

MRX and GEMX Options FIX System

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1. Introduction to NASDAQ MRX and GEMX Options FIX System

1.1. Overview

This document defines NASDAQ's implementation of the Financial Information Exchange (FIX) 4.2 protocol for the MRX and GEMX trading systems.

1.2. Users

It is assumed that the user of this manual is familiar with the FIX 4.2 protocol standard, (can be found at www.fixprotocol.org).

2. Session Information

The first message should be a logon message. No additional messages should be transmitted until NASDAQ has verified the SenderCompID, and a logon is received from NASDAQ.

Note: NASDAQ does NOT support encryption.

2.1. ID Fields

Sendercompid sent	The SenderCompID as assigned by NASDAQ. The maximum size is 4 to 6 characters.
Sendercompid returned	The SenderCompID returned within all messages is GMNI or MCRY.
Targetcompid	Your TargetCompID should always be GMNI or MCRY.

3. FIX Functionality Overview

When replacing an order, the ClOrdID field must be a unique ID for the newest order in the chain of orders and the OrigClOrdID must contain the ClOrdID of the order you are trying to replace / modify.

When cancelling an order, the ClOrdID field must be a unique ID for the cancel request and the OrigClOrdID must contain the ClOrdID of the order you are trying to cancel.

See section 6.9 for a full list of fields that can be modified in a cancel replace request. A change in price or an increase in quantity will lead to loss of time priority.

Specific functional descriptions outside of MRX Option FIX System specific behavior can be found here:

<https://listingcenter.nasdaq.com/rulebook/mrx/rules>

3.1. Special Order Types

3.1.1. All or None (AON)

An AON order must be filled completely upon entry, or the entire order is immediately cancelled. An AON order will only be accepted with a TIF on IOC.

The order will attempt to match with the book upon entry. If the order is not marketable, or if it is marketable but the order book does not contain sufficient quantity to execute the entire order, the order will be cancelled back the entering participant.

- An order is marked AON by setting *ExecInst* (18) = "G" and *TimeInForce* (59) = "3"
- Both regular and multi-leg orders can be marked AON

Tag	Field name	Req	Comments
18	ExecInst	Y	G=AON
59	TimeInForce	Y	3 = IOC

3.1.2. Fill or Kill (FOK)

An FOK order must be filled completely upon entry, or the entire order is immediately cancelled.

The order will attempt to match with the book upon entry. If the order is not marketable, or if it is marketable but the order book does not contain sufficient quantity to execute the entire order, the order will be cancelled back the entering participant.

- An order is marked FOK by setting *TimeInForce* (59) ="4"
- Both regular and multi-leg orders can be marked FOK

Tag	Field name	Req	Comments
59	TimeInForce	Y	4 = FOK

3.1.3. Stop Orders

Stop orders are entered onto the order book only when the stop (trigger) price is elected by either the local BBO or last trade price being at or better than the stop price. There are two types of stop orders:

- A standard stop order becomes a market when elected/activated
- A stop limit order becomes a limit order when elected/activated.
- Only a regular order can be demarcated as a stop order, multi-leg orders cannot be stop orders

Tag	Field name	Req	Comments
40	OrdType	Y	3=Stop 4=Stop Limit
44	Price	N	Activated limit price. Required if OrdType = 4
99	StopPx	Y	Trigger Price

3.1.4. Preferred Orders

An Electronic Access Member may specify a market maker (MM) to get a preferred allocation on an order.

If a preferred order trades with the book upon entry, and the preferred Market Maker is present at the NBBO, the Market Maker that was preferred will receive an enhanced allocation. If the preferred Market Maker is not quoting at the NBBO, the market maker will not receive preferencing even if the Market Maker trades with this order at a 2nd price after NBBO interest is exhausted.

- Auction and crossing orders cannot be preferenced in terms of allocation, however *AllocAccount* (79) will be accepted to be used in assessment Marketing Fees for the agency side of cross orders
- Preferred Orders may be entered for regular or multi-leg orders; however multi-leg preferencing will only apply for multi-leg orders that leg into the regular book and the market maker must be at the NBBO

Tag	Field name	Req	Comments
79	AllocAccount	Y	"ZYX" where represent the 3 letter Exchange internal Identifier (IFI)

3.1.5. Reserve Orders

A Reserve order does not show its full size on the order book.

A reserve order is comprised of a "display" quantity and a "reserve" quantity, and when the order trades, it automatically refreshes itself from its reserve quantity. Only the displayed quantity is shown on the order book and has priority with comparison to other displayed orders. The reserve quantity has no priority at the same price level, but it does have priority over orders at worse price levels.

Reserve orders are allowed for regular orders. Reserve orders entered for multi-leg orders will be rejected.

OrderQty (38) represents the total order size and *MaxFloor* (111) represent the initial displayed size. The presence of *MaxFloor* (111) field indicates that the order is a reserve order.

