Cboe Options Exchanges Binary Order Entry Specification

Version 2.10.11

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Contents

1 Introduction

1.1 Overview

This document describes 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 has strived 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 'Section 10 - List of Message Types'.

All communication is via standard TCP/IP.

Please refer to the Cboe Options Exchange Integration Website for additional details regarding upcoming changes in support of the migration of Cboe Options Exchange to the Bats technology platform.

1.2 Document Format

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

1.3 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.

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	BZX	EDGX
Order Acceptance	2:00 am - 3:00 am ET (SPX, VIX and FLEX)	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)
	7:30 am - 9:30 am ET (All Products)			
GTH	3:00 am - 9:15 am ET (SPX, VIX and FLEX)	N/A	N/A	N/A
RTH	9:30 am - 4:00 am ET (All Products)	9:30 am - 4:00 pm ET (All Products)	9:30 am - 4:00 pm ET (All Products)	9:30 am - 4:00 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	9:30 am - 4:15 pm ET

1.4 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). The nanoseconds portion is currently ignored and

treated as 0 (i.e. the times are only accurate to microseconds) on input, and will always be set to 0 by Cboe in outgoing messages. However, Cboe may begin populating the nanoseconds portion at any time without warning.

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.

1.5 Optional Fields and Bit fields

Some messages such as `New Order` and `Modify Order` 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 'Section 7 – List of Optional Fields'.

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.

1.6 Protocol Features

1.6.1 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) 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`.

1.6.2 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 Section 'Section 10 – Port Attributes' 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, at 4:00 ET (4:15 for select ETF's) and prior to the trading session disconnecting at 4:45 ET, for each order that will persist to the next trading session. Any time prior to the 4:45 ET cutoff, customers may send Order Cancel Request messages for any open GTC and GTD orders. All other order message types received after the market closes at 4:00 ET (4:15 ET for select ETF's) will be rejected.

Done For Day Restatements are represented using `Order Acknowledgement` 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 Acknowledgement` messages via the `Logon Request` message (See 'Section 3.1.1 – Login Request' 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 Acknowledgement` message does not include but *BaseLiquidityIndicator* and *SubLiquidityIndicator*, the logon attempt will fail.

1.6.3 Carried Order Restatements

Good 'Til Cancel ("GTC") and Good 'Til Day ("GTD") orders can result in orders persisting between 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 'Section 11 – Port Attributes' 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 Acknowledgement` 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 Acknowledgement` messages via the `Logon Request` message (See 'Section 3.1.1 – Login Request' 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 Acknowledgement message does not include but *BaseLiquidityIndicator* and *SubLiquidityIndicator*, the logon attempt will fail.

1.6.4 Display Indicator Features

Display-Price Sliding *(BZX Only)*

If the original limit price of the unexecuted remainder of a day order does not lock or cross the NBBO then Cboe works the order at the original limit price while displayed at the nearest permissible quoting increment. If the original limit price does lock or cross the NBBO then Cboe makes available Display-Price Sliding.

Display-Price Sliding adjusts the original limit price on entry to the locking price of the NBBO. It will be ranked and worked at a price locking the NBBO but will temporarily adjust the displayed price to the nearest permissible quoting increment. When the NBBO widens, the display price will be readjusted to the adjusted limit price. The display price may be temporarily less aggressive than the adjusted limit price or working price.

Multiple Display-Price Sliding does not permanently adjust the original limit price on entry, but allows for Display-Price slid orders to continue to have their display **and** working prices adjusted towards their original limit price based on changes to the prevailing NBBO.

Contra-side Post Only orders that are received when a Display-Price Slid order is working at a locking price with the NBBO will not result in a reject of a contra-side Post Only order but will instead result in the working price of the Display-Price Slid order to be repriced to one penny away from the locking price.

Price Adjust *(BZX, C1, C2, and EDGX)*
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.

NoRescrapeAtLimit *(BZX Only)*
Applicable only to fully routable IOC orders (9303=R **and** 59=3). After walking the price down to the limit, there will be no final scrape at Cboe and the cancel code will state "X: Expired" rather than "N: No Liquidity".

1.6.5 Default Exchange Risk Protections

1.6.5.1 *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 (min 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.

1.6.5.2 *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 a maximum capped price through the contra side NBBO at time of order entry. An order that does not execute in full that is placed on the order book at its drill-through price will rest in the book for two seconds and subsequently cancelled with reason "X: Expired".

The Drill-Through Price is calculated by taking the NBB or NBO and adding or subtracting the Drill-Through Amount from the table below.

NBBO Price	Drill-Through Amount
$0.00 – $1.99	$0.15
$2.00 – $5.00	$0.30
$5.01 – $10.00	$0.40
$10.01 – $20.00	$0.50
$20.01 – $50.00	$0.70
$50.01 – $100.00	$0.80
$100.01 & Above	$1.00

1.6.5.3 *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 3% through the contra-side of the SNBBO. The price cap level will be no larger than $0.10 through the contra-side SNBBO and no smaller than $0.02 through the contra-side SNBBO. An order that does not execute in full that is placed on the COB at a capped price

due to Drill-Through Protections will rest in the complex book for two seconds and subsequently cancelled with reason "X: Expired".

Optional Drill-Through Protections can also be set on an individual order that will allow customers to set more or less restrictive Drill-Through Protections by using *DrillThruProtection* (FIX 6253) field on the `New Order Multileg` message.

1.6.5.4 *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.

Pre-Open		
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

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.

Exception Class Pre-Open		
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

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

See the Web Portal Port Controls Specification for additional details on how fat finger settings can be managed intraday by Members.

1.6.6 Risk Root

This document refers to the term "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 reset of a risk trip.

See the Risk Management Specification for more details.

1.6.7 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 Port Attributes section 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.

1.6.8 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.

1.6.8.1 *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.

1.6.8.2 *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.

1.6.8.3 *Market Data*

Cabinet orders or executions will not be disseminated on OPRA but will be available on http://cdn.cboe.com/resources/membership/US_EQUITIES_OPTIONS_MULTICAST_PITCH_SPECIFICATION.pdf and http://cdn.cboe.com/resources/membership/US_OPTIONS_MULTICAST_TOP_SPECIFICATION.pdf feeds.

1.6.9 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*)

1.6.10 Port Types

All BOE port types may be ordered through the Customer Web Portal using the **Logical Port Request** tool. Changes to port attributes may be requested through the same tool by submitting a 'Modify' request for one or more existing BOE ports.

1.6.10.1 *BOE Order Ports*

Standard BOE ports support simple and complex order entry but do not support the usage of the following message types: `Quote Update`, `Purge Orders`. 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.

1.6.10.2 *BOE Bulk Quoting Ports*

BOE Bulk Quoting ports are intended for use by firms quoting large numbers of simple options series. As a result, they are unthrottled. However, firms may still experience poor performance on Bulk Quoting ports if excessive message traffic is sent.

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.

Bulk Quoting Port Order Acceptance Table

Message	Simple/Complex	Accepted over Bulk Quoting Port?	Other Conditions
`Quote Update`	Simple	Yes	
`Quote Update (short)`	Simple	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 will be available for use by all customers. Only registered Market Makers will be allowed to use quotes for liquidity removal. Orders sent on Bulk Quoting Ports will be allowed to remove liquidity only on BZX Options. On C1, C2, and EDGX Options, only registered Market Makers will be allowed to remove liquidity using `New Order` messages.

Once any quote or order is posted to the exchange book liquidity removal against any contra capacity will always be 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.

	Contra Side (*Capacity*)			
Originating Side (*Capacity*)	**BZX**	**C2**	**EDGX**	**C1**
`Quote Update` Seeking to Remove (M)	Allowed (ALL)	Allowed (All Except "M")	Allowed (All Except "M")	Allowed (All Except "M")
`Quote Update` Seeking to Remove (All Except "M")	Reject	Reject	Reject	Reject
`New Order` Seeking to Remove (M)	Allowed (ALL)	Allowed (All Except "M")	Allowed (All Except "M")	Allowed (All Except "M")
`New Order` Seeking to Remove (All Except "M")	Allowed (ALL)	Reject	Reject	Reject
Passive `Quote Update` or `New Order` (ALL)	Allowed (ALL)	Allowed (ALL)	Allowed (ALL)	Allowed (ALL)

1.6.10.3 *BOE Purge Ports*

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

1.6.11 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 having more than 12 legs
- a complex order with multiple underlying components
- any FLEX order not participating in an auction
- 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 rout to the Floor PAR Official of the underlying symbol) if not specified on the inbound message. See Section 'FIX Port Attributes' for information on available port attributes, including *Default FloorRoutingInst* and *Default FloorDestination.*

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
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

1.6.11.1 *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.

2 Session

2.1 Message Headers

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.

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.

2.2 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 `Login Request` *NoUnspeciedUnitReplay* flag is enabled, 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` 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.

2.3 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 field *LastReceivedSequenceNumber* as the sequence starting point for sending future messages.

2.4 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 five 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.**

2.5 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`.

3 Session Messages

3.1 Member to Cboe

3.1.1 Login Request

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.

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.

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`
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 'Section 7 – Return Bitfields per Message'.

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.

Example Login Request Message:

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.*

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
SessionSubID	30 30 30 31	0001
Username	54 45 53 54	TEST
Password	54 45 53 54 49 4E 47 00 00 00	TESTING
NumberOfParamGroups	03	3 parameter groups
ParamGroupLength	0E 00	15 bytes for this parameter group
ParamGroupType	80	0x80 = Unit Sequences
NoUnspecifiedUnitReplay	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
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	0B 00	11 bytes for this parameter group
ParamGroupType	81	0x81 = Return Bitfields
MessageType	2C	0x2C = Order Execution
NumberOfReturnBitfields	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

3.1.2 Logout Request

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.

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.

Example Logout Request Message:

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

3.1.3 Client Heartbeat

See 'Section 2.4 – Heartbeats' for more information about heartbeats and the session level protocol.

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.

Example Client Heartbeat Message:

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

3.2 Cboe to Member

3.2.1 Login Response

`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.

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 'Section 6 – Return Bitfields Per Message' for additional information.

Note that two sets of sequence numbers are available on the `Login Response`. 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`; however, all units will be provided in the `Login Response`.

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.
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.

