenderLocationID*	-
	32	*FloorTraderAcronym*	-
	64	*ExecLegCFICode*	-
	128	*CustOrderHandlingInst*	
18	1	*(Reserved)*	
	2	*CrossInitiator*	0
	4	*Subreason*	-
	8	*CrossTradeFlag*	
	16	*(Reserved)*	
	32	*Held*	0
	64	*LocateBroker*	
	128	*(Reserved)*	
19	1	*FloorTradeTime*	-
	2	*EquityExDestination*	-
	4	*CrossOnBehalfOfID*	0
	8	*CmcSessions*	
	16	*IntraFirmTradeInd*	
	32	*CmcMatchQty*	
	64	*Reserved*	
	128	*Reserved*	

Cross Order Acknowledgment (C1 and EDGX only)

BYTE	BIT	FIELD	
1	1	*Side*	0
	2	*PegDifference*	
	4	*Price*	0
	8	*ExecInst*	0
	16	*OrdType*	-
	32	*TimeInForce*	-
	64	*MinQty*	-
	128	*(Reserved)*	
2	1	*Symbol*	0
	2	*SymbolSfx*	
	4	*Currency*	
	8	*IdSource*	
	16	*SecurityId*	
	32	*SecurityExchange*	
	64	*Capacity*	0
	128	*ContraTrader*	-
3	1	*Account*	0
	2	*ClearingFirm*	-
	4	*ClearingAccount*	0
	8	*DisplayIndicator*	-
	16	*MaxFloor*	-
	32	*DiscretionAmount*	
	64	*OrderQty*	0
	128	*PreventMatch*	0
4	1	*MaturityDate*	0
	2	*StrikePrice*	0
	4	*PutOrCall*	0
	8	*OpenClose*	0
	16	*ClOrdIdBatch*	
	32	*CorrectedSize*	-
	64	*PartyID*	
	128	*AccessFee*	
5	1	*OrigClOrdId*	-
	2	*LeavesQty*	-
	4	*LastShares*	-
	8	*LastPx*	-
	16	*DisplayPrice*	-
	32	*WorkingPrice*	-
	64	*BaseLiquidityIndicator*	-
	128	*ExpireTime*	-
6	1	*SecondaryOrderID*	-
	2	*CCP*	
	4	*ContraCapacity*	-
	8	*AttributedQuote*	0
	16	*ExtExecInst*	
	32	*BulkOrderIds*	
	64	*BulkRejectReasons*	
	128	*PartyRole*	

BYTE	BIT	FIELD	
7	1	*SubLiquidityIndicator*	-
	2	*TradeReportTypeReturn*	
	4	*TradePublishIndReturn*	
	8	*Text*	
	16	*Bid*	
	32	*Offer*	
	64	*LargeSize*	
	128	*LastMkt*	
8	1	*FeeCode*	-
	2	*EchoText*	-
	4	*StopPx*	-
	8	*RoutingInst*	-
	16	*RoutStrategy*	-
	32	*RouteDeliveryMethod*	-
	64	*ExDestination*	-
	128	*TradeReportRefID*	
9	1	*MarketingFeeCode*	-
	2	*TargetPartyID*	0
	4	*AuctionId*	0
	8	*OrderCategory*	
	16	*LiquidityProvision*	
	32	*CmtaNumber*	0
	64	*CrossType*	0
	128	*CrossPrioritization*	0
10	1	*CrossId*	0
	2	*AllocQty*	0
	4	*GiveUpFirmID*	0
	8	*RoutingFirmID*	0
	16	*WaiverType*	
	32	*CrossExclusionIndicator*	-
	64	*PriceFormation*	
	128	*ClientQualifiedRole*	
11	1	*ClientID*	
	2	*InvestorID*	
	4	*ExecutorID*	
	8	*OrderOrigination*	
	16	*Algo*	
	32	*DeferralReason*	
	64	*InvestorQualifiedRole*	
	128	*ExecutorQualifiedRole*	
12	1	*CtiCode*	
	2	*ManualOrderIndicator*	
	4	*OperatorId*	
	8	*TradeDate*	-
	16	*ClearingPrice*	
	32	*ClearingSize*	
	64	*ClearingSymbol*	
	128	*ClearingOptionalData*	0

BYTE	BIT	FIELD	
13	1	*CumQty*	-
	2	*DayOrderQty*	-
	4	*DayCumQty*	-
	8	*AvgPx*	-
	16	*DayAvgPx*	-
	32	*PendingStatus*	
	64	*DrillThruProtection*	-
	128	*MultilegReportingType*	-
14	1	*LegCFICode*	-
	2	*LegMaturityDate*	-
	4	*LegStrikePrice*	-
	8	*RoomId*	
	16	*SecondaryExecId*	-
	32	*UserRequestID*	
	64	*SISUsername*	
	128	*UserStatus*	
15	1	*TradeReportingIndicator*	
	2	*EquityPartyId*	0
	4	*EquityNBBOProtect*	
	8	*MassCancelId*	-
	16	*TradePublishInd*	
	32	*ReportTime*	
	64	*LegSymbolSfx*	
	128	*ClientIDAttr*	0
16	1	*FrequentTraderID*	0
	2	*SessionEligibility*	-
	4	*ComboOrder*	-
	8	*Compression*	0
	16	*FloorDestination*	-
	32	*FloorRoutingInst*	-
	64	*MultiClassSprd*	-
	128	*OrderOrigin*	-
17	1	*PriceType*	
	2	*StrategyID*	-
	4	*TradingSessionId*	
	8	*TradeThroughAlertType*	-
	16	*SenderLocationID*	-
	32	*FloorTraderAcronym*	-
	64	*ExecLegCFICode*	-
	128	*CustOrderHandlingInst*	
18	1	*(Reserved)*	
	2	*CrossInitiator*	0
	4	*Subreason*	-
	8	*CrossTradeFlag*	
	16	*(Reserved)*	
	32	*Held*	-
	64	*LocateBroker*	
	128	*(Reserved)*	
19	1	*FloorTradeTime*	-
	2	*EquityExDestination*	-
	4	*CrossOnBehalfOfID*	0
	8	*CmcSessions*	
	16	*IntraFirmTradeInd*	
	32	*CmcMatchQty*	
	64	*Reserved*	
	128	*Reserved*	

Order Rejected

BYTE	BIT	FIELD	
1	1	*Side*	O
	2	*PegDifference*	
	4	*Price*	O
	8	*ExecInst*	O
	16	*OrdType*	O
	32	*TimeInForce*	O
	64	*MinQty*	O
	128	*(Reserved)*	
2	1	*Symbol*	O
	2	*SymbolSfx*	
	4	*Currency*	
	8	*IdSource*	
	16	*SecurityId*	
	32	*SecurityExchange*	
	64	*Capacity*	O
	128	*ContraTrader*	-
3	1	*Account*	O
	2	*ClearingFirm*	O
	4	*ClearingAccount*	O
	8	*DisplayIndicator*	O
	16	*MaxFloor*	O
	32	*DiscretionAmount*	
	64	*OrderQty*	O
	128	*PreventMatch*	O
4	1	*MaturityDate*	O
	2	*StrikePrice*	O
	4	*PutOrCall*	O
	8	*OpenClose*	O
	16	*ClOrdIdBatch*	
	32	*CorrectedSize*	O
	64	*PartyID*	
	128	*AccessFee*	
5	1	*OrigClOrdID*	-
	2	*LeavesQty*	-
	4	*LastShares*	-
	8	*LastPx*	-
	16	*DisplayPrice*	-
	32	*WorkingPrice*	-
	64	*BaseLiquidityIndicator*	-
	128	*ExpireTime*	-
6	1	*SecondaryOrderID*	O
	2	*CCP*	
	4	*ContraCapacity*	O
	8	*AttributedQuote*	O
	16	*ExtExecInst*	
	32	*BulkOrderIds*	
	64	*BulkRejectReasons*	
	128	*PartyRole*	

BYTE	BIT	FIELD	
7	1	*SubLiquidityIndicator*	-
	2	*TradeReportTypeReturn*	
	4	*TradePublishIndReturn*	
	8	*Text*	
	16	*Bid*	
	32	*Offer*	
	64	*LargeSize*	
	128	*LastMkt*	
8	1	*FeeCode*	-
	2	*EchoText*	O
	4	*StopPx*	O
	8	*RoutingInst*	O
	16	*RoutStrategy*	O
	32	*RouteDeliveryMethod*	O
	64	*ExDestination*	O
	128	*TradeReportRefID*	
9	1	*MarketingFeeCode*	O
	2	*TargetPartyID*	O
	4	*AuctionId*	O
	8	*OrderCategory*	
	16	*LiquidityProvision*	
	32	*CmtaNumber*	O
	64	*CrossType*	-
	128	*CrossPrioritization*	-
10	1	*CrossId*	O
	2	*AllocQty*	O
	4	*GiveUpFirmID*	O
	8	*RoutingFirmID*	O
	16	*WaiverType*	
	32	*CrossExclusionIndicator*	O
	64	*PriceFormation*	
	128	*ClientQualifiedRole*	
11	1	*ClientID*	
	2	*InvestorID*	
	4	*ExecutorID*	
	8	*OrderOrigination*	
	16	*Algo*	
	32	*DeferralReason*	
	64	*InvestorQualifiedRole*	
	128	*ExecutorQualifiedRole*	
12	1	*CtiCode*	
	2	*ManualOrderIndicator*	
	4	*OperatorId*	
	8	*TradeDate*	-
	16	*ClearingPrice*	
	32	*ClearingSize*	
	64	*ClearingSymbol*	
	128	*ClearingOptionalData*	O

BYTE	BIT	FIELD	
13	1	*CumQty*	-
	2	*DayOrderQty*	-
	4	*DayCumQty*	-
	8	*AvgPx*	-
	16	*DayAvgPx*	-
	32	*PendingStatus*	
	64	*DrillThruProtection*	-
	128	*MultilegReportingType*	-
14	1	*LegCFICode*	-
	2	*LegMaturityDate*	-
	4	*LegStrikePrice*	-
	8	*RoomId*	
	16	*SecondaryExecId*	-
	32	*UserRequestID*	
	64	*SISUsername*	
	128	*UserStatus*	
15	1	*TradeReportingIndicator*	
	2	*EquityPartyId*	O
	4	*EquityNBBOProtect*	
	8	*MassCancelId*	-
	16	*TradePublishInd*	
	32	*ReportTime*	
	64	*LegSymbolSfx*	
	128	*ClientIDAttr*	O
16	1	*FrequentTraderID*	O
	2	*SessionEligibility*	O
	4	*ComboOrder*	O
	8	*Compression*	O
	16	*FloorDestination*	O
	32	*FloorRoutingInst*	O
	64	*MultiClassSprd*	O
	128	*OrderOrigin*	O
17	1	*PriceType*	O
	2	*StrategyID*	O
	4	*TradingSessionId*	
	8	*TradeThroughAlertType*	-
	16	*SenderLocationID*	-
	32	*FloorTraderAcronym*	-
	64	*ExecLegCFICode*	-
	128	*CustOrderHandlingInst*	
18	1	*(Reserved)*	
	2	*CrossInitiator*	O
	4	*Subreason*	O
	8	*CrossTradeFlag*	
	16	*(Reserved)*	
	32	*Held*	O
	64	*LocateBroker*	
	128	*(Reserved)*	
19	1	*FloorTradeTime*	-
	2	*EquityExDestination*	-
	4	*CrossOnBehalfOfID*	O
	8	*CmcSessions*	
	16	*IntraFirmTradeInd*	
	32	*CmcMatchQty*	
	64	*Reserved*	
	128	*Reserved*	

Cross Order Rejected (C1 and EDGX Only)

BYTE	BIT	FIELD	
1	1	*Side*	-
	2	*PegDifference*	
	4	*Price*	O
	8	*ExecInst*	O
	16	*OrdType*	-
	32	*TimeInForce*	-
	64	*MinQty*	-
	128	*(Reserved)*	
2	1	*Symbol*	O
	2	*SymbolSfx*	
	4	*Currency*	
	8	*IdSource*	
	16	*SecurityId*	
	32	*SecurityExchange*	
	64	*Capacity*	-
	128	*ContraTrader*	-
3	1	*Account*	-
	2	*ClearingFirm*	-
	4	*ClearingAccount*	-
	8	*DisplayIndicator*	-
	16	*MaxFloor*	-
	32	*DiscretionAmount*	
	64	*OrderQty*	O
	128	*PreventMatch*	O
4	1	*MaturityDate*	O
	2	*StrikePrice*	O
	4	*PutOrCall*	O
	8	*OpenClose*	-
	16	*ClOrdIdBatch*	
	32	*CorrectedSize*	-
	64	*PartyID*	
	128	*AccessFee*	
5	1	*OrigClOrdID*	-
	2	*LeavesQty*	-
	4	*LastShares*	-
	8	*LastPx*	-
	16	*DisplayPrice*	-
	32	*WorkingPrice*	-
	64	*BaseLiquidityIndicator*	-
	128	*ExpireTime*	-
6	1	*SecondaryOrderID*	-
	2	*CCP*	
	4	*ContraCapacity*	-
	8	*AttributedQuote*	O
	16	*ExtExecInst*	
	32	*BulkOrderIds*	
	64	*BulkRejectReasons*	
	128	*PartyRole*	

BYTE	BIT	FIELD	
7	1	*SubLiquidityIndicator*	-
	2	*TradeReportTypeReturn*	
	4	*TradePublishIndReturn*	
	8	*Text*	
	16	*Bid*	
	32	*Offer*	
	64	*LargeSize*	
	128	*LastMkt*	
8	1	*FeeCode*	-
	2	*EchoText*	-
	4	*StopPx*	-
	8	*RoutingInst*	-
	16	*RoutStrategy*	-
	32	*RouteDeliveryMethod*	-
	64	*ExDestination*	-
	128	*TradeReportRefID*	
9	1	*MarketingFeeCode*	-
	2	*TargetPartyID*	O
	4	*AuctionId*	-
	8	*OrderCategory*	
	16	*LiquidityProvision*	
	32	*CmtaNumber*	-
	64	*CrossType*	O
	128	*CrossPrioritization*	O
10	1	*CrossId*	O
	2	*AllocQty*	-
	4	*GiveUpFirmID*	-
	8	*RoutingFirmID*	O
	16	*WaiverType*	
	32	*CrossExclusionIndicator*	-
	64	*PriceFormation*	
	128	*ClientQualifiedRole*	
11	1	*ClientID*	
	2	*InvestorID*	
	4	*ExecutorID*	
	8	*OrderOrigination*	
	16	*Algo*	
	32	*DeferralReason*	
	64	*InvestorQualifiedRole*	
	128	*ExecutorQualifiedRole*	
12	1	*CtiCode*	
	2	*ManualOrderIndicator*	
	4	*OperatorId*	
	8	*TradeDate*	-
	16	*ClearingPrice*	
	32	*ClearingSize*	
	64	*ClearingSymbol*	
	128	*ClearingOptionalData*	-

BYTE	BIT	FIELD	
13	1	*CumQty*	-
	2	*DayOrderQty*	-
	4	*DayCumQty*	-
	8	*AvgPx*	-
	16	*DayAvgPx*	-
	32	*PendingStatus*	
	64	*DrillThruProtection*	-
	128	*MultilegReportingType*	-
14	1	*LegCFICode*	-
	2	*LegMaturityDate*	-
	4	*LegStrikePrice*	-
	8	*RoomId*	
	16	*SecondaryExecId*	-
	32	*UserRequestID*	
	64	*SISUsername*	
	128	*UserStatus*	
15	1	*TradeReportingIndicator*	
	2	*EquityPartyId*	O
	4	*EquityNBBOProtect*	
	8	*MassCancelId*	-
	16	*TradePublishInd*	
	32	*ReportTime*	
	64	*LegSymbolSfx*	
	128	*ClientIDAttr*	-
16	1	*FrequentTraderID*	O
	2	*SessionEligibility*	-
	4	*ComboOrder*	-
	8	*Compression*	O
	16	*FloorDestination*	-
	32	*FloorRoutingInst*	-
	64	*MultiClassSprd*	-
	128	*OrderOrigin*	-
17	1	*PriceType*	
	2	*StrategyID*	-
	4	*TradingSessionId*	
	8	*TradeThroughAlertType*	-
	16	*SenderLocationID*	-
	32	*FloorTraderAcronym*	-
	64	*ExecLegCFICode*	-
	128	*CustOrderHandlingInst*	
18	1	*(Reserved)*	
	2	*CrossInitiator*	O
	4	*Subreason*	O
	8	*CrossTradeFlag*	
	16	*(Reserved)*	
	32	*Held*	-
	64	*LocateBroker*	
	128	*(Reserved)*	
19	1	*FloorTradeTime*	-
	2	*EquityExDestination*	-
	4	*CrossOnBehalfOfID*	O
	8	*CmcSessions*	
	16	*IntraFirmTradeInd*	
	32	*CmcMatchQty*	
	64	*Reserved*	
	128	*Reserved*	

Order Modified

BYTE	BIT	FIELD	
1	1	*Side*	0
	2	*PegDifference*	
	4	*Price*	0
	8	*ExecInst*	0
	16	*OrdType*	0
	32	*TimeInForce*	0
	64	*MinQty*	0
	128	*(Reserved)*	
2	1	*Symbol*	0
	2	*SymbolSfx*	
	4	*Currency*	
	8	*IdSource*	
	16	*SecurityId*	
	32	*SecurityExchange*	
	64	*Capacity*	-
	128	*ContraTrader*	-
3	1	*Account*	0
	2	*ClearingFirm*	0
	4	*ClearingAccount*	0
	8	*DisplayIndicator*	0
	16	*MaxFloor*	0
	32	*DiscretionAmount*	
	64	*OrderQty*	0
	128	*PreventMatch*	0
4	1	*MaturityDate*	-
	2	*StrikePrice*	-
	4	*PutOrCall*	-
	8	*OpenClose*	-
	16	*ClOrdIdBatch*	
	32	*CorrectedSize*	-
	64	*PartyID*	
	128	*AccessFee*	
5	1	*OrigClOrdID*	0
	2	*LeavesQty*	0
	4	*LastShares*	0
	8	*LastPx*	0
	16	*DisplayPrice*	0
	32	*WorkingPrice*	0
	64	*BaseLiquidityIndicator*	0
	128	*ExpireTime*	0
6	1	*SecondaryOrderID*	0
	2	*CCP*	
	4	*ContraCapacity*	0
	8	*AttributedQuote*	0
	16	*ExtExecInst*	
	32	*BulkOrderIds*	
	64	*BulkRejectReasons*	
	128	*PartyRole*	

BYTE	BIT	FIELD	
7	1	*SubLiquidityIndicator*	-
	2	*TradeReportTypeReturn*	
	4	*TradePublishIndReturn*	
	8	*Text*	
	16	*Bid*	
	32	*Offer*	
	64	*LargeSize*	
	128	*LastMkt*	
8	1	*FeeCode*	-
	2	*EchoText*	0
	4	*StopPx*	0
	8	*RoutingInst*	0
	16	*RoutStrategy*	0
	32	*RouteDeliveryMethod*	0
	64	*ExDestination*	0
	128	*TradeReportRefID*	
9	1	*MarketingFeeCode*	0
	2	*TargetPartyID*	0
	4	*AuctionId*	0
	8	*OrderCategory*	
	16	*LiquidityProvision*	
	32	*CmtaNumber*	0
	64	*CrossType*	-
	128	*CrossPrioritization*	-
10	1	*CrossId*	0
	2	*AllocQty*	0
	4	*GiveUpFirmID*	0
	8	*RoutingFirmID*	0
	16	*WaiverType*	
	32	*CrossExclusionIndicator*	0
	64	*PriceFormation*	
	128	*ClientQualifiedRole*	
11	1	*ClientID*	
	2	*InvestorID*	
	4	*ExecutorID*	
	8	*OrderOrigination*	
	16	*Algo*	
	32	*DeferralReason*	
	64	*InvestorQualifiedRole*	
	128	*ExecutorQualifiedRole*	
12	1	*CtiCode*	
	2	*ManualOrderIndicator*	
	4	*OperatorId*	
	8	*TradeDate*	-
	16	*ClearingPrice*	
	32	*ClearingSize*	
	64	*ClearingSymbol*	
	128	*ClearingOptionalData*	-

BYTE	BIT	FIELD	
13	1	*CumQty*	-
	2	*DayOrderQty*	-
	4	*DayCumQty*	-
	8	*AvgPx*	-
	16	*DayAvgPx*	-
	32	*PendingStatus*	
	64	*DrillThruProtection*	-
	128	*MultilegReportingType*	-
14	1	*LegCFICode*	-
	2	*LegMaturityDate*	-
	4	*LegStrikePrice*	-
	8	*RoomId*	
	16	*SecondaryExecId*	-
	32	*UserRequestID*	
	64	*SISUsername*	
	128	*UserStatus*	
15	1	*TradeReportingIndicator*	
	2	*EquityPartyId*	-
	4	*EquityNBBOProtect*	
	8	*MassCancelId*	-
	16	*TradePublishInd*	
	32	*ReportTime*	
	64	*LegSymbolSfx*	
	128	*ClientIDAttr*	-
16	1	*FrequentTraderID*	0
	2	*SessionEligibility*	-
	4	*ComboOrder*	0
	8	*Compression*	0
	16	*FloorDestination*	0
	32	*FloorRoutingInst*	0
	64	*MultiClassSprd*	0
	128	*OrderOrigin*	0
17	1	*PriceType*	0
	2	*StrategyID*	0
	4	*TradingSessionId*	
	8	*TradeThroughAlertType*	-
	16	*SenderLocationID*	-
	32	*FloorTraderAcronym*	-
	64	*ExecLegCFICode*	-
	128	*CustOrderHandlingInst*	
18	1	*(Reserved)*	
	2	*CrossInitiator*	-
	4	*Subreason*	-
	8	*CrossTradeFlag*	
	16	*(Reserved)*	
	32	*Held*	0
	64	*LocateBroker*	
	128	*(Reserved)*	
19	1	*FloorTradeTime*	-
	2	*EquityExDestination*	-
	4	*CrossOnBehalfOfID*	-
	8	*CmcSessions*	
	16	*IntraFirmTradeInd*	
	32	*CmcMatchQty*	
	64	*Reserved*	
	128	*Reserved*	

Order Restated

BYTE	BIT	FIELD	
1	1	*Side*	0
	2	*PegDifference*	
	4	*Price*	0
	8	*ExecInst*	0
	16	*OrdType*	0
	32	*TimeInForce*	0
	64	*MinQty*	0
	128	*(Reserved)*	
2	1	*Symbol*	0
	2	*SymbolSfx*	
	4	*Currency*	
	8	*IdSource*	
	16	*SecurityId*	
	32	*SecurityExchange*	
	64	*Capacity*	0
	128	*ContraTrader*	-
3	1	*Account*	0
	2	*ClearingFirm*	0
	4	*ClearingAccount*	0
	8	*DisplayIndicator*	0
	16	*MaxFloor*	0
	32	*DiscretionAmount*	
	64	*OrderQty*	0
	128	*PreventMatch*	0
4	1	*MaturityDate*	0
	2	*StrikePrice*	0
	4	*PutOrCall*	0
	8	*OpenClose*	0
	16	*ClOrdIdBatch*	
	32	*CorrectedSize*	0
	64	*PartyID*	
	128	*AccessFee*	
5	1	*OrigClOrdID*	0
	2	*LeavesQty*	0
	4	*LastShares*	0
	8	*LastPx*	0
	16	*DisplayPrice*	0
	32	*WorkingPrice*	0
	64	*BaseLiquidityIndicator*	0
	128	*ExpireTime*	0
6	1	*SecondaryOrderID*	0
	2	*CCP*	
	4	*ContraCapacity*	0
	8	*AttributedQuote*	0
	16	*ExtExecInst*	
	32	*BulkOrderIds*	
	64	*BulkRejectReasons*	
	128	*PartyRole*	