The Optional field, *DisplayWhen* (1083), is used to determine the method for refreshing the quantity:

- Refresh the display quantity whenever it is fully traded out (*DisplayWhen* [1083] = 2 “Exhaust”)
- Refresh it after every trade (*DisplayWhen* [1083] = 1 “Immediate”)
- If *DisplayWhen* (1083) is not present, the default behavior is “Exhaust”

The Optional field, *DisplayRange* (8020), is used to enable “random refresh” functionality:

- Whenever the order quantity is refreshed, the value of *DisplayRange* (8020) is added or subtracted from the *MaxFloor* (111) field to create the new refresh quantity
- If *DisplayRange* (8020) is not present, the refresh quantity will always equal *MaxFloor* (111) for as long as long *MaxFloor* (111) < remaining quantity

Tag	Field name	Req	Comments
38	OrderQty	Y	Total Order Quantity
111	MaxFloor	Y	0 < n < OrderQty – Initial display quantity
1083	DisplayWhen	N	1=Immediate 2=Exhaust (default)
8020	DisplayRange	N	0 < n < MaxFloor – Random refresh quantity

3.1.6. Add Liquidity Orders (ALO)

An ALO order is guaranteed to add liquidity (“Maker”) to the order book. If the order cannot be added to the book, it is cancelled or repriced and displayed one MPV back to rest on the book. Firms can provide cancel or reprice instructions at the mnemonic level with market operations.

An order is marked ALO by setting *RoutingStrategy* (847) = “POST” on an individual order and firm mnemonic instructions to reprice or cancel will be handled accordingly.

- ALO orders can only be submitted for regular orders
- ALO orders that reprice upon entry will provide the original order price in the *ExecutionReport* acknowledgement, not the repriced price where the order rests on the book
- The only allowed *TimeInForce* (59) is “0” for “Day”
- ALO orders cannot be market and must submit *OrdType* (40) = “2” for “Limit”
- All client categories can submit ALO orders
- ALO orders cannot be marked ISO
- ALO orders cannot be preferenced
- ALO orders can be cancelled and modified, however a non-ALO cannot be modified be an ALO and an ALO cannot be modified to be a non-ALO
- Auction and cross orders cannot be marked ALO
- ALO orders can go through an order exposure if they are locking or crossing away markets and in that case can be marked as 'Taker'.

Tag	Field name	Req	Comments
40	OrdType	Y	2=Limit
59	TimeInForce	Y	0=Day (Default)
847	RoutingStrategy	Y	“POST”

3.1.7. Attributable Orders

An Attributable order is used to expose order attributes that the participant would like the market data subscribers to see upon the order resting on the book. These attributes include Member ID, CMTA and Give-up that are otherwise hidden from the marketplace on non-attributable orders.

- Regular orders, including Block auctions, and multi-leg orders can be attributable.
- Attributable orders can be modified but cannot be changed to Attributable from non-attributable and vice-versa
- Attributable orders are indicated by using the multi-value string field *ExposureFlag* (9203)

Tag	Field name	Req	Comments
9203	ExposureFlag	Y	E=Expose All C=Customer ID G=Give up M=CMTA E is mutually exclusive with any other code
59	TimeInForce	Y	0=Day (Default t)

3.1.8. Intermarket Sweep Order (ISO)

An ISO is an order that should execute, if possible, without regard to protection for the best away market bid and offers.

- ISO applies to regular, Facilitation, Solicitation and PIM orders, only
- ISO is not allowed to be combined with Market Orders, Stop Orders, multi-leg orders or reserve orders
- ISO must have a *TimeInForce* (59) of IOC or will be rejected
- ISO is indicated by setting *ExecInst* (18) = "f" (lowercase "F")
- ISO implies Do Not route and are not routable

Tag	Field name	Req	Comments
18	ExecInst	N	f=ISO

3.1.9. Do Not Trade Through (DNTT)

Multi-Leg (Complex) orders are generally allowed to trade within extended price bounds outside the away market prices of the individual legs of a complex strategy. "Do Not Trade Through" (DNTT), allows an electronic access member to indicate that a complex order should not trade through away market leg prices.

- DNTT orders may be complex or stock-complex strategies
- DNTT orders can limit or market
- DNTT orders may be for any *TimeInForce* (59)
- Any client category can submit a DNTT Order
- DNTT orders can be modified, including to and from DNTT status
- The *PriceProtectionScope* (1092) field, on both the *New Order Multileg* and *Multileg Cancel Replace Request* Messages, are used to indicate if an order is allowed to trade through the away market individual leg prices by the configured exchange buffer
 - The default value is "1" for Local and the order will be allowed to trade through away market leg prices
 - If set to "2" for National, the order will not be allowed to trade through the away market leg prices

Tag	Field name	Req	Comments
1092	PriceProtectionScope	N	1=Local (Default) – Allowed to trade through away market leg prices 2=National – Do Not Trade Through (DNTT)

3.2. Unsolicited Status Messages

The following messages could be sent to the FIX account without an inbound request only if the account has been configured to receive them in the reference Data System. Firms can reach out to Market Operations in case they want to receive these messages.

Note that although the two messages below are unrelated, their configurations are tied and therefore you may receive both depending on the set configurations.

3.2.1. Good Till Cancel (GTC)/ Good Till Date (GTD) Restatement Message

FIX allows orders to be sent with a Time-In-Force (TIF) of 1 (GTC) or 6 (GTD). While using TIF of 6 (GTD), the order must also provide Tag 432 ExpireDate to indicate the duration until which the order will remain in effect.

Firms could opt in to receive GTC/GTD Restatement message and a Done for Day (DFD) message at a Firm level. The Restatement messages will be sent at Start of day to indicate which orders are effective for the day. The Message Type will be "8" for Execution Report.