Example Login Response Message:

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	Accepted
	00 00 00 00 00 00 00 00 00 00	(padding)
	00 00 00 00 00 00 00 00 00 00	(padding)
	00 00 00 00 00 00 00 00 00 00	(padding)
	00 00 00 00 00 00 00 00 00 00	(padding)
	00 00 00 00 00 00 00 00 00 00	(padding)
NoUnspecified UnitReplay	01	True (replay only specified units)
Last Received Sequence Number	54 4A 02 00	Last sequence Cboe received of 150,100
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
UnitSequence3	00 00 00 00	Actual last sequence of 0
UnitNumber $_4$	02	Unit 4
UnitSequence4	79 A1 00 00	Actual last sequence of 41,337
NumberOfParam Groups	03	3 parameter groups
ParamGroupLength	14 00	20 bytes for this parameter group
ParamGroupType	80	0x80 = Unit Sequences
NoUnspecified UnitReplay	01	True (replay unspecified units)
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
UnitSequence3	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
NumberOfReturn Bitfields	03	3 bitfields to follow
ReturnBitfield1	00	No bitfields from byte 1
ReturnBitfield2	41	*Symbol, Capacity*
ReturnBitfield3	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
ReturnBitfield2	41	*Symbol, Capacity*
ReturnBitfield3	07	*Account, ClearingFirm, ClearingAccount*
ReturnBitfield4	00	No bitfields from byte 4
ReturnBitfield5	40	*BaseLiquidityIndicator*
ReturnBitfield6	00	No bitfields from byte 6
ReturnBitfield7	01	*SubLiquidityIndicator*

3.2.2 Logout

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

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

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.
UnitSequence1		4	Binary	Highest available sequence number for the unit.
…				
UnitNumber n		1	Binary	A unit number.
UnitSequencen		4	Binary	Highest available sequence number for the unit.

Example Logout Response Message:

Field Name	Hexadecimal	Notes
StartOfMessage	BA BA	Start of message bytes.
MessageLength	55 00	85 bytes
MessageType	08	Logout
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 SequenceNumber	54 5A 02 00	Last Cboe received sequence of 150,100
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

3.2.3 Server Heartbeat

See 'Section 2.4 – Heartbeats' for more information about heartbeats and the session level protocol.

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.

Example Server Heartbeat Message:

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

3.2.4 Replay Complete

See 'Section 2.2 – Login, Replay and Sequencing' for more information on Login, sequencing and replay.

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.

Example Replay Complete Message:

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

4 Application Messages

4.1 Member to Cboe

4.1.1 New Order

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 'Section 5.1 – New Order'.

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, and pipe. **Effective 01/13/20,** the 'at' symbol (@) and double quotes will not be allowed. 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.
NumberOf NewOrder Bitfields	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 order market orders); and,

- *Capacity*;

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

All other values have defaults. See the table in **List of Options Fields** for additional information about each optional field, including its default value.

Symbology:

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

Example New Order Message:

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

4.1.2 New Order Cross (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 'Section 5.2 – New Order Cross'.

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, and pipe. **Effective 01/13/20,** 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") (C1 only) **Effective on EDGX TBD**
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.
OrderQty	40	4	Binary	Corresponds to *OrderQty* (38) in Cboe FIX. Order quantity. System limit is 999,999 contracts.
NumberOf NewOrderCross Bitfields	44	1	Binary	Bitfield identifying which bitfields are set
NewOrderCross Bitfield[1]	45	1	Binary	Bitfield identifying fields to follow.
….				
NewOrderCross Bitfield[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, and pipe. **Effective 01/13/20,** the 'at' symbol and double quotes will not be allowed. 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 = Non-Cboe Market 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 a *Capacity* of "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 a *Capacity* of M or N will be permitted to submit *OpenClose* = O.
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**.
CMTANumber (Optional)		4	Binary	See **List of Optional Fields**.
ClearingAccount (Optional)		4	Text	See **List of Optional Fields**.
FrequentTraderID (Optional)		6	Text	See **List of Optional Fields**.
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 Equity and Options Symbology Reference.

Example New Order Cross Message:

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
NumberOfNewOrderCross Bitfields	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
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

4.1.3 New Complex Order (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` request. The message is similar to a `New Order` 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` response message, not the order supplied in the `New Complex Instrument` request. Complex orders in cross product spreads (ie 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 'Section 5.3 – New Complex Order'.

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.
NumberOf NewComplexOrder Bitfields	35	1	Binary	Bitfield identifying which bitfields are set. Field values must be appended to the end of the message.
NewComplexOrder Bitfield[1]	36	1	Binary	Bitfield identifying fields to follow.
….				
NewComplexOrder Bitfield[n]		1	Binary	Last bitfield.
NoLegs		1	Binary	Corresponds to *NoLegs* (555) in Cboe FIX.

				Indicates the number of repeating groups to follow. Must be a minimum of 2 and a maximum of 12.
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.				
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*. Contracts which are limited to closing only transactions with a *LegPositionEffect* value of O will be rejected unless the *Capacity* field is "M" or "N" and *TimeInForce* is 3 (Immediate or Cancel).	
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); and,
- *Capacity*
- *LegPositionEffect*

All other values have defaults. See the table in **List of Options Fields** for additional information about each optional field, including its default value.

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

Example New Complex Order Message:

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
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

4.1.4 New Order Cross Multileg (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*, *Price*, *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 'Section 5.4 – New Order Cross Multileg'.

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, and pipe. **Effective 01/13/20**, 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") (C1 and EDGX only) 2 = Qualified Contingent Cross ("QCC") 3 = Solicitation Cross ("SAM") (C1 only)
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.
NumberOf NewOrderCrossMultileg Bitfields	44	1	Bit Field	Bitfield identifying which bitfields are set.
NewOrderCrossMultileg Bitfield[1]	45	1	Bit Field	Bitfield identifying fields to follow.
….				
NewOrderCrossMultileg Bitfield[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, and pipe. **Effective 01/13/20**, the 'at' symbol and double quotes will not be allowed. 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 = Non-Cboe 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”. O = Open C = Close N = None* *Orders with an *Capacity* of “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. Contracts which are limited to closing only transactions with a value of “O” will be rejected unless the *Capacity* field is “M” (Market Maker) and *TimeInForce* is 3 (Immediate or Cancel).
Account (Optional)		16	Text	See **List of Optional Fields**.
CMTANumber (Optional)		4	Binary	See **List of Optional Fields**.
ClearingAccount (Optional)		4	Text	See **List of Optional Fields**.
ClearingOptionalData (Optional)		16	Text	See **List of Optional Fields**.
EquityPartyId (Optional)		4	Alpha	See **List of Optional Fields**.
EquityLegShortSell (Optional)		1	Alpha	See **List of Optional Fields**.
FrequentTraderID (Optional)		6	Text	See **List of Optional Fields**.
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*

Example New Order Cross Multileg Message:

Field Name	Hexadecimal	Notes
StartOfMessage	BA BA	Start of message bytes.
MessageLength	E3 00	227 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
NumberOfNewOrderCross	03	Three bitfields to follow
Multileg Bitfields		
NewOrderCrossMultilegBitfield1	61	*Symbol, TargetPartyID,AttributedQuote*
NewOrderCrossMultilegBitfield2	30	*CMTANumber, ClearingAccount*
NewOrderCrossMultilegBitfield3	01	*ClientID*
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	43 43 4F 4F 20 20 20 20 20 20 20 20	CCOO – Instrument has four legs, Close first two legs, Open last two legs
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
GiveUpFirmID	41 42 43 44	ABCD
LegPositionEffects	43 43 43 43 20 20 20 20 20 20 20 20	CCCC – Instrument has four legs, Close on all four legs
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
GiveUpFirmID	41 42 43 44	ABCD
LegPositionEffects	4F 43 4F 43 20 20 20 20 20 20 20 20	OCOC – Instrument has four legs, mixture of Open and Close
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
AttributedQuote	5A	Z = Attribute EFID and Client ID
ClientID	52 32 44 32	R2D2

4.1.5 Cancel Order

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.

Order Cancel Request messages for GTC and GTD orders may continue to be issued anytime after the trading session ends at 4:00 PM ET (4:15 PM ET for select ETF's) and prior to the trading session disconnecting at 4:45 PM ET. All other order message types received after the market closes at 4:00 PM ET (4:15 PM ET for select ETF's) will be rejected.

Mass cancellation of a group of orders can be done with one of two methods, using either the *MassCancel* (legacy) or *MassCancelInst* optional fields. If both optional fields *MassCancel* and *MassCancelInst* are specified, the `Cancel Order` request will be rejected. **Members are encouraged to use the *MassCancelInst* method as the legacy *MassCancel* method will be deprecated in the future with notice.**

Legacy Mass Cancel method:

- Populate the *MassCancel* required field (and do not specify the *MassCancelInst* optional field)
- Specify the *ClearingFirm* field, optionally the *RiskRoot* field, and optionally *MassCancelId* if a single `Mass Cancel Acknowledgement` is requested.
- Specify the *MassCancelLockout* optional field to request subsequent rejection of new orders based on the level of *MassCancel* (i.e. Firm level, Risk Root level, or Custom Group Id level)

MassCancelInst method

- 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. As a result, the *MassCancelLockout* field will be ignored when *MassCancelInst* is present.

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 twenty (20) 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.

Permitted input optional fields are described in 'Section 5.4 – Cancel Order'.

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.
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. . .				

Example Cancel Order Message:

Field Name	Hexadecimal	Notes
StartOfMessage	BA BA	Start of message bytes.
MessageLength	22 00	34 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 OrderBitfields	01	One bitfield to follow
CancelOrderBitfield1	01	*ClearingFirm*
ClearingFirm	54 45 53 54	TEST

Example Mass Cancel Order Message:

Field Name	Hexadecimal	Notes
StartOfMessage	BA BA	Start of message bytes.
MessageLength	4F 00	79 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 OrderBitfields	02	Two bitfields to follow
CancelOrderBitfield1	19	*ClearingFirm, RiskRoot, MassCancelId*
CancelOrderBitfield2	01	*MassCancelInst*
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	F = Cancel orders matching clearing firm TEST S = Single ack L = Lockout symbol MSFT B = Cancel simple and complex

4.1.6 Modify Order

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* (BZX, C1, and C2 only), *FrequentTraderID* (C1 only), and *StopPx* may be adjusted. Modifies will result in a loss of time priority unless the modification involves a decrease in *OrderQty*, or a change to *MaxFloor*, *FrequentTraderID*, or *StopPx*. *OrdType* may be adjusted from Limit to Market.

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` should not be issued until the `Order Acknowledgement` for the previous `New Order` or `Order Modified` message for the previous `Modify Order` has been received. The BOE handler will reject a new `Modify Order` 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 all `Modify Order` requests.** Messages sent without *OrderQty* or Price fields will be rejected.

Permitted input optional fields are described in 'Section 5.5 – Modify Order'.