BYTE	BIT	FIELD	
7	1	*SubLiquidityIndicator*	-
	2	*TradeReportTypeReturn*	
	4	*TradePublishIndReturn*	
	8	*Text*	
	16	*Bid*	
	32	*Offer*	
	64	*LargeSize*	
	128	*LastMkt*	
8	1	*FeeCode*	-
	2	*EchoText*	0
	4	*StopPx*	0
	8	*RoutingInst*	0
	16	*RoutStrategy*	0
	32	*RouteDeliveryMethod*	0
	64	*ExDestination*	0
	128	*TradeReportRefID*	
9	1	*MarketingFeeCode*	0
	2	*TargetPartyID*	0
	4	*AuctionId*	0
	8	*OrderCategory*	
	16	*LiquidityProvision*	
	32	*CmtaNumber*	0
	64	*CrossType*	-
	128	*CrossPrioritization*	-
10	1	*CrossId*	0
	2	*AllocQty*	0
	4	*GiveUpFirmID*	0
	8	*RoutingFirmID*	0
	16	*WaiverType*	
	32	*CrossExclusionIndicator*	0
	64	*PriceFormation*	
	128	*ClientQualifiedRole*	
11	1	*ClientID*	
	2	*InvestorID*	
	4	*ExecutorID*	
	8	*OrderOrigination*	
	16	*Algo*	
	32	*DeferralReason*	
	64	*InvestorQualifiedRole*	
	128	*ExecutorQualifiedRole*	
12	1	*CtiCode*	
	2	*ManualOrderIndicator*	
	4	*OperatorId*	
	8	*TradeDate*	-
	16	*ClearingPrice*	
	32	*ClearingSize*	
	64	*ClearingSymbol*	
	128	*ClearingOptionalData*	-

BYTE	BIT	FIELD	
13	1	*CumQty*	-
	2	*DayOrderQty*	-
	4	*DayCumQty*	-
	8	*AvgPx*	-
	16	*DayAvgPx*	-
	32	*PendingStatus*	
	64	*DrillThruProtection*	-
	128	*MultilegReportingType*	-
14	1	*LegCFICode*	-
	2	*LegMaturityDate*	-
	4	*LegStrikePrice*	-
	8	*RoomId*	
	16	*SecondaryExecId*	-
	32	*UserRequestID*	
	64	*SISUsername*	
	128	*UserStatus*	
15	1	*TradeReportingIndicator*	
	2	*EquityPartyId*	-
	4	*EquityNBBOProtect*	
	8	*MassCancelId*	-
	16	*TradePublishInd*	
	32	*ReportTime*	
	64	*LegSymbolSfx*	
	128	*ClientIDAttr*	0
16	1	*FrequentTraderID*	0
	2	*SessionEligibility*	-
	4	*ComboOrder*	0
	8	*Compression*	0
	16	*FloorDestination*	0
	32	*FloorRoutingInst*	0
	64	*MultiClassSprd*	0
	128	*OrderOrigin*	0
17	1	*PriceType*	0
	2	*StrategyID*	0
	4	*TradingSessionId*	
	8	*TradeThroughAlertType*	-
	16	*SenderLocationID*	-
	32	*FloorTraderAcronym*	-
	64	*ExecLegCFICode*	-
	128	*CustOrderHandlingInst*	
18	1	*(Reserved)*	
	2	*CrossInitiator*	-
	4	*Subreason*	-
	8	*CrossTradeFlag*	
	16	*(Reserved)*	
	32	*Held*	0
	64	*LocateBroker*	
	128	*(Reserved)*	
19	1	*FloorTradeTime*	-
	2	*EquityExDestination*	-
	4	*CrossOnBehalfOfID*	-
	8	*CmcSessions*	
	16	*IntraFirmTradeInd*	
	32	*CmcMatchQty*	
	64	*Reserved*	
	128	*Reserved*	

User Modify Rejected

BYTE	BIT	FIELD	
1	1	*Side*	-
	2	*PegDifference*	
	4	*Price*	-
	8	*ExecInst*	-
	16	*OrdType*	-
	32	*TimeInForce*	-
	64	*MinQty*	-
	128	*(Reserved)*	
2	1	*Symbol*	-
	2	*SymbolSfx*	
	4	*Currency*	
	8	*IdSource*	
	16	*SecurityId*	
	32	*SecurityExchange*	
	64	*Capacity*	-
	128	*ContraTrader*	-
3	1	*Account*	-
	2	*ClearingFirm*	-
	4	*ClearingAccount*	-
	8	*DisplayIndicator*	-
	16	*MaxFloor*	-
	32	*DiscretionAmount*	
	64	*OrderQty*	-
	128	*PreventMatch*	-
4	1	*MaturityDate*	-
	2	*StrikePrice*	-
	4	*PutOrCall*	-
	8	*OpenClose*	-
	16	*ClOrdIdBatch*	
	32	*CorrectedSize*	-
	64	*PartyID*	
	128	*AccessFee*	
5	1	*OrigClOrdID*	-
	2	*LeavesQty*	-
	4	*LastShares*	-
	8	*LastPx*	-
	16	*DisplayPrice*	-
	32	*WorkingPrice*	-
	64	*BaseLiquidityIndicator*	-
	128	*ExpireTime*	-
6	1	*SecondaryOrderID*	-
	2	*CCP*	
	4	*ContraCapacity*	-
	8	*AttributedQuote*	-
	16	*ExtExecInst*	
	32	*BulkOrderIds*	
	64	*BulkRejectReasons*	
	128	*PartyRole*	

BYTE	BIT	FIELD	
7	1	*SubLiquidityIndicator*	-
	2	*TradeReportTypeReturn*	
	4	*TradePublishIndReturn*	
	8	*Text*	
	16	*Bid*	
	32	*Offer*	
	64	*LargeSize*	
	128	*LastMkt*	
8	1	*FeeCode*	-
	2	*EchoText*	-
	4	*StopPx*	-
	8	*RoutingInst*	-
	16	*RoutStrategy*	-
	32	*RouteDeliveryMethod*	-
	64	*ExDestination*	-
	128	*TradeReportRefID*	
9	1	*MarketingFeeCode*	-
	2	*TargetPartyID*	-
	4	*AuctionId*	-
	8	*OrderCategory*	
	16	*LiquidityProvision*	
	32	*CmtaNumber*	-
	64	*CrossType*	-
	128	*CrossPrioritization*	-
10	1	*CrossId*	O
	2	*AllocQty*	O
	4	*GiveUpFirmID*	O
	8	*RoutingFirmID*	O
	16	*WaiverType*	
	32	*CrossExclusionIndicator*	O
	64	*PriceFormation*	
	128	*ClientQualifiedRole*	
11	1	*ClientID*	
	2	*InvestorID*	
	4	*ExecutorID*	
	8	*OrderOrigination*	
	16	*Algo*	
	32	*DeferralReason*	
	64	*InvestorQualifiedRole*	
	128	*ExecutorQualifiedRole*	
12	1	*CtiCode*	
	2	*ManualOrderIndicator*	
	4	*OperatorId*	
	8	*TradeDate*	-
	16	*ClearingPrice*	
	32	*ClearingSize*	
	64	*ClearingSymbol*	
	128	*ClearingOptionalData*	-

BYTE	BIT	FIELD	
13	1	*CumQty*	-
	2	*DayOrderQty*	-
	4	*DayCumQty*	-
	8	*AvgPx*	-
	16	*DayAvgPx*	-
	32	*PendingStatus*	
	64	*DrillThruProtection*	-
	128	*MultilegReportingType*	-
14	1	*LegCFICode*	-
	2	*LegMaturityDate*	-
	4	*LegStrikePrice*	-
	8	*RoomId*	
	16	*SecondaryExecId*	-
	32	*UserRequestID*	
	64	*SISUsername*	
	128	*UserStatus*	
15	1	*TradeReportingIndicator*	
	2	*EquityPartyId*	-
	4	*EquityNBBOProtect*	
	8	*MassCancelId*	-
	16	*TradePublishInd*	
	32	*ReportTime*	
	64	*LegSymbolSfx*	
	128	*ClientIDAttr*	-
16	1	*FrequentTraderID*	-
	2	*SessionEligibility*	-
	4	*ComboOrder*	-
	8	*Compression*	-
	16	*FloorDestination*	-
	32	*FloorRoutingInst*	-
	64	*MultiClassSprd*	-
	128	*OrderOrigin*	-
17	1	*PriceType*	-
	2	*StrategyID*	-
	4	*TradingSessionId*	
	8	*TradeThroughAlertType*	-
	16	*SenderLocationID*	-
	32	*FloorTraderAcronym*	-
	64	*ExecLegCFICode*	-
	128	*CustOrderHandlingInst*	
18	1	*(Reserved)*	
	2	*CrossInitiator*	-
	4	*Subreason*	-
	8	*CrossTradeFlag*	
	16	*(Reserved)*	
	32	*Held*	-
	64	*LocateBroker*	
	128	*(Reserved)*	
19	1	*FloorTradeTime*	-
	2	*EquityExDestination*	-
	4	*CrossOnBehalfOfID*	-
	8	*CmcSessions*	
	16	*IntraFirmTradeInd*	
	32	*CmcMatchQty*	
	64	*Reserved*	
	128	*Reserved*	

Order Cancelled

BYTE	BIT	FIELD	
1	1	*Side*	O
	2	*PegDifference*	
	4	*Price*	O
	8	*ExecInst*	O
	16	*OrdType*	O
	32	*TimeInForce*	O
	64	*MinQty*	O
	128	*(Reserved)*	
2	1	*Symbol*	O
	2	*SymbolSfx*	
	4	*Currency*	
	8	*IdSource*	
	16	*SecurityId*	
	32	*SecurityExchange*	
	64	*Capacity*	O
	128	*ContraTrader*	-
3	1	*Account*	O
	2	*ClearingFirm*	O
	4	*ClearingAccount*	O
	8	*DisplayIndicator*	O
	16	*MaxFloor*	O
	32	*DiscretionAmount*	
	64	*OrderQty*	O
	128	*PreventMatch*	O
4	1	*MaturityDate*	O
	2	*StrikePrice*	O
	4	*PutOrCall*	O
	8	*OpenClose*	O
	16	*ClOrdIdBatch*	
	32	*CorrectedSize*	O
	64	*PartyID*	
	128	*AccessFee*	
5	1	*OrigClOrdID*	O
	2	*LeavesQty*	O
	4	*LastShares*	O
	8	*LastPx*	O
	16	*DisplayPrice*	O
	32	*WorkingPrice*	O
	64	*BaseLiquidityIndicator*	O
	128	*ExpireTime*	O
6	1	*SecondaryOrderID*	O
	2	*CCP*	
	4	*ContraCapacity*	O
	8	*AttributedQuote*	O
	16	*ExtExecInst*	
	32	*BulkOrderIds*	
	64	*BulkRejectReasons*	
	128	*PartyRole*	

BYTE	BIT	FIELD	
7	1	*SubLiquidityIndicator*	-
	2	*TradeReportTypeReturn*	
	4	*TradePublishIndReturn*	
	8	*Text*	
	16	*Bid*	
	32	*Offer*	
	64	*LargeSize*	
	128	*LastMkt*	
8	1	*FeeCode*	-
	2	*EchoText*	O
	4	*StopPx*	O
	8	*RoutingInst*	O
	16	*RoutStrategy*	O
	32	*RouteDeliveryMethod*	O
	64	*ExDestination*	O
	128	*TradeReportRefID*	
9	1	*MarketingFeeCode*	O
	2	*TargetPartyID*	O
	4	*AuctionId*	O
	8	*OrderCategory*	
	16	*LiquidityProvision*	
	32	*CmtaNumber*	O
	64	*CrossType*	-
	128	*CrossPrioritization*	-
10	1	*CrossId*	O
	2	*AllocQty*	O
	4	*GiveUpFirmID*	O
	8	*RoutingFirmID*	O
	16	*WaiverType*	
	32	*CrossExclusionIndicator*	O
	64	*PriceFormation*	
	128	*ClientQualifiedRole*	
11	1	*ClientID*	
	2	*InvestorID*	
	4	*ExecutorID*	
	8	*OrderOrigination*	
	16	*Algo*	
	32	*DeferralReason*	
	64	*InvestorQualifiedRole*	
	128	*ExecutorQualifiedRole*	
12	1	*CtiCode*	
	2	*ManualOrderIndicator*	
	4	*OperatorId*	
	8	*TradeDate*	-
	16	*ClearingPrice*	
	32	*ClearingSize*	
	64	*ClearingSymbol*	
	128	*ClearingOptionalData*	O

BYTE	BIT	FIELD	
13	1	*CumQty*	-
	2	*DayOrderQty*	-
	4	*DayCumQty*	-
	8	*AvgPx*	-
	16	*DayAvgPx*	-
	32	*PendingStatus*	
	64	*DrillThruProtection*	-
	128	*MultilegReportingType*	-
14	1	*LegCFICode*	-
	2	*LegMaturityDate*	-
	4	*LegStrikePrice*	-
	8	*RoomId*	
	16	*SecondaryExecId*	-
	32	*UserRequestID*	
	64	*SISUsername*	
	128	*UserStatus*	
15	1	*TradeReportingIndicator*	
	2	*EquityPartyId*	O
	4	*EquityNBBOProtect*	
	8	*MassCancelId*	-
	16	*TradePublishInd*	
	32	*ReportTime*	
	64	*LegSymbolSfx*	
	128	*ClientIDAttr*	-
16	1	*FrequentTraderID*	O
	2	*SessionEligibility*	-
	4	*ComboOrder*	O
	8	*Compression*	O
	16	*FloorDestination*	O
	32	*FloorRoutingInst*	O
	64	*MultiClassSprd*	O
	128	*OrderOrigin*	O
17	1	*PriceType*	O
	2	*StrategyID*	O
	4	*TradingSessionId*	
	8	*TradeThroughAlertType*	-
	16	*SenderLocationID*	-
	32	*FloorTraderAcronym*	-
	64	*ExecLegCFICode*	-
	128	*CustOrderHandlingInst*	
18	1	*(Reserved)*	
	2	*CrossInitiator*	O
	4	*Subreason*	O
	8	*CrossTradeFlag*	
	16	*(Reserved)*	
	32	*Held*	O
	64	*LocateBroker*	
	128	*(Reserved)*	
19	1	*FloorTradeTime*	-
	2	*EquityExDestination*	-
	4	*CrossOnBehalfOfID*	O
	8	*CmcSessions*	
	16	*IntraFirmTradeInd*	
	32	*CmcMatchQty*	
	64	*Reserved*	
	128	*Reserved*	

Cross Order Cancelled (C1 and EDGX Only)

BYTE	BIT	FIELD	
1	1	*Side*	0
	2	*PegDifference*	
	4	*Price*	0
	8	*ExecInst*	0
	16	*OrdType*	-
	32	*TimeInForce*	-
	64	*MinQty*	-
	128	*(Reserved)*	
2	1	*Symbol*	0
	2	*SymbolSfx*	
	4	*Currency*	
	8	*IdSource*	
	16	*SecurityId*	
	32	*SecurityExchange*	
	64	*Capacity*	0
	128	*ContraTrader*	-
3	1	*Account*	0
	2	*ClearingFirm*	0
	4	*ClearingAccount*	-
	8	*DisplayIndicator*	-
	16	*MaxFloor*	-
	32	*DiscretionAmount*	
	64	*OrderQty*	0
	128	*PreventMatch*	0
4	1	*MaturityDate*	0
	2	*StrikePrice*	0
	4	*PutOrCall*	0
	8	*OpenClose*	0
	16	*ClOrdIdBatch*	
	32	*CorrectedSize*	-
	64	*PartyID*	
	128	*AccessFee*	
5	1	*OrigClOrdID*	-
	2	*LeavesQty*	-
	4	*LastShares*	-
	8	*LastPx*	-
	16	*DisplayPrice*	-
	32	*WorkingPrice*	-
	64	*BaseLiquidityIndicator*	-
	128	*ExpireTime*	-
6	1	*SecondaryOrderID*	-
	2	*CCP*	
	4	*ContraCapacity*	-
	8	*AttributedQuote*	0
	16	*ExtExecInst*	
	32	*BulkOrderIds*	
	64	*BulkRejectReasons*	
	128	*PartyRole*	

BYTE	BIT	FIELD	
7	1	*SubLiquidityIndicator*	-
	2	*TradeReportTypeReturn*	
	4	*TradePublishIndReturn*	
	8	*Text*	
	16	*Bid*	
	32	*Offer*	
	64	*LargeSize*	
	128	*LastMkt*	
8	1	*FeeCode*	-
	2	*EchoText*	-
	4	*StopPx*	-
	8	*RoutingInst*	-
	16	*RoutStrategy*	-
	32	*RouteDeliveryMethod*	-
	64	*ExDestination*	-
	128	*TradeReportRefID*	
9	1	*MarketingFeeCode*	-
	2	*TargetPartyID*	0
	4	*AuctionId*	0
	8	*OrderCategory*	
	16	*LiquidityProvision*	
	32	*CmtaNumber*	0
	64	*CrossType*	0
	128	*CrossPrioritization*	0
10	1	*CrossId*	0
	2	*AllocQty*	0
	4	*GiveUpFirmID*	0
	8	*RoutingFirmID*	0
	16	*WaiverType*	
	32	*CrossExclusionIndicator*	-
	64	*PriceFormation*	
	128	*ClientQualifiedRole*	
11	1	*ClientID*	
	2	*InvestorID*	
	4	*ExecutorID*	
	8	*OrderOrigination*	
	16	*Algo*	
	32	*DeferralReason*	
	64	*InvestorQualifiedRole*	
	128	*ExecutorQualifiedRole*	
12	1	*CtiCode*	
	2	*ManualOrderIndicator*	
	4	*OperatorId*	
	8	*TradeDate*	-
	16	*ClearingPrice*	
	32	*ClearingSize*	
	64	*ClearingSymbol*	
	128	*ClearingOptionalData*	-

BYTE	BIT	FIELD	
13	1	*CumQty*	-
	2	*DayOrderQty*	-
	4	*DayCumQty*	-
	8	*AvgPx*	-
	16	*DayAvgPx*	-
	32	*PendingStatus*	
	64	*DrillThruProtection*	-
	128	*MultilegReportingType*	-
14	1	*LegCFICode*	-
	2	*LegMaturityDate*	-
	4	*LegStrikePrice*	-
	8	*RoomId*	
	16	*SecondaryExecId*	-
	32	*UserRequestID*	
	64	*SISUsername*	
	128	*UserStatus*	
15	1	*TradeReportingIndicator*	
	2	*EquityPartyId*	0
	4	*EquityNBBOProtect*	
	8	*MassCancelId*	-
	16	*TradePublishInd*	
	32	*ReportTime*	
	64	*LegSymbolSfx*	
	128	*ClientIDAttr*	-
16	1	*FrequentTraderID*	0
	2	*SessionEligibility*	-
	4	*ComboOrder*	-
	8	*Compression*	0
	16	*FloorDestination*	-
	32	*FloorRoutingInst*	-
	64	*MultiClassSprd*	-
	128	*OrderOrigin*	-
17	1	*PriceType*	
	2	*StrategyID*	-
	4	*TradingSessionId*	
	8	*TradeThroughAlertType*	-
	16	*SenderLocationID*	-
	32	*FloorTraderAcronym*	-
	64	*ExecLegCFICode*	-
	128	*CustOrderHandlingInst*	
18	1	*(Reserved)*	
	2	*CrossInitiator*	0
	4	*Subreason*	-
	8	*CrossTradeFlag*	
	16	*(Reserved)*	
	32	*Held*	-
	64	*LocateBroker*	
	128	*(Reserved)*	
19	1	*FloorTradeTime*	-
	2	*EquityExDestination*	-
	4	*CrossOnBehalfOfID*	0
	8	*CmcSessions*	
	16	*IntraFirmTradeInd*	
	32	*CmcMatchQty*	
	64	*Reserved*	
	128	*Reserved*	

Cancel Rejected

BYTE	BIT	FIELD	
1	1	*Side*	O
	2	*PegDifference*	
	4	*Price*	O
	8	*ExecInst*	O
	16	*OrdType*	O
	32	*TimeInForce*	O
	64	*MinQty*	O
	128	*(Reserved)*	
2	1	*Symbol*	O
	2	*SymbolSfx*	
	4	*Currency*	
	8	*IdSource*	
	16	*SecurityId*	
	32	*SecurityExchange*	
	64	*Capacity*	O
	128	*ContraTrader*	-
3	1	*Account*	-
	2	*ClearingFirm*	-
	4	*ClearingAccount*	-
	8	*DisplayIndicator*	-
	16	*MaxFloor*	-
	32	*DiscretionAmount*	
	64	*OrderQty*	-
	128	*PreventMatch*	-
4	1	*MaturityDate*	O
	2	*StrikePrice*	O
	4	*PutOrCall*	O
	8	*OpenClose*	O
	16	*ClOrdIdBatch*	
	32	*CorrectedSize*	O
	64	*PartyID*	
	128	*AccessFee*	
5	1	*OrigClOrdID*	-
	2	*LeavesQty*	-
	4	*LastShares*	-
	8	*LastPx*	-
	16	*DisplayPrice*	-
	32	*WorkingPrice*	-
	64	*BaseLiquidityIndicator*	-
	128	*ExpireTime*	-
6	1	*SecondaryOrderID*	-
	2	*CCP*	
	4	*ContraCapacity*	-
	8	*AttributedQuote*	-
	16	*ExtExecInst*	
	32	*BulkOrderIds*	
	64	*BulkRejectReasons*	
	128	*PartyRole*	

BYTE	BIT	FIELD	
7	1	*SubLiquidityIndicator*	-
	2	*TradeReportTypeReturn*	
	4	*TradePublishIndReturn*	
	8	*Text*	
	16	*Bid*	
	32	*Offer*	
	64	*LargeSize*	
	128	*LastMkt*	
8	1	*FeeCode*	-
	2	*EchoText*	O
	4	*StopPx*	O
	8	*RoutingInst*	-
	16	*RoutStrategy*	-
	32	*RouteDeliveryMethod*	-
	64	*ExDestination*	-
	128	*TradeReportRefID*	
9	1	*MarketingFeeCode*	O
	2	*TargetPartyID*	O
	4	*AuctionId*	O
	8	*OrderCategory*	
	16	*LiquidityProvision*	
	32	*CmtaNumber*	O
	64	*CrossType*	-
	128	*CrossPrioritization*	-
10	1	*CrossId*	O
	2	*AllocQty*	O
	4	*GiveUpFirmID*	O
	8	*RoutingFirmID*	O
	16	*WaiverType*	
	32	*CrossExclusionIndicator*	O
	64	*PriceFormation*	
	128	*ClientQualifiedRole*	
11	1	*ClientID*	
	2	*InvestorID*	
	4	*ExecutorID*	
	8	*OrderOrigination*	
	16	*Algo*	
	32	*DeferralReason*	
	64	*InvestorQualifiedRole*	
	128	*ExecutorQualifiedRole*	
12	1	*CtiCode*	
	2	*ManualOrderIndicator*	
	4	*OperatorId*	
	8	*TradeDate*	-
	16	*ClearingPrice*	
	32	*ClearingSize*	
	64	*ClearingSymbol*	
	128	*ClearingOptionalData*	O

BYTE	BIT	FIELD	
13	1	*CumQty*	-
	2	*DayOrderQty*	-
	4	*DayCumQty*	-
	8	*AvgPx*	-
	16	*DayAvgPx*	-
	32	*PendingStatus*	
	64	*DrillThruProtection*	-
	128	*MultilegReportingType*	-
14	1	*LegCFICode*	-
	2	*LegMaturityDate*	-
	4	*LegStrikePrice*	-
	8	*RoomId*	
	16	*SecondaryExecId*	-
	32	*UserRequestID*	
	64	*SISUsername*	
	128	*UserStatus*	-
15	1	*TradeReportingIndicator*	
	2	*EquityPartyId*	-
	4	*EquityNBBOProtect*	
	8	*MassCancelId*	O
	16	*TradePublishInd*	
	32	*ReportTime*	
	64	*LegSymbolSfx*	
	128	*ClientIDAttr*	-
16	1	*FrequentTraderID*	-
	2	*SessionEligibility*	-
	4	*ComboOrder*	-
	8	*Compression*	-
	16	*FloorDestination*	-
	32	*FloorRoutingInst*	-
	64	*MultiClassSprd*	-
	128	*OrderOrigin*	-
17	1	*PriceType*	-
	2	*StrategyID*	-
	4	*TradingSessionId*	
	8	*TradeThroughAlertType*	-
	16	*SenderLocationID*	-
	32	*FloorTraderAcronym*	-
	64	*ExecLegCFICode*	-
	128	*CustOrderHandlingInst*	
18	1	*(Reserved)*	
	2	*CrossInitiator*	-
	4	*Subreason*	-
	8	*CrossTradeFlag*	
	16	*(Reserved)*	
	32	*Held*	-
	64	*LocateBroker*	
	128	*(Reserved)*	
19	1	*FloorTradeTime*	-
	2	*EquityExDestination*	-
	4	*CrossOnBehalfOfID*	-
	8	*CmcSessions*	
	16	*IntraFirmTradeInd*	
	32	*CmcMatchQty*	
	64	*Reserved*	
	128	*Reserved*	