To get Restatement, the Nothing Done field should be configured to "All" or "GTC".

Start of the day - Restatement @ 7:am

Tag	Field name	Req	Comments
20	ExecTransType	Y	3 = Status
35	MsgType	Y	8 = Execution Report
37	OrderID	Y	OrderID carried forward from prior day
39	OrdStatus	Y	0 = New
59	TimeInForce	Y	1 (GTC) or 6 (GTD)
150	ExecType	Y	D = Restated
378	ExecRestatementReason	N	1 – GT renewal / restatement

3.2.2. Done for Day Message

This is an optional message generated by the venue to the Firm at the end of the trading day for each open order. A Firm should contact market operations in order to be configured to receive these messages.

This message is sent through FIX message type 'Execution Report' (*MsgType*='8') with execution type 'Done for day' (*ExecType*='3'). The following 'Done for day' messages can be generated:

- Day orders – *LeavesQty* field reflects remaining open quantity (Setting: "Day")
- GTC order – *LeavesQty* field reflects remaining open quantity (Setting: "GTC")
- Day and GTC order – *LeavesQty* field reflects remaining open quantity (Setting: "All")
- None – No unsolicited message will be sent (Setting: "None")

End of Day - Done for day @ 4:45pm

Tag	Field Name	Req	Comments
20	ExecTransType	Y	0 = New
39	OrdStatus	Y	3 = Done for Day
150	ExecType	Y	3 = Done for day

3.3. Order Routing Strategies

Routing Strategies are instructions that can be provided on an order by order basis to deploy different routing capabilities for an order that locks or crosses an away best bid or offer upon arrival. Below are descriptions of each routing strategy with instructions on how to use each.

3.3.1. Do Not Route (DNR)

Do Not route orders will not route to an away best bid or offer when the order arrives locked or crossed with the away best bid or offer. Instead, the DNR order will cancel or reprice depending on the *TimeInForce* (59) instructions. DNR orders submitted with IOC will cancel upon completion of exposure, while DNR orders submitted with Day or GTC *TimeInForce* (59) will reprice and display back from the ABBO. DNR orders can be submitted by marking *RoutingStrategy* (847) = "DNR". All participant types can submit a DNR order.

Tag	Field name	Req	Comments
59	TimeInForce	Y	0 =(DAY) 1 = (GTC) 3 = Immediate or Cancel (IOC) 4= Fill or Kill 6 = Good Till Date (GTD)
847	RoutingStrategy	Y	"DNR"

3.3.2. SRCH

SRCH (Search) orders will continue to try available market centers then post to the book and continue to proactively route away to other venues as away market prices lock or cross the resting SRCH order. All participant types can submit a SRCH order.

Tag	Field name	Req	Comments
59	TimeInForce	Y	0 =(DAY) 1 = (GTC) 6 = Good Till Date (GTD)
847	RoutingStrategy	Y	"SRCH"

3.3.3. FIND

FIND orders will try available market centers up to the limit price of the order then post to the book and will not attempt routing again until the next opening (or re-opening from a halt) process. All participant types can submit a FIND order.

Tag	Field name	Req	Comments
59	TimeInForce	Y	0 =(DAY) 1 = (GTC) 6 = Good Till Date (GTD)
847	RoutingStrategy	Y	"FIND"

3.4. Auction Orders

An auction is a process whereby an order is exposed to the market for period of time via notifications across various market data protocols. During the period the auction notification is exposed, participants can respond to the auction to provide liquidity or price improvement to the order being exposed. At the end of an exposure period, the initiating order will be executed against responses and marketable interest pursuant to the rules. Participants can use SQF or OTTO for submitting direct auction responses. Below are the types of auctions supported and their associated exposure timers.

Auction Type	Exposure Time
Block Auction	100 milliseconds
Complex Exposure Auction	100 milliseconds
Facilitation	100 milliseconds
PIM	100 milliseconds
Solicitation	100 milliseconds

3.4.1. Block Auctions

Electronic Access Members can use the Block Auction to solicit liquidity. A Block Auction is a one-sided auction that is allowed for regular orders only and requires a minimum of 50 contracts.

Block auctions are submitted using the **New Order Single** message:

- *OrdTtype* (40) must be set equal to "2" (Limit)
- *OrderQty* (38) must be >= 50
- *TimelnForce* (59) must be set equal to "3" (IOC)
 - Note participants can specify AON Block orders by indicating *TimelnForce* = "4" (FOK)
- *AuctionType* (9373) must be set equal to "B" (Block Auction)
- *ExposureFlag* (9203) may be used to hide specific order details. Note that values "H", "I", "P" and "Q" will hide information (Block) while "E", "C", "G" and "M" will expose more information (Attributable)
- Block auctions may not be preferenced, but attempts sent with preferencing instructions will be accepted with the *AllocAccount* (79) ignored
- Block auctions may be Attributable and expose Member ID, Give-up and/or CMTA leveraging the enumerations in *ExposureFlag* (9203)
- Block Auctions can be submitted by all participant types

Tag	Field name	Req	Comments
38	OrderQty	Y	N >= 50
40	OrdType	Y	2=Limit
59	TimelnForce	Y	3=Immediate or cancel 4=Fill or Kill (FOK)
			H=Hide All (mutually exclusive with any other) I=Instruction (Buy/Sell) P=Premium (Limit Price) Q=Quantity
9203	ExposureFlag	N	E=Expose All (mutually exclusive with any other code) C=Customer ID G=Give up M=CMTA
9373	Auction Type	Y	B=Block

3.4.2. Multi-leg/Complex Exposure Auctions

Electronic Access Members can use the Exposure Auction to solicit price improvement for multi-leg (complex and complex w/ stock) orders. Exposure auctions are allowed for multi-leg orders only.