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	`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 ModifyOrder Bitfields	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. . .				

Example Modify Order Message:

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 OrderBitfields	01	One bitfield to follow
ModifyOrderBitfield1	0C	*OrderQty, Price*
OrderQty	64 00 00 00	100 contracts
Price	08 E2 01 00 00 00 00 00	12.34

4.1.7 Quote Update

Request to enter or update one or more quotes. `Quote Update` 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.

All options in a single `Quote Update` 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 size.

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

All quotes will be automatically cancelled at the end of the trading day.

Quotes may be marked post only. If a quote crosses the NBBO or displayed Cboe book, it will be rejected. 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.

On BZX Options 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.

Capacity may not be changed when modifying a quote. To change *Capacity* of a resting quote, you must first send a quote with zero price and size and then re-enter the quote with the desired *Capacity*.

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

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, and pipe. **Effecti ve 01/13/20**, the 'at' symbol and double quotes will not be allowed.

				Responses, both to the Quote Update and any Quote Executions, Quote Cancellations, and Quote Modification messages will include this identifier. Note: Cboe only enforces uniqueness of *QuoteUpdateID* values among those not yet acknowledged by the ME. However, we strongly recommend that you keep your *QuoteUpdateID* values unique for a trading day.
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** for additional information.
CMTANumber	34	4	Binary	Corresponds to *CMTANumber* (439) in Cboe FIX. See **List of Optional Fields** for additional information.
Account	38	16	Text	Corresponds to *Account* (1) in Cboe FIX. See **List of Optional Fields** 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. See **List of Optional Fields** for additional information.
Reserved	57	15	Binary	Reserved for future expansion. To maintain forward compatibility, fill with 0.
SendTime	72	8	DateTime	Optional, may be filled with binary zero (`0x00`). Market Makers desiring the Exchange to report quote events to the CAT under the Options Market Maker Quote Exemption must populate this field with the quote send time with at least millisecond granularity. Market Makers that do not populate this field will be required to report their quotes to CAT.
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)
SessionEligibility	81	1	Text	A = Participates in both Global and Regular Trading Hours (C1, C2, and EDGX only) R = Regular Trading Hours (RTH) only
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** 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.

Example Quote Update Message:

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
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	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	Reserved

4.1.8 Quote Update (Short)

A shorter version of `Quote Update` 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.

`Quote Update (Short)` 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` in the previous section apply to `Quote Update (Short)` equally.

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, and pipe. **Effective 01/13/20,** the 'at' symbol and double quotes will not be allowed. Responses, both to the Quote Update and any Quote Executions, Quote Cancellations, and Quote Modification messages will include this identifier. Note: Cboe only enforces uniqueness of *QuoteUpdateID* values among those not yet acknowledged by the ME. However, we strongly recommend that you keep your *QuoteUpdateID* values unique for a trading day.
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** for additional information.
CustomGroupID	34	2	Binary	Optional. 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. See **List of Optional Fields** for additional information.
Reserved	37	3	Binary	Reserved for future expansion. To maintain forward compatibility, fill with 0.
SendTime	40	8	DateTime	Optional, may be filled with binary zero (`0x00`). Market Makers desiring the Exchange to report quote events to the CAT under the Options Market Maker Quote Exemption must populate this field with the quote send time with at least millisecond granularity. Market Makers that do not populate this field will be required to report their quotes to CAT.
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)
SessionEligibility	49	1	Text	A = Participates in both Global and Regular Trading Hours (C1, C2, and EDGX only) R = Regular Trading Hours (RTH) only
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** 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.

Example Quote Update Message:

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
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

4.1.9 Purge Orders

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 request is applied across all of the firm's sessions, not just the session on which the `Cancel Order` was received.

A purge request requires populating the *MassCancel* required field (legacy) or specifying the *MassCancelInst* optional field. If the *MassCancelInst* optional field is specified, the *MassCancel* required field will be ignored. **Members are encouraged to use the *MassCancelInst* method as the legacy *MassCancel* method will be deprecated in the future with notice**.

In addition, the `Purge Orders` message accepts a list of up to 10 *CustomGroupID* values as part of the order matching filter. If both *RiskRoot* and a list of *CustomGroupID* values are specified, the `Purge Orders` request will be rejected.

Legacy Mass Cancel method:

- Populate the *MassCancel* required field (and do not specify the *MassCancelInst* optional field)
- Specify the *ClearingFirm* field, optionally the *RiskRoot* field, and optionally *MassCancelId* if a single `Mass Cancel Acknowledgement` is requested.
- Specify the *MassCancelLockout* optional field to request subsequent rejection of new orders based on the level of *MassCancel* (i.e. Firm level, Risk Root level, or Custom Group Id level)

MassCancelInst method

- 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. As a result, the *MassCancelLockout* field will be ignored when *MassCancelInst* is present.

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 Purge Orders requests can be submitted to the system. Requests are restricted to twenty (20) 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. Permitted input optional fields are described in 'Section 5.7 – Purge Orders'.

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.
SequenceNumber	6	4	Binary	The sequence number for this message.
MassCancel	10	1	Alphanumeric	Corresponds to *MassCancel* (7693) in Cboe FIX. Indicates that a mass cancellation is being performed.
NumberOf PurgeOrders Bitfields	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.
CustomGroupID[1]		2	Binary	First *CustomGroupID*. Only present if *CustomGroupIDCnt* is non-zero.
…				
CustomGroupID[n]		2	Binary	Last *CustomGroupID*.
Optional fields. . .				

Example Purge Orders Message (legacy) with CustomGroupID and Lockout:

Field Name	Hexadecimal	Notes
StartOfMessage	BA BA	Start of message bytes
MessageLength	29 00	41 bytes
MessageType	47	Purge Orders
MatchingUnit	0	Always 0 for inbound messages
SequenceNumber	64 00 00 00	Sequence number 100
MassCancel	34	4 = clearing firm match, single ack
NumberOfPurge OrderBitfields	01	One bitfield to follow
PurgeOrdersBitfield1	13	*ClearingFirm,MassCancelLockout, MassCancelID*
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
MassCancelLockout	31	1 = lockout
MassCancelID	41 42 43 31 32 33 00 00 00 00 00 00 00 00 00 00 00 00 00 00	ABC123

Example Purge Orders Message (legacy) with Product Level Filter and no Lockout:

Field Name	Hexadecimal	Notes
StartOfMessage	BA BA	Start of message bytes
MessageLength	2B 00	43 bytes
MessageType	47	Purge Orders
MatchingUnit	00	Always 0 for inbound messages
SequenceNumber	64 00 00 00	Sequence number 100
MassCancel	34	4 = clearing firm match, single ack
NumberOfPurge OrderBitfields	01	1 bitfield to follow
PurgeOrdersBitfield1	1B	*ClearingFirm, MassCancelLockout, RiskRoot, MassCancelID*
CustomGroupIDCnt	00	No *CustomGroupID* to follow
ClearingFirm	54 45 53 54	TEST
MassCancelLockout	30	0 = no lockout
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

Example Purge Orders Message with CustomGroupID and Lockout:

Field Name	Hexadecimal	Notes
StartOfMessage	BA BA	Start of message bytes
MessageLength	29 00	58 bytes
MessageType	47	Purge Orders
MatchingUnit	0	Always 0 for inbound messages
SequenceNumber	64 00 00 00	Sequence number 100
MassCancel	00	Not specified
NumberOfPurge OrderBitfields	01	One bitfield to follow
PurgeOrdersBitfield1	15	*ClearingFirm,MassCancelInst, MassCancelID*
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	ABC123

Example Purge Orders Message with Product Level Filter and no Lockout:

Field Name	Hexadecimal	Notes
StartOfMessage	BA BA	Start of message bytes
MessageLength	3C 00	60 bytes
MessageType	47	Purge Orders
MatchingUnit	0	Always 0 for inbound messages
SequenceNumber	64 00 00 00	Sequence number 100
MassCancel	00	Not specified
NumberOfPurge OrderBitfields	01	One bitfield to follow
PurgeOrdersBitfield1	1D	*ClearingFirm, MassCancelInst, RiskRoot, MassCancelID*
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	ABC123

4.1.10 Reset Risk

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 second. 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 one second has elapsed. This restriction is designed to safeguard the trading platform from excessive risk messaging.

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** for allowed values.
Reserved	34	4	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 firm level.
CustomGroupID	48	2	Binary	Populate with an identifier for resets including a CustomGroupID. Set to 0 to ignore.

Example Reset Risk Message:

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 Firm level reset

Reserved	00 00 00 00	
ClearingFirm	54 45 53 54	TEST
RiskRoot	41 42 43 00 00 00	ABC
CustomGroupID	00 00	No *CustomGroupID*

4.1.11 New Complex Instrument (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 'Section 5.8 – New Complex Instrument'.

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, and pipe. **Effective 01/13/20**, the 'at' symbol and double quotes will not be allowed. 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.**
NumberOf NewComplex InstrumentBitfields	30	1	Binary	Bitfield identifying which bitfields are set. Field values must be appended to the end of the message.
NewComplex InstrumentBitfield[1]	31	1	Binary	Bitfield identifying fields to follow.
….				
NewComplex InstrumentBitfield[n]		1	Binary	Last bitfield.
NoLegs		1	Binary	Corresponds to *NoLegs* (555) in Cboe FIX. Indicates the number of repeating groups to follow. Must be a minimum of 2 and a maximum of 12.
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.				

	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. Must be between 1 and 99,999.
	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.

Example New Complex Instrument Message:

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
NewComplex InstrumentBitfield1	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
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

4.1.12 Add Floor Trade (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.

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, and pipe. **Effective 01/13/20,** the 'at' symbol and double quotes will not be allowed. 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 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. Allowed characters are alphanumeric and colon. *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 *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.
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).
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 a *Capacity* of "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 an order with *Capacity* of M or N will only be permitted to submit *OpenClose* = O if the order has a *TimeInForce* of IOC or *RoutingInst* of Post Only (P).
TradeTime	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

Example Add Floor Trade Message:

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
OpenClose	4F	O = Open

TradeTime	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

4.1.13 Floor Trade Confirmation (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.

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, and pipe. **Effective 01/13/20**, the 'at' symbol and double quotes will not be allowed. 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. 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 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` = Percentage, when trading FLEX percentage instruments* `2` = (Default) Price per unit (contract) * Percentage pricing for FLEX orders is only available for index products.
Reserved	68	15	Reserved	Reserved

Example Floor Trade Confirmation Message:

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 00 00 00`	Reserved

4.1.14 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` or with a `Delete Floor Trade Acknowledgement` 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, and pipe. **Effective 01/13/20**, the 'at' symbol and double quotes will not be allowed. 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. 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 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	Corresponds to *Side* (54) in Cboe FIX. 1 = Buy 2 = Sell
Reserved	60	16	Reserved	Reserved

Example Delete Floor Trade Message:

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

4.2 Cboe to Member

4.2.1 Order Acknowledgment

`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` (Section 3.1.1 – Login Request), 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 'Section 6.1 – Order Acknowledgement'.