Order Execution

BYTE	BIT	FIELD	
1	1	*Side*	O
	2	*PegDifference*	
	4	*Price*	O
	8	*ExecInst*	O
	16	*OrdType*	O
	32	*TimeInForce*	O
	64	*MinQty*	O
	128	*(Reserved)*	
2	1	*Symbol*	O
	2	*SymbolSfx*	
	4	*Currency*	
	8	*IdSource*	
	16	*SecurityId*	
	32	*SecurityExchange*	
	64	*Capacity*	O
	128	*ContraTrader*	O
3	1	*Account*	O
	2	*ClearingFirm*	O
	4	*ClearingAccount*	O
	8	*DisplayIndicator*	O
	16	*MaxFloor*	O
	32	*DiscretionAmount*	
	64	*OrderQty*	O
	128	*PreventMatch*	O
4	1	*MaturityDate*	O
	2	*StrikePrice*	O
	4	*PutOrCall*	O
	8	*OpenClose*	O
	16	*ClOrdIdBatch*	
	32	*CorrectedSize*	O
	64	*PartyID*	
	128	*AccessFee*	
5	1	*OrigClOrdID*	-
	2	*LeavesQty*	-
	4	*LastShares*	-
	8	*LastPx*	-
	16	*DisplayPrice*	-
	32	*WorkingPrice*	-
	64	*BaseLiquidityIndicator*	-
	128	*ExpireTime*	-
6	1	*SecondaryOrderID*	-
	2	*CCP*	
	4	*ContraCapacity*	O
	8	*AttributedQuote*	O
	16	*ExtExecInst*	
	32	*BulkOrderIds*	
	64	*BulkRejectReasons*	
	128	*PartyRole*	

BYTE	BIT	FIELD	
7	1	*SubLiquidityIndicator*	-
	2	*TradeReportTypeReturn*	
	4	*TradePublishIndReturn*	
	8	*Text*	
	16	*Bid*	
	32	*Offer*	
	64	*LargeSize*	
	128	*LastMkt*	
8	1	*FeeCode*	O
	2	*EchoText*	O
	4	*StopPx*	O
	8	*RoutingInst*	O
	16	*RoutStrategy*	O
	32	*RouteDeliveryMethod*	O
	64	*ExDestination*	O
	128	*TradeReportRefID*	
9	1	*MarketingFeeCode*	O
	2	*TargetPartyID*	O
	4	*AuctionId*	O
	8	*OrderCategory*	
	16	*LiquidityProvision*	
	32	*CmtaNumber*	O
	64	*CrossType*	O
	128	*CrossPrioritization*	O
10	1	*CrossId*	O
	2	*AllocQty*	O
	4	*GiveUpFirmID*	O
	8	*RoutingFirmID*	O
	16	*WaiverType*	
	32	*CrossExclusionIndicator*	O
	64	*PriceFormation*	
	128	*ClientQualifiedRole*	
11	1	*ClientID*	
	2	*InvestorID*	
	4	*ExecutorID*	
	8	*OrderOrigination*	
	16	*Algo*	
	32	*DeferralReason*	
	64	*InvestorQualifiedRole*	
	128	*ExecutorQualifiedRole*	
12	1	*CtiCode*	
	2	*ManualOrderIndicator*	
	4	*OperatorId*	
	8	*TradeDate*	O
	16	*ClearingPrice*	
	32	*ClearingSize*	
	64	*ClearingSymbol*	
	128	*ClearingOptionalData*	O

BYTE	BIT	FIELD	
13	1	*CumQty*	O
	2	*DayOrderQty*	O
	4	*DayCumQty*	O
	8	*AvgPx*	O
	16	*DayAvgPx*	O
	32	*PendingStatus*	
	64	*DrillThruProtection*	O
	128	*MultilegReportingType*	O
14	1	*LegCFICode*	-
	2	*LegMaturityDate*	-
	4	*LegStrikePrice*	-
	8	*RoomId*	
	16	*SecondaryExecId*	O
	32	*UserRequestID*	
	64	*SISUsername*	
	128	*UserStatus*	
15	1	*TradeReportingIndicator*	
	2	*EquityPartyId*	O
	4	*EquityNBBOProtect*	
	8	*MassCancelId*	-
	16	*TradePublishInd*	
	32	*ReportTime*	
	64	*LegSymbolSfx*	
	128	*ClientIDAttr*	O
16	1	*FrequentTraderID*	O
	2	*SessionEligibility*	-
	4	*ComboOrder*	O
	8	*Compression*	O
	16	*FloorDestination*	O
	32	*FloorRoutingInst*	O
	64	*MultiClassSprd*	O
	128	*OrderOrigin*	O
17	1	*PriceType*	O
	2	*StrategyID*	O
	4	*TradingSessionId*	
	8	*TradeThroughAlertType*	O
	16	*SenderLocationID*	O
	32	*FloorTraderAcronym*	O
	64	*ExecLegCFICode*	O
	128	*CustOrderHandlingInst*	
18	1	*(Reserved)*	
	2	*CrossInitiator*	O
	4	*Subreason*	-
	8	*CrossTradeFlag*	
	16	*(Reserved)*	
	32	*Held*	O
	64	*LocateBroker*	
	128	*(Reserved)*	
19	1	*FloorTradeTime*	O
	2	*EquityExDestination*	O
	4	*CrossOnBehalfOfID*	O
	8	*CmcSessions*	
	16	*IntraFirmTradeInd*	
	32	*CmcMatchQty*	
	64	*Reserved*	
	128	*Reserved*	

Trade Cancel or Correct

BYTE	BIT	FIELD	
1	1	*Side*	-
	2	*PegDifference*	
	4	*Price*	-
	8	*ExecInst*	-
	16	*OrdType*	-
	32	*TimeInForce*	-
	64	*MinQty*	-
	128	*(Reserved)*	
2	1	*Symbol*	O
	2	*SymbolSfx*	
	4	*Currency*	
	8	*IdSource*	
	16	*SecurityId*	
	32	*SecurityExchange*	
	64	*Capacity*	O
	128	*ContraTrader*	-
3	1	*Account*	-
	2	*ClearingFirm*	-
	4	*ClearingAccount*	-
	8	*DisplayIndicator*	-
	16	*MaxFloor*	-
	32	*DiscretionAmount*	
	64	*OrderQty*	-
	128	*PreventMatch*	-
4	1	*MaturityDate*	O
	2	*StrikePrice*	O
	4	*PutOrCall*	O
	8	*OpenClose*	O
	16	*ClOrdIdBatch*	
	32	*CorrectedSize*	O
	64	*PartyID*	
	128	*AccessFee*	
5	1	*OrigClOrdID*	-
	2	*LeavesQty*	-
	4	*LastShares*	-
	8	*LastPx*	-
	16	*DisplayPrice*	-
	32	*WorkingPrice*	-
	64	*BaseLiquidityIndicator*	-
	128	*ExpireTime*	-
6	1	*SecondaryOrderID*	-
	2	*CCP*	
	4	*ContraCapacity*	-
	8	*AttributedQuote*	-
	16	*ExtExecInst*	
	32	*BulkOrderIds*	
	64	*BulkRejectReasons*	
	128	*PartyRole*	

BYTE	BIT	FIELD	
7	1	*SubLiquidityIndicator*	O
	2	*TradeReportTypeReturn*	
	4	*TradePublishIndReturn*	
	8	*Text*	
	16	*Bid*	
	32	*Offer*	
	64	*LargeSize*	
	128	*LastMkt*	
8	1	*FeeCode*	-
	2	*EchoText*	-
	4	*StopPx*	-
	8	*RoutingInst*	-
	16	*RoutStrategy*	-
	32	*RouteDeliveryMethod*	-
	64	*ExDestination*	-
	128	*TradeReportRefID*	
9	1	*MarketingFeeCode*	O
	2	*TargetPartyID*	O
	4	*AuctionId*	O
	8	*OrderCategory*	
	16	*LiquidityProvision*	
	32	*CmtaNumber*	O
	64	*CrossType*	-
	128	*CrossPrioritization*	-
10	1	*CrossId*	O
	2	*AllocQty*	-
	4	*GiveUpFirmID*	O
	8	*RoutingFirmID*	O
	16	*WaiverType*	
	32	*CrossExclusionIndicator*	O
	64	*PriceFormation*	
	128	*ClientQualifiedRole*	
11	1	*ClientID*	
	2	*InvestorID*	
	4	*ExecutorID*	
	8	*OrderOrigination*	
	16	*Algo*	
	32	*DeferralReason*	
	64	*InvestorQualifiedRole*	
	128	*ExecutorQualifiedRole*	
12	1	*CtiCode*	
	2	*ManualOrderIndicator*	
	4	*OperatorId*	
	8	*TradeDate*	-
	16	*ClearingPrice*	
	32	*ClearingSize*	
	64	*ClearingSymbol*	
	128	*ClearingOptionalData*	-

BYTE	BIT	FIELD	
13	1	*CumQty*	-
	2	*DayOrderQty*	-
	4	*DayCumQty*	-
	8	*AvgPx*	-
	16	*DayAvgPx*	-
	32	*PendingStatus*	
	64	*DrillThruProtection*	-
	128	*MultilegReportingType*	-
14	1	*LegCFICode*	-
	2	*LegMaturityDate*	-
	4	*LegStrikePrice*	-
	8	*RoomId*	
	16	*SecondaryExecId*	-
	32	*UserRequestID*	
	64	*SISUsername*	
	128	*UserStatus*	
15	1	*TradeReportingIndicator*	
	2	*EquityPartyId*	-
	4	*EquityNBBOProtect*	
	8	*MassCancelId*	-
	16	*TradePublishInd*	
	32	*ReportTime*	
	64	*LegSymbolSfx*	
	128	*ClientIDAttr*	-
16	1	*FrequentTraderID*	-
	2	*SessionEligibility*	-
	4	*ComboOrder*	-
	8	*Compression*	-
	16	*FloorDestination*	-
	32	*FloorRoutingInst*	-
	64	*MultiClassSprd*	-
	128	*OrderOrigin*	-
17	1	*PriceType*	-
	2	*StrategyID*	-
	4	*TradingSessionId*	
	8	*TradeThroughAlertType*	-
	16	*SenderLocationID*	-
	32	*FloorTraderAcronym*	-
	64	*ExecLegCFICode*	-
	128	*CustOrderHandlingInst*	
18	1	*(Reserved)*	
	2	*CrossInitiator*	-
	4	*Subreason*	-
	8	*CrossTradeFlag*	
	16	*(Reserved)*	
	32	*Held*	-
	64	*LocateBroker*	
	128	*(Reserved)*	
19	1	*FloorTradeTime*	-
	2	*EquityExDestination*	-
	4	*CrossOnBehalfOfID*	-
	8	*CmcSessions*	
	16	*IntraFirmTradeInd*	
	32	*CmcMatchQty*	
	64	*Reserved*	
	128	*Reserved*	

Purge Rejected

BYTE	BIT	FIELD	
1	1	*Side*	-
	2	*PegDifference*	
	4	*Price*	-
	8	*ExecInst*	-
	16	*OrdType*	-
	32	*TimeInForce*	-
	64	*MinQty*	-
	128	*(Reserved)*	
2	1	*Symbol*	-
	2	*SymbolSfx*	
	4	*Currency*	
	8	*IdSource*	
	16	*SecurityId*	
	32	*SecurityExchange*	
	64	*Capacity*	-
	128	*ContraTrader*	-
3	1	*Account*	-
	2	*ClearingFirm*	-
	4	*ClearingAccount*	-
	8	*DisplayIndicator*	-
	16	*MaxFloor*	-
	32	*DiscretionAmount*	
	64	*OrderQty*	-
	128	*PreventMatch*	-
4	1	*MaturityDate*	-
	2	*StrikePrice*	-
	4	*PutOrCall*	-
	8	*OpenClose*	-
	16	*ClOrdIdBatch*	
	32	*CorrectedSize*	-
	64	*PartyID*	
	128	*AccessFee*	
5	1	*OrigClOrdID*	-
	2	*LeavesQty*	-
	4	*LastShares*	-
	8	*LastPx*	-
	16	*DisplayPrice*	-
	32	*WorkingPrice*	-
	64	*BaseLiquidityIndicator*	-
	128	*ExpireTime*	-
6	1	*SecondaryOrderID*	-
	2	*CCP*	
	4	*ContraCapacity*	-
	8	*AttributedQuote*	-
	16	*ExtExecInst*	
	32	*BulkOrderIds*	
	64	*BulkRejectReasons*	
	128	*PartyRole*	

BYTE	BIT	FIELD	
7	1	*SubLiquidityIndicator*	-
	2	*TradeReportTypeReturn*	
	4	*TradePublishIndReturn*	
	8	*Text*	
	16	*Bid*	
	32	*Offer*	
	64	*LargeSize*	
	128	*LastMkt*	
8	1	*FeeCode*	-
	2	*EchoText*	-
	4	*StopPx*	-
	8	*RoutingInst*	-
	16	*RoutStrategy*	-
	32	*RouteDeliveryMethod*	-
	64	*ExDestination*	-
	128	*TradeReportRefID*	
9	1	*MarketingFeeCode*	-
	2	*TargetPartyID*	-
	4	*AuctionId*	-
	8	*OrderCategory*	
	16	*LiquidityProvision*	
	32	*CmtaNumber*	-
	64	*CrossType*	-
	128	*CrossPrioritization*	-
10	1	*CrossId*	-
	2	*AllocQty*	-
	4	*GiveUpFirmID*	-
	8	*RoutingFirmID*	-
	16	*WaiverType*	
	32	*CrossExclusionIndicator*	-
	64	*PriceFormation*	
	128	*ClientQualifiedRole*	
11	1	*ClientID*	
	2	*InvestorID*	
	4	*ExecutorID*	
	8	*OrderOrigination*	
	16	*Algo*	
	32	*DeferralReason*	
	64	*InvestorQualifiedRole*	
	128	*ExecutorQualifiedRole*	
12	1	*CtiCode*	
	2	*ManualOrderIndicator*	
	4	*OperatorId*	
	8	*TradeDate*	-
	16	*ClearingPrice*	
	32	*ClearingSize*	
	64	*ClearingSymbol*	
	128	*ClearingOptionalData*	-

BYTE	BIT	FIELD	
13	1	*CumQty*	-
	2	*DayOrderQty*	-
	4	*DayCumQty*	-
	8	*AvgPx*	-
	16	*DayAvgPx*	-
	32	*PendingStatus*	
	64	*DrillThruProtection*	-
	128	*MultilegReportingType*	-
14	1	*LegCFICode*	-
	2	*LegMaturityDate*	-
	4	*LegStrikePrice*	-
	8	*RoomId*	
	16	*SecondaryExecId*	-
	32	*UserRequestID*	
	64	*SISUsername*	
	128	*UserStatus*	
15	1	*TradeReportingIndicator*	
	2	*EquityPartyId*	-
	4	*EquityNBBOProtect*	
	8	*MassCancelId*	0
	16	*TradePublishInd*	
	32	*ReportTime*	
	64	*LegSymbolSfx*	
	128	*ClientIDAttr*	-
16	1	*FrequentTraderID*	-
	2	*SessionEligibility*	-
	4	*ComboOrder*	-
	8	*Compression*	-
	16	*FloorDestination*	-
	32	*FloorRoutingInst*	-
	64	*MultiClassSprd*	-
	128	*OrderOrigin*	-
17	1	*PriceType*	-
	2	*StrategyID*	-
	4	*TradingSessionId*	
	8	*TradeThroughAlertType*	-
	16	*SenderLocationID*	-
	32	*FloorTraderAcronym*	-
	64	*ExecLegCFICode*	-
	128	*CustOrderHandlingInst*	
18	1	*(Reserved)*	
	2	*CrossInitiator*	-
	4	*Subreason*	-
	8	*CrossTradeFlag*	
	16	*(Reserved)*	
	32	*Held*	-
	64	*LocateBroker*	
	128	*(Reserved)*	
19	1	*FloorTradeTime*	-
	2	*EquityExDestination*	-
	4	*CrossOnBehalfOfID*	-
	8	*CmcSessions*	
	16	*IntraFirmTradeInd*	
	32	*CmcMatchQty*	
	64	*Reserved*	
	128	*Reserved*	

Purge Notification

BYTE	BIT	FIELD	
1	1	*Side*	-
	2	*PegDifference*	
	4	*Price*	-
	8	*ExecInst*	-
	16	*OrdType*	-
	32	*TimeInForce*	-
	64	*MinQty*	-
	128	*(Reserved)*	
2	1	*Symbol*	-
	2	*SymbolSfx*	
	4	*Currency*	
	8	*IdSource*	
	16	*SecurityId*	
	32	*SecurityExchange*	
	64	*Capacity*	-
	128	*ContraTrader*	-
3	1	*Account*	-
	2	*ClearingFirm*	-
	4	*ClearingAccount*	-
	8	*DisplayIndicator*	-
	16	*MaxFloor*	-
	32	*DiscretionAmount*	
	64	*OrderQty*	-
	128	*PreventMatch*	-
4	1	*MaturityDate*	-
	2	*StrikePrice*	-
	4	*PutOrCall*	-
	8	*OpenClose*	-
	16	*ClOrdIdBatch*	
	32	*CorrectedSize*	-
	64	*PartyID*	
	128	*AccessFee*	
5	1	*OrigClOrdID*	-
	2	*LeavesQty*	-
	4	*LastShares*	-
	8	*LastPx*	-
	16	*DisplayPrice*	-
	32	*WorkingPrice*	-
	64	*BaseLiquidityIndicator*	-
	128	*ExpireTime*	-
6	1	*SecondaryOrderID*	-
	2	*CCP*	
	4	*ContraCapacity*	-
	8	*AttributedQuote*	-
	16	*ExtExecInst*	
	32	*BulkOrderIds*	
	64	*BulkRejectReasons*	
	128	*PartyRole*	

BYTE	BIT	FIELD	
7	1	*SubLiquidityIndicator*	-
	2	*TradeReportTypeReturn*	
	4	*TradePublishIndReturn*	
	8	*Text*	
	16	*Bid*	
	32	*Offer*	
	64	*LargeSize*	
	128	*LastMkt*	
8	1	*FeeCode*	-
	2	*EchoText*	-
	4	*StopPx*	-
	8	*RoutingInst*	-
	16	*RoutStrategy*	-
	32	*RouteDeliveryMethod*	-
	64	*ExDestination*	-
	128	*TradeReportRefID*	
9	1	*MarketingFeeCode*	-
	2	*TargetPartyID*	-
	4	*AuctionId*	-
	8	*OrderCategory*	
	16	*LiquidityProvision*	
	32	*CmtaNumber*	-
	64	*CrossType*	-
	128	*CrossPrioritization*	-
10	1	*CrossId*	-
	2	*AllocQty*	-
	4	*GiveUpFirmID*	-
	8	*RoutingFirmID*	-
	16	*WaiverType*	
	32	*CrossExclusionIndicator*	-
	64	*PriceFormation*	
	128	*ClientQualifiedRole*	
11	1	*ClientID*	
	2	*InvestorID*	
	4	*ExecutorID*	
	8	*OrderOrigination*	
	16	*Algo*	
	32	*DeferralReason*	
	64	*InvestorQualifiedRole*	
	128	*ExecutorQualifiedRole*	
12	1	*CtiCode*	
	2	*ManualOrderIndicator*	
	4	*OperatorId*	
	8	*TradeDate*	-
	16	*ClearingPrice*	
	32	*ClearingSize*	
	64	*ClearingSymbol*	
	128	*ClearingOptionalData*	-

BYTE	BIT	FIELD	
13	1	*CumQty*	-
	2	*DayOrderQty*	-
	4	*DayCumQty*	-
	8	*AvgPx*	-
	16	*DayAvgPx*	-
	32	*PendingStatus*	
	64	*DrillThruProtection*	-
	128	*MultilegReportingType*	-
14	1	*LegCFICode*	-
	2	*LegMaturityDate*	-
	4	*LegStrikePrice*	-
	8	*RoomId*	
	16	*SecondaryExecId*	-
	32	*UserRequestID*	
	64	*SISUsername*	
	128	*UserStatus*	
15	1	*TradeReportingIndicator*	
	2	*EquityPartyId*	-
	4	*EquityNBBOProtect*	
	8	*MassCancelId*	-
	16	*TradePublishInd*	
	32	*ReportTime*	
	64	*LegSymbolSfx*	
	128	*ClientIDAttr*	-
16	1	*FrequentTraderID*	-
	2	*SessionEligibility*	-
	4	*ComboOrder*	-
	8	*Compression*	-
	16	*FloorDestination*	-
	32	*FloorRoutingInst*	-
	64	*MultiClassSprd*	-
	128	*OrderOrigin*	-
17	1	*PriceType*	-
	2	*StrategyID*	-
	4	*TradingSessionId*	
	8	*TradeThroughAlertType*	-
	16	*SenderLocationID*	-
	32	*FloorTraderAcronym*	-
	64	*ExecLegCFICode*	-
	128	*CustOrderHandlingInst*	
18	1	*(Reserved)*	
	2	*CrossInitiator*	-
	4	*Subreason*	-
	8	*CrossTradeFlag*	
	16	*(Reserved)*	
	32	*Held*	-
	64	*LocateBroker*	
	128	*(Reserved)*	
19	1	*FloorTradeTime*	-
	2	*EquityExDestination*	-
	4	*CrossOnBehalfOfID*	-
	8	*CmcSessions*	
	16	*IntraFirmTradeInd*	
	32	*CmcMatchQty*	
	64	*Reserved*	
	128	*Reserved*	

Complex Instrument Accepted (C1, C2 and EDGX Only)

BYTE	BIT	FIELD	
1	1	*Side*	-
	2	*PegDifference*	
	4	*Price*	-
	8	*ExecInst*	-
	16	*OrdType*	-
	32	*TimeInForce*	-
	64	*MinQty*	-
	128	*(Reserved)*	
2	1	*Symbol*	-
	2	*SymbolSfx*	
	4	*Currency*	
	8	*IdSource*	
	16	*SecurityId*	
	32	*SecurityExchange*	
	64	*Capacity*	-
	128	*ContraTrader*	-
3	1	*Account*	-
	2	*ClearingFirm*	-
	4	*ClearingAccount*	-
	8	*DisplayIndicator*	-
	16	*MaxFloor*	-
	32	*DiscretionAmount*	
	64	*OrderQty*	-
	128	*PreventMatch*	-
4	1	*MaturityDate*	-
	2	*StrikePrice*	-
	4	*PutOrCall*	-
	8	*OpenClose*	-
	16	*ClOrdIdBatch*	
	32	*CorrectedSize*	-
	64	*PartyID*	
	128	*AccessFee*	
5	1	*OrigClOrdID*	-
	2	*LeavesQty*	-
	4	*LastShares*	-
	8	*LastPx*	-
	16	*DisplayPrice*	-
	32	*WorkingPrice*	-
	64	*BaseLiquidityIndicator*	-
	128	*ExpireTime*	-
6	1	*SecondaryOrderID*	-
	2	*CCP*	
	4	*ContraCapacity*	-
	8	*AttributedQuote*	-
	16	*ExtExecInst*	
	32	*BulkOrderIds*	
	64	*BulkRejectReasons*	
	128	*PartyRole*	