An Exposure auction (or Complex Auction Order “CAO”) is initiated by submitted multi-leg order on New Order Multi-leg message.

- *SpecialOrdType* (9202) must be set equal to “A” (CAO)
- All participant types can submit a complex exposure auction
- *TimeInForce* (59) must be IOC, Day, GTC, GTD or FOK
- *OrdType* (40) may be Market or Limit
- CAOs may be preferenced, will only apply if the order legs into the simple book for execution
- CAOs may be DNTT
- CAOs may be cancelled during the exposure period, terminating the auction
- CAOs may be modified during the exposure period, terminating the auction
 - If the modified order is also marked CAO a new auction is started

Tag	Field name	Req	Comments
18	ExecInst	N	G=AON 0=Day (Default) 1=Good Till Cancelled (GTC)
59	TimeInForce	Y	3=Immediate or Cancel (IOC) 4=Fill or Kill (FOK) 6=Good Till Date (GTD)
9202	SpecialOrdType	Y	A=CAO

If any CAO quantity remains after the auction, the order is cancelled if marked IOC or FOK; otherwise, it is posted to the complex order book.

3.4.3. Facilitation Auction

Electronic Access Members can use the Facilitation Auction to enter block size, 50 contracts or more, agency orders and trade against those orders as Agent or contra side. The Electronic Access Member enters the order must be willing to execute the entire side of the order, although depending on responses received, the EAM could end up with all, some, or none of the original Agency side order. A Facilitation auction is entered using for regular or multileg orders using the New Order Cross or New Order Cross – Multileg Message, as appropriate:

- *AuctionType* (9373) must be set equal to “F”
- *OrderQty* (38) must be >= 50
- *TimeInForce* (59) if specified should be IOC; otherwise, will be assumed IOC
- Facilitations Auctions cannot be modified
- Facilitation Auctions can be cancelled, leading to early termination of the auction
- Facilitation orders can be marked ISO (regular Facilitations only, not multi=leg)
- *BrokerPCT* (9204) may be used to change the default allocation – valid values are 0 <= pct <= 40
- *StepUpPrice* (9044) may be used to improve the price the contra side is willing to trade to when the market provides price improvement for the Agency side
- Any solicited contra orders entered by Members into the Facilitation Mechanism to trade against Agency Orders may not be for the account of a Local Market Maker that is assigned to the options class.

Tag	Field name	Req	Comments
38	OrderQty	Y	N >= 50
59	TimelnForce	N	3=Immediate or Cancel (IOC)
9373	AuctionType	N	F=Facilitation
9043	StepUpPriceType	N	1 = Market 2 = Limit Required when tag 9044 is present
9204	BrokerPCT	N	0 ≤ n ≤ 40 (default value = 40)

3.4.4. Price Improvement Auction (PIM)

The PIM is used to solicit price improvement for a customer order of any size, with the EAM willing to trade against the customer order as principal. The EAM that enters the order must be willing to execute the entire size of the order, although depending on responses received, the EAM could end up with all, some or none of the order.

- *AuctionType* (9373) must be set equal to "P"
- *TimelnForce* (59) if specified should be IOC; otherwise, will be assumed IOC
- PIM Auctions cannot be cancelled or modified except to improve the step up price of the contra-side order. In that case the cancel/replace message with the contra-side details must be used.
- *BrokerPCT* (9204) may be used to change the default allocation – valid values are 0 ≤ pct ≤ 40
- *StepUpPrice* (9044) may be used to improve the price the contra side is willing to trade to when the market provides price improvement for the Agency side
- PIM Auctions can be marked ISO (regular PIM auctions only, not multi-leg)
- Any solicited contra orders entered by Members into the Price Improvement Auction Mechanism to trade against Agency Orders may not be for the account of a Local Market Maker that is assigned to the options class

Tag	Field name	Req	Comments
38	OrderQty	Y	N >= 1
59	TimelnForce	N	3=Immediate or Cancel (IOC)
9373	AuctionType	N	P=Price Improvement
9043	StepUpPriceType	N	1 = Market 2 = Limit Required when tag 9044 is present
9044	StepUpPrice	N	Only provided when StepUpPriceType =2 and price must be at or better.
9204	BrokerPCT	N	0 ≤ n ≤ 40 (default value = 40)

3.4.5. Solicitation Auctions

The Solicitation Auction is a mechanism by which an Electronic Access Member can execute orders of at least 500 contracts by soliciting contra-orders. The Electronic Access Member that enters the order must be willing to execute the entire size of the order; depending on responses received, the EAM could end up with all, some, or none of the order.