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.
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. . .				

Example Order Acknowledgment Message:

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
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 00	ABC
ClearingAccount	00 00 00 00	

Example Minimal Order Acknowledgment Message:

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

4.2.2 Cross Order Acknowledgment (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` (Section 3.1.1 – Login Request), 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 'Section 6.2 – Cross Order Acknowledgement'.

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.
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.
GroupCnt		2	Binary	Number of order allocations represented by repeating groups included in this message.
Repeating Groups Of…				
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.**
AllocQty (Optional)		4	Binary	See **List of Optional Fields.**
Capacity (Optional)		1	Alpha	See **List of Optional Fields.**
OpenClose (Optional)		1	Alphanumeric	See **List of Optional Fields.**
GiveUpFirmID (Optional)		4	Alpha	See **List of Optional Fields.**
Account (Optional)		16	Text	See **List of Optional Fields.**
CMTANumber (Optional)		4	Binary	See **List of Optional Fields.**
ClearingAccount (Optional)		4	Text	See **List of Optional Fields.**
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.

Example Cross Order Acknowledgment Message:

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
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

4.2.3 Quote Update Acknowledgment

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

For quotes not marked post only which are priced at an executable price and which may remove liquidity against non-Market Maker liquidity, *QuoteResult* reason of "D" or "d" will be provided. In these cases, executions or cancellations (as needed) will immediately follow as additional messages. In some cases, an execution may not be permitted (e.g., risk management causes cancellation of the targeted order before execution), no additional messages will follow and the quote will post.

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`.

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 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** 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.
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 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 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.
SubLiquidity Indicator		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.
Reserved		6	Binary	Reserved for future expansion. Filled with 0.

Example Quote Update Acknowledgment Message:

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
Reserved	00 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
Reserved	00 00 00 00 00 00	

4.2.4 Order Rejected

`Order Rejected` messages are sent in response to a `New Order` 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 'Section 6.4 – Order Rejected'.

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** 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. . .				

Example Order Rejected Message:

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
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
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

4.2.5 Cross Order Rejected (C1 and EDGX Only)

`Cross Order Rejected` messages are sent in response to a `New Order Cross` and `New Order Cross Multileg` 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 'Section 6.5 – Cross Order Rejected'.

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** 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. . .				

Example Cross Order Rejected Message:

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

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`
		Series not currently trading

	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	
ReservedInternal	00	Ignore
NumberOfReturnBitfields	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

4.2.6 Quote Update Rejected

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

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` request.
QuoteRejectReason	34	1	Text	Reason for rejection of an entire `Quote Update` message. See **Quote Reason Codes** 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.

Example Quote Update Rejected Message:

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	Reserved

4.2.7 Order Modified

`Order Modified` messages are sent in response to a `Modify Request` 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 'Section 6.6 – Order Modified'.

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. . .				

Example Order Modified Message:

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
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)

4.2.8 Order Restated

`Order Restated` messages are sent to inform the Member that an order has been asynchronously modified for some reason without an explicit `Modify Order` request having been sent. Some example (non-exhaustive) reasons for `Order Restated` messages being sent:

- A reserve (iceberg) order has been reloaded (BZX , 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 'Section 6.7 – Order Restated'.

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 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. . .				

Example Order Restated Message for a reserve (iceberg) reload:

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)

4.2.9 Quote Restated

`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. On BZX Options, if a hidden working price is covered by an inbound post only order or quote, a restatement will also occur. 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.

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 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. K = Price sliding reprice (BZX only) Q = Liquidity W = Wash Cboe reserves the right to add new values as necessary without prior notice.

Example Quote Restated Message:

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
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
MassCancel	57	W = Wash

4.2.10 User Modify Rejected

User Modify Rejected messages are sent in response to a Modify Order 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 'Section 6.8 – User Modify Rejected'.

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.
ModifyReject Reason	38	1	Text	Reason for a modify rejection. See **Order Reason Codes** 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. . .				

Example User Modify Rejected Message:

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

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 Bitfields	`00`	No optional fields

4.2.11 Order Cancelled

An order has been cancelled. Permitted return optional fields are described in 'Section 6.9 – Order Cancelled'.

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** 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. . .				

Example Order Cancelled Message:

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
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

4.2.12 Quote Cancelled

A `Quote Cancelled` message will be sent to indicate an unsolicited cancellation of a quote entered with a `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.

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` 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** for a list of possible reasons.

Example Quote Cancelled Message:

Field Name	Hexadecimal	Notes
StartOfMessage	`BA BA`	Start of message bytes.
MessageLength	`30 00`	48 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)
Symbol	`30 30 36 69 70 41`	006ipA
Side	`32`	2 = Sell
CancelReason	`41`	A = Admin

4.2.13 Cross Order Cancelled (C1 and EDGX Only)

A `New Order Cross` 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 'Section 6.10 – Cross Order Cancelled'.

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** 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 Groups Of…				
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**.
AllocQty (Optional)		4	Binary	See **List of Optional Fields**.
Capacity (Optional)		1	Alpha	See **List of Optional Fields**.
OpenClose (Optional)		1	Alphanumeric	See **List of Optional Fields**.
GiveUpFirmID (Optional)		4	Alpha	See **List of Optional Fields**.
Account (Optional)		16	Text	See **List of Optional Fields**.
CMTANumber (Optional)		4	Binary	See **List of Optional Fields**.
ClearingAccount		4	Text	See **List of Optional Fields**.

(Optional)				
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.

Example Cross Order Cancelled Message:

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

4.2.14 Cancel Rejected

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 'Section 6.11 – Cancel Rejected'.

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** 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. . .				

Example Cancel Rejected Message:

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

ReservedInternal	`00`	Ignore
NumberOfReturn Bitfields	`00`	No optional fields

4.2.15 Order Execution

An `Order Execution` 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 (EDGX or C2 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.

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

Permitted return bitfields are described in 'Section 6.12 – Order Execution'.

<table>
<tr><th>Field</th><th>Offset</th><th>Length</th><th>Data Type</th><th>Description</th></tr>
<tr><td>StartOfMessage</td><td>0</td><td>2</td><td>Binary</td><td>Must be 0xBA 0xBA.</td></tr>
<tr><td>MessageLength</td><td>2</td><td>2</td><td>Binary</td><td>Number of bytes for the message, including this field but not including the two bytes for the StartOfMessage field.</td></tr>
<tr><td>MessageType</td><td>4</td><td>1</td><td>Binary</td><td>0x2C</td></tr>
<tr><td>MatchingUnit</td><td>5</td><td>1</td><td>Binary</td><td>The matching unit which created this message. Matching units in BOE correspond to matching units on Multicast PITCH.</td></tr>
<tr><td>SequenceNumber</td><td>6</td><td>4</td><td>Binary</td><td>The sequence number for this message. Distinct per matching unit.</td></tr>
<tr><td>TransactionTime</td><td>10</td><td>8</td><td>DateTime</td><td>The time the event occurred in the Cboe Matching Engine (not the time the message was sent).</td></tr>
<tr><td>ClOrdID</td><td>18</td><td>20</td><td>Text</td><td>Order receiving the execution.</td></tr>
<tr><td>ExecID</td><td>38</td><td>8</td><td>Binary</td><td>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.

Example conversion:
<table><tr><th>Decimal</th><th>Base 36</th></tr><tr><td>28294005440239</td><td>A1234B567</td></tr><tr><td>76335905726621</td><td>R248BC23H</td></tr><tr><td>728557228187</td><td>09AP05V2Z</td></tr></table></td></tr>
<tr><td>LastShares</td><td>46</td><td>4</td><td>Binary</td><td>Corresponds to LastShares (32) in Cboe FIX.

Executed share quantity.</td></tr>
<tr><td>LastPx</td><td>50</td><td>8</td><td>Binary Price</td><td>Corresponds to LastPx (31) in Cboe FIX.

Price of this fill. Note the use of Binary Price type to represent positive and negative prices, which can occur with complex instruments.</td></tr>
<tr><td>LeavesQty</td><td>58</td><td>4</td><td>Binary</td><td>Corresponds to LeavesQty (151) in Cboe FIX.

Quantity still open for further execution. If zero, the order is complete.</td></tr>
<tr><td>BaseLiquidity Indicator</td><td>62</td><td>1</td><td>Alphanumeric</td><td>Indicates whether the trade added or removed liquidity.

A = Added Liquidity
R = Removed Liquidity
X = Routed to Another Market
C = Auction/Uncrossing</td></tr>
<tr><td>SubLiquidityIndicator</td><td>63</td><td>1</td><td>Alphanumeric</td><td>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 (EDGX Only)
b = AIM (C1 and EDGX Only)
q = QCC (C1 and EDGX Only)
s = SAM (C1 Only) Effective on EDGX TBD</td></tr>
<tr><td>ContraBroker</td><td>64</td><td>4</td><td>Alphanumeric</td><td>Corresponds to ContraBroker (375) in Cboe FIX.

<u>Simple Instrument Fills</u></td></tr>
</table>

				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 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 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
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…				

Example Order Execution Message:

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	43 46 45 00	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

4.2.16 Quote Execution

A `Quote Execution` message is used to indicate an execution has occurred on a resting quote.

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.

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. 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.
ContraCapacity	80	1	Alphanumeric	Capacity of the contra for this execution.
Side	81	1	Alpha	1 = Buy 2 = Sell
BaseLiquidity Indicator	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 (EDGX Only) b = Bats Auction Mechanism (EDGX Only) q = QCC (C1 and EDGX Only) s = SAM (C1 Only) **Effective on EDGX TBD**
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.

Example Quote Execution Message:

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

4.2.17 Trade Cancel or Correct

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` 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 'Section 6.13 – Trade Cancel or Correct'.

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.
OrigTime	84	8	DateTime	Corresponds to *OrigTime* (42). The date and time of the original trade, in GMT.
ReservedInternal	92	1	Binary	Reserved for Cboe internal use.
NumberOfReturn Bitfields	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. . .				

Example Trade Cancel or Correct Message:

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

4.2.18 Purge Rejected

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.