BYTE	BIT	FIELD	
7	1	*SubLiquidityIndicator*	-
	2	*TradeReportTypeReturn*	
	4	*TradePublishIndReturn*	
	8	*Text*	
	16	*Bid*	
	32	*Offer*	
	64	*LargeSize*	
	128	*LastMkt*	
8	1	*FeeCode*	-
	2	*EchoText*	-
	4	*StopPx*	-
	8	*RoutingInst*	-
	16	*RoutStrategy*	-
	32	*RouteDeliveryMethod*	-
	64	*ExDestination*	-
	128	*TradeReportRefID*	
9	1	*MarketingFeeCode*	-
	2	*TargetPartyID*	-
	4	*AuctionId*	-
	8	*OrderCategory*	
	16	*LiquidityProvision*	
	32	*CmtaNumber*	-
	64	*CrossType*	-
	128	*CrossPrioritization*	-
10	1	*CrossId*	-
	2	*AllocQty*	-
	4	*GiveUpFirmID*	-
	8	*RoutingFirmID*	-
	16	*WaiverType*	
	32	*CrossExclusionIndicator*	-
	64	*PriceFormation*	
	128	*ClientQualifiedRole*	
11	1	*ClientID*	
	2	*InvestorID*	
	4	*ExecutorID*	
	8	*OrderOrigination*	
	16	*Algo*	
	32	*DeferralReason*	
	64	*InvestorQualifiedRole*	
	128	*ExecutorQualifiedRole*	
12	1	*CtiCode*	
	2	*ManualOrderIndicator*	
	4	*OperatorId*	
	8	*TradeDate*	-
	16	*ClearingPrice*	
	32	*ClearingSize*	
	64	*ClearingSymbol*	
	128	*ClearingOptionalData*	-

BYTE	BIT	FIELD	
13	1	*CumQty*	-
	2	*DayOrderQty*	-
	4	*DayCumQty*	-
	8	*AvgPx*	-
	16	*DayAvgPx*	-
	32	*PendingStatus*	
	64	*DrillThruProtection*	-
	128	*MultilegReportingType*	-
14	1	*LegCFICode*	0
	2	*LegMaturityDate*	0
	4	*LegStrikePrice*	0
	8	*RoomId*	
	16	*SecondaryExecId*	-
	32	*UserRequestID*	
	64	*SISUsername*	
	128	*UserStatus*	
15	1	*TradeReportingIndicator*	
	2	*EquityPartyId*	-
	4	*EquityNBBOProtect*	
	8	*MassCancelId*	-
	16	*TradePublishInd*	
	32	*ReportTime*	
	64	*LegSymbolSfx*	
	128	*ClientIDAttr*	-
16	1	*FrequentTraderID*	-
	2	*SessionEligibility*	-
	4	*ComboOrder*	-
	8	*Compression*	-
	16	*FloorDestination*	-
	32	*FloorRoutingInst*	-
	64	*MultiClassSprd*	-
	128	*OrderOrigin*	-
17	1	*PriceType*	-
	2	*StrategyID*	-
	4	*TradingSessionId*	
	8	*TradeThroughAlertType*	-
	16	*SenderLocationID*	-
	32	*FloorTraderAcronym*	-
	64	*ExecLegCFICode*	-
	128	*CustOrderHandlingInst*	
18	1	*(Reserved)*	
	2	*CrossInitiator*	-
	4	*Subreason*	-
	8	*CrossTradeFlag*	
	16	*(Reserved)*	
	32	*Held*	-
	64	*LocateBroker*	
	128	*(Reserved)*	
19	1	*FloorTradeTime*	-
	2	*EquityExDestination*	-
	4	*CrossOnBehalfOfID*	-
	8	*CmcSessions*	
	16	*IntraFirmTradeInd*	
	32	*CmcMatchQty*	
	64	*Reserved*	
	128	*Reserved*	

Complex Instrument Rejected (C1, C2, and EDGX Only)

BYTE	BIT	FIELD	
1	1	*Side*	-
	2	*PegDifference*	
	4	*Price*	-
	8	*ExecInst*	-
	16	*OrdType*	-
	32	*TimeInForce*	-
	64	*MinQty*	-
	128	*(Reserved)*	
2	1	*Symbol*	-
	2	*SymbolSfx*	
	4	*Currency*	
	8	*IdSource*	
	16	*SecurityId*	
	32	*SecurityExchange*	
	64	*Capacity*	-
	128	*ContraTrader*	-
3	1	*Account*	-
	2	*ClearingFirm*	-
	4	*ClearingAccount*	-
	8	*DisplayIndicator*	-
	16	*MaxFloor*	-
	32	*DiscretionAmount*	
	64	*OrderQty*	-
	128	*PreventMatch*	-
4	1	*MaturityDate*	-
	2	*StrikePrice*	-
	4	*PutOrCall*	-
	8	*OpenClose*	-
	16	*ClOrdIdBatch*	
	32	*CorrectedSize*	-
	64	*PartyID*	
	128	*AccessFee*	
5	1	*OrigClOrdID*	-
	2	*LeavesQty*	-
	4	*LastShares*	-
	8	*LastPx*	-
	16	*DisplayPrice*	-
	32	*WorkingPrice*	-
	64	*BaseLiquidityIndicator*	-
	128	*ExpireTime*	-
6	1	*SecondaryOrderID*	-
	2	*CCP*	
	4	*ContraCapacity*	-
	8	*AttributedQuote*	-
	16	*ExtExecInst*	
	32	*BulkOrderIds*	
	64	*BulkRejectReasons*	
	128	*PartyRole*	

BYTE	BIT	FIELD	
7	1	*SubLiquidityIndicator*	-
	2	*TradeReportTypeReturn*	
	4	*TradePublishIndReturn*	
	8	*Text*	
	16	*Bid*	
	32	*Offer*	
	64	*LargeSize*	
	128	*LastMkt*	
8	1	*FeeCode*	-
	2	*EchoText*	-
	4	*StopPx*	-
	8	*RoutingInst*	-
	16	*RoutStrategy*	-
	32	*RouteDeliveryMethod*	-
	64	*ExDestination*	-
	128	*TradeReportRefID*	
9	1	*MarketingFeeCode*	-
	2	*TargetPartyID*	-
	4	*AuctionId*	-
	8	*OrderCategory*	
	16	*LiquidityProvision*	
	32	*CmtaNumber*	-
	64	*CrossType*	-
	128	*CrossPrioritization*	-
10	1	*CrossId*	-
	2	*AllocQty*	-
	4	*GiveUpFirmID*	-
	8	*RoutingFirmID*	-
	16	*WaiverType*	
	32	*CrossExclusionIndicator*	-
	64	*PriceFormation*	
	128	*ClientQualifiedRole*	
11	1	*ClientID*	
	2	*InvestorID*	
	4	*ExecutorID*	
	8	*OrderOrigination*	
	16	*Algo*	
	32	*DeferralReason*	
	64	*InvestorQualifiedRole*	
	128	*ExecutorQualifiedRole*	
12	1	*CtiCode*	
	2	*ManualOrderIndicator*	
	4	*OperatorId*	
	8	*TradeDate*	-
	16	*ClearingPrice*	
	32	*ClearingSize*	
	64	*ClearingSymbol*	
	128	*ClearingOptionalData*	-

BYTE	BIT	FIELD	
13	1	*CumQty*	-
	2	*DayOrderQty*	-
	4	*DayCumQty*	-
	8	*AvgPx*	-
	16	*DayAvgPx*	-
	32	*PendingStatus*	
	64	*DrillThruProtection*	-
	128	*MultilegReportingType*	-
14	1	*LegCFICode*	-
	2	*LegMaturityDate*	-
	4	*LegStrikePrice*	-
	8	*RoomId*	
	16	*SecondaryExecId*	-
	32	*UserRequestID*	
	64	*SISUsername*	
	128	*UserStatus*	
15	1	*TradeReportingIndicator*	
	2	*EquityPartyId*	-
	4	*EquityNBBOProtect*	
	8	*MassCancelId*	-
	16	*TradePublishInd*	
	32	*ReportTime*	
	64	*LegSymbolSfx*	
	128	*ClientIDAttr*	-
16	1	*FrequentTraderID*	-
	2	*SessionEligibility*	-
	4	*ComboOrder*	-
	8	*Compression*	-
	16	*FloorDestination*	-
	32	*FloorRoutingInst*	-
	64	*MultiClassSprd*	-
	128	*OrderOrigin*	-
17	1	*PriceType*	-
	2	*StrategyID*	-
	4	*TradingSessionId*	
	8	*TradeThroughAlertType*	-
	16	*SenderLocationID*	-
	32	*FloorTraderAcronym*	-
	64	*ExecLegCFICode*	-
	128	*CustOrderHandlingInst*	
18	1	*(Reserved)*	
	2	*CrossInitiator*	-
	4	*Subreason*	-
	8	*CrossTradeFlag*	
	16	*(Reserved)*	
	32	*Held*	-
	64	*LocateBroker*	
	128	*(Reserved)*	
19	1	*FloorTradeTime*	-
	2	*EquityExDestination*	-
	4	*CrossOnBehalfOfID*	-
	8	*CmcSessions*	
	16	*IntraFirmTradeInd*	
	32	*CmcMatchQty*	
	64	*Reserved*	
	128	*Reserved*	

List of Optional Fields

The following are descriptions of optional fields which may be sent or received.

FIELD	LENGTH	DATA TYPE	DESCRIPTION
Account	16	Text	Corresponds to *Account* (1) in Cboe FIX. Reflected back on execution reports associated with this order and also passed through to the OCC in the Optional Data field (16 characters) and Customer ID field (max 10 characters). May be made available in the Member's clearing file. A maximum of 10 characters will be passed through to the OCC Customer ID Field but up to 16 characters will be maintain internally. Characters in ASCII range 33-126 are allowed. *Account* (1) will only be mapped to the OCC via the Customer ID field (max 10 characters) and the new *ClearingOptionalData* (9324) field will be mapped to the OCC via the Optional Data field (16 characters).
AllocQty (C1 and EDGX only)	4	Binary	Corresponds to *AllocQty* (80) in Cboe FIX. Number of contracts for this party.
AttributedQuote	1	Alphanumeric	Optional. Allows for an order to be attributed to a firm's Executing Broker ID in Cboe market data feeds. On a **`New Order Cross`** and **`New Order Cross Multileg`** message, this field is only applicable to the Agency order. N = Do not attribute firm Executing Broker ID to this order (Default) Y = Attribute firm Executing Broker ID to this order C = Attribute *ClientID* only. Z = Attribute both *ClearingFirm* (EFID) and *ClientID*
AuctionId (C1, C2, and EDGX only)	8	Binary	Corresponds to *AuctionId* (9370) in Cboe FIX. Auction order identifier supplied by Cboe. This identifier corresponds to the identifiers used in Cboe market data products.
AutoMatch (C1 and EDGX only)	1	Alphanumeric	Corresponds to *AutoMatch* (9040) in Cboe FIX. Better-priced responses will be matched by the Contra side. Indicates the type of Auto Match the Contra Order will use. Mutually exclusive with *LastPriority*. Limit type Auto Match orders require *AutoMatchPrice* to be supplied. 0 = Disabled (Default) 1 = Market 2 = Limit 3 = Market. No starting price adjustments. 4 = Limit. No starting price adjustments.
AutoMatchPrice (C1 and EDGX only)	8	Binary Price	Corresponds to *AutoMatchPrice* (9044) in Cboe FIX. Sets the limit price at which the Contra Order will Auto Match. Required if *AutoMatch* = 2 (Limit) or 4 (Limit. No starting price adjustments) , ignored otherwise. Format is the same as *Price*. ***AutoMatchPrice*** **is from the perspective of the Contra Side.** Net Auction Price of the Strategy. **Buy Orders:** Positive Value, Debit Negative Value, Credit Even Order - 0 (Zero) **Sell Orders:**

FIELD	LENGTH	DATA TYPE	DESCRIPTION
			Positive Value, Credit Negative Value, Debit Even Order - 0 (Zero)
AvgPx	8	Binary Price	Corresponds to *AvgPx* (6) in Cboe FIX. Average price of executions for this order weighted by trade size. Zero if *CumQty* field is zero or if *MultilegReportingType* = 2.
BaseLiquidityIndicator	1	Alphanumeric	Indicates whether the trade added or removed liquidity. A = Added Liquidity R = Removed Liquidity X = Routed to Another Market C = Auction/Uncrossing
CancelOrigOnReject	1	Alpha	Corresponds to *CancelOrigOnReject* (9619) in Cboe FIX. Indicates handling of original order on failure to modify. N = Leave original order alone Y = Cancel original order if modification fails
Capacity	1	Alpha	Corresponds to *OrderCapacity* (47) in Cboe FIX. The capacity of the order. C = Customer M = Market Maker (this must be used for all Quote Update messages) F = Firm U = Professional Customer N = Away Market Maker B = Broker-Dealer J = Joint Back Office L = Non-Trading Permit Holder Affiliate (C1 and C2 only)
ClearingAccount	4	Text	Corresponds to *OnBehalfOfSubID* (116) and *ClearingAccount* (440) in Cboe FIX. Supplemental identifier. Recorded and made available in execution reports. Available via Drop feeds. When *Capacity* is set to 'M' or 'N' for Market Maker, this field should be filled with the desired market maker ID. When *Capacity* is set to 'M' for Market-Maker, any unregistered Market-Maker accounts in this field will cause an order to be rejected with a reason code of 'A' and sub-reason code 'L' and a quote to be rejected with a reason code of 'C'. When using CMTA, this value is the Market Maker ID for the CMTA member instead of the Cboe member executing the trade. This field will be sent to the OCC. If *Capacity* is set to something besides Market Maker, this field can be blank or filled out with an optional string that is passed through to the OCC.
ClearingFirm	4	Alpha	Corresponds to *OnBehalfOfCompID* (115) Cboe FIX. EFID that will clear the trade. **Port attribute value of 'Default EFID' is used if not provided.**
ClearingOptionalData	16	Text	Corresponds to *ClearingOptionalData* (9324) in Cboe FIX. This field will be reflected back on execution reports, FIX DROP ports and it will be passed through to the OCC in the Optional Data field.
ClientIDAttr	4	Text	Corresponds to *ClientID* (109) Cboe FIX.

FIELD	LENGTH	DATA TYPE	DESCRIPTION
			User defined identifier for quote attribution.
CMTANumber	4	Binary	Corresponds to *ClearingFirm* (439) in Cboe FIX. CMTA Number of the firm that will clear the trade. Must be specified for CMTA orders and left unspecified for non-CMTA orders.
ComboOrder (C1 only)	1	Alpha	Corresponds to *ComboOrder* (22005) in Cboe FIX. Declare the order as a Combo (for regulatory relief if trading SPX on the floor). N = (Default) No Y = Yes
Compression (C1 only)	1	Alpha	Corresponds to *Compression* (22006) in Cboe FIX. Order is a compression trade. N = (Default) No Y = Yes When *CrossType* (549) = 4, this field should not be specified.
ContraCapacity	1	Alphanumeric	Capacity of the contra for this execution. See *Capacity* for allowed values.
ContraTrader	4	Alphanumeric	Corresponds to *ContraTrader* (337) in Cboe FIX. Only present on local book trades, not present on routed trades. **Simple Instrument Fills** Displays the EFID (Contra *ClearingFirm*) of the contra side firm. This includes leg fill reports (*MultilegReportingType*=2) that are sent as a result of a complex trade. For Cboe Options floor trades, displays the Contra Floor Acronym (C1 only). **Complex Package Fills** *ContraTrader* will be sent and populated on electronic, complex package fills (*MultilegReportingType*=3) when the contra side is also a complex order. When legging in to the simple books *ContraTrader* will be blank. *ContraTrader* will also be blank on complex package fills executed on the Cboe Options trading floor (C1 only).
CorrectedSize	4	Binary	Corresponds to *CorrectedSize* (6655) in Cboe FIX. Number of shares after trade adjustment.
CrossExclusion Indicator (C1 and EDGX only)	1	Alpha	Corresponds to *CrossExclusionIndicator* (6438) in Cboe FIX. N = Contracts were executed in auction against Contra party or against a resting order when auction was initiated Y = Contracts were executed in auction against another party
CrossID (C1 and EDGX only)	20	Text	Corresponds to *CrossID* (548) in Cboe FIX. Day-unique identifier for the cross order chosen by the client. Characters in the ASCII range 33-126 are allowed, except for comma, semicolon, pipe, the 'at' symbol and double quotes.
CrossInitiator (C1 and EDGX only)	4	Alpha	Corresponds to *CrossInitiator* (22026) in Cboe FIX. MPID field required on orders routed to destinations via NYSE Chicago using *EquityExDestination* (22016). Should be populated with the originator or routing broker MPID. May or may not be the same as the agency/contra MPID. Note that Broker Choice will be allowed on any stock/option order including orders of any ratio.

FIELD	LENGTH	DATA TYPE	DESCRIPTION
CrossOnBehalfOfID (C1 and EDGX only)	4	Alpha	Optional identifier of the initiating customer on orders routed to destinations via NYSE Chicago using *EquityExDestination* (22016). Populate with the order initiator's MPID or any other identifier of choice. Should be populated if not the same broker specified in *CrossInitiator* (22026). Note that Broker Choice is allowed on any stock/option order including FLEX or Non-FLEX orders of any ratio.
CrossType	1	Alphanumeric	Corresponds to *CrossType* (549) in Cboe FIX. Type of auction order being submitted. This indicates the type of auction that will be initiated upon order entry. 1 = Automated Improvement Mechamism (AIM) 2 = Qualified Contingent Cross (QCC) 3 = Solicitation Cross (SAM) (C1 and EDGX only) 4 = Position Compression Cross (PCC)* (C1 Only) 5 = Related Futures Cross (RFC) (C1 Only) *Entry of SPX versus SPXW as a complex spread is not supported for PCC.
CrossPrioritization (C1 and EDGX only)	1	Alphanumeric	Corresponds to *CrossPrioritization* (550) in Cboe FIX. Indicates which side of the cross order will be prioritized for execution. This identifies the Agency side. 1 = Buy 2 = Sell
CumQty	4	Binary	Corresponds to *CumQty* (14) in Cboe FIX Cumulative quanity of contracts executed for the order over the life of the order, which may be multiple business days in the case of persisting GTC/GTD orders. Please refer the Complex Book Process Specification for special C1 Floor Specific Handling.
CustomGroupID	2	Binary	Corresponds to *CustomGroupID* (7699) in Cboe FIX for **`New Order`** and **`Purge Orders`** messages. Used to group orders for use in **`Purge Orders`** messages where multiple orders can be cancelled by specifying a list of *CustomGroupIDs*.
DayAvgPx	8	Binary Price	Corresponds to *DayAvgPx* (426) in Cboe FIX. Applicable to persisting GTC/GTD orders only. Average price per contract of executions on current business date. Zero if *DayCumQty* is zero.
DayCumQty	4	Binary	Corresponds to *DayCumQty* (425) in Cboe FIX. Applicable to persisting GTC/GTD orders only. Cumulative quantity of contracts executed for the order during the current business day.
DayOrderQty	4	Binary	Corresponds to *DayOrderQty* (424) in Cboe FIX. Applicable to persisting GTC/GTD orders only. Contracts remaning to be filled for the order at the beginning of the current business day (i.e., *OrderQty* - *CumQty* at the end of the previous business day).
DisplayIndicator	1	Alphanumeric	Corresponds to *DisplayIndicator* (9479) in Cboe FIX. V = Default. As determined by port level setting (default to S) P = Price Adjust m = Multiple Price Adjust

FIELD	LENGTH	DATA TYPE	DESCRIPTION
			R = Reject the order if it cannot be booked and displayed without adjustment. See Display Indicator Features on page 17 for details on sliding options.
DisplayPrice	8	Binary Price	Only present when order is fully or partially booked. If the order has to be displayed at a less aggressive price for some reason, then that price will be reported here, otherwise equals *Price*.
DisplayRange	4	Binary	Corresponds to *DisplayRange* (8020) in Cboe FIX. Used for random replenishment of reserve orders. Random replenishment establishes a range of possible values for the order quantity that is to be displayed. For example, if *MaxFloor* = 2,000 and *DisplayRange* = 200, the displayed quantity will be selected from one of the following values: 1,800, 1,900, 2,000, 2,100, or 2,200. Must be specified in round lots.
DrillThruProtection (C1, C2, and EDGX only)	8	Binary Price	Corresponds to *DrillThruProtection* (6253) in Cboe FIX. Amount sender is willing to trade through the SNBBO. A zero price provides full SNBBO protection. The price should be entered as a non-negative value. Exchange default values are 5% of the opposite of the SNBBO, with a minimum value of $0.02, a maximum value of $2.00 for SPX/SPXW, and a maximum value of $0.25 for non-SPX/SPXW. Values provided on a **`New Complex Order`** message do not have a minimum or maximum.
EchoText	64	Text	Corresponds to *Text* (58) in Cboe FIX. Free format text string. May be echoed back on Cboe to Member messages.
EquityBuyClearingFirm (C1 and EDGX only)	4	Text	Corresponds to *EquityBuyClearingFirm* (22014) in Cboe FIX. Clearing firm on buy side of the equity trade associated with a QCC trade. Valid when *CrossType* = 2.
EquityExDestination (C1 and EDGX only)	1	Alphanumeric	Corresponds to *EquityExDestination* (22016) in Cboe FIX. Valid when an equity symbol is present in the complex instrument. Exchange venue to which equity leg matching will be submitted. Supported values are: C = TD Securities (USA) LLC (default) P = Penserra via NYSE Chicago F = FOG Equities via NYSE Chicago L = Libucki & Co. via NYSE Chicago S = SRT Securities via NYSE Chicago If buyer and seller do not provide matching venues, the equity match will be reported to TD Securities (USA) LLC.
EquityLegShortSell (C1 and EDGX only)	1	Alphanumeric	Corresponds to *EquityLegShortSell* (22624) in Cboe FIX. 5 = Sell Short (for stock leg) 6 = Sell Short Exempt (for stock leg)
EquityPartyId (C1 and EDGX only)	4	Alpha	Corresponds to *EquityPartyId* (22008) in Cboe FIX. MPID used to clear the equity leg being cleared via the Exchange.
EquitySellClearingFirm (C1 and EDGX only)	4	Text	Corresponds to *EquitySellClearingFirm* (22015) in Cboe FIX. Clearing firm on sell side of the equity trade associated with a QCC trade.

FIELD	LENGTH	DATA TYPE	DESCRIPTION
			Valid when *CrossType* = 2.
EquityTradePrice (C1 and EDGX only)	8	Binary Price	Corresponds to *EquityTradePrice* (22011) in Cboe FIX. Price at which the equity associated with a QCC trade. Valid when *CrossType* = 2.
EquityTradeSize (C1 and EDGX only)	4	Binary	Corresponds to *EquityTradeSize* (22012) in Cboe FIX. Number of shares executed in the equity associated with a QCC trade. Valid when *CrossType* = 2.
EquityTradeVenue (C1 and EDGX only)	1	Text	Corresponds to *EquityTradeVenue* (22013) in Cboe FIX. Exchange venue where equity associated with a QCC traded. Valid when *CrossType* = 2. A = NYSE American B = Nasdaq BX C = NYSE National I = Investors Exchange J = Cboe EDGA Exchange K = Cboe EDGX Exchange M = CHX N = NYSE P = NYSE Arca Q = Nasdaq X = Nasdaq PSX Y = Cboe BYX Exchange Z = Cboe BZX Exchange
EquityTransactTime (C1 and EDGX only)	8	DateTime	Corresponds to *EquityTransactTime* (22060) in Cboe FIX. Time of equity trade associated with a QCC trade. Valid when *CrossType* = 2.
ExDestination	1	Text	Corresponds to *ExDestination* (100) in Cboe FIX. Used to specify the designated away venue for *RoutStrategy* = DIRC. A = NYSE ARCA E = NASDAQ ISE F = MIAX P = MIAX PEARL D = MIAX Emerald G = EDGX Options H = C2 K = BOX M = MEMX N = NASDAQ S = NASDAQ BX U = NYSE AMERICAN W = Cboe Options (C1) X = Nasdaq PHLX Z = BZX Options g = Nasdaq GEMX m = Nasdaq MRX w = MIAX Sapphire
ExecInst	1	Text	Corresponds to *ExecInst* (18) in Cboe FIX.