A Solicitation Auction is entered for a regular or multi-leg order using the **New Order Cross or New Order Cross – Multileg message**, as appropriate:

- *AuctionType* (9373) must be set equal to "S"
- *OrderQty* (38) must be >= 500
- *TimelnForce* (59) must be FOK and will be rejected if not
- Solicitation Auctions cannot be modified
- Solicitation Auctions may be cancelled during the exposure period, terminating the auction

- Solicitation Auctions can be marked ISO (regular Solicitation auctions only, not multi-leg) and must mark *Execlnst* (18) = "f" ISO
- Solicitation Auctions cannot leverage *StepUpPrice* or the configurable surrender function via *BrokerPCT*
- Any solicited contra orders entered by Members into the Solicitation Mechanism to trade against Agency Orders may not be for the account of a Local Market Maker that is assigned to the options class.

Tag	Field name	Req	Comments
18	Execlnst	N	f=ISO
38	OrderQty	Y	N >= 500
59	TimelnForce	Y	4=Fill or Kill (FOK)
9373	AuctionType	Y	S=Solicitation

3.5. Cross Orders

Cross orders are used to cross and print two orders with each other. Cross orders are not exposed in an auction. Cross orders are sent using the **New Order Cross** or **New Order Cross - Multileg** message, as appropriate, and execute immediately upon entry – they cannot be modified or cancelled. Complex cross orders can be entered with up to nine legs plus a stock leg.

3.5.1. Customer-to-Customer Cross (CCC)

A CCC order is used to cross two customer orders of any size using the **New Order Cross** or **New Order Cross-Multileg** Message, as appropriate:

- *AuctionType* (9373) must be set equal to "C"
- *CustomerOrFirm* (204) must be set to "0" for (Customer) on both sides

Tag	Field name	Req	Comments
9373	AuctionType	Y	C=Customer-to-Customer Cross
Side 1 (Originating side)			
→ 204	CustomerOrFirm	Y	0=Customer
Side 2 (Counterparty side)			
→ 204	CustomerOrFirm	Y	0=Customer

3.5.2. Qualified Contingent Cross (QCC) (MRX and GEMX)

A QCC order (also called a "tied to stock" order) is used to cross one or more options legs with the Electronic Access Member executing the stock component separately, away from MRX or sending the stock component to MRX for routing to their preferred stock destination venue. QCCs must be for a minimum of 1,000 contracts and must be priced at or better than the NBBO.

- For a single leg option QCC, use **New Order Cross** message.
- For a QCC order with 2 or more option legs use **New Order Cross – Multileg**
- *AuctionType* (9373) must be set equal to "Q"
- *OrderQty* (38) must be >= 1,000
- *TimelnForce* (59) must be IOC
- *ExDestination* (100) must be set equal to the Market Identification Code (MIC) for stock venues. Supported Values are:
 - CHBC=Cheevers
 - LBKI=Libucki
 - FOGS=Fog Equities

- Optional fields described in the table below may be used to specify the delta, quantity and price of a stock trade associated with the QCC order. These fields are informational only and not passed to the matching engine.

Tag	Field name	Req	Comments
38	OrderQty	Y	N >= 1000
59	TimeInForce	Y	3=Immediate or Cancel (IOC)
100	ExDestination	N	Note: Required only if sending stock component to MRX for routing: CHBC=Cheevers LBKI=Libucki FOGS=Fog Equities
9373	AuctionType	N	Q=Qualified Contingent Cross
810	UnderlyingPx	N	Traded price of the stock trade associated with the QCC order
879	UnderlyingQty	N	Traded quantity of the stock trade associated with the QCC order
9811	PriceDelta	N	Price Delta of the stock trade associated with the QCC order

3.6. Member Kill Switch

Market participants may assign leverage FIX port(s) to block ability to enter new orders or alter exiting orders for a FirmID. The message will also cause all open orders for the specific Firm to be cancelled back.

Once blocked, any new orders will be rejected, however, cancel requests will be accepted.

A blocked firm will remain block until reset by market operations, following a phone call from the firm. Only one Firm may be specified per request.

- To block a *FirmID* across all associated ports, one instance of the repeating *PartyDetails* group is specified, with *PartyDetailRole* (1693) set to 59 (executing unit), and *PartyDetailID* (1691) set to the *FirmID* to be blocked by ("ABCD")

3.7. Mass cancel on Disconnect

A member's FIX session can be configured to automatically delete all open orders if the session is disconnected. By default, open orders at the exchange remain active if the member's FIX session is disconnected. If configured, Mass Cancel on Disconnect can help protect members in the event of an unexpected disconnect.

3.8. Unsolicited Cancels

Notes on Unsolicited Cancels:

- *OrigClOrdID* (Tag 41) will always be included for unsolicited cancels and will be populated with *CLOrderID* (Tag 11) from the original order
- Below are specific cancel/replace scenarios that can lead to unsolicited cancels, but note that this is not an exhaustive list of events that can lead to unsolicited cancels:
 - If a pending cancel/replace attempt that is reducing volume arrives 2nd to a partial execution with fill quantity on the original order > the requested new quantity on the cancel/replace, the remainder of the original order will be cancelled with *CLOrderID* (Tag 11) and *OrigClOrdID* (Tag 41) populated with *CLOrderID* (Tag 11) from the original order
 - If a pending cancel/replace attempt arrives 2nd to a cancel attempt on the same order the original order will be cancelled with *CLOrderID* (Tag 11) and *OrigClOrdID* (Tag 41) populated with *CLOrderID* (Tag 11) from the original order and the cancel/replace attempt will be rejected

3.9. Market Wide Risk Protection

Market-Wide Risk Protection (MWRP) provides activity-based protections to establish limits for order entry and order execution rate. The protections include a specified number of orders allowed for order entry and a specified number of contracts allowed to be executed over a given time interval providing members with the ability to control the rate of order entry and trades executions.