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** 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.
NumberOfReturn Bitfields	80	1	Binary	Number of bitfields to follow.
ReturnBitfield₁	81	1	Binary	Bitfield identifying fields to return.
…				
ReturnBitfieldₙ		1	Binary	Last bitfield.
Optional fields. . .				

Example Purge Rejected Message:

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
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

4.2.19 Reset Risk Acknowledgment

Response to a `Reset Risk` request.

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 second Y = Success F = Rejected; exceeds firm reset limit C = Rejected; exceeds Custom Group ID limit D = Rejected; automatic risk resets are disabled E = Rejected; empty *ResetRisk* field I = Rejected; Incorrect data center S = Rejected; exceeds risk root reset limit

				U = Rejected; invalid *RiskRoot* c = Rejected; invalid EFID/*ClearingFirm* y = Rejected; in replay Additional reject values may be added in the future with no notice.

Example Risk Reset Acknowledgment Message:

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

4.2.20 Mass Cancel Acknowledgment

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

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 in the order entry gateway when the final matching engine event was received to complete the mass cancel.
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. This field corresponds to *CancelledOrderCount* (7696) in Cboe FIX.
ReservedInternal	42	1	Binary	Reserved for Cboe internal use.

Example Mass Cancel Acknowledgment Message:

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

4.2.21 Complex Instrument Accepted (C1, C2, and EDGX Only)

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

Permitted return bitfields are described in 'Section 6.14 – Complex Instrument Accepted'.

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	Correspondes 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.
NumberOf ReturnBitfields	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.				

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	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. Must be between 1 and 99,999.
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.

Example Complex Instrument Accepted Message:

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	30	Legs accepted as sent
NoOfSecurities	04 00 00 00	Four complex strategies created by sender
NumberOfReturn Bitfields	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
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

Example Minimal Complex Instrument Accepted Message:

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
NumberOfReturn Bitfields	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

4.2.22 Complex Instrument Rejected (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 'Section 6.15 – Complex Instrument Rejected'.

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** 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. . .				

Example Complex Instrument Rejected Message:

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

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`
		Duplicate ClOrdID

	00 00 00 00 00 00 00 00 00 00	
NoOfSecurities	04 00 00 00	Four complex strategies created by sender
ReservedInternal	00	Ignore
NumberOfReturn Bitfields	00	No bitfields follow

4.2.23 Floor Trade Notification (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`; only an `Order Executed` message.

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. 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	31	4	Date	Corresponds to *MaturityMonth* (200) and *MaturityDay* (205) in Cboe FIX. NULL (0x00) filled if using Cboe format symbol.
OrderQty	35	4	Binary	Corresponds to *OrderQty* (38) in Cboe FIX. System limit is 999,999 contracts.
Price	39	8	Binary Price	Corresponds to *Price* (44) in Cboe FIX. Execution price.
Side	47	1	Alphanumeric	Corresponds to *Side* (54) in Cboe FIX. 1 = Buy 2 = Sell
ContraTrader	48	4	Alpbanumeric	Displays the Contra Trader floor acronym.
FloorTraderAcronym	52	3	Alpha	Floor Acronym of participant submitting trade.
TradeTime	55	8	DateTime	Trade time
TradeThroughAlertType	63	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	64	1	Alphanumeric	Corresponds to *PriceType* (423) in Cboe FIX. 1 = Percentage, when trading FLEX percentage instruments* 2 = (Default) Price per unit (contract) * Percentage pricing for FLEX orders is only available for index products.
Reserved	65	15	Reserved	Reserved

Example Floor Trade Notificaiton Message:

Field Name	**Hexadecimal**	**Notes**
StartOfMessage	BA BA	Start of message bytes.
MessageLength	4E 00	78 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	AAA
FloorTraderAcronym	42 42 42	BBB
TradeTime	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 00	Reserved

4.2.24 Add Floor Trade Rejected (C1 Only)

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

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	The sequence number for this message.
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.
TradeTime	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.

Example Add Floor Trade Rejected Message:

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	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	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
TradeTime	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

4.2.25 Floor Trade Confirmation Rejected (C1 Only)

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

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	The sequence number for this message.
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. `1` = Percentage, when trading FLEX percentage instruments* `2` = (Default) Price per unit (contract) * Percentage pricing for FLEX orders is only available for index products.
Reserved	68	15	Reserved	Reserved
RejectText	83	60	Text	Human readable text with more information about the reject reason.

Example Floor Trade Confirmation Rejected Message:

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	`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	00 00 00 00 00 00 00 00	
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	
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	A: ExecId: ExecutionId empty

4.2.26 Delete Floor Trade Rejected (C1 Only)

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

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	`0x60`
MatchingUnit	5	1	Binary	Always 0.
SequenceNumber	6	4	Binary	The sequence number for this message.
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.

Example Delete Floor Trade Rejected Message:

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	64 00 00 00	Sequence number 100
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	
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

4.2.27 Delete Floor Trade Acknowledgement (C1 Only)

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

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	The sequence number for this message.
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. Example conversion: **Decimal** / **Base 36** 28294005440239 / A1234B567 76335905726621 / R248BC23H 728557228187 / 09AP05V2Z
Reserved	68	16	Reserved	Reserved

Example Delete Floor Trade Acknowledgement Message:

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	`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)
Reserved	`00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00`	Reserved

5 Input Bitfields Per Message

Legend:

R	Indicates that the field must be specified for a message
●	Indicates that the field can be specified for a message
–	Indicates that the field cannot be requested for a message
(Blank)	Indicates that the field is not used by Cboe Options and cannot be specified for a message

Input messages that 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**) and a 'Text' non-optional field containing descriptive text.

5.1 New Order

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

Byte	Bit	Field	
6	1	*DisplayRange*	●
	2	*StopPx*	●
	4	*RoutStrategy*	●
	8	*RouteDeliveryMethod*	●
	16	*ExDestination*	●
	32	*EchoText*	●
	64	*AuctionId*	●
	128	*RoutingFirmID*	●
7	1	*AlgorithmicIndicator*	
	2	*CustomGroupId*	●
	4	*ClientQualifiedRole*	
	8	*InvestorQualifiedRole*	
	16	*ExecutorQualifiedRole*	
	32	*CtiCode*	
	64	*ManualOrderIndicator*	
	128	*OperatorId*	
8	1	*(Reserved)*	
	2	*(Reserved)*	
	4	*ClearingOptionalData*	●
	8	*ClientIDAttr*	●
	16	*FrequentTraderID*	●
	32	*Compression*	●
	64	*FloorDestination*	●
	128	*FloorRoutingInst*	●
9	1	*OrderOrigin*	●
	2	*ORS*	●
	4	*PriceType*	●
	8	*(Reserved)*	
	16	*(Reserved)*	
	32	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	

5.2 New Order Cross (C1 and EDGX Only)

Byte	Bit	Field	
1	1	*Symbol*	R
	2	*MaturityDate*	●
	4	*StrikePrice*	●
	8	*PutOrCall*	●
	16	*ExecInst*	●
	32	*AttributedQuote*	●
	64	*TargetPartyID*	●
	128	*PreventMatch*	●
2	1	*AutoMatch*	●
	2	*AutoMatchPrice*	●
	4	*LastPriority*	●
	8	*Account*	●
	16	*CMTANumber*	●
	32	*ClearingAccount*	●
	64	*RoutingFirmID*	●
	128	*ClearingOptionalData*	●

Byte	Bit	Field	
3	1	*ClientIDAttr*	●
	2	*EquityTradePrice*	●
	4	*EquityTradeSize*	●
	8	*EquityTradeVenue*	●
	16	*EquityTransactTime*	●
	32	*EquityBuyClearingFirm*	●
	64	*EquitySellClearingFirm*	●
	128	*SessionEligibility*	●
4	1	*Compression*	●
	2	*ORS*	●
	4	*FrequentTraderID*	●
	8	*(Reserved)*	
	16	*(Reserved)*	
	32	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	

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

Byte	Bit	Field	
1	1	*ClearingFIrm*	●
	2	*ClearingAccount*	●
	4	*Price*	●
	8	*OrdType*	●
	16	*TimeInForce*	●
	32	*Symbol*	●
	64	*Capacity*	●
	128	*RoutingInst*	●
2	1	*Account*	●
	2	*PreventMatch*	●
	4	*ExpireTime*	●
	8	*CMTANumber*	●
	16	*TargetPartyID*	●
	32	*AttributedQuote*	●
	64	*EchoText*	●
	128	*AuctionId*	●
3	1	*RoutingFirmID*	●
	2	*DrillThruProtection*	●
	4	*RiskReset*	●
	8	*CustomGroupId*	●
	16	*LegSide*	
	32	*EquityPartyId*	●
	64	*(Reserved)*	
	128	*ClearingOptionalData*	●

Byte	Bit	Field	
4	1	*ClientIDAttr*	●
	2	*FrequentTraderID*	●
	4	*SessionEligibility*	●
	8	*MaxFloor*	●
	16	*DisplayRange*	●
	32	*ComboOrder*	●
	64	*Compression*	●
	128	*EquityExDestination*	●
5	1	*EquityLegShortSell*	●
	2	*FloorDestination*	●
	4	*FloorRoutingInst*	●
	8	*MultiClassSprd*	●
	16	*OrderOrigin*	●
	32	*ORS*	●
	64	*PriceType*	●
	128	*StrategyID*	●
6	1	*(Reserved)*	
	2	*ExecInst*	●
	4	*TiedHedge*	●
	8	*(Reserved)*	
	16	*(Reserved)*	
	32	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	

5.4 New Order Cross Multileg (C1 and EDGX Only)

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

Byte	Bit	Field	
4	1	*EquityPartyId*	●
	2	*EquityLegShortSell*	●
	4	*Reserved*	
	8	*Reserved*	
	16	*DrillThruProtection*	●
	32	*PriceType*	
	64	*EquityExDestination*	●
	128	*Compression*	●
5	1	*ORS*	●
	2	*FrequentTraderID*	●
	4	*(Reserved)*	
	8	*(Reserved)*	
	16	*(Reserved)*	
	32	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	

5.5 Cancel Order

Byte	Bit	Field	
1	1	*ClearingFirm*	●
	2	*MassCancelLockout*	●
	4	*MassCancel*	●
	8	*RiskRoot*	●
	16	*MassCancelID*	●
	32	*RoutingFirmID*	●
	64	*ManualOrderIndicator*	
	128	*OperatorId*	
2	1	*MassCancelInst*	●
	2	*(Reserved)*	
	4	*(Reserved)*	
	8	*(Reserved)*	
	16	*(Reserved)*	
	32	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	

ClearingFirm is required for service bureau ports.