FIELD	LENGTH	DATA TYPE	DESCRIPTION
			1 = Not held. Must be routed to the floor. (C1 only) f = Intermarket Sweep (Directed or Cboe) r = Settlement Liquidity[1] (C1 only) G = All or None (AON)(C1 and EDGX only) s = Sweep[2](C1 and EDGX only) ASCII NULL (0x00) = no special handling [1]Requires *TimeInForce* = 2 and *Price*. [2]Used for **`New Order Cross`** and **`New Order Cross Multileg`** messages only. Requires *CrossType* = 1 (AIM).
ExecLegCFICode	6	Alphanumeric	Corresponds to *LegCFICode* (608) in Cboe FIX. CFI Code for leg on execution. OP = Options Put OC = Options Call E = Equity
ExpireTime	8	DateTime	Corresponds to *ExpireTime* (126) in Cboe FIX. Required for *TimeInForce* = 6 orders, specifies the date-time (in UTC) that the order expires.
FeeCode	2	Alphanumeric	Corresponds to *FeeCode* (9882) in Cboe FIX. Indicates fee associated with an execution. Fee codes are published in the pricing schedule. New fee codes may be sent with little or no notice. Members are encouraged to code their systems to accept unknown fee codes.
FloorDestination (C1 only)	4	Text	Corresponds to *FloorDestination* (22100) in Cboe FIX. Specifies a default PAR workstation (ex. W001) to route to on the floor (or 'PARO' to route to the Floor PAR Official of the underlying symbol) if not specified on inbound messages.
FloorRoutingInst (C1 only)	1	Alphanumeric	Corresponds to *FloorRoutingInst* (22303) in Cboe FIX. D = Direct (do not attempt to process electronically)[1] E = Electronic only X = Route to floor if unable to process electronically[1] <blank> = Port level default The default value for any given port can be changed by requesting an update to the "Default FloorRoutingInst" port attribute. [1]When *FloorRoutingInst* is D or X, RoutingInst must be set to B or R for simple orders; or B for complex instruments.
FrequentTraderID (C1 only)	6	Text	Corresponds to *FrequentTraderId* (21097) in CFE FIX. Identifies the frequent trader program in which the order is participating.
GiveUpFirmID (C1 and EDGX only)	4	Alpha	Corresponds to *GiveupFirmID* (9946) in Cboe FIX. For the Agency Side, this field must equal the value of *ClearingFirm* (EFID). Each Contra allocation will use this field instead of *ClearingFirm* for clearing information.
Held (C1 only)	1	Alpha	Corresponds to *Held* (20012) in Cboe FIX. Indicates if order should be designated as 'Held' upon order entry. N = Mark order as Not Held Y = Mark order as Held Default value is 'N' if the order is direct routed to a Non-PAR Official on the floor.

FIELD	LENGTH	DATA TYPE	DESCRIPTION
LastPriority (C1 and EDGX only)	1	Alphanumeric	Corresponds to *LastPriority* (9849) in Cboe FIX. When enabled, allocation will go to other participants' responses before requiring the Contra Order to satisfy remaining contracts of the Agency Order. Mutually exclusive with *AutoMatch*. 0 = Disabled (Default) 1 = Enabled
LastPx	8	Binary Price	Corresponds to *LastPx* (31) in Cboe FIX. Price of this fill.
LastShares	4	Binary	Corresponds to *LastShares* (32) in Cboe FIX. Executed share quantity.
LeavesQty	4	Binary	Corresponds to *LeavesQty* (151) in Cboe FIX. Quantity still open for further execution. If zero, the order is complete.
LegCFICode (C1, C2, and EDGX only)	6	Alphanumeric	Corresponds to *LegCFICode* (608) in Cboe FIX. CFI Code for leg. OP = Options Put OC = Options Call E = Equity (C1 and EDGX only)
LegMaturityDate (C1, C2, and EDGX only)	4	Date	Corresponds to *LegMaturityDate* (611) in Cboe FIX. Required if *LegSymbol* is in OSI format.
LegPositionEffectsExt	16	Alpha	Indicates status of the client position in the option for each complex option leg. This value String of characters 'O', 'C', and 'N', is equal in length to the number of option legs of the instrument. If an equity leg is present it will always be the last leg, and the position effect must be set to 'N'. O = Open C = Close N = None* *Orders with *Capacity* = M or N or will not be required to specify a position effect on their orders or may specify a value of 'N'. A <blank> will be sent to OCC. If the leg is limited to closing only transactions, only *Capacity* = M will be permitted to submit *OpenClose* = O if the order has *TimeInForce* = 3 (IOC) and *RoutingInst* = B. If this field is present it will be used instead of the *LegPositionEffects* field in the **`New Cross Order Multileg`** message. This field is intended to be used with complex instruments containing greater than 12 legs, however it can be used with a complex instrument with 12 or fewer legs.
LegStrikePrice (C1, C2, and EDGX only)	8	Binary Price	Corresponds to *LegStrikePrice* (612) in Cboe FIX. Option strike price. System maximum is 999,999.99. Must be non-negative. Required if *LegSymbol* is in OSI format.
MarketingFeeCode (C1 and EDGX only)	2	Alphanumeric	Corresponds to *MarketingFeeCode* (5937) in Cboe FIX. P = Penny Pilot N = Non-Penny Pilot X = Not Eligible for Marketing Fees
MassCancelID	20	Text	Corresponds to *MassCancelID* (7695) in Cboe FIX.

FIELD	LENGTH	DATA TYPE	DESCRIPTION
			If the populated value ends in a space the message will be rejected. Mass cancel requests containing a currently outstanding *MassCancelID* will be rejected. This field will be echoed back in the resulting response message when the single acknoweldgement style is selected.
MassCancelInst	16	Text	Corresponds to *MassCancelInst* (7700) in Cboe FIX. Used for specification of **`Purge Orders`** message functionality and optionally used for specification of Mass Cancel functionality associated with the **`Cancel Order`** message. At least one character must be provided (Clearing Firm Filter). Contiguous characters must be specified up to total length. Truncated/unspecified characters will default to values indicated (D) below. EFID values specified in *OnBehalfOfCompId* that are not allowed to clear for the firm will be rejected. **1st Character: Clearing Firm Filter** A = No filtering by clearing firm relationship is performed. F = All orders that were sent under the clearing relationship specified in *ClearingFirm* optional field. If 'F' specified and the ClearingFirm field is not provided, the Mass Cancel or Purge Orders message will be rejected. If 'F' specified and the ClearingFirm field is provided but is blank (NULL), the Mass Cancel or Purge Orders message will be treated like 'A', and no filtering by clearing firm relationship is performed. **2nd Character: Acknowledgement Style** M = (D) Order Cancelled messages are sent for each cancelled order. If 'M' is set and the *MassCancelID* optional field is specified but the value is not blank (NULL), then the Mass Cancel message will be rejected. For a Purge Orders message 'M' will be accepted with a non-blank *MassCancelID* value. S = A single Mass Cancel Acknowledgement message is sent once all cancels have been processed. The *MassCancelID* optional field must be specified or the Mass Cancel or Purge Orders message will be rejected. B = Both individual Order Cancelled and Mass Cancel Acknowledgement messages will be sent. Also requires *MassCancelID* optional filed to be specified or the Mass Cancel or Purge Orders message will be rejected. A = A single Mass Cancel Acknowledgement message is sent to the purge port and one Purge Notification message for each matching unit with cancelled orders is sent to the order entry ports that originated those orders. The message type must be Purge Orders message; Mass Cancel messages specifying this style will be rejected. The *CancelledOrderCount* field of the purge port message will contain a count of all cancelled orders. The same field of the order entry port messages will contain a count of all cancelled orders from the specified matching unit that originate from the port. The *MassCancelID* optional field must be specified or the Purge Orders will be rejected.

FIELD	LENGTH	DATA TYPE	DESCRIPTION
			I = A single Mass Cancel Acknowledgement message is sent for each matching unit impacted in a multi-unit cancel. The message type must be Purge Orders; Mass Cancel messages specifying this style will be rejected. A final acknowledgement is sent when the last matching unit has completed all requested cancellations. *MassCancelId* (7695) must be specified, or the Purge Order will be rejected . **3rd Character: Lockout Instruction** N = (D) No lockout L = Lockout until corresponding a risk reset is received. Lockout can be used only with Clearing Firm Filter set to 'F', otherwise the Mass Cancel or Purge Orders message will be rejected. Lockout will apply to all new orders for the *ClearingFirm* (and *ProductName* or *CustomGroupIDs*, if specified), regardless of other filtering in the Purge Orders or Cancel Order message. **4th Character: Instrument Type Filter** (C1, C2, and EDGX Only) B = (D) Cancel both single leg and complex orders S = Cancel single leg orders only C = Cancel complex orders only **5th Character: GTC Order Filter** C = (D) Cancel GTC and GTD orders P = Don't cancel (preserve) GTC and GTD orders If the *RiskRoot* optional field is specified, it must contain a valid symbol (e.g., 'MSFT'), in which case only orders associated with the specified *RiskRoot* will be cancelled. A self-imposed lockout can be released using the *RiskReset* field of the **`New Order`** or **`New Complex Order`** message or by sending a **`Reset Risk`** message. If *RiskRoot* optional field is specified, a symbol level reset is required, otherwise a EFID level reset is required to release a lockout. For more information, refer to the Cboe Risk Management Specification. If a risk limit is tripped or manually locked out at the end of the RTH session, the trip/lockout will persist into the Curb session (C1 only).
MatchingUnit	1	Binary	Corresponds to *MatchingUnit* (25017) in Cboe FIX. Matching unit number the **`Purge Orders`** message will be sent toward. If blank or 0, the **`Purge Orders`** message will be sent to all units. Incompatible with symbol-level purges, specifying both symbol and *MatchingUnit* will cause the **`Purge Orders`** message to be rejected. If both *MassCancelInst* lockout instruction = L and *MatchingUnit* are specified, a lockout will occur and will impact only the specified matching unit. Subsequent risk resets will clear risk locks on all units.
MaturityDate	4	Date	Corresponds to *MaturityMonth* (200) and *MaturityDay* (205) in Cboe FIX.
MaxFloor	4	Binary	Corresponds to *MaxFloor* (111) in Cboe FIX. Portion of *OrderQty* to display. The balance is reserve. Zero displays the entire quantity. The displayed quantity of each order at a price level is decremented first. When displayed quantity is fully decremented, it is reloaded up to *MaxFloor* from reserve.

FIELD	LENGTH	DATA TYPE	DESCRIPTION
			Default = 0 An order with a *MaxFloor* greater than 0 will be rejected for Cboe proprietary classes (such as DJX, RUT, SPX, XSP, and VIX).
MinQty	4	Binary	Corresponds to *MinQty* (110) in Cboe FIX. Minimum fill quantity for IOC orders which only interact with liquidity on the target book. Ignored for other orders.
MultiClassSprd (C1 only)	1	Alpha	Indicates an option is part of a multi-class spread. N = (Default) No Y = Yes
MultilegReportingType (C1, EDGX, and C2 only)	1	Alphanumeric	Corresponds to *MultilegReportingType* (442) in Cboe FIX Indicates the type of **`Order Execution`** message. 1 = Single-leg instrument 2 = Individual leg of multi-leg instrument 3 = Entire multi-leg instrument package 4 = Last individual leg of multi-leg instrument
NoOfSecurities (C1, C2, and EDGX only)	4	Binary	Corresponds to *NoOfSecurities* (8641) in Cboe FIX. Indicates the number of securities created by the member in this trading session.
OpenClose	1	Alphanumeric	Corresponds to *OpenClose* (77) in Cboe FIX. Indicates status of client position in the option. O = Open C = Close N = None* *Orders with *Capacity* = M or N will not be required to specify *OpenClose* on their orders. A value of N may optionally be specified unless the series is limited to closing only. If the series is limited to closing only transactions, only *Capacity* = M will be permitted to submit *OpenClose* = O if the order has *TimeInForce* = 3 (IOC) and *RoutingInst* = B, or the order has *RoutingInst* = P. An Open position cannot trade with an Open position for series limited to Closing Only transactions, even if the inbound IOC from the aggressing market maker is sent with that combination of tags.
OrderOrigin (C1 only)	3	Alphanumeric	Corresponds to *OrderOrigin* (9465) in Cboe FIX. Floor acronym of Market Maker on whose behalf this order is being entered by a floor broker.
OrderQty	4	Binary	Corresponds to *OrderQty* (38) in Cboe FIX. Order quantity. System limit is 999,999 contracts.
OrdType	1	Alphanumeric	Corresponds to *OrdType* (40) in Cboe FIX. 1 = Market 2 = Limit (default) 3 = Stop 4 = Stop Limit Stop/Stop Limit orders must be set to *TimeInForce* = 0 (DAY), 1 (GTC), or 6 (GTD). Note market and stop/stop limit orders are not supported during GTH or Curb sessions.
OrigClOrdID	20	Text	Corresponds to *OrigClOrdID* (41) in Cboe FIX.
OrigCrossID	20	Text	Corresponds to *OrigCrossID* (551) in Cboe FIX.
ORS	1	Alpha	Corresponds to *ORS* (22003) in Cboe FIX.

FIELD	LENGTH	DATA TYPE	DESCRIPTION
(C1 only)			Order router subsidy eligibility (used for billing purposes). N = (Default) No Y = Yes
PreventMatch	3	Alpha	Corresponds to *PreventMatch* (7928) in Cboe FIX. Three characters: **1st character - MTP Modifier:** N = Cancel Newest O = Cancel Oldest B = Cancel Both S = Cancel Smallest D = Decrement larger / Cancel Smaller d = Same as D above, but only decrement LeavesQty. Do not restate OrderQty **2nd character - Unique ID Level:** F = Prevent Match at Firm(Member) Level M = Prevent Match at EFID Level **3rd character - Trading Group ID (optional):** Member specified alphanumeric value 0-9, A-Z, or a-z. The Unique ID level (character 2) of both orders must match to prevent a trade. If specified on both orders, Trading Group ID (character 3) must match to prevent a trade. The MTP Modifier (character 1) of the inbound order will be honored, except that if the inbound order specifies Decrement and the resting order does not, and the resting order is larger, then both orders will be cancelled. This exception is to protect the order entry software for the resting order from receiving an unexpected restatement message. If order entry software is prepared to handle unexpected restatement messages, this exception may be overridden at the port level by requesting "Allow MTP Decrement Override" functionality. Uses of MTP Modifier D or d (and users of "Allow MTP Decrement Override" functionality must be prepared to receive an **`Order Restated`** message that decrements *LeavesQty* (and, for method D, *OrdQty* as well). On a **`New Order Cross`** message, only N and O are supported for the MTP modifier. MTP instructions on AIM orders will be used to prevent executions against AIM responses only; they will permit executions against resting or unrelated orders. Responses may only employ N (Cancel Newest) in which case the response will be cancelled and the auction order will continue. On a **`New Order Cross`** message, this field is only applicable to the Agency order.
Price	8	Binary Price	Corresponds to *Price* (44) in Cboe FIX. Limit price. Required for limit orders (*OrdType* = 2). If specified on market orders (*OrdType* = 1), the order will be rejected. This field is also used to specify an optional cap price for pegged orders. For complex orders, net pricing of the strategy. Four implied decimal places. (EDGX and C2 only)

FIELD	LENGTH	DATA TYPE	DESCRIPTION
			Buy orders: Positive value, Debit Negative value, Credit Even order, 0 (Zero) *Sell orders:* Positive value, Credit Negative value, Debit Even order, 0 (Zero)
PriceType (C1 only)	1	Alphanumeric	Corresponds to *PriceType* (423) in Cboe FIX. 0 = Fixed cabinet trade price 2 = (Default) Price per unit (contract) 3 = Fixed amount (cash spread pricing) - only for complex orders routed to the floor
PutOrCall	1	Alphanumeric	Corresponds to *PutOrCall* (201) in Cboe FIX. 0 = Put 1 = Call
RevisedLegs (C1, C2, and EDGX only)	1	Alphanumeric	Indicates if the legs on the created complex strategy have been reordered from the original request. If the legs were reordered, the order of the *OpenClose* fields on a **`New Complex Order`** message must be the order returned by the exchange, not the order from the original request. 1 = Legs were not reordered 2 = Legs were reordered
RiskReset	8	Text	Corresponds to *RiskReset* (7692) in Cboe FIX. For use by customers using Cboe's Risk Management tools to reset or release EFID Group, EFID, Risk Root, or Custom Group ID level lockout conditions resulting from risk profile trips or self-imposed lockouts issued via **`Cancel Order`** or **`Purge Orders`** messages. **Single Character Values - with counter reset:** S = Risk Root level risk/lockout reset F = EFID level risk/lockout reset C = CustomGroupID lockout reset G = EFID Group level risk/lockout reset **Single Character Values - without counter reset:** T = Risk Root-level self-imposed lockout reset E = EFID self-imposed lockout reset Values may be combined together to allow for resets of multiple risk trips or self-imposed lockouts in a single message. For example, 'GS', 'SC', 'FC', and 'SFC' are all acceptable values. The **single character values with no counter reset will release a self-imposed lockout condition only** without resetting any counters related to active risk rules. This may be useful for time based risk rules where the lockout may be released without resetting any risk values being tracked back to zero. If a conflicting value is provided the lockout release with counter reset will take precedence. For example, 'ST' will release any lockout and reset any applicable root-level rule counters to zero.

FIELD	LENGTH	DATA TYPE	DESCRIPTION
			When a resting or inbound order is executed and a Risk Root level risk profile limit is reached, resting orders on the associated Risk Root will be cancelled and inbound orders on the Risk Root will be rejected until this field is filled with the value S on a subsequent **`New Order`** or **`New Complex Order`** message corresponding to a symbol on the same Risk Root. All active Risk Root level rules in the risk profile are reset at this time. Individual rules cannot be reset on their own. If an EFID-level rule is tripped, this tag can be filled with the value 'F' to reset all EFID-level rules. While this will reset EFID-level rules, it is possible that both EFID and Risk Root level rules are currently tripped. Setting this field to 'F' will not clear Risk Root-level rules and the order may still be rejected. To clear both Risk Root and EFID-level rules, set this field to 'SF' to reset all associated Risk Root and EFID-level lockouts. If orders have been locked out at the *CustomGroupID* level, inbound orders for the locked *CustomGroupID* will be rejected until this field is filled with a 'C' value on a **`New Order`** or **`New Complex`** message order that uses the locked *CustomGroupID*. **EFID and EFID Group resets are not allowed by default**. Customers should contact the Cboe Trade Desk to reset these limits or request a change to the "EFID Risk Reset" port setting using the Logical Port Request form. If a risk limit is tripped or manually locked out at the end of the RTH session, the trip/lockout will persist into the Curb session (C1 only). For more information, refer to the Cboe US Options Risk Management Specification.
RiskRoot	6	Text	Corresponds to *Symbol* (55) in Cboe FIX. The underlying symbol.
RouteDeliveryMethod	3	Text	Corresponds to *RouteDeliveryMethod* (9350) in Cboe FIX. RTI = Route to improve (default if not specified). Ability to receive price improvement will take priority over speed of execution. RTF = Route to Fill. Speed of execution will take priority over potential price improvement. Only applicable to *RoutStrategy* = ROUT
RoutingFirmID	4	Alpha	Corresponds to *RoutingFirmID* (7933) in Cboe FIX. Used to optionally convey the routing firm of the order. If supplied, value must be a valid member EFID. May be combined with *MassCancelInst* with Firm Filter set to 'F' in a mass cancel request.
RoutingInst	4	Text	Corresponds to *RoutingInst* (9303) in Cboe FIX. 1st character: B = Book Only (not routable, will remove from local book) P = Post Only (not routable)* R = Routable S = Super Aggressive - Cross or Lock (order will be removed from the book and routed to any quote that is locking or crossing the order) X = Aggressive - Cross Only (order will be removed from the book and routed to any quote that is crossing the order

FIELD	LENGTH	DATA TYPE	DESCRIPTION
			2nd character (C1 and EDGX only): L = Do Not Expose order via Step-Up Mechanism (SUM) S = Expose order via Step Up Mechanism (SUM)** *Post Only orders with *DisplayIndicator* (9479) = R will be cancelled back even if they would be immediately executable with price improvement (C1, C2, and EDGX only). **Routable Orders identified with *RoutingInst* = R, RS, S, SS, X, or XS, *RoutStrategy* = ROUT, and *AuctionId* not supplied, or Non-Routable Orders identified with *RoutingInst* = BS, *ExecInst* not f, *TimeInForce* not 4, and *MinQty* not supplied will participate in the Step-Up Mechanism (SUM) before routing, booking, or cancelling back.
RoutingInst (Complex) (C1, C2, and EDGX only)	4	Text	Corresponds to *RoutingInst* (9303) in Cboe FIX. 1st character: B = Book Only (will remove from local book), allowed to interact with both single-leg and other complex orders. D = Complex Book Only, allowed to interact with other complex orders only.* P = Post Only (adds liquidity only) 2nd character: L = Do Not Expose order via Complex Options Auction (COA) S = Expose order via Complex Options Auction (COA)** *Only valid if *TimeInForce* = Day or IOC, otherwise rejected. **All non-IOC complex orders will be eligible for COA unless otherwise specified.
RoutStrategy	6	Text	Corresponds to *RoutStrategy* (9400) in Cboe FIX. ***All exchanges:*** ROUT = Book + Street DIRC = Book + Directed IOC or Directed ISO if ExecInst = f* SWPA = (default) Book + Sweep Street **ExDestination* must also be populated. Must be specified when sending non-book only ISO, otherwise the order will be rejected.
SecondaryExecID (C1, C2, and EDGX only)	8	Binary	Indicates whether a fill or partial fill is a complex instrument fill or a single leg fill that comprises a complex execution. If *SecondaryExecID* (527) is not present, the fill is a single leg fill only. If *SecondaryExecID* is present and is the same as the *ExecID* (17), the fill represents a complex execution for which associated single leg fills will follow. Single leg fills associated with a complex execution will contain a *SecondaryExecID* of the associated complex execution.
SecondaryOrderID	8	Binary	Corresponds to *SecondaryOrderID* (198) in Cboe FIX. Denotes an alternative *OrderID* which is present on Cboe market data feeds (for example, to hide that a reserve (iceberg) order has reloaded). Or, *OrderID* of the contra side of a prevented match.
SendTime	8	DateTime	UTC timestamp when the mass cancel or purge was sent by the Market Maker to the Exchange. This timestamp is required to be at least in millisecond granularity but the CAT NMS Plan requires

FIELD	LENGTH	DATA TYPE	DESCRIPTION
			Industry Members to report the *SendTime* with the finest increment supported by the Industry Member. This is required to be populated whenever a mass cancel or purge message is expected to cancel one or more Market Maker (*capacity*=M) quotes that were submitted using the **`Quote Update`** message so that the appropriate timestamp can be captured and sent to the CAT. This field must be populated on all Cancel Order and **`Purge Order`** messages.
SenderLocationID (C1 only)	1	Alphanumeric	Corresponds to *SenderLocationID* (142) in Cboe FIX. F = Floor <blank> = (or not present) for electronic execution.
SessionEligibility (C1 only)	1	Alpha	Corresponds to *SessionEligibility* (22017) in Cboe FIX. R = (default) Order participates in Regular Trading Hours A = Order participates in both Global and Regular Trading Hours. Also allows for participation in Curb Trading Session. B = Order participates in both RTH and Curb Session.
Side	1	Alphanumeric	Corresponds to *Side* (54) in Cboe FIX. 1 = Buy 2 = Sell 5 = Sell Short (stock leg only) (C1 and EDGX only) 6 = Sell Short Exempt (stock leg only) (C1 and EDGX only)
StopPx	8	Binary Price	Corresponds to *StopPx* (99) in Cboe FIX. Stop price. Required if *OrdType* = 3 (Stop) or 4 (Stop Limit). Stop and Stop Limit orders will only be triggered off Last Sale Eligible trades. Stop/Stop Limit orders will only elect based off of RTH quotes and trades.
StrategyID (C1 only)	1	Alphanumeric	Corresponds to *StrategyID* (22002) in Cboe FIX. Used to declare when a strategy is used. C = Conversion R = Reversal M = Merger S = Short stock interest J = Jelly roll F = CompressionForum B= BoxSpread A= BoxSwap
StrikePrice	8	Binary Price	Corresponds to *StrikePrice* (202) in Cboe FIX. Strike Price for option, 0 - 999,999.99
SubLiquidityIndicator	1	Alphanumeric	Additional information about an execution. **Cboe may add additional values without notice. Members must gracefully ignore unknown values.** ASCII NUL (0x00) = No Additional Information S = Execution from order that set the NBBO B = Step Up Mechanism (C1 and EDGX Only) U = Market Turner (C1 Only) b = AIM (C1 and EDGX Only) C = Carried D = Done For Day

FIELD	LENGTH	DATA TYPE	DESCRIPTION
			Q = QCC (C1 and EDGX Only) s = SAM (C1 and EDGX Only)
Subreason	1	Alphanumeric	Additional detail for an order reject or cancellation. Corresponds to the first character in *Subreason* (22058) in Cboe FIX. See Order Reason Codes on page 213 for a list of possible subreasons.
Symbol	8	Alphanumeric	Corresponds to *Symbol* (55) in Cboe FIX. Entire Cboe format symbol
TargetPartyID (C1 and EDGX only)	4	Alpha	Corresponds to *TargetPartyID* (1462) in Cboe FIX. A valid Parent ID of the Directed Market Maker (EDGX only) or Preferred Market Maker (C1 only). Required for directed orders. On a **`New Order Cross`** message, this field is only applicable to the Agency order.
TiedHedge (C1 only)	1	Alpha	Corresponds to *TiedHedge* (22018) in Cboe FIX. Order is a tied hedge. N = (Default) No Y = Yes
TimeInForce	1	Alphanumeric	Corresponds to *TimeInForce* (59) in Cboe FIX. 0 = Day - (Default) Expires at end of market day. 1 = GTC* - Remains in system until executed, cancelled or option expires. 2 = At the Open - Will remain queued and only interact in the Cboe Opening Process (C2 and EDGX only) or the Cboe Opening Auction (C1 only). 3 = IOC - Portion not filled immediately is cancelled. Market orders are implicitly IOC for non-complex orders. 4 = FOK - An IOC where the entire size must be filled, else the order will be cancelled back. Not compatible with Step-Up Mechanism (SUM). 6 = GTD* - Expires at specified *ExpireTime* for a specified day. 7 = At the Close - Orders held for execution until 180 seconds before series is scheduled to close. *Bulk Quoting Ports only support *TimeInForce* = Day or GTD with a same day expiration on C1, C2, and EDGX.
TradeDate	4	Date	Corresponds to *TradeDate* (75) in Cboe FIX.
TradeThroughAlertType (C1 only)	1	Alphanumeric	Corresponds to *TradeThroughAlertType* (21098) in Cboe FIX. Indication of a type of trade through. 0 = No trade through 1 = NBBO 2 = BBO (local best bid or offer) 3 = SBBO (market quote of complex derived by legs) 4 = Book trade through (trade through customer size) 5 = Due Dilligence trade through
WorkingPrice	8	Binary Price	Corresponds to *WorkingPrice* (9690) in Cboe FIX. Only present if an order is fully or partially booked. If price had to be adjusted to a less aggressive value for some reason, the adjusted price will be reported here, otherwise equals price.