If user order entry or trade execution exceeds set MWRP parameters within a specified time interval, system will activate the Kill Switch, which will either delete all open orders and prevent entry of new orders or prevent entry of new orders for a Business Unit (BU) or a group of business units.

- Defining MWRP parameters is mandatory for all members
- MWRP parameters cannot be set via FIX. Market Operations will configure MWRP parameters as defined by a member
- After a Kill Switch has been activated for a Firm, the member must contact Market Operations to re-enable the Firm for order entry
- Order entry rate protection will be enabled after a set time in the trading day to allow for a high rate of order load activity.
 - Each Member must set the following parameters for a Firm or a group of Firms:
- Maximum number of contracts executed for simple, complex and complex with stock instruments
- Time interval in milliseconds (must be set for each type of MWRP)
- Kill Switch Action: 1-Delete and Block or 2-Block Only (must be set for each type of MWRP)
- Each side of a two-sided auction and cross will be counted separately
- Each component leg of a complex order will be counted in the total executed volume
- Order modifications will not count towards the number of order rate calculations
- MWRP parameter modifications can be made intraday by calling Market Operations

3.10. Notional Value Protection

A member's FIX sessions can be configured at the Firm ID level with per order and/or daily aggregate value limits, rejecting orders that exceed configured limits aggregated across all ports within the Firm. By default, the venue provides no limit checking except that the price and quantity values are within system limits.

Four configurable limit types are available:

- Notional dollar value per order (quantity x price x number of underlying shares)
- Aggregate notional dollar value
- Quantity per order
- Aggregate quantity

The FIX port will check all incoming new orders and order modifications and reject the order if it exceeds any of the configured limits. Aggregate amounts are calculated based on active orders, including previous days' open GTCs/GTDs. Cancelled orders reduce aggregate amounts and modifications to orders will prompt a recalculation of the aggregated amounts. Note, trades and trade busts will have no impact on the aggregate calculation for the day.

Note: Market orders will be rejected if either notional dollar value limit (per order or aggregate) is set by the participant.

3.11. Post Trade Allocation

The Allocation message can be used to adjust — or alter — certain trade information, including clearing information and free text. A single trade can also be split among multiple, separate clearing accounts, but the sum of total allocations must equal the original trade quantity. By default, ports are configured with PTA functionality turned off and participants can opt into this functionality being available on their port.

A trade can only be altered once. In addition, a trade can only be split a maximum of ten times. Only the current day's trades can be adjusted. If additional adjustments beyond these constraints are required, please contact Market Operations. Note, option and stock leg PTAs cannot be sent in the same request and will be rejected.

NOTE: Members cannot bust trades or adjust trade price or quantity; only Market Operations can perform those functions.

The trade to be altered is identified by the order *CIOrdID* (11) and the trade *ExecID* (17). Only one trade can be altered at a time, multiple trades for an order cannot be altered using a single Allocation message. The following trade data are allowed to change:

- *Account* (1) — Add or change free text
 - *Account* will be carried forward from the original execution if not included in the post trade allocation request
- *Text* (58) — Add or change free text
 - *Text* will not be carried forward from the original execution if not provided in the allocation request
- *ExecBroker* (76) — Add or change default clearing or give-up
 - *ExecBroker* is required on every post trade allocation and requests will be rejected when not included
- *OpenClose* (77)
 - *OpenClose* will be carried forward from the original execution if not provided in the allocation request
- *CustomerOrFirm* (204) — Cannot change Customer to Firm
 - *CustomerOrFirm* will be carried forward from the original execution if not provided in the allocation request
- *ClearingFirm* (439) — Add or change CMTA
 - *ClearingFirm* will not be carried forward from the original execution if not provided in the allocation request
- *ClearingAccount* (440) — Add or change sub-account
 - *ClearingAccount* will not be carried forward from the original execution if not provided in the allocation request
- Trade Cancel Message with:
 - *ExecTransType* (20)='1'
 - *ExecRefID* (Tag 19) will be populated with the reference *ExecID*
 - *ExecType* (Tag 150) and *OrdStatus* (Tag 39) will be 0
- New Trade Message with:
 - *ExecTransType* (20)='0'
 - *ExecRefID* (19) will be populated with the reference *ExecID*
 - *ExecType* (150) and *OrdStatus* (39) will be 0
- *LeavesQty* (151) will not be populated on execution messages from busts or other PTA corrections
- *StockLegGiveup* (9076) Add or change default stock leg MPID
 - *StockLegGiveup* is required on every post trade allocation when there is a stock leg and requests will be rejected when not included

Note, the following fields will not be provided in the Execution Report for a Post Trade Allocation:

- *OrderID* (37)
- *StopPX* (77)
- *Maxfloor* (111)
- *PriceProtectionScope* (1092)
- *AvgPx* (6)
- *CumQty* (14)

A single **Allocation Ack** message is sent in response to the Allocation message, indicating that the Allocation is either accepted or rejected. If accepted, an execution report cancelling the original trade is sent, followed by a new execution report (or reports) reporting the altered data.

If the **Allocation** is rejected, the Ack contains the reason for the reject.