5.6 Modify Order

Byte	Bit	Field	
1	1	*ClearingFirm*	●
	2	*(Reserved)*	
	4	*OrderQty*	**R**
	8	*Price*	**R**
	16	*OrdType*	●
	32	*CancelOrigOnReject*	●
	64	*ExecInst*	●
	128	*Side*	–
2	1	*MaxFloor*	●
	2	*StopPx*	●
	4	*RoutingFirmID*	●
	8	*ManualOrderIndicator*	
	16	*OperatorId*	
	32	*FrequentTraderID*	●
	64	*(Reserved)*	
	128	*(Reserved)*	

(**R**) Both *OrderQty* and *Price* must be present on all `Modify Order` requests. Messages sent without both fields will be rejected.

ClearingFirm is required for service bureau ports.

5.7 Purge Orders

Byte	Bit	Field	
1	1	*ClearingFirm*	●
	2	*MassCancelLockout*	●
	4	*MassCancelInst*	●
	8	*RiskRoot*	●
	16	*MassCancelID*	●
	32	*RoutingFirmID*	●
	64	*ManualOrderIndicator*	
	128	*OperatorId*	
2	1	*Symbol*	
	2	*SymbolSfx*	
	4	*(Reserved)*	
	8	*(Reserved)*	
	16	*(Reserved)*	
	32	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	

ClearingFirm is required for service bureau ports.

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

Byte	Bit	Field	
1	1	*LegCFICode*	●
	2	*LegMaturityDate*	●
	4	*LegStrikePrice*	●
	8	*ClearingFirm*	●
	16	*(Reserved)*	
	32	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	

6 Return Bitfields Per Message

Legend:

R	Indicates that the field must be specified for a message
●	Indicates that the field can be specified for a message
–	Indicates that the field cannot be requested for a message
(Blank)	Indicates that the field is not used by Cboe Options and cannot be specified for a message

Input messages that 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**) and a 'Text' non-optional field containing descriptive text.

6.1 Order Acknowledgment

Byte	Bit	Field	
1	1	*Side*	●
	2	*PegDifference*	
	4	*Price*	●
	8	*ExecInst*	●
	16	*OrdType*	●
	32	*TimeInForce*	●
	64	*MinQty*	●
	128	*MaxRemovePct*	●
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	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	
15	1	*(Reserved)*	
	2	*EquityPartyId*	●
	4	*(Reserved)*	
	8	*MassCancelId*	–
	16	*(Reserved)*	
	32	*(Reserved)*	
	64	*(Reserved)*	
	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	*(Reserved)*	
	8	*TradeThroughAlertType*	–
	16	*SenderLocationID*	–
	32	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	

6.2 Cross Order Acknowledgment (C1 and EDGX only)

Byte	Bit	Field	
1	1	*Side*	●
	2	*PegDifference*	
	4	*Price*	●
	8	*ExecInst*	●
	16	*OrdType*	–
	32	*TimeInForce*	–
	64	*MinQty*	–
	128	*MaxRemovePct*	–
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	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	
15	1	*(Reserved)*	
	2	*EquityPartyId*	●
	4	*(Reserved)*	
	8	*MassCancelId*	–
	16	*(Reserved)*	
	32	*(Reserved)*	
	64	*(Reserved)*	
	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	*(Reserved)*	
	8	*TradeThroughAlertType*	–
	16	*SenderLocationID*	–
	32	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	

6.3 Order Rejected

Byte	Bit	Field	
1	1	*Side*	●
	2	*PegDifference*	
	4	*Price*	●
	8	*ExecInst*	●
	16	*OrdType*	●
	32	*TimeInForce*	●
	64	*MinQty*	●
	128	*MaxRemovePct*	●
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*	
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*	–
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	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	
15	1	*(Reserved)*	
	2	*EquityPartyId*	●
	4	*(Reserved)*	
	8	*MassCancelId*	–
	16	*(Reserved)*	
	32	*(Reserved)*	
	64	*(Reserved)*	
	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	*(Reserved)*	
	8	*TradeThroughAlertType*	–
	16	*SenderLocationID*	–
	32	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	

6.4 Cross Order Rejected (C1 and EDGX Only)

Byte	Bit	Field	
1	1	*Side*	–
	2	*PegDifference*	
	4	*Price*	●
	8	*ExecInst*	●
	16	*OrdType*	–
	32	*TimeInForce*	–
	64	*MinQty*	–
	128	*MaxRemovePct*	–
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	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	
15	1	*(Reserved)*	
	2	*EquityPartyId*	●
	4	*(Reserved)*	
	8	*MassCancelId*	–
	16	*(Reserved)*	
	32	*(Reserved)*	
	64	*(Reserved)*	
	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	*(Reserved)*	
	8	*TradeThroughAlertType*	–
	16	*SenderLocationID*	–
	32	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	

6.5 Order Modified

Byte	Bit	Field	
1	1	*Side*	●
	2	*PegDifference*	
	4	*Price*	●
	8	*ExecInst*	●
	16	*OrdType*	●
	32	*TimeInForce*	●
	64	*MinQty*	●
	128	*MaxRemovePct*	●
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*	
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*	–
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	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	
15	1	*(Reserved)*	
	2	*EquityPartyId*	–
	4	*(Reserved)*	
	8	*MassCancelId*	–
	16	*(Reserved)*	
	32	*(Reserved)*	
	64	*(Reserved)*	
	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	*(Reserved)*	
	8	*TradeThroughAlertType*	–
	16	*SenderLocationID*	–
	32	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	

6.6 Order Restated

Byte	Bit	Field	
1	1	*Side*	●
	2	*PegDifference*	
	4	*Price*	●
	8	*ExecInst*	●
	16	*OrdType*	●
	32	*TimeInForce*	●
	64	*MinQty*	●
	128	*MaxRemovePct*	●
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*	
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*	–
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	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	
15	1	*(Reserved)*	
	2	*EquityPartyId*	–
	4	*(Reserved)*	
	8	*MassCancelId*	–
	16	*(Reserved)*	
	32	*(Reserved)*	
	64	*(Reserved)*	
	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	*(Reserved)*	
	8	*TradeThroughAlertType*	–
	16	*SenderLocationID*	–
	32	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	

6.7 User Modify Rejected

Byte	Bit	Field	
1	1	*Side*	–
	2	*PegDifference*	
	4	*Price*	–
	8	*ExecInst*	–
	16	*OrdType*	–
	32	*TimeInForce*	–
	64	*MinQty*	–
	128	*MaxRemovePct*	–
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*	
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*	–
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	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	
15	1	*(Reserved)*	
	2	*EquityPartyId*	–
	4	*(Reserved)*	
	8	*MassCancelId*	–
	16	*(Reserved)*	
	32	*(Reserved)*	
	64	*(Reserved)*	
	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	*(Reserved)*	
	8	*TradeThroughAlertType*	–
	16	*SenderLocationID*	–
	32	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	

6.8 Order Cancelled

Byte	Bit	Field	
1	1	*Side*	●
	2	*PegDifference*	
	4	*Price*	●
	8	*ExecInst*	●
	16	*OrdType*	●
	32	*TimeInForce*	●
	64	*MinQty*	●
	128	*MaxRemovePct*	●
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*	
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*	–
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	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	
15	1	*(Reserved)*	
	2	*EquityPartyId*	●
	4	*(Reserved)*	
	8	*MassCancelId*	–
	16	*(Reserved)*	
	32	*(Reserved)*	
	64	*(Reserved)*	
	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	*(Reserved)*	
	8	*TradeThroughAlertType*	–
	16	*SenderLocationID*	–
	32	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	

6.9 Cross Order Cancelled (C1 and EDGX Only)

Byte	Bit	Field	
1	1	*Side*	●
	2	*PegDifference*	
	4	*Price*	●
	8	*ExecInst*	●
	16	*OrdType*	–
	32	*TimeInForce*	–
	64	*MinQty*	–
	128	*MaxRemovePct*	–
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	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	
15	1	*(Reserved)*	
	2	*EquityPartyId*	●
	4	*(Reserved)*	
	8	*MassCancelId*	–
	16	*(Reserved)*	
	32	*(Reserved)*	
	64	*(Reserved)*	
	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	*(Reserved)*	
	8	*TradeThroughAlertType*	–
	16	*SenderLocationID*	–
	32	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	

6.10 Cancel Rejected

Byte	Bit	Field	
1	1	*Side*	●
	2	*PegDifference*	
	4	*Price*	●
	8	*ExecInst*	●
	16	*OrdType*	●
	32	*TimeInForce*	●
	64	*MinQty*	●
	128	*MaxRemovePct*	●
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*	
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*	–
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	*(Reserved)*	
	64	*(Reserved)*	
	128	*ClientIDAttr*	–
15	1	*(Reserved)*	
	2	*EquityPartyId*	–
	4	*(Reserved)*	
	8	*MassCancelId*	●
	16	*(Reserved)*	
	32	*(Reserved)*	
	64	*(Reserved)*	
	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	*(Reserved)*	
	8	*TradeThroughAlertType*	–
	16	*SenderLocationID*	–
	32	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	

6.11 Order Execution

Byte	Bit	Field	
1	1	*Side*	●
	2	*PegDifference*	
	4	*Price*	●
	8	*ExecInst*	●
	16	*OrdType*	●
	32	*TimeInForce*	●
	64	*MinQty*	●
	128	*MaxRemovePct*	●
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	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	
15	1	*(Reserved)*	
	2	*EquityPartyId*	●
	4	*(Reserved)*	
	8	*MassCancelId*	–
	16	*(Reserved)*	
	32	*(Reserved)*	
	64	*(Reserved)*	
	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	*(Reserved)*	
	8	*TradeThroughAlertType*	●
	16	*SenderLocationID*	●
	32	*FloorTraderAcronym*	●
	64	*(Reserved)*	
	128	*(Reserved)*	

6.12 Trade Cancel or Correct

Byte	Bit	Field	
1	1	*Side*	–
	2	*PegDifference*	
	4	*Price*	–
	8	*ExecInst*	–
	16	*OrdType*	–
	32	*TimeInForce*	–
	64	*MinQty*	–
	128	*MaxRemovePct*	–
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*	
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*	–
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	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	
15	1	*(Reserved)*	
	2	*EquityPartyId*	–
	4	*(Reserved)*	
	8	*MassCancelId*	–
	16	*(Reserved)*	
	32	*(Reserved)*	
	64	*(Reserved)*	
	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	*(Reserved)*	
	8	*TradeThroughAlertType*	–
	16	*SenderLocationID*	–
	32	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	