Reason Codes

Order Reason Codes

The following is a list of all order related reason codes used by Cboe. These reason codes are used in a variety of contexts (order cancellations and order rejections). All reasons are not valid in all contexts. The reason code will be followed by free form text. The specific text the system delivers may vary from the text listed below, to provide clarification of the reject reason. Cboe may add additional reason codes without notice. Members must gracefully ignore unknown values.

CODE	DESCRIPTION
A	Admin
D	Duplicate identifier (e.g., ClOrdID)
F	Could not reflect to consolidated quote (OPRA)
H	Halted
I	Incorrect data center
J	Too late to cancel
K	Order rate threshold exceeded
L	Order would lock or Cross NBBO
M	Order size exceeded
N	Ran out of liquidity to execute against
O	*ClOrdID* doesn't match a known order
P	Can't modify an order that is pending fill
Q	Waiting for first trade
R	Routing Unavailable
T	Fill would trade through the NBBO
U	User requested
V	Would wash
W	Add liquidity only order would remove
X	Order expired
Y	Symbol not supported
Z	Unforeseen reason
c	Only Close transactions accepted
f	Risk management EFID or Custom Group ID level
m	Market access risk limit exceeded
o	Max open orders count exceeded
r	Reserve reload
s	Risk management risk root level
w	Would remove on unslide
x	Crossed market
y	Order received by Cboe during replay
z	Session End
+	Risk management EFID Group level

Quote Reason Codes

The following is a list of all quote reason codes used by Cboe. All reasons are not valid in all contexts. The reason code will be followed by free form text. The specific text the system delivers may vary from the text listed below, to provide clarification of the reject reason. Cboe may add additional reason codes without notice. Members must gracefully ignore unknown values.

CODE	DESCRIPTION
C	Invalid EFID (*ClearingFirm*)
D	Invalid *WashId*
E	Invalid *SessionEligibility*
F	Not enabled for quotes
I	Incorrect data center
L	Invalid *QuoteCnt*
M	Symbols not on same matching engine
P	Invalid *PostingInstruction*
Q	Invalid *QuoteUpdateID*
R	Risk root does not match across quotes
S	Symbol not found
U	Message unable to be sent to Matching Engine
W	Invalid *WashPreventType*
a	Admin
c	Invalid *Capacity*
d	Close only
f	Risk management EFID or Custom Group ID level
m	Invalid *WashMethod*
n	Exceedes max notional value per order
o	Invalid Open/Close
p	Risk management risk root level
r	Invalid Remove
s	Invalid *Side*
t	Invalid *SendTime*
u	Symbol range unreachable
x	Exceeds max size per order
y	Quote received by Cboe during replay

Order and Quote Subreason Codes

The following is a list of subreason codes used to indicate additional detail for order rejections or cancellations. The code will be followed by free form text. The specific text the system delivers may vary from the text listed below, to provide clarification of the reject or cancel reason. Cboe may add additional values without notice. Users must gracefully ignore unknown values.

CODE	DESCRIPTION
A	Purge/mass cancel EFID level by user
B	Purge/mass cancel Symbol level by user
C	Purge/mass cancel Custom Group ID level by user
E	EFID level lockout by Cboe Trade Desk admin
J	Firm disconnect
K	ME disconnect
L	Unregistered MM Account
S	Minimum size requirement not met
T	Cboe Trade Desk admin
f	Risk management EFID level by rule
s	Risk management Symbol level by rule
+	Risk management EFID Group level by rule

List of Message Types

Table 134. Member to Cboe

MESSAGE NAME	LEVEL	TYPE	SEQUENCED
Login Request	Session	0x37	No
Logout Request	Session	0x02	No
Client Heartbeat	Session	0x03	No
New Order	Application	0x38	Yes
New Order Cross	Application	0x41	Yes
New Complex Order	Application	0x4B	Yes
New Order Cross Multileg	Application	0x5A	Yes
Cancel Order	Application	0x39	Yes
Modify Order	Application	0x3A	Yes
Quote Update	Application	0x55	Yes
Reset Risk	Application	0x56	Yes
Quote Update (Short)	Application	0x59	Yes
Purge Orders	Application	0x47	Yes
New Complex Instrument	Application	0x4C	Yes

Table 135. Cboe to Member

MESSAGE NAME	LEVEL	TYPE	SEQUENCED
Login Response	Session	0x24	No
Logout	Session	0x08	No
Server Heartbeat	Session	0x09	No
Replay Complete	Session	0x13	No
Order Acknowledgment	Application	0x25	Yes
Cross Order Acknowledgment	Application	0x43	Yes
Order Rejected	Application	0x26	No
Cross Order Rejected	Application	0x44	No
Order Modified	Application	0x27	Yes
Order Restated	Application	0x28	Yes
User Modify Rejected	Application	0x29	No
Order Cancelled	Application	0x2A	Yes
Cross Order Cancelled	Application	0x46	Yes
Cancel Rejected	Application	0x2B	No
Order Execution	Application	0x2C	Yes
Trade Cancel or Correct	Application	0x2D	Yes
Purge Rejected	Application	0x48	No
Mass Cancel Acknowledgment	Application	0x36	No
Complex Instrument Accepted	Application	0x4D	Yes
Complex Instrument Rejected	Application	0x4E	No
Quote Update Acknowledgment	Application	0x51	Yes
Quote Restated	Application	0x52	Yes
Quote Cancelled	Application	0x53	Yes
Quote Execution	Application	0x54	Yes
Risk Reset Acknowledgment	Application	0x57	No

MESSAGE NAME	LEVEL	TYPE	SEQUENCED
`Quote Update Rejected`	Application	`0x58`	No

BOE Port Attributes

The table below lists BOE port attributes that are configurable on the port or firm level. Changes to these attributes can be made by contacting the Cboe Trade Desk. Port Attribute changes made intra-day by the Cboe Trade Desk will not affect existing quotes or orders. In order for the desired intra-day port attribute to be applied to existing quotes or orders, you must first cancel or send a quote with zero price and size and then re-enter the order or quote.

ATTRIBUTE	DEFAULT	DESCRIPTION
Allow Directed ISO *	Yes	Allow or disallow ISO orders directed to other market centers.
Allow ISO *	Yes	Allow or disallow ISO orders.
Allow MTP Decrement Override *^	No	Overrides the exception that requires both the resting and inbound order to be marked as "Decrement".
Allow Sponsored Participant MTP Control *^	No	Allow Sponsored Participant to override port default for match trade prevention by using *PreventMatch* on the order level.
Allow Test Symbols Only	Disabled	Allow or disallow orders in non-test symbols
Allowed Clearing Executing Firm ID(s) *	All EFIDS	Executing Firm ID(s) allowed for trading on the port.
Cancel on Disconnect	All	Cancels open orders upon order handler session disconnect; both graceful and ungraceful. If Cancel On Disconnect is set, open orders in Symbols not in Closed state at the time of the disconnect are cancelled. All = Cancel Day and GTC/GTD orders Day = Cancel only Day orders None = Disabled BOE Quoting ports require Cancel on Disconnect set to All or Day. Default will be used if not specified.
Cancel on ME Disconnect	All	Controls whether orders are cancelled or preserved on a Matching Unit failover and provides for the ability to preserve GTC/GTD orders. For C2 and EDGX, in any event, if a failover takes longer than 5 minutes, all orders are cancelled (including GTC/GTD Orders). For C1 if a failover takes longer than 15 minutes, all orders are cancelled (including GTC/GTD Orders). All = Cancel Day and GTC/GTD orders Day = Cancel only Day orders None = Disabled BOE Bulk Quoting ports require Cancel on ME Disconnect set to All or Day. Default will be used if not specified.
Cancel on Regulatory Halt	All (EDGX Only) None (C1 and C2 Only)	Cancels open orders upon receipt of a Regulatory Halt. All = Cancel Day and GTC/GTD orders Day = Cancel only Day orders None = Disabled
Cancel on Reject +	No	Cancels an order upon a modify reject.
Cancel Open Orders on DROP Port Disconnect *	None	Only applicable if "Reject Orders on DROP Port Disconnect" has been enabled. When the last Standard FIX DROP port associated with an order handler session has disconnected, open orders, associated with the session are cancelled. All = Cancel Day and GTC/GTD orders Day = Cancel only Day orders

ATTRIBUTE	DEFAULT	DESCRIPTION
		None = Disabled Note this parameter applies to Standard FIX DROP ports and not Order-By-Order DROP ports (ODROP).
Carried Order Restatements	No	If the Carried Order Restatements port attribute is set, unsolicited **`Order Acknowledgement`** messages representing GTC/GTD orders loaded by the system at startup will be sent after the Login Response message and before any other messages for each product. Note that Carried Orders are restated to customers using **`Order Acknowledgement`** messages with *BaseLiquidityIndicator* = A and *SubLiquidityIndicator* = C. Note that any changes made to any port attribute will not be enforced on carried GTC orders. Members wishing to apply updated port attributes to resting GTC orders must cancel those orders and resubmit them following the effective time of the port attribute change.
Crossed Market Cancel / Reject [$]	No	Reject new orders when the NBBO in the security is crossed. Routable orders will have any remaining quantity cancelled back when the order returns to the book. Order modifications causing a loss in priority will result in a cancel of the original order if the NBBO is crossed upon receipt of the modify request. Quotes are always accepted, even in a crossed market.
Default *Account*	None	Default *Account* to be used if none is sent on inbound messages. Allows 16 characters or less (ASCII 33-126) but a max of 10 characters will be passed through to the OCC Customer ID Field.
Default Attributed Quote *[+]	X	Default value for *AttributedQuote*. May override at order level. C† = Attribute *ClientIDAttr only* (C1 only) N = Don't Attribute (may override at order level) Y = Attribute EFID only Z = Attribute EFID and *ClientIDAttr* X* = (Default) Never Attribute (may not be overridden at order level) *This setting may only be changed after executing Attribution Addendum to Exchange User Agreement (EDGX only).
Default *ClearingOptionalData*	None	Default *ClearingOptionalData* to be used if none is sent on inbound messages. Allows 16 characters or less (ASCII 33-126).
Default *ClientIDAttr*	None	Default *ClientIDAttr* to be used if none is specified on inbound messages.
Default *EquityExDestination*† (C1 and EDGX only)	C	Default *EquityExDestination* to be used if none is specified on inbound messages.
Default *EquityPartyID* (C1 and EDGX only)	None	Default *EquityPartyID* to be used if none is specified on inbound messages.
Default Executing Firm ID	None	Default Executing Firm ID to use if none is sent on a **`New Order`** or **`New Complex Order`** message.
Default *FloorDestination* (C1 only)	None	Specifies a default PAR workstation (ex. W001) to route to on the floor (or 'PARO' to route to the Floor PAR Official of the underlying symbol) if not specified on inbound messages. 4 characters or less (ASCII 33-126).
Default *FloorRoutingInst**	E	D = Direct. Do not attempt to process electronically

ATTRIBUTE	DEFAULT	DESCRIPTION
(C1 only)		E = Electronic only X = Route to floor if unable to process electronically. *When *FloorRoutingInst* = D or X, *RoutingInst* (9303) must be set to B or R for simple orders, or B for complex instruments.
Default MTP Value *^+	None	Specifies default value for *PreventMatch*.
Default Price Sliding	P (EDGX/C2 only)	Default price sliding behavior. See *DisplayIndicator* for details.
Default Routing Instruction +	9303=RS 9350=RTI 9400=SWPA	Specifies a default value for routing. Fields can be overridden at the order level. The defaults are *RoutingInst* = RS, *RouteDeliveryMethod* = RTI, and *RoutStrategy* = SWPA.
Done For Day Restatements	No	If the Done For Day Restatements port attribute is set, unsolicited **`Order Acknowledgement`** messages representing GTC/GTD orders that will be carried into the next session will be sent after the end of the trading session and before the system is recycled. Note that Done For Day Restatements are restated to customers using **`Order Acknowledgement`** messages with *BaseLiquidityIndicator* = A and *SubLiquidityIndicator* = D.
Duplicative Order Protection Action $	1	Action taken when Duplicative Order Protection criteria is met: 1 = Not enabled. 2 = Reject any offending orders. 3 = Disable port for *ClearingFirm*. Must call Cboe Trade Desk to reenable.
Duplicative Order Protection Order Count Threshold $	None	Number of consecutive orders with the same *ClearingFirm, Price, OrdQty*, and *Symbol* that must be seen to initiate Duplicative Order Protection Action.
EFID Filter for Purge Ports	None	Specify up to ten EFIDs per purge port for which purges will be permitted. If a purge request specifies an EFID not included in the list of configured EFIDs, the purge request will be rejected. If a purge port is configured with multiple EFIDs and a purge request is sent without any EFIDs specified, the purge will be applied only to the list of configured EFIDs.
EFID Risk Reset	Disabled	Configures how risk may be reset after a risk trip. Disabled = (Default). Will require manually resetting all EFID Group and EFID-Level Risk trips by contacting the Trade Desk. Enabled = Will allow EFID Group and EFID-level Risk resets using *RiskReset* of 'F' or 'G'.
Enable Market Maker Floor Trade Notifications (C1 only)	No	Enables Market Maker Floor Trade Notifications for specific Market Maker acronyms on a port.
Fat Finger Protection *$	None (EDGX only) See Web Portal Port Controls Specification for defaults (C2 only)	Orders entered through the NBBO by a specified percentage or dollar based limit price tolerance will be rejected. Limits may be different for different price ranges and price ranges may vary across markets. Please see the Web Portal Port Controls Specification for complete details.
Forced Open Cancel Instruction	DoNotCancel	Specifies order handling during a forced opening. DoNotCancel = Preserve Orders (Default) CancelMarket = Cancel Open Market Orders Only (preserve Limit Orders) CancelAll = Cancel All Open Orders

ATTRIBUTE	DEFAULT	DESCRIPTION
Market Maker Floor Trade Notification Symbology (C1 only)	Cboe	Specifies the symbology used on Market Maker Floor Trade Notifications. Cboe = Six character Cboe Symbol ID OSI = OSI Symbology (*PutOrCall*, *StrikePrice*, and *MaturityDate* will be returned)
Market Maker Reject if Cancel on Disconnect disabled	No	Rejection of Market Maker or Away-Market Maker orders if Cancel on Disconnect is not enabled. Non-Market Maker capacity order swill be unaffected with this confuration.
Maximum Order Dollar Value *	Unlimited	Maximum dollar value per order.
Maximum Order Size *	25,000	Maximum order quantity
Multi-Segment Holiday Day Order Handling (C1 only)	None	Controls whether Day (*TimeInForce* (59) = 0) orders are cancelled or preserved across holiday trading segments comprising a single business date. None = All Day orders on the book are carried between trading segments Cancel = All Day orders on the book at the conclusion of the current trading segment are cancelled back.
Port Order Rate Threshold	5,000 msgs/s 1 msg/sec for test products.	The maximum allowed message rate on the session. When the first non-session level message is received, a one second window begins, during which no more than 4,999 additional non-session level messages are allowed. If the rate is exceeded, all new orders in the time window are rejected, modifies are treated as cancels, and cancels are processed. Maximum value is 5,000 msgs/sec. **For Bulk Quoting ports, the default threshold is unlimited.** Note: Order handler burst rates towards each matching unit may be limited as described in Architecture and Message in Flight Settings on page 12.
Reject Orders on DROP Port Disconnect *	No	If all Standard FIX DROP ports associated with an order entry session experience disconnection, new orders will be rejected until at least one Standard FIX DROP port session is reestablished. Note this parameter does not apply to Order-By-Order drop ports (ODROP).
Reject Orders on DROP Port Timeout (seconds) *	30 seconds	Only applicable if "Reject Orders on DROP Port Disconnect" is enabled. When the last Standard FIX DROP port associated with an order entry session has disconnected, begin rejecting orders on the order entry session if a Standard FIX DROP session has not been reestablished within this timeout. Minimum value allowed is 0 seconds.
Send Trade Breaks ^	No	Enables sending of `Trade Cancel or Correct` messages.
Symbol Order Rate Threshold	5,000 msgs/s	Functions the same as the Port Order Rate Threshold, but is calculated at the symbol level. It is capped by the Port Order Rate Threshold. Maximum value is 5,000 msgs/sec. **For Bulk Quoting ports, the default threshold is unlimited.** Note: Order handler burst rates towards each matching unit may be limited as described in ' Architecture and Message in Flight Settings on page 12'.

* Sponsored Participants require written approval from Sponsors to update these settings on ports associated with a Sponsor's MPID.

[+] Port attribute can be overridden on an order-by-order basis.

[^] Requires certification.

[$] Not supported for quotes.

Support

Please direct questions or comments regarding this specification to tradedesk@cboe.com.

Revision History

DATE	DESCRIPTION
June 16, 2014	*Version 2.0.2* First public release of US Options BOE Version 2 specication.
July 1, 2014	*Version 2.0.3* Added Hours of Operations section. Corrected Cancel on Disconnect options.
July 3, 2014	*Version 2.0.4* Added field descriptions for *FeeCode* and *EchoText*.
July 7, 2014	*Version 2.0.5* Removed all return bits from **`User Modify Rejected V2`** messages. No optional return fields are allowed. Corrected a number of optional return bits. Added *RoutingInst*, *RoutStrategy*, *RouteDeliveryMethod*, and *ExDestination* as optional return bits (byte 8).
July 9, 2014	*Version 2.0.6* Corrected instances where *ContraCapacity* and *CorrectedSize* may be requested as optional return fields.
August 15, 2014	*Version 2.0.7* Added field descriptions for *RoutStrategy*, *ExDestination*, and *StopPx*.
August 22, 2014	*Version 2.0.8* Added Super Aggressive When Odd Lot *RoutingInst* value.
August 26, 2014	*Version 2.0.9* Added Reason Code of `w` (Would Remove on Unslide).
August 28, 2014	*Version 2.0.10* Corrected `Bulk Order V2` input bitelds.
September 3, 2014	*Version 2.0.11* Removed *SymbolSfx* from allowed fields for `New Order V2`. Removed *DiscretionAmount* and *PartyID* from allowed return bitfields for a number of messages. Corrected data type for *AcceptedCount* and *RejectedCount* to be Binary (not Text). Corrected data type for *BulkOrderRejectReasons* and *OrderRejectReason* to be Text (not Binary). Removed *AccessFee* from allowed return bitelds for `Order Restated V2`. Added clarification on *BulkOrderIDs*, *AskOrderID*, and *BidOrderID*. Added clarification on *BulkRejectReasons*, *AskRejectReason* and *BidRejectReason*.
September 8, 2014	*Version 2.0.12* Removed *ContraBroker* from List of Optional fields.
September 9, 2014	*Version 2.0.13* Removed *AccessFee* from `Order Execution V2` allowed return bitfields.
October 10, 2014	*Version 2.0.14* Claried ability to reuse *ClOrdId* with `Modify Orders` when daily limit trading risk controls are enabled.
November 13, 2014	*Version 2.0.15* Corrected `New Order V2` input bitelds to note that *DisplayIndicator* is permitted.
January 8, 2015	*Version 2.0.16*

DATE	DESCRIPTION
	Corrected `Order Execution V2` return bitfields to note that *SubLiquidityIndicator* is not allowed - it's already available in the message body. Minor correction of *PreventMatch* text (no functional change).
February 19, 2015	*Version 2.0.17* Added new *Capacity* values of N, B, and J, effective June 1, 2015.
June 10, 2015	*Version 2.0.18* Added Reason Code value of T.
June 23, 2015	*Version 2.1.0* Updated for EDGX Options. Added new fields *TargetPartyID* and *MarketingFeeCode*. Updated descriptions to note which fields are BZX Options or EDGX Options specific.
June 23, 2015	*Version 2.1.1* Added Duplicative Order Protection port attributes.
October 26, 2015	*Version 2.1.2* Added reason code of T. Updated *DisplayIndicator* description to note that, per EDGX Options Exchange rules, Display Price Sliding may not be combined with the Post Only instruction.
October 27, 2015	*Version 2.1.3* Added EDGX as possible *ContraBroker* value.
October 31, 2015	*Version 2.1.4* Corrected values for *MarketingFeeCode*. Changed text to note that *TargetPartyID* is simply copied back on all response messages.
November 11, 2015	*Version 2.1.5* Updated Pre-Market Queuing Session time to 7:30am, beginning December 11, 2015, pending SEC approval.
December 24, 2015	*Version 2.1.6* Updated description of *TargetPartyID* and *Capacity* for revised directed order functionality. Added Firm Risk Reset port attribute. Updated description of *ClearingFirm*.
January 19, 2016	*Version 2.1.7* Added Mercury as possible *ExDestination* and *ContraBroker* value.
February 17, 2016	*Version 2.1.8* Updated for new branding.
February 25, 2016	*Version 2.1.9* Added new *RestatementReason* value of P.
March 23, 2016	*Version 2.1.10* Updated description of *RoutStrategy* to state that routable ISOs must be sent using DIRC. Updated the minimum value of "Reject Orders on DROP Port Timeout" to be 0 seconds.
May 16, 2016	*Version 2.1.11* Added new field *AuctionID* and added S as a possible second character for *RoutingInst*, along with information about the Step-Up Mechanism (SUM). *AuctionID* replaced *EffectiveTime* in `New Order V2` and all of the return bitfields.
June 10, 2016	*Version 2.1.12* Display Price Sliding support eliminated for EDGX Options effective July 11, 2016.
June 28, 2016	*Version 2.1.13* Added new *SubLiquidityIndicator* of B for Step Up Mechanism.
August 3, 2016	*Version 2.1.14*

DATE	DESCRIPTION
	WAIT orders will be eliminated upon migration of BZX Options to its next generation matching engine. Refer to Release Notes on Bats' public web site for deployment schedule.
August 17, 2016	*Version 2.1.15* Corrected *ExDestination* value of EDGX Options to be G.
September 2, 2016	*Version 2.2.0* Add new message types and fields to support cross orders (EDGX Only). Includes `New Order Cross`, `Cross Order Acknowledgment`, `Cross Order Rejected`, `Cross Order Cancelled`, and supporting fields. Effective 11/11/2016.
October 4, 2016	*Version 2.2.1* Add *RoutingFirmID* as a valid field for single order messages.
November 11, 2016	*Version 2.2.2* Added new *SubLiquidityIndicator* of b for Bats Auction Mechanism. Updated Display Price Sliding to indicate it is BZX only. Added clarification that *ClearingAccount* is required when *Capacity* is M or N.
December 15, 2016	*Version 2.2.3* Removed *RoutingInst* value of C (Book Only WAIT order). Claried which *RoutingInst* values are allowed for `Bulk Orders`. Added port param for rejecting MM capacity orders if Cancel on Disconnect is disabled.
January 24, 2017	*Version 2.2.4* Added support for MIAX Pearl routing. Added 2 (Qualied Contingent Cross) as an acceptable *CrossType* for **`New Order Cross`** messages.
January 27, 2017	*Version 2.2.5* Added new message types and fields to support purge ports. Includes **`Purge Orders V2`**, **`Purge Rejected V2`**, and supporting fields. Modified **`New Order V2`** message input bitfields to include the optional *CustomGroupID* field. Effective Date March 1, 2017. Added *RoutingFirmID* to **`Modify Order V2`** and **`Cancel Order V2`** messages.
February 27, 2017	*Version 2.2.6* Correct *MassCancel* field description in **`Purge Orders V2`** message examples from lockout to single ack.
March 2, 2017	*Version 2.2.7* Add new field type *Date*.
March 22, 2017	*Version 2.2.8* Remove Suppress Cancels on Sessions Close port attribute.
March 22, 2017	*Version 2.2.9* Add descriptions of port attributes "Allow Test Symbols Only", "Port Order Rate Threshold", and "Symbol Order Rate Threshold".
May 11, 2017	*Version 2.3.0* Add new message types and fields to support complex orders (EDGX Only). Includes `New Complex Order`, `New Complex Instrument`, `Complex Instrument Accepted`, `Complex Instrument Rejected`, and supporting fields. Effective 10/23/2017.
June 13, 2017	*Version 2.3.1* Removed support for *TimeInForce* value of 4 (Fill-or-Kill) on complex orders. Added clarification of valid *TimeInForce* values used with *RoutingInst* value of D on complex orders. Corrected options for port attribute "Cancel on Disconnect".
July 7, 2017	*Version 2.3.2* Corrected field type and size of *RevisedLegs*. Fixed naming inconsistency of A*ttributedQuote* sometimes being called *AttributedOrder*. Claried symbology use on **`Order Execution V2`** messages for complex orders.