The **Allocation** message is described in Section 6.12

The **Allocation Ack** message is described in Section 6.13

3.12. Request for PRISM (RFP)

Note: The Request for PRISM Function is not available currently on MRX or GEMX. If any RFP specific tag is included in an inbound message, the message will be rejected

The Request for PRISM mechanism allows FIX users to send a notification requesting that recipients respond in order to start a PRISM as agent and contra side for the initiator's order. All participant types can request and respond to Request for PRISM message. The first recipient response successfully received by the exchange in time order will be accepted as the PRISM contra and a PRISM auction will begin. If no recipient responds to the RFP, the initiator can instruct the exchange to rest the order on the book or to cancel. They will be provided with the respective acknowledgement or cancel message subsequently upon an unsuccessful Request for PRISM attempt.

When an RFP order subsequently converts to a regular order upon an unsuccessful RFP attempt, an execution report will be sent in acknowledgement of this conversion with the following tag specifications:

- *WorkingIndicator* (636) = "Y" (Order is currently being worked) – to denote the RFP has been converted to an order and rested
- *ExecType* (150) = "I" (Order Status)
- *OrdStatus* (39) = "O" (New)

Request for PRISM can be initiated and responded to using the New Order – Single Message:

Initiating:

In addition to required fields on the New Order – Single Message, Request for PRISM must include:

- *AuctionType* (9373) = "P"
- *RFPInstr* (9211) = "B" if the participant wishes for the order to interact with the book upon failed RFP or "C" if the participants wish for the order to cancel back upon an unsuccessful RFP attempt
- *TimeInForce* (59) will be used for orders that are converted and the participants chooses to interact with the book upon an unsuccessful RFP attempt

Responding:

In addition to the required fields on the New Order – Single Message, Responses to RFP must include:

- *AuctionType* (9373) = P
- RFPID (9210) RFPID provided on the Request for PRISM Notification

Note, if *AuctionID* (9370) is provided with RFPID, the response will be rejected.

4. FIX Message Types – Supported / Unsupported

4.1. FIX Messages - Supported by NASDAQ

4.1.1. Administrative Messages

Standard FIX administrative messages are supported. Invalid message type will be rejected via Reject message below. MRX and GEMX support the following session messages:

MsgType	Name	Comments
0	Heartbeat	
1	Test Request	
2	Resend Request	
3	Reject	See FIX Protocol ver. 4.2
4	Sequence Reset	
5	Logout	
A	Logon	

4.1.2. Incoming Messages

Message Name	MsgType
New Order Single	MsgType=D
New Order Cross	MsgType = s (lowercase S)
Order Cancel Request	MsgType = F
Order Cancel Replace Request	MsgType = G
New Order Multileg	MsgType = AB
Multileg Order Cancel Replace	MsgType = AC
New Order Cross – Multileg	MsgType = As (uppercase A, lowercase S)
Allocation	MsgType = J
Member Kill Switch	MsgType = UDA

4.1.3. Outgoing Messages

Message Name	MsgType
Execution Report	MsgType = 8
Order Cancel Reject	MsgType = 9
Member Kill Switch Response	MsgType = UDB
Business Message Reject	MsgType = j (lowercase J)
Allocation Acknowledgement	MsgType = P
Request for PRISM Notification	MsgType = DSN

5. Session Protocol Messages

All NASDAQ comments/additions to the FIX specification are listed in BOLD in the “Comments” column for each message type. If a Tag is not explicitly supported by NASDAQ it will be ignored. Your message will not be rejected.

5.1. Message Header

Tag	Field Name	Req'd	Comments
8	BeginString	Y	FIX.4.2. Must be the first field in message.
9	BodyLength	Y	Must be second field in the message.
34	MsgSeqNum	Y	
49	SenderCompID	Y	SenderCompID as assigned by NASDAQ . It will always be four to six characters.
56	TargetCompID	Y	“GMNI or MCRY”
50	SenderSubID	N	It must be 4 characters if present. Will use default Firm Mnemonic if not provided. Invalid values will lead to reject
43	PossDupFlag	N	Always required for retransmitted messages, whether prompted by the sending system or as the result of a resend request.
122	OrigSendingTime	N	Required for message resends. If data is not available set to same value as SendingTime.

Note: RFP Notification message will not include any firm identifiers in Tag 50.

5.1.1. SenderSubID (50) field to route orders

It is possible to route orders to the Exchange on behalf of multiple members over a single FIX connection using SenderSubID (50). This feature is useful for service bureaus that are not members but can route orders on behalf of members. SenderSubID is limited to four characters and is assigned by the venue.

For example:

- Service Bureau sets *SenderSubID* (50) to “ABCD” to send orders as member ABCD, which are cleared by Firm 0123
- Service Bureau sets *SenderSubID* (50) to “WXYZ” to send orders as member ABCD, which are cleared by Firm 0456

5.2. Logon Message

Tag	Field Name	Req'd	Comments
	Standard Header	Y	MsgType = A
108	HeartBtInt	Y	
	Standard Trailer	Y	

5.3. Standard Trailer

The standard FIX trailer terminates each message.

Tag	Field name	Req	Comments
10	Checksum	Y	Three-digit character. Must be last field in the message

5.4. Common Message Attributes

5.4.1. Default Field Values

Field values that are described as “default” indicate that the field need not be included in the message if the default value is used. The field must be included if a non-default value is used. For example, if the *TimeInForce* (59) is not provided on an order message, the order will be entered with a default *TimeInForce* of “Day”.