6.13 Purge Rejected

Byte	Bit	Field	
1	1	*Side*	–
	2	*PegDifference*	
	4	*Price*	–
	8	*ExecInst*	–
	16	*OrdType*	–
	32	*TimeInForce*	–
	64	*MinQty*	–
	128	*MaxRemovePct*	–
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	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	
15	1	*(Reserved)*	
	2	*EquityPartyId*	–
	4	*(Reserved)*	
	8	*MassCancelId*	●
	16	*(Reserved)*	
	32	*(Reserved)*	
	64	*(Reserved)*	
	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	*(Reserved)*	
	8	*TradeThroughAlertType*	–
	16	*SenderLocationID*	–
	32	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	

6.14 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	*MaxRemovePct*	–
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	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	
15	1	*(Reserved)*	
	2	*EquityPartyId*	–
	4	*(Reserved)*	
	8	*MassCancelId*	–
	16	*(Reserved)*	
	32	*(Reserved)*	
	64	*(Reserved)*	
	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	*(Reserved)*	
	8	*TradeThroughAlertType*	–
	16	*SenderLocationID*	–
	32	*(Reserved)*	
	64	*(Reserved)*	
	128	*(Reserved)*	

6.15 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	MaxRemovePct	–
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	
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	–
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	(Reserved)	
	64	(Reserved)	
	128	(Reserved)	
15	1	(Reserved)	
	2	EquityPartyId	–
	4	(Reserved)	
	8	MassCancelId	–
	16	(Reserved)	
	32	(Reserved)	
	64	(Reserved)	
	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	(Reserved)	
	8	TradeThroughAlertType	–
	16	SenderLocationID	–
	32	(Reserved)	
	64	(Reserved)	
	128	(Reserved)	

7 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. Allowed characters are alphanumeric and colon. *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	4	Binary	Corresponds to *AllocQty* (80) in Cboe FIX. Number of contracts for this party. C1 and EDGX only.
AttributedQuote	1	Alphanumeric	Optional. Allows for an order to be attributed to a firm's Executing Broker ID in Cboe market data feeds. The order may also be included with attributed summary information displays related to quote/trade information on the Cboe website. Must opt-in to support through the Cboe Trade Desk. On a `New Order Cross` and `New Order Cross Multileg` 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	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. C1, C2, and EDGX only.
AutoMatch	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 C1 and EDGX only.

AutoMatchPrice	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). Ignored otherwise. Must be non-negative. 1 = Buy 2 = Sell C1 and EDGX only.
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 F = Firm U = Professional Customer N = Non-Cboe 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 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 *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. User defined identifier for quote attribution.
CMTANumber	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.
ComboOrder	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 C1 only.
Compression	1	Alpha	Corresponds to *Compression* (22006) in Cboe FIX. Order is a compression trade. N = (Default) No Y = Yes C1 only.
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	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. C1 and EDGX only.

CrossID	20	Text	Corresponds to CrossID (548) in Cboe FIX. Day-unique identier for the cross order chosen by the client. Characters in the ASCII range 33-126 are allowed, except for comma, semicolon and pipe. **Effective 01/13/20**, the 'at' symbol and double quotes will not be allowed. C1 and EDGX only.
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 only) **Effective on EDGX TBD**
CrossPrioritization	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 C1 and EDGX only.
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.
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` 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) S = Display Price Sliding (this is to override a opt-out of Display Price Sliding at the port level (BZX only) L = Display Price Sliding, but reject if order crosses NBBO on entry (BZX only) M = Multiple Display Price Sliding (BZX only) P = Price Adjust m = Multiple Price Adjust R = Reject the order if it cannot be booked and displayed without adjustment. N = NoRescrapeAtLimit (BZX only) See 'Display Indicator Features' for more 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	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 3% of the opposite of the SNBBO, with a minimum value of $0.02 and a maximum of $0.10 for the default value. Values provided on a `New Complex Order` message do not have a minimum or maximum. C1, C2, and EDGX only.
EchoText	64	Text	Corresponds to *Text* (58) in Cboe FIX. Free format text string. May be echoed back on Cboe to Member messages.
EquityBuyClearingFirm	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'. C1 and EDGX only.
EquityExDestination	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 = Cowen (default)

			Additional targets planned after C1 migration. If buyer and seller do not match venues, then the equity match will be reported to Cowen ("C"). C1 and EDGX only.
EquityLegShortSell	1	Alphanumeric	Corresponds to *EquityLegShortSell* (22624) in Cboe FIX. 5 = Sell Short (for stock leg) 6 = Sell Short Exempt (for stock leg) C1 and EDGX only.
EquityPartyId	4	Alpha	Corresponds to *EquityPartyId* (22008) in Cboe FIX. MPID used to clear the equity leg being cleared via the Exchange. C1 and EDGX only.
EquitySellClearingFirm	4	Text	Corresponds to *EquitySellClearingFirm* (22015) in Cboe FIX. Clearing firm on sell side of the equity trade associated with a QCC trade. Valid when *CrossType* = '2'. C1 and EDGX only.
EquityTradePrice	8	Binary Price	Corresponds to *EquityTradePrice* (22011) in Cboe FIX. Price at which the equity associated with a QCC trade. Valid when *CrossType* = '2'. C1 and EDGX only.
EquityTradeSize	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'. C1 and EDGX only.
EquityTradeVenue	1	Text	Corresponds to *EquityTradeVenue* (22013) in Cboe FIX. Exchange venue where equity associated with a QCC traded. Valid when CrossType (549) = '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 C1 and EDGX only.
EquityTransactTime	8	DateTime	Corresponds to *EquityTransactTime* (22060) in Cboe FIX.

			Time of equity trade associated with a QCC trade. Valid when *CrossType* = '2'. C1 and EDGX only.
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 N = NASDAQ S = NASDAQ BX U = NYSE AMERICAN W = Cboe Options (C1) X = Nasdaq PHLX Z = BZX Options g = Nasdaq GEMX m = Nasdaq MRX
ExecInst	1	Text	Corresponds to *ExecInst* (18) in Cboe FIX. 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` only. Requires *CrossType* = 1 (AIM).
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	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. C1 only.
FloorRoutingInst	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; for complex or FLEX instruments *RoutingInst* must be set to 'B'. C1 only.
FrequentTraderID	6	Text	Corresponds to *FrequentTraderId* (21097) in CFE FIX. Identifies the frequent trader program in which the order is participating. C1 only.
GiveUpFirmID	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. C1 and EDGX only.
LastPriority	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 C1 and EDGX only.
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	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 (C1 only) C1, C2, and EDGX only.
LegMaturityDate	4	Date	Corresponds to *LegMaturityDate* (611) in Cboe FIX. Required if *LegSymbol* is in OSI format. C1, C2, and EDGX only.
LegStrikePrice	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. C1, C2, and EDGX only.
MarketingFeeCode	2	Alphanumeric	Corresponds to *MarketingFeeCode* (5937) in Cboe FIX. P = Penny Pilot N = Non-Penny Pilot X = Not Eligible for Marketing Fees C1 and EDGX only.
MassCancel *Legacy method to be deprecated at date TBD*	1	Alphanumeric	Corresponds to *MassCancel* (7693) in Cboe FIX. Indicates that a mass cancellation is being performed. 1 or 3 = Cancel all orders that match *RiskRoot* or *CustomGroupID*, regardless of *ClearingFirm*. 2 or 4 = Cancel all orders that match the given *RiskRoot* or *CustomGroupID* and *ClearingFirm*. Values 3 and 4 are similar to 1 and 2, respectively, but individual `Order Cancelled` messages will not be sent for each order cancelled. Instead, a `Mass Cancel Acknowledgement` message with *MassCancelID* and *CancelledOrderCount* will be sent once all cancels have been processed. For `Purge Orders` messages, the `Mass Cancel Acknowledgement` message may always be requested by sending a *MassCancelID* in the `Purge Order` message, regardless of the value of the *MassCancel* field. *MassCancel* requests will not cancel initiating orders for AIM Auctions.
MassCancelID	20	Text	Corresponds to *MassCancelID* (7695) in Cboe FIX. Copied from the *MassCancelID* passed on the original `Cancel Order` or `Purge Order` message.
MassCancelInst	16	Text	Corresponds to *MassCancelInst* (7700) in Cboe FIX. Used for specification of `Purge Orders` 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. ***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` will be rejected. If "F" specified and the ClearingFirm field is provided but is blank (NULL), the `Mass Cancel` or `Purge Orders` 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, the *MassCancelID* value is ignored. 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` 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` 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` 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) Value will be ignored on BZX Options.*** 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 firm level reset is required to release a lockout. For more information, refer to the 'Cboe Risk Management Specification'.
MassCancelLockout	1	Alphanumeric	Corresponds to *MassCancelLockout* (7697) in Cboe FIX. `0` = No Lockout `1` = Lockout Members may initiate a new self-imposed order lockout in conjunction with a mass cancel for all resting orders and inflight orders. The value of 1 is only applicable in conjunction with *MassCancel* values of 2 and 4; other usage results in a reject.
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. 0 displays the entire quantity. The displayed quantity of each order at a price level is decremented rirst. When displayed

			quantity is fully decremented, it is reloaded up to *MaxFloor* from reserve. 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).
MaxRemovePct	1	Binary	Corresponds to *MaxRemovePct* (9618) in Cboe FIX. For Post Only At Limit (RoutingInst = Q), what percentage of the order quantity which remains after price improvement may be removed at the limit. Must be 0 for non-Post Only At Limit orders. `0` = Don't Remove any shares at limit price `100` = Remove any amount at limit price BZX only. **Effective 12/16/19**, the system will ignore this field as this instruction will be deprecated.
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	1	Alpha	Corresponds to *MultiClassSprd* (22004) in Cboe FIX. Indicates an option is part of a multi-class spread. N = (Default) No Y = Yes C1 only.
MultilegReportingType	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 C1, EDGX and C2 only.
NoOfSecurities	4	Binary	Corresponds to *NoOfSecurities* (8641) in Cboe FIX. Indicates the number of securities created by the member in this trading session. C1, C2, and EDGX only.
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 a *Capacity* of 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 an order with *Capacity* of M or N will only be permitted to submit *OpenClose* = O if the order has a *TimeInForce* of IOC (3) or *RoutingInst* of Post Only (P) or *PostingInstruction* of P or R .
OrderOrigin	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.