DATE	DESCRIPTION
July 25, 2017	*Version 2.3.3* Added *SecondaryExecId* to `Order Execution V2`. Added new Mass Cancel/Purge Request specication style using *MassCancelInst* field Effective 10/23/2017.
July 28, 2017	*Version 2.3.4* Updated description of use of *MassCancelInst* field in **`Purge Orders V2`** message Effective 10/23/2017.
August 3, 2017	*Version 2.3.5* Added *RiskReset* and *CustomGroupId* to **`New Complex Order`** message.
August 7, 2017	*Version 2.3.6* Corrected size of *NoOfSecurities* field in message description and examples.
August 9, 2017	*Version 2.3.7* Added *ClearingFirm* optional field to **`New Complex Instrument`** message.
August 14, 2017	*Version 2.3.8* Corrected **`Purge Orders`** message biteld ordering and added *RoutingFirmID*.
September 1, 2017	*Version 2.4.0* Removed references to V2 as the V1 specification was deprecated. Added C2-specific references. Updated Cancel on Disconnect, Cancel on ME Disconnect, Cancel on DROP Port Disconnect and Cancel on Regulatory Halt to all provide GTC filtering.
September 15, 2017	*Version 2.4.1* Added support for C2 Feature Pack 1. Available in Certification effective 9/15/17 and in Production effective 10/13/17.
October 5, 2017	*Version 2.4.2* Updated explanatory text for MassCancelInst lockout behavior. *TimeInForce* = 2 (At the open) is supported effective 10/23/17. Updated C2 Feature Pack 1 effective date from 10/6/17 to 10/13/17. Removed introduction of ContraTrader and ContraBroker and deprication of ContraCapacity from C2 Feature Pack 1 release. Removed Side and OrderQty from the New Complex Instrument example.
October 17, 2017	*Version 2.4.3* Updated *Symbol* in **`Complex Instrument Accepted`** message to indicate this is the complex instrument id. Cboe branding/logo changes.
November 7, 2017	*Version 2.4.4* Updated to indicate that Bulk Order Acknowledgements are unsequenced. Corrected various spelling erorrs, field name and case inconsistencies. Updated Return Order Bitfields for Cross Order Acknowledgement, Cross Order Rejected and Cross Order Cancelled. Added C2 Feature Pack 2 enhancements for *ContraTrader* and *ContraBroker* values effective on 12/8/17.
December 6, 2017	*Version 2.4.5* Corrected **`Cross Order Cancelled`** message type to 0x46. Updated effective date of C2 Feature Pack 2 to 12/15/17.
December 15, 2017	*Version 2.4.6* Updated effective date of C2 Feature Pack 2 to 01/05/18 Corrected length of *DrillThruProtection* field. It is eight bytes.
December 27, 2017	*Version 2.4.7*

DATE	DESCRIPTION
	Added Done For Day Restatement functionality. Protocol feature section 1.6.2 added to describe the feature. Done For Day Restatements port attribute added to enable and disable feature, which defaults to disabled. Default for Carried Order Restatements changed from enabled to disabled. Updated **`Modify Order`** message to clarify when an order loses time priority.
January 12, 2018	*Version 2.4.8* Fixed incorrect *GroupCnt* and *MessageLength* in Bulk Order example. Added GTC/GTD persistence across trading sessions to BZX and EDGX (Effective in EDGX on 1/26/18 and BZX on 2/2/18).
January 24, 2018	*Version 2.4.9* Removed reference to EFID needing to be registered in the underlying and *Capacity* needing to be set to 'M' in order to send Bulk Orders for C2 in section 4.1.6. GTCs and GTDs that expire on a future date cannot be sent on Bulk Order Ports. Added 'L' reason code to the list of reason codes in Section 8.
January 30, 2018	*Version 2.4.10* Added Post Only restriction for **`Bulk Order`** message on EDGX Options effective 3/23/18.
February 20, 2018	*Version 2.5.0* Update GTC/GTD functionality to allow order cancelation after trading sessions ends.
March 21, 2018	*Version 2.5.1* Updated OSI Root to Underlying symbology for EDGX Options (effective 6/11/18) and BZX (effective 6/25/18) Options. Removed *AllocQty* as an available return bitfield on **`Trade Cancel or Correct`** message.
March 26, 2018	*Version 2.5.2* Updating *RoutStrategy* (9400) default behavior to 'SWPA' for EDGX on 04/13/18 and BZX on 04/19/18.
April 4, 2018	*Version 2.5.3* Removed Post Only as a valid RoutingInst for Complex Orders on C2. Changed Default Attributed Quote on EDGX to Never.
April 10, 2018	*Version 2.5.4* *CumQty* to be populated on leg fills related to complex executions (effective 4/27/18).
April 26, 2018	*Version 2.6.0* Added optional fields to the **`Purge Rejected`** message to accommodate optional return of the *MassCancelId* field from the associated **`Purge Request`** message (Effective 6/29/18). Added *RestatementReason* = S for Ship and Post restatements.
May 23, 2018	*Version 2.6.1* Defined *StrikePrice* in the List of Optional Fields. Corrected the defintion of *LegStrikePrice* to an eight byte, Binary Price field. Corrected OSI to Underlying Symbology effective dates. Additional clarification regarding valid *RoutingInst* values for BOE Bulk on EDGX and C2.
May 30, 2018	*Version 2.6.2* *MassCancelId* moved to bit 8 from bit 1 in byte 15 of the Return Bitfields for a **`Purge Rejected`** message.
June 29, 2018	*Version 2.6.3* Updated *MassCancelInst* to indicate that 4th character is applicable to both C2 and EDGX. Added detail for 5th character, which was missing from the BOE specification. Corrected example for **`Purge Rejected`** message.
August 7, 2018	*Version 2.6.4* Updated information about mass cancel message rate limitations (effective 08/15/18).

DATE	DESCRIPTION
September 20, 2018	*Version 2.6.5* For Cancel Rejected message added MassCancelId as an optional bitfield. (effective 9/14/18) Updated Bulk Port Order information to indicate that simple and complex auction responses are now accepted over Bulk Order Ports. (effective 10/5/18).
October 8, 2018	*Version 2.7.0* Added support for new message types and fields to support new quoting interface. Added effective dates for deprecating **`Bulk Order`** message type. Added support for **`Risk Reset`** message.
October 19, 2018	*Version 2.7.1* Added "R" Quote Reject Reason. Added support for C1 Migration Feature Pack 1, including support for complex reserve orders, *ClearingOptionalData* and EFID Group level risk functionality. Available in Certification effective 11/2/18 and in Production effective 11/29/18.
October 26, 2018	*Version 2.7.2* Added *Side* as a required field for **`Quote Cancelled`** and **`Quote Restated`** messages.
November 5, 2018	*Version 2.7.3* Clarifications added to the liquidity removal behavior for BOE Bulk/Quoting ports effective with C1 Feature Pack 2. Added Complex Post Only value of 'P' to *RoutingInst* (effective in EDGX and C2 TBD).
November 9, 2018	*Version 2.7.4* Added support for short form **`Quote Update`** message effective with C1 Feature Pack 2.
November 16, 2018	*Version 2.8.0* New message types, references, and fields in support of Cboe Options migration to Bats Tech.
November 20, 2018	*Version 2.8.1* Added *SubLiquidityIndicator* values for QCC and SAM. Updated definition for the value 'K' of Quote Restated message *RestatementReason* field. *TradingSessionID* was named incorrectly and has been replaced by *SessionEligibility*. This field corresponds to Tag 336 in Cboe FIX. Allowed values have been changed as well as associated input and return bits. For **`Reset Risk`** message, corrected *RiskRoot* field length to 6. For **`Bulk Order`** message example, corrected *OsiRoot* to *RiskRoot*. Corrected name of optional field from *OsiRoot* to *RiskRoot*.
November 27, 2018	*Version 2.8.2* Added additional *RiskResetResult* values. Added r=invalid remove *QuoteResult* value. Noted that *Capacity* changes will not be honored when modifying a quote. Updated Default Attributed Quote port attribute for Cboe Options Exchange. Corrected **`New Order Cross Multileg`** message type to 0x5A. Udpated effective date for Complex Post only to TBD.
December 6, 2018	*Version 2.8.3* Added *QuoteReason* codes D, m, u, and W. Removed incorrect *MaxFloor* and *DisplayRange* bit fields from New Order Cross Multileg. Updated port attribute details for *Cancel on Regulatory Halt* to indicate Cancel All is default for BZX and EDGX and Cancel None is default for for C1 and C2. Added note to the optional fields, *Attributed Quote* and *ClientIDAttr*, indicating values available in C1 Feature Pack 4. Added note to *Default Attributed Quote* and *Default ClientIDAttr* port attributes indicating values available in C1 Feature Pack 4.

DATE	DESCRIPTION
December 20, 2018	*Version 2.8.4* For **`Reset Risk Acknowledgement`** message, added *<space>=Ignored* value to *RiskResetResult* field. Updated `New Order Cross Multileg`, *Price* field description to remove "Must be non-negative". Updated optional field *ExecInst* description to indicate it is used for `New Order Cross Multileg`. "Invalid Remove" quote result was incorrectly identified as 's' and was updated to be 'r' in **`Quote Update Acknowledgement`** message. Attributing by *ClientIDAttr* requires a value of "C" rather than "X" for the *AttributedQuote* field. Clarified use case and allowable granularity for *SendTime* on **`Quote Update`** message.
January 11, 2019	*Version 2.8.5* Updated description of *FloorDestination*. Corrected default value *Default FloorRoutingInst* port attribute to 'E' for Electonic only. Regarding `Login Response`, clarified that while a subset of units can be provided in the `Login Request`, all units will be provided in the `Login Response`. Added support for MIAX Emerald routing (effective 03/01/19). Added Floor Routing protocol feature for C1. Added support for Not Held orders (*ExecInst* (18) = 1) for C1. Updated descriptions for *Cancel on Disconnect* and *Cancel on ME Disconnect* Port Attributes for Bulk Quoting Ports.
January 17, 2019	*Version 2.8.6* Updated description of intra-day changes made to Port Attributes. For the **`Quote Update Acknowledgement`** message, removed "J" as a value for *QuoteResult* as it was replaced by newer rejection values. Added effective date for Complex Post only (EDGX 01/30/19 , C2 02/06/19).
February 06, 2019	*Version 2.8.7* Added Order Reason Code ' `z` ' to section 8.1. Market orders are implicitly IOC for non-complex orders only. Added Simple Order Auction information related to BAM/AIM, SUM, and QCC for C1 Feature Pack 5.
February 19, 2019	*Version 2.8.8* Support added for Floor Represenation restatements. Additional Protocol Feature added. Added *SessionEligibility* of "A" to **`Quote Update`** message. Updated reference to *SessionEligibility* FIX Tag, from 336 to 22017.
March 1, 2019	*Version 2.8.9* Added new value of f=Unsolicited Floor Action to *RestatementReason* field on **`Order Restated`** message. Updated `New Complex Order` message type to not support legging in to the simple book on cross product spreads.
March 13, 2019	*Version 2.8.10* Updated effective date for SAM auctions to 04/29/19.
March 18, 2019	*Version 2.8.11* Added note identifying deprecation of *RestatementReason Q = Liquidity* on `RestatementReason` field. Added notes identifying tags supporting AON Orders effective in C1 Feature Pack 6.
March 29, 2019	*Version 2.9.0* Removed **`Bulk Order`** message types and optional fields. Updated defaults for Cancel on Regulatory Halt port attribute. Replaced all references to BAM with AIM.

DATE	DESCRIPTION
	Added *TiedHedge* optional field to **`New Complex Order`** message.Moved *FrequentTraderID* to the repeating group of **`New Order Cross`** and **`New Order Cross Multileg`** messages. Updated GTH trading hours to end at 9:15 a.m. ET. Renamed Late-Limit-On-Open orders to Settlement Liquidity orders.
April 16, 2019	*Version 2.9.1* Added clarification setting and using Match Trade Prevention (MTP) with BOE Bulk Quoting Ports and **`Quote Update`** messages.
May 2, 2019	*Version 2.9.2* Added *EquityPartyId* to Return Bitfields for **`Order Acknowledgement`**, **`Cross Order Acknowledgement`**, **`Order Rejected`**, **`Cross Order Rejected`**, **`Order Cancelled`**, **`Cross Order Cancelled`** and **`Order Execution`** messages. Added *EquityPartyId* to the Input Bitfields for `New Complex Order` and `New Order Cross Multileg`. Added clarification to *MassCancelInst* behavior when the Clearing Firm Filter is set to 'F'. Updated instructions for handling of *LegPositionEffect* for complex symbols with an equity leg. Updated GTH and added SessionEligibility field on QuoteUpdate message for C2 and EDGX, effective with C1 Feature Pack 7. Added note indicating reserve orders (*MaxFloor* greater than 0) will be rejected for Cboe proprietary classes, effective with C1 Feature Pack 7. Updated effective date for SAM auctions to TBD.
May 15, 2019	*Version 2.9.3* Added clarification to the Bulk Quote port order acceptance table on page 10. Added *PostingInstruction* values of 'N' and 'R' on the **`Quote Update`** and **`Quote Update Short`** messages. Added note indicating **`Quote Update Acknowledgement`** and **`Quote Cancelled`** messages will be unsequenced effective 07/08/19.
May 31, 2019	*Version 2.9.4* Added *SubLiquidityIndicator* value of "U" for Market Turner on C1. Corrections to `New Complex Order` example.
June 14, 2019	*Version 2.9.5* Added *QuoteResult* values of a, c, v, and V to `Quote Update Acknowledgement message`. Corrected corresponding FIX Tag value for *EquityTransactTime*. Added note indicating **`New Order Cross Multileg`** message will be supported on EDGX, effective on EDGX with C1 Feature Pack 8. Added *TimeInForce* optional field value of ' 7=At the Close ', effective on BZX, C2, and EDGX with C1 Feature Pack 8.
June 28, 2019	*Version 2.9.6* Added notes indicating *EquityExDestination, EquityLegShortSell,* and *EquityPartyID* optional fields will be effective on EDGX with C1 Feature Pack 9. Add clarification to **`Quote Update Acknowledgement`** messages and **`Quote Cancelled`** message regarding messages changing to unsequenced effective 07/08/19.
July 10, 2019	*Version 2.9.7* Clarified preferred use of underlying symbol when specifying *RiskRoot* field. Updated effective date for C-AIM on EDGX to TBD.
July 16, 2019	*Version 2.9.8* Clarified statement regarding availability of Quote related messages over ODROP and FIXDROP as Quote Execution messages will be the only Quote related messages available.
July 31, 2019	*Version 2.10.0*

DATE	DESCRIPTION
	Added **`Add Floor Trade, Add Floor Trade Rejected, Floor Trade Confirmation, Floor Trade Confirmation Rejected, Delete Floor Trade, Delete Floor Trade Rejected`** and **`Delete Floor Trade Acknowledgement`** message types for C1 only. Added *TradeThroughAlertType* and *SenderLocationID* optional return bitfields for **`Order Execution`** message only for C1 only. Corrected *MessageType* hexadecimal value to 0x28 in **`Order Restated`** message example. Added Enable Floor Trade Notifications and Floor Trade Notification Symbology in the Port Attributes section.
August 9, 2019	*Version 2.10.1* Added clarification for *OpenClose field* in **`New Order Cross`** and **`Add Floor Trade`** messages for orders with OrderCapacity of M or N. Changed Return Bitfield *EquityNBBOProtect* to "Reserved". Updated notes for *FloorRoutingInst* to indicate that when *FloorRoutingInst* is "D" or "X", *RoutingInst* must be set to "B" or "R" for simple orders. Updated effective date for C-AIM on EDGX to 8/22/19.
August 23, 2019	*Version 2.10.2* Added *FloorTraderAcronym* as an optional return bit (byte 17) for the **`Order Execution`** message. Removed language indicating Cabinet and Sub-cabinet orders can have a *TimeInForce*(59) value of "GTD" or "IOC" since GTD and IOC orders cannot route to the floor. Updated *Order Modified* Return Bitfield to indicate Symbol field on second byte can be specified for a message. Clarified *ContraBroker* and *ContraTrader* to provide detail about what information will be provided for trades on the Cboe Options trading floor and for complex trades.
August 30, 2019	*Version 2.10.3* Removed note indicating a new *OrderID* will be assigned for an existing quote on a quote update. Added clarification to *Crossed Market Cancel/Reject* port setting indicating quotes are always accepted, even in a crossed market.
September 5, 2019	*Version 2.10.4* Series restricted to closing only will accept opening transactions from both M and N capacities.
September 18, 2019	*Verstion 2.10.5* Removed "3=Entire multi-leg instrument package" from *MultilegReportingType* in `Add Floor Trade message` as this value is not valid. Added *PriceType* field to `Floor Trade Confirmation`, `Floor Trade Notification`, and `Floor Trade Confirmation Rejected.` Clarification added for rejects related to an invalid *ExecInst* value. If a value is supported on one message type, but invalid for another message type, then that will result in a reject. Self imposed risk lockouts will impact ability to send new orders or quotes, but not impact the ability to modify or cancel resting orders or quotes that are still live.
October 2, 2019	*Version 2.10.6* Corrected *PriceType field* example for **`Floor Trade Confirmation`**, **`Floor Trade Notification`**, and **`Floor Trade Confirmation Rejected`** messages.
October 3, 2019	*Version 2.10.7* Added note indicating Cancel on ME Disconnect port attribute timeout is 15 minutes for C1.
October 15, 2019	*Version 2.10.8* Added values to *Side* optional field for "5=Sell Short (stock leg only)" and "6=Sell Short Exempt (stock leg only)" (C1 and EDGX only). Added Market Order NBBO Width Protection, Drill-Through Protection for Lmit Orders, and Exchange Default Fat Finger Limits subsections under Protocol Features.
November 7, 2019	*Version 2.10.9*

DATE	DESCRIPTION
	Added notes indicating that the 'at' sign, pipe, and double quote characters are not permitted in the *ClOrdID, CrossID,* and QuoteUpdate fields (effective 01/13/20).
November 12, 2019	*Version 2.10.10* Updated Hours of Operation table, indicating GTH will be sunset on C2 and EDGX effective 11/22/19.
December 3, 2019	*Version 2.10.11* Added notes indicating system will change *RoutingInst* = Q to 'P' upon the deprecation of Partial Post Only at Limit. They system will also ignore *MaxRemovePct*, effective 12/16/19 (BZX only).
January 14, 2020	*Version 2.10.12* Added note indicating that reason codes are followed by free-form text that may vary from the text listed in the specification, to provide clarification of the reject reason. Added F=Could not reflect to consolidated quote (OPRA) as reason code. Added *SendTime* as optional input bitfield (byte 2) on the **`Cancel Order`** and **`Purge Order`** messages (effective 3/31/20).
January 17, 2020	*Version 2.10.13* Added note indicating that EDGX will support SAM and C-SAM auctions, effective 2/3/20.
January 28, 2020	*Version 2.10.14* Added note to the Quote Update section, clarifying that a zero value price and/or size can be used to delete a quote. Updated description of *SendTime* field in **`Quote Update`** message and List of Optional Fields table.
January 30, 2020	*Version 2.10.15* Added note indicating *RoutingFirmID* will be effective on BZX effective 3/2/20.
February 3, 2020	*Version 2.10.16* Added *ExecLegCFICode* as an optional return bit (byte 17) for the **`Order Execution`** message. Effective on C1, C2, and EDGX 2/19/20.
March 10, 2020	*Version 2.10.17* Updated Return Bitfield tables with bytes 16 and 17. Updated *LegRatioQty* for **`New Complex Instrument`** and **`Complex Instrument Accepted`** messages to support increase of maximum leg quantity and maximum package price for complex orders (effective on C1, C2, and EDGX 04/13/20).
March 27, 2020	*Version 2.10.18* Updated Quotes Reason Codes for 'n' and 'x' (effective on 03/19/20 for EDGX, 03/20/20 for C2 and BZX, and 03/23/20 for C1). Added notes indicating **`Quote Update`** messages entered via a BOE Bulk Quoting port will only be supported for Market Makers (capacity = M) and a valid, non-zero value for the *SendTime* refiled for any Quote Update messages (effective 4/24/20). Made a small correction in the **`Complex Instrument Accepted`** message example.
April 22, 2020	*Version 2.10.19* Updated Quote Reason Code 't'. Updated the AutoMatchPrice description for more clarity. Effective date updated to 7/10/20 for BOE Bulk Quoting port support restriction to Market Makers and requirement for non-zero *SendTime* value.
April 27, 2020	*Version 2.10.20* Noted Notional Exposure Tracking to be deprecated on 5/8/20.
April 28, 2020	*Version 2.10.21* Added note indicating the rate limit at which identical Mass Cancel and Purge Order messages will be accepted will be changed from 20 to 10 messages per second per port (effective 5/27/20). Clarified description of Capacity value 'N' from "Non-Cboe Market Maker" to "Away Market Maker".