			C1 only.
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 Market implies *TimeInForce* of IOC (3). Stop/Stop Limit orders must be set to *TimeInForce* = "0" (DAY), "1" (GTC), or "6" (GTD).
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. Order router subsidy eligibility (used for billing purposes). N = (Default) No Y = Yes C1 only.
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 override 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`, 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`, 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 order (*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) *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	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 C1 only.
PutOrCall	1	Alphanumeric	Corresponds to *PutOrCall* (201) in Cboe FIX. `0` = Put `1` = Call
RevisedLegs	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` must be the order returned by the exchange, not the order from the original request. `1` = Legs were not reordered `2` = Legs were reordered C1, C2, and EDGX only.

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:** S = Risk Root level risk/lockout reset F = EFID level risk/lockout reset C = CustomGroupID lockout reset G = EFID Group level risk/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. 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 the value C on a `New Order` or `New Complex` 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. 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 *MassCancel* values 2 or 4, or *MassCancelInst* with Firm Filter set to "F" in a mass cancel request. C1, C2, and EDGX only.
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) [1] Q = Post Only at Limit (removes liquidity that improves upon limit price and up to *MaxRemovePct* of remaining *OrdQty* at limit price) (BZX only). **Effective 12/16/19**, this routing instruction will be deprecated and the system will convert 'Q' to 'P'. 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) ***2nd character (C1 and EDGX only):*** L = Do Not Expose order via Step-Up Mechanism (SUM) S = Expose order via Step Up Mechanism (SUM)[2]
RoutingInst *(Complex)*	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[3]. 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)[4] C1, C2, and EDGX only.
RoutStrategy	6	Text	Corresponds to *RoutStrategy* (9400) in Cboe FIX. ***All exchanges:*** ROUT = Book + Street DIRC[5] = Book + Directed IOC or Directed ISO if ExecInst = f SWPA = (default) Book + Sweep Street

[1] Post Only orders on EDGX with DisplayIndicator (Fix Tag 9479) = R will be cancelled back even if they would be immediately executable with price improvement.

[2] Routable Orders identified with *RoutingInst* = R, RS, S, SS, X or XS, and *RoutStrategy* = ROUT, and *AuctionId* not supplied, or Non-Routable Orders identified with *RoutingInst* = BS and *ExecInst* not f and *TimeInForce* not 4 and *MinQty* not supplied will participate in the Step-Up Mechanism (SUM) before routing, booking, or cancelling back.

[3] Only valid with *TimeInForce* values of 0 (Day) or 3 (IOC), otherwise order will be rejected.

[4] All non-IOC Complex Orders will be eligible for Complex Options Auction (COA) unless otherwise specified.

[5] Field *ExDestination* must be populated with *RoutStrategy* = DIRC. Must be specified when sending non-book only ISO, otherwise the order will be rejected.

SecondaryExecID	8	Binary	Field 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 (527) 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 (527) of the associated complex execution. C1, C2, and EDGX only.
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.
SenderLocationID	1	Alphanumeric	Corresponds to *SenderLocationID* (142) in Cboe FIX. F = Floor <blank> = (or not present) for electronic execution. C1 only.
SessionEligibility	1	Alpha	Corresponds to *TradingSessionID* (22017) in Cboe FIX. A = Order participates in both Global and Regular Trading Hours (C1, C2, and EDGX only) R = (default) Order participates in Regular Trading Hours
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.
StrategyID	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 C1 only.
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 U = Market Turner (C1 Only) b = AIM (C1 and EDGX Only) C = Carried D = Done For Day q = QCC (C1 and EDGX Only) s = SAM (C1 Only) **Effective on EDGX TBD**
Symbol	8	Alphanumeric	Corresponds to *Symbol* (55) in Cboe FIX. Entire Cboe format symbol
TargetPartyID	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`, this field is only applicable to the Agency order. C1 and EDGX only.
TiedHedge	1	Alpha	Corresponds to *TiedHedge* (22018) in Cboe FIX. Order is a tied hedge. N = (Default) No Y = Yes C1 only.
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' (BZX, 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 will only support TimeInForce values of Day or GTD with a same day expiration on C1, C2, and EDGX.*
TradeThroughAlertType	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 C1 only.

WorkingPrice	8	Binary Price	Corresponds to *WorkingPrice* (9690) in Cboe FIX. Only present when order is fully or partially booked. If price had to be adjusted to a less aggressive value for some reason, then the adjusted price will be reported here, otherwise equals price.

8 Reason Codes

8.1 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. Cboe may add additional reason codes without notice. Members must gracefully ignore unknown values.

A = Admin

D = Duplicate identifier (e.g., ClOrdID)

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

8.2 Quote Reason Codes

The following is a list of all quote reason codes used by Cboe. All reasons are not valid in all contexts. Cboe may add additional reason codes without notice. Members must gracefully ignore unknown values.

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*

o = Invalid Open/Close

p = Risk management risk root level

r = Invalid Remove

s = Invalid *Side*

u = Sybmol range unreachable

y = Quote received by Cboe during replay

9 List of Message Types

9.1 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 Instrumnet	Application	0x4C	Yes

9.2 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
Quote Update Rejected	Application	0x58	No

10 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
Allowed Clearing Executing Firm ID(s) *	All EFIDS	Executing Firm ID(s) allowed for trading on the port.
Default Executing Firm ID	None	Default Executing Firm ID to use if none is sent on a `New Order` or `New Complex Order`.
Allow Test Symbols Only	Disabled	Allow or disallow orders in non-test symbols
Allow ISO *	Yes	Allow or disallow ISO orders.
Allow Directed ISO *	Yes	Allow or disallow ISO orders directed to other market centers.
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.
Maximum Order Size *	25,000	Maximum order quantity
Maximum Order Dollar Value *	Unlimited	Maximum dollar value per order.
Default Price Sliding	BZX = S EDGX/C2 = P	Default price sliding behavior. See *DisplayIndicator* for details.
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 that are 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 BZX, 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.

Attribute	Default	Description
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.
Send Trade Breaks ^	No	Enables sending of `Trade Cancel or Correct` messages.
Default MTP Value *^+	None	Specifies default value for *PreventMatch*.
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.
Cancel on Reject +	No	Cancels an order upon a cancel or modify reject.
Cancel on Regulatory Halt	All (BZX and 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
Fat Finger Protection *$	BZX/EDGX = None C2 = See Web Portal Port Controls Specification for defaults	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.
Reject Orders on DROP Port Disconnect *	No	If all associated 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 has been 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" has been 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.
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 `None` = Disabled Note this parameter applies to Standard FIX DROP ports and not Order-By-Order DROP ports (ODROP).

Attribute	Default	Description
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 the `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 who wish to apply updated port attributes to resting GTC orders must cancel those orders, and then resubmit them following the effective time of the port attribute change.
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 the `Order Acknowledgement` messages with *BaseLiquidityIndicator*=A and *SubLiquidityIndicator*=D.
Notional Cutoff Aggregation Methods *$	None	Gross exposure = CBB + CBO + CEB + CEO Net exposure = |(CEO + CBO) – (CEB + CBB)| On a given port, Cboe will calculate an track four values: CBB = Cumulative Notional Booked Bid Value *The sum of limit price x size for all booked sell limit orders.* CBO = Cumulative Notional Booked Offer Value *The sum of limit price x size for all booked sell limit orders.* CEB = Cumulative Notional Executed Bid Value *The sum of size x trade price for all executed buy orders* CEO = Cumulative Notional Executed Sell Value *The sum of size x trade price on all executed sell orders*
Gross Daily Risk Limit Order Notional Cutoff *$	None	Results in rejects for **limit** orders when **gross** exposure of limit orders exceeds this value for this port. Maximum whole dollar value of $1 billion/port.
Gross Daily Risk Market Order Notional Cutoff *$	None	Results in rejects for **market** orders when **gross** exposure of limit orders exceeds this value for this port. Maximum whole dollar value of $1 billion/port.
Net Daily Risk Limit Order Notional Cutoff *$	None	Results in rejects for **limit** orders when **net** exposure of limit orders exceeds this value for this port. Maximum whole dollar value of $1 billion/port.
Net Daily Risk Market Order Notional Cutoff *$	None	Results in rejects for **market** orders when **net**exposure of limit orders exceeds this value for this port. Maximum whole dollar value of $1 billion/port.

Attribute	Default	Description
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 overriden at order level) *On EDGX and BZX, this setting may only be changed after executing Attribution Addendum to Exchange User Agreement.
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 which cause 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.
Duplicative Order Protection Time Threshold $	None	Time window, in seconds, for Duplicative Order Protection Check
Duplicative Order Protection Order Count Threshold $	None	Number of orders with the same *ClearingFirm*, *Price*, *OrdQty*, and *Symbol* that must be seen within the Duplicative Order Time Threshold to initiate Duplicative Order Protection Action.
Duplicative Order Protection Action $	1	Action taken when Duplicative Order Protection criteria is met: 1 = Not enabled. 2 = Reject new orders for the remainder of Duplicative Order Time Threshold. 3 = Disable port for *ClearingFirm*. Must call Cboe Trade Desk to reenable.
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".
Port Order Rate Threshold	5,000 msgs/s	The maximum allowed message rate on the session. When the first non-session level message is received, a one second window begins. During the second no more than 4,999 additional non-session level messages will be allowed within that window. 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.

Attribute	Default	Description
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.
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 *ClearingOptionalData*	None	Default *ClearingOptionalData* to be used if none is sent on inbound messages. Allows 16 characters or less (ASCII 33-126).
Default *FloorRoutingInst** *(C1 only)*	E	D = Direct. Do not attempt to process electronically E = Electronic only X = Route to floor if unable to process electronically. * When *FloorRoutingInst* is "D" or "X", *RoutingInst* (9303) must be set to "B" or "R" for simple orders; for complex or FLEX instruments *RoutingInst* (9303) must be set to "B".
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 *EquityPartyID* *(C1 only)*	None	Default *EquityPartyID* to be used if none is specified on inbound messages.
Default *ClientIDAttr*	None	Default *ClientIDAttr* to be used if none is specified on inbound messages.
Enable Market Maker Floor Trade Notifications *(C1 only)*	No	Enables Market Maker Floor Trade Notifications for specific Market Maker acronyms on a port.
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) FLEX orders will always be returned using Cboe Symbology.

* 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.

11 Support

Please email 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* 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* 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.
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 Acknowledgement`s 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* 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).
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.
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. 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* 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; for complex or FLEX instruments RoutingInst must be set to "B". Updated effective date for C-AIM on EDGX to 8/22/19.
August 23, 2019	*Version 2.10.2* Added *FloorTraderAcronym* as and 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* FLEX symbols are always returned using Cboe Symbology on MMTNs. 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* 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).