DATE	DESCRIPTION
May 22, 2020	*Version 2.11.0* Added Maximum Open Order Limits section. Updated *ContraBroker* field values in Example Order Execution Message. Updated **`New Order Cross`** message table. Added note indicating the rate limit at which identical Risk Reset messages will be accepted will be changed from 1 per second to 1 per 100 ms per port (effective 5/27/20). Added new *Subreason* and *CancelSubreason* fields to better inform members on the reason why an order was cancelled or rejected. Also added newe *RiskReset* values to allow for rest or self-imposed lockout without resetting risk counters (effective 8/3/20).
July 7, 2020	*Version 2.11.1* Added *EquityExDestination* (22016) value of 'P' for Penserra (effective 8/10/20). Added *CrossInitiator* (22026) field in **`New Order Cross Multileg`** and **`New Order Multileg`** messages (C1 and EDGX Only) (effective 8/10/20). Updated and removed values from *SubreasonText* (22058) and *RiskReset* (7692).
July 8, 2020	*Version 2.11.2* Added date for deprecation of *MassCancel* and *MassCancelLockout* messages (effective 10/12/20).
July 28, 2020	*Version 2.11.3* Clarified *SubLiquidityIndicator* value of `B` = Step Up Mechanism (C1 and EDGX Only). Updated Drill-Through Amount table and default values for *DrillThruProtection (*effective 08/05/20*).*
August 5, 2020	*Version 2.11.4* Updated Return Bitfield tables for **`Order Rejected`**, **`Order Canceled`**, and **`Cancel Rejected`** messages to indicate *ClearingOptionalData* is an optional field (effective 08/28/20). Corrected SubLiquidityIndicator value for QCC from 'q' to 'Q'.
August 20, 2020	*Version 2.11.5* Added new **`Purge Notification`** message and Acknowledgement Style value of "A" for second character of *MassCancelInst* optional field (effective 9/25/20).
September 23, 2020	*Version 2.11.6* Added `Purge Notification` to return bitfields section. No optional fields may be selected for `Purge Notification` but fields may be added over time. Updated note for Order Execution message, adding C1 as applicable platform for complex orders.
September 28, 2020	*Version 2.11.7* Added *EquityExDestination* (22016) values of 'F','L', and 'S' (effective 10/7/20).
October 6, 2020	*Version 2.11.8* Added CrossType value of ' `4`=Position Compression Cross ("PCC") on New Order Cross and New Order Cross Multileg messages (C1 Only) (effective ~~10/28/20~~ 10/29/20). Updated description of *MassCancelLockout* field in **`Purge Notification`** message to indicate `Y` = lockout or 'N' =no lockout.
October 14, 2020	*Version 2.11.9* Added note indicating Complex PCC orders cannot be composed of both SPX and SPXW in the same instrument. Added *SubLiquidityIndicator* value of `P`=PCC (C1 Only) (effective ~~10/28/20~~ 10/29/20). Updated drill-through procedures to be iterative (effective 11/9/20 on EDGX and 11/10/20 on BZX, C1, and C2)
October 29, 2020	*Version 2.11.10* Added note to description of *Capacity* optional field indicating the *Capacity* field must be set to M for all **`Quote Update`** messages.

DATE	DESCRIPTION
	Updated description of *CrossType* in List of Optional Fields to include '4'=PCC ((C1 Only) and added note to *Compression* description to indicate when *CrossType* = 4 *Compression* field should not be specified (effective ~~10/28/20~~ 10/29/20). Updated the **`Floor Trade Notification`** message due to a typo in the offset of the *MaturityDate* field and all fields that come after it in the message. Added *SendTime* as required field for **`Cancel Order`** and **`Purge Order`** messages (effective 01/29/21).
November 2, 2020	*Version 2.11.11* Corrected **`Cancel Order`** message description and updated examples. Corrected **`Purge Order`** message description by adding *Reserved* field in place of deprecated *MassCancelInst* and updated example.
November 5, 2020	*Version 2.11.12* Updated iterative drill-through procedures effective date (effective 11/16/20 on EDGX and 11/17/20 on BZX, C1, and C2)
December 17, 2020	*Version 2.11.13* Added CrossType value of ' 5=Related Futures Cross ("RFC") on New Order Cross Multileg message (C1 Only) (effective 01/19/21). Added *SubLiquidityIndicator* value of F=RFC (C1 Only) (effective 01/19/21). Added note to *ClearingAccount* field indicating when *Capacity* is set to "M" for Market-Maker, any unregistered accounts in this field will cause the quote or order to be rejected with a reason code of "A" and sub-reason code "L". Added new subreason code, L=Unregistered MM Account (~~effective 02/08/21~~).
January 14, 2021	*Version 2.11.14* Clarified description of 2nd character (Acknowledgement Style) value "M" for *MassCancelInst* field. Clarified that invalid EFID values specified in *OnBehalfOfCompId* will result in rejects of *MassCancelInst* or Purge Requests. Added notes to **`QuoteUpdate`** message and *ClearingAccount* field indicating when *Capacity* is set to "M" for Market-Maker, any unregistered accounts in this field will cause the quote sent via the Quoting Interface to be rejected with a reason code of "C" (~~effective 02/08/21~~).
February 3, 2021	*Version 2.11.15* Updated effective date for changes *to* **`QuoteUpdate`** message and *ClearingAccount* field indicating when *Capacity* is set to "M" for Market-Maker, any unregistered accounts in this field will cause the quote sent via the Quoting Interface to be rejected with a reason code of "C" (effective 03/01/21).
February 10, 2021	*Version 2.11.16* Added Section 1.6.1 - Architecture to provide high level overview of protocol architecture and source IP blocking feature. Added Section 1.6.12 - Stale NBBO to describe system behavior when SIP NBBO is unavailable. Added "Forced Open Cancel Instruction" to Port Attributes table (effective 3/12/21 for EDGX, 3/15/21 for BZX, C1, C2).
February 22, 2021	*Version 2.11.17* Added "EFID Filter for Purge Ports" to Port Attributes table (effective 3/17/21).
March 25, 2021	*Version 2.11.18* Section 1.6.12 (Floor Routing) - Corrected list of example conditions which cause default routing to theFloor. Added Curb session hours (effective 04/25/22 ~~TBD~~ ~~02/07/22~~ ~~TBD~~ ~~09/27/21~~ ~~Q3 2021~~). Added new section 1.3.1 on holiday sessions (effective 11/21/21 ~~Q4 2021~~). Added new section 1.6.5 on cancellation of carried orders between trading sessions (effective 04/25/22 ~~TBD~~ ~~02/07/22~~ ~~TBD~~ ~~09/27/21~~ ~~Q3 2021~~). Updated description of SessionEligibility message (effective 01/24/22 ~~TBD~~ ~~09/27/21~~ ~~Q3 2021~~).

DATE	DESCRIPTION
	Updated 4.1.10 on risk reset between GTH and Curb session (effective 04/25/22 ~~TBD~~ ~~02/07/22~~ ~~TBD~~ ~~09/27/21~~ ~~Q3 2021~~).
April 5, 2021	*Version 2.11.19* Added note indicating Fat Finger checks are not applicable for any floor-based Multi-Class Spread limit orders(effective 04/20/21).
April 15, 2021	*Version 2.11.20* Updated section 4.1.7 to clarify quote cancellation behavior when a trading day spans multiple calendar days.
May 13, 2021	*Version 2.11.21* Updated Curb session related effective dates to 01/24/22 ~~TBD 09/27/21~~.
June 08, 2021	*Version 2.11.22* Updated *CumQty* Section for C1 Floor Specific Handling. Removed *FrequentTraderID* from **`Modify Order`** message as this functionality is not being used on the **`Modify Order`** message. Added new optional field *LegPositionEffectsExt* to accommodate maximum of 16 legs allowed on complex orders (effective 08/25/21 ~~08/09/21~~).
June 15, 2021	*Version 2.11.23* Updated effective date for extended GTH session to 11/21/21.
August 2, 2021	*Version 2.11.24* Updated Modify Order Input Bitfield table to indicate that *FrequentTradeID* cannot be requested for the **`Modify Order`** message. Updated effective date for optional field *LegPositionEffectsExt* to accommodate maximum of 16 legs on complex orders (effective 08/25/21).
August 24, 2021	*Version 2.11.25* Updated sections 4.1.7 (Quote Update) and 1.6.6 (Display Indicator Features) to note that quotes will be accepted if priced through the NBBO within a configurable buffer (effective 09/15/2021).
August 25, 2021	*Version 2.11.26* Updated Curb session effective date to 01/24/22 ~~TBD~~.
September 9, 2021	*Version 2.11.27* Added new value of "B" (RTH+Curb) for *SessionEligibility* message (effective 01/24/22 ~~TBD~~).
September 28, 2021	*Version 2.11.28* Added new "I" value to *MassCancelInst* , indicating multi-unit cancel acknowledgments; added new *SourceMatchingUnit* field to `Mass Cancel Acknowledgement` . (effective 11/15/21). Added *TradeDate* to list of Optional Fields and added note indicating *TradeDate* will be available on the **`Order Execution`** message (effective 11/21/21).
October 15, 2021	*Version 2.11.29* Added 'I' value to *PostingInstruction* on **`Quote Update`** and **`Quote Update Short`** messages (Effective 12/10/21 for EDGX and 12/12/21 for BZX/C1/C2).
October 21, 2021	*Version 2.11.30* Added new subreason code `S`=Minimum size requirement not met (effective 11/28/21).
November 4, 2021	*Version 2.11.31* Updated Curb session effective date to 04/25/22 ~~TBD 02/07/22~~. Updated Hour of Operation to eliminate Sunday 7:15 p.m. GTH Order Acceptance time. Updated Holiday Session Figure 1. Updated effective date for new *SessionEligibility* message value of "B" (RTH+Curb) to 01/24/22. Added clarification to description of *MassCancelInst* value 'I' to indicate that message type must be `Purge Orders` ; `Mass Cancel` .
November 12, 2021	*Version 2.11.32*

DATE	DESCRIPTION
	Added new optional *Held* field that will be available on `New Order` , `New Order Complex` , and Execution Report messages (C1 Only) (effective 12/12/21).
December 1, 2021	*Version 2.11.33* Added note to section 1.6.6 indicating certain functionality is BZX only. Corrected reference to FIX Tag 439 (ClearingFirm). Added clarifying note to section 1.6.7.5 to indicate that Quotes that cross the NBBO or displayed Cboe book will be accepted if within a configurable buffer. Added I=IOC Quote Accepted to *QuoteResult* field.
December 3, 2021	*Version 2.11.34* Clarified description of optional *Held* field to indicate default value of 'N' applies when an order is directed to a Non-PAR Official (C1 Only) (effective 12/12/21).
December 16, 2021	*Version 2.11.35* A **`Logout`** message will also be sent for any ports that are connected when the Options Exchanges shut down (effective 01/09/22).
January 13, 2022	*Version 2.11.36* Updated US Holiday Trading Hours graphic. Noted that CAT reporting requirements mandate that *QuoteUpdateID* is unique for each Quote Update message sent to the Exchange. Added a new *MatchingUnit* field to Optional Fields and Purge Order Bitfield (effective 02/11/22 for EDGX and 02/14/22 for C1, C2, and BZX). Updated Purge Orders section indiciating that *CustomGroupID* or EFID (*ClearingFirm*) purges with no *RiskRoot* may be directed to a specific matching unit using the *MatchingUnit* optional field (effective 02/11/22 for EDGX and 02/14/22 for C1, C2, and BZX).
January 21, 2022	*Version 2.11.37* Duplicative Order Protection Time Threshold to be sunset (effective 02/27/22). Duplicative Order Protection Order Count will look at consecutive orders (effective 02/27/22).
February 1, 2022	*Version 2.11.38* Updated Curb session effective date to 04/25/22 ~~TBD~~.
February 22, 2022	*Version 2.11.39* Added a new section 1.6.7.3 to detail Stop or Stop Limit Orders Drill-Through Handling (TBD ~~effective 03/28/22~~). Noted that if both sides of a complex/spread trade are on the same order entry session, Cboe does not guarantee that the leg executions will not be interleaved between sides.
March 7, 2022	*Version 2.11.40* *MaxRemovePct* field to be sunset on BZX (effective 05/06/22), C1 (effective 05/08/22), and C2/EDGX (effective 05/09/22).
March 14, 2022	*Version 2.11.41* Changed effective date for updated Stop/Stop Limit Drill-Through Handling to TBD.
April 4, 2022	*Version 2.11.42* Updated Curb session effective date to 04/25/22.
November 7, 2022	*Version 2.11.43* Updated *OrdType* = 1 (Market) to indicate market and stop orders are not supported during GTH or Curb sessions. The maximum allowed message rate is 1 msg/sec for test products. The length of *LoginResponse* will vary depending on acceptance or rejection of the *LoginRequest*. Added XSP to GTH and Curb sessions (effective 12/11/22).
November 30, 2022	*Version 2.11.44* Stop/Stop Limit orders will only elect based off of RTH quotes and trades (effective 12/18/22).

DATE	DESCRIPTION
January 24, 2023	*Version 2.11.45* Updated Architecture and Message in Flight Settings section (BZX only) (effective 03/24/23).
February 27, 2023	*Version 2.11.46* Updated *OpenClose* to indicate if the leg is limited to closing only transactions, only *Capacity* = M or 'N' will be permitted to submit *OpenClose* = O if the order has TimeInForce= '3' (IOC) and *RoutingInst* = B, or the order has a *RoutingInst* = P. Updated *LegPositionEffect, LegPositionEffects* and *LegPositionEffectsExt* to indicate if the leg is limited to closing only transactions, only *Capacity* = M or 'N' will be permitted to submit *OpenClose* = O if the order has TimeInForce= '3' (IOC) and *RoutingInst* = B.
March 29, 2023	*Version 2.11.47* An Open position cannot trade with an Open position for series limited to Closing Only transactions, even if the inbound IOC from the aggressing market maker is sent with that combination of tags.
April 17, 2023	*Version 2.11.48* Added effective dates to Architecture and Message in Flight Settings section (effective 04/28/23 on EDGX, 05/12/23 on C2, and 5/29/23 on C1).
May 2, 2023	*Version 2.11.49* Updated Bulk Quoting Port Quote/Order Behavior Matrix section.
May 15, 2023	*Version 2.11.50* Added *TargetMatchingUnit* to the **`Reset Risk`** message (effective 06/12/23).
June 13, 2023	*Version 2.11.51* Updated sections 1.6.7.2 and 1.6.7.3 to include drill-through handling enhancements (effective 08/07/23 07/17/23 on C1).
June 15, 2023	*Version 2.11.52* Updated priority treatment of no-change quotes, added new *QuoteResult* value of 'O' (Unknown quote), and noted modifications to quotes or orders will result in the same time priority behavior (effective 10/25/23 ~~08/16/23~~ on C2, and 10/30/23 ~~08/21/23~~ on BZX, C1, and EDGX).
July 20, 2023	*Version 2.11.53* Added *RiskResetResult* = M (invalid matching unit). Updated *OpenClose* to indicate if the leg is limited to closing only transactions, only *Capacity* = M will be permitted to submit *OpenClose* = O if the order has TimeInForce= '3' (IOC) and *RoutingInst* = B, or the order has a *RoutingInst* = P. Updated *LegPositionEffect, LegPositionEffects* and *LegPositionEffectsExt* to indicate if the leg is limited to closing only transactions, only *Capacity* = M will be permitted to submit *OpenClose* = O if the order has TimeInForce= '3' (IOC) and *RoutingInst* = B
July 28, 2023	*Version 2.11.54* Clarified that *Price* is optional on `Modify Order` requests for market orders. Added new *ExDestination* value of 'M' (MEMX) and added new *ContraBroker* value of 'MEMX' (effective 08/07/23). Updated effective dates for priority treatment of no-change quotes, new *QuoteResult* value of 'O' (Unknown quote), and modifications to quotes or orders that will result in the same time priority behavior (effective 10/25/23 on C2, and 10/30/23 on BZX, C1, and EDGX).
August 4, 2023	*Version 2.11.55* Updated effective dates for drill-through handling enhancements on C1, and updated drill-through parameter ranges (effective 08/07/23). Updated `Purge Orders` to indicate that *MassCancelInst* must be populated and *ClearingFirm* is only required if a list of configured/allow EFIDs has not been configured on the session.
August 15, 2023	*Version 2.11.56*

DATE	DESCRIPTION
	Updated effective date for drill-through handling enhancements on C2, BZX, and EDGX (effective 08/25/23).
August 22, 2023	*Version 2.11.57* *TransactionTime* in **`Mass Cancel Acknowledgement`** messages will indicate the time the event occurred in the Cboe Matching Engine (effective 09/05/23).
October 30, 2023	*Version 2.11.58* Updated the identical Purge message definition to include *MatchingUnit* (effective 11/13/23).
December 18, 2023	*Version 2.11.59* Clarified that if *OrderCapacity* is not set to "M: or "N" and *ClearingAccount* is populated, the order will be (by default) rejected on C1 and C2 and accepted on BZX and EDGX Only. Updated *TradeTime* to *FloorTradeTime*. Added new return bitfield, *FloorTradeTime*, which will be available as byte 19, bit 1 of the **`Order Execution`** message (C1 only) (effective 01/16/24).
January 10, 2024	*Version 2.11.60* Clarified that the "Default *EquityPartyID*" port attribute is applicable to C1 and EDGX only. Added a new "Default *EquityExDestination*" port attribute (effective 04/29/24 ~~03/11/24~~).
February 2, 2024	*Version 2.11.61* Updated section 1.6 to include latency expectations as well as Members/TPH's responsibility to monitor the status of the messages they send to the exchange.
February 12, 2024	*Version 2.11.62* Added new return bitfield, *EquityExDestination*, which will be available as byte 19, bit 2 of the Order Execution message (C1 and EDGX only) (effective 04/29/24 ~~03/11/24~~).
March 8, 2024	*Version 2.11.62* Clarified the *CrossInitiator* (C1 and EDGX only) description to indicate that the MPID field is required on orders routed to destinations via NYSE Chicago using EquityExDestination (22016). Updated *EquityExDestination* port attribute and bitfield effective date to 04/29/24.
April 22, 2024	*Version 2.11.63* Clarified *Account* (1) accepts all characters in ASCII range 33-126. Noted a maximum of 1,295 **`Modify Order`** requests may be made to a single order each trading day.
June 21, 2024	*Version 2.11.64* Clarified that *RiskResetResult* value <space>=Ignored; exceeds 1 reset per 100 milliseconds in **`Reset Risk Ackowlegement`** messages. Added *ExDestination* (100) = w (MIAX Sapphire) and *ContraBroker* (375) = SPHR.
July 1, 2024	*Version 2.11.65* Added *CrossOnBehalfOfID* (FIX Tag 22028) to **`New Complex Order`** and **`New Order Cross Multileg`** (C1 and EDGX only) (effective 07/22/24).
July 22, 2024	*Version 2.11.66* Added new Section 1.2 - Certification Requirement. Effective 08/26/24, GTH will be extended until 9:25 a.m. ET (C1 only).
August 28, 2024	*Version 2.11.67* Updated drill-through amounts (effective 09/16/24).
September 3, 2024	*Version 2.11.68* Removed pending drill-through changes.
December 6, 2024	*Version 2.11.69* Added BZX Options will sunset BOEv2 effective 03/24/25 ~~02/23/25~~.
January 15, 2025	*Version 2.11.70* Updated with Cboe Titanium branding.

DATE	DESCRIPTION
January 27, 2025	*Version 2.11.71* Effective 02/10/25, members can optionally choose to reject the AIM auction rather than have the starting price adjusted to meet NBBO requirements using *AutoMatch* options '3' and '4'. *AutoMatchPrice* will be required if *AutoMatch* is set to '2' or '4'. (C1 and EDGX only)
February 10, 2025	*Version 2.11.72* Updated BZX Options BOEv2 sunset date to effective 03/24/25.
March 18, 2025	*Version 2.11.73* Added new section to Drill-Through Protection for Simple Limit Orders on page 19 for Wide Market Protection (effective ~~04/03/25~~ TBD(EDGX) and ~~04/07/25~~ TBD (C1, C2, BZX)) Removed note that Market orders imply *TimeInForce* of IOC.
March 24, 2025	*Version 2.11.74* Removed BZX Options from this specification.
March 28, 2025	*Version 2.11.75* Updated Wide Market Protection effective date to TBD.
March 31, 2025	*Version 2.11.76* Corrected table configuration in Table 8. Bulk Quoting Port Quote/Order Behavior Matrix on page 37.
April 11, 2025	*Version 2.11.77* Effective 04/25/25 on EDGX and 04/28/25 on BZX, C1, and C2, any **`Quote Update`** message with a *QuoteCnt* larger than '1' and a *PostingInstruction* = I (Book Only, IOC) will be rejected.
May 30, 2025	*Version 2.11.78* Removed that orders may be included with attributed summary information displays related to quote/trade information on the Cboe website from *AttributedQuote*.
July 2, 2025	*Version 2.11.79* Added new **`Complex Quote Update`**, **`Complex Quote Update (Short)`**, and **`Complex Quote Execution`** messages (effective 09/15/25 ~~08/18/25~~). Updated **`Quote Update Acknowledgment`** message fields to indicate it is sent in response to **`Quote Update`** and **`Complex Quote Update`** messages (effective 09/15/25 ~~08/18/25~~).. Updated **`Quote Update Rejected`** message fields to indicate it is sent in response to **`Quote Update`** and **`Complex Quote Update`** messages (effective 09/15/25 ~~08/18/25~~). Updated **`Quote Update Acknowledgment`**, **`Quote Update Rejected`**, **`Quote Restated`**, and **`Quote Cancelled`** message fields to indicate they are sent in response to **`Quote Update`** and **`Complex Quote Update`** messages (effective 09/15/25 ~~08/18/25~~). Updated BOE Bulk Quoting Ports description, Order Acceptance table, and Order Behavior Matrix to add the new **`Complex Quote Update`** message for introducing complex instrument quotes (effective 09/15/25 ~~08/18/25~~).
July 8, 2025	*Version 2.11.80* Effective 09/08/25, the DateTime data type will begin populating the nanoseconds portion. Added "Send Nanoseconds" port attribute (effective 09/08/25). Updated *OrigTime* to indicate that the GMT date and time of the original trade will be available in nanoseconds (effective 09/08/25).
July 25, 2025	*Version 2.11.81* Updated Cowen to TD Securities (USA) LLC.
August 4, 2025	*Version 2.11.82* Updated description of *PriceType* to include 1 = Traded as percentage on **`Floor Trade Confirmation Messages`**.
August 11, 2025	*Version 2.11.83* Updated **`Complex Quote Update`**, **`Complex Quote Update (Short)`**, and **`Complex Quote Execution`** messages and complex order functionality effective date to 09/15/25.

DATE	DESCRIPTION
August 12, 2025	*Version 2.11.84* Updated Quote Update Acknowledgment message on page 116 to indicate that for quotes which may remove liquidity or which may post and cause additional Matching Engine action to be taken *QuoteResult* values of D or d will be returned. In these cases, executions, cancellations, or modifications (as needed) will immediately follow as additional messages.
August 15, 2025	Version 2.11.85 Updated *CustomGroupIDCnt* description to indicate a maximum of 10 integers are allowed.
August 20, 2025	*Version 2.11.86* Updated Carried Order Restatements on page 15 to indicate that GTC, GTD, and Day orders entered during partial holiday sessions can also persist between multiple trading sessions. Updated Cancellation of Carried Orders Between Trading Sessions on page 16 to indicate that at the scheduled end of trading for a product, cancellation requests for persisted orders in that product will be rejected with reason O: Order known, but cannot be canceled at this time until after the system restart completes.
September 8, 2025	Version 2.11.87 Removed "Send Nanoseconds" port attribute.
September 11, 2025	*Version 2.11.88* Updated List of Optional Fields on page 196 to include new *StrategyID* (C1 Only) values F = CompressionForum , B = BoxSpread, and A = BoxSwap.
September 15, 2025	*Version 2.11.89* Corrected length of the *Price* field in the repeating group of the **Complex Quote Update (Short)** message from 8 to 4. Corrected length of price *Reserved* field in the body of the **Complex Quote Update (Short)** message from 15 to 3. Corrected length of the *Reserved* field in the repeating group of the **Complex Quote Update (Short)** message from 12 to 2. Corrected offset values in the **Complex Quote Update (Short)** message. Corrected *MessageLength* field in **Complex Quote Update (Short)** message from 145 to 81 bytes. Removed effective dates (effective 09/15/25) for Complex Quoting messages and fields.
October 3, 2025	*Version 2.11.90* Removed Complex Order language from Drill-Through Protection for Simple Limit Orders on page 19. Clarified language in Market/Limit Order Drill-Through for Complex Orders on page 24