5.4.2. String Fields

Unless otherwise specified, the maximum length for any string field is 20 characters. In addition, depending on usage and context, the maximum length may be less than 20 characters.

5.4.3. Maximum Price and Quantity

The maximum price on any order is \$99,999.99 or \$99,999.9999 (four decimals) for stock tied orders. The maximum quantity for a regular or standard complex order is 999,999 and the maximum quantity for a stock complex order is 9,999,999.

6. Application Messages Regarding Orders

All NASDAQ comments/additions to the FIX specification are listed in BOLD in the “Comments” column for each message type.

If a Tag is not supported by NASDAQ “Not supported” will appear in the “Comments” column. If you send an unsupported tag, the tag and corresponding data will be ignored. Your message will not be rejected.

6.1. New Order Single

Broker Dealers who wish to electronically submit securities orders to NASDAQ for execution use the new order message type. Orders can be submitted with special handling instructions and execution instructions.

New Order messages received with a duplicate ClOrdID will be ignored, regardless of if the PossResend flag is set. The New Order Message is described in the following table:

Tag	Field Name	Req'd	Comments
	Standard Header	Y	MsgType = D
1	Account	N	Must be 10 characters or less.
11	ClOrdID	Y	Unique identifier of the order as assigned by institution. Must be 30 characters or less or will be rejected
18	ExecInst	N	Can contain only one instruction. f = InterMarket Sweep Order (ISO) G = All Or None (AON)
38	OrderQty	Y	Required. Acceptable range is 1 to 999999. No commas, decimals or spaces allowed, nor are negative numbers.
40	OrdType	Y	Valid values: 1 = Market 2 = Limit 3 = Stop 4 = Stop Limit
44	Price	N	Required if OrdType = 2 or 4. 1-10 character decimal price. “12.34” is the correct presentation of twelve dollars and thirty-four cents. Order will be rejected if this tag is present and OrdType (40) =1 or 3 for Market or Stop.
54	Side	Y	Side of order. Valid values: 1 = Buy 2 = Sell
55	Symbol	Y	1 – 6 character Options Root Symbol. Spaces, periods, commas not allowed.
58	Text	N	Firms can use this field in order message to supply optional clearing data field that is sent to OCC. If field is supplied, NASDAQ will allow only 13 characters and use it for supplementary ID in the order.

Tag	Field Name	Req'd	Comments
59	TimeInForce	N	Specifies how long the order remains in effect. Absence of this field is interpreted as Day. Valid values: 0 = Market Hours (DAY) 1 = Good Till Cancel (GTC) 2 = OPG (Open Cross) 3 = Immediate or Cancel (IOC) 4 = Fill Or Kill 6 = Good Till Date (GTD)
60	TransactTime	Y	YYYYMMDD-HH-mm:SS.sss (milliseconds) YYYYMMDD-HH-mm:SS.sss.ssssssss (nanoseconds) Firm can configure by port to use nanoseconds or milliseconds
76	ExecBroker	N	1 <= n <= 99999 Give-up Note: Can be used to override default Give-up on order by order basis.
77	OpenClose	Y	O = opening position C = closing position
79	AllocAccount	N	Exchange Internal Firm Identifier of the Preferred Participant for Preferred Order Flow; should not exceed 3 characters.
99	StopPx	N	Required if OrdType =3 or 4. Order will be rejected if this tag is present and if OrdType (40) is not 3 or 4.
109	ClientID	N	Used for firm identification. Not supported for GEMX or MRX
110	MinQty	N	Not Supported on GEMX or MRX
111	MaxFloor	N	Display Quantity for Reserve Orders
201	PutOrCall	Y	0 = put 1 = call
202	StrikePrice	Y	Strike Price for option: Valid values: 0 – 999999.99999999
204	CustomerOrFirm	Y	0 = Customer 1 = Firm 5 = Nasdaq registered Market Maker 2 = Broker Dealer 8 = Professional Customer 4 = Other exchange registered Market Maker 7 = Joint Back Office Not supported on GEMX or MRX at this time 9 = PHLX Market Maker w/CMTA Not supported on GEMX or MRX at this time

Tag	Field Name	Req'd	Comments
207	SecurityExchange	N	<p>If provided, must match target exchange from below:</p> <p>1 = AMEX Z = BATS B = BSE C = C2 W = CBOE Y = ISE X = PHLX N = NYSE Q = NASDAQ T = BX Options 7 = MIAX H = ISE GEMINI E = BATS EDGX J = ISE MERCURY P = MIAX PEARL D = MIAX Emerald U = MEMX S = MIAX Sapphire</p> <p><i>If not provided will default to the local exchange</i></p>
432	ExpireDate	N	Required if TimeInForce = 6 (GTD). (In YYYYMMDD format)
439	ClearingFirm	N	CMTA Number (firm that will clear the trade) up to 5-character numeric. If this tag is not supplied, this order will not be a CMTA.
440	ClearingAccount	N	OCC Sub-account. Required when CustomerOrFirm =4 or 5 Four characters are accepted
541	MaturityDate	Y	Month, Day, and Year of the maturity in YYYYMMDD format.
847	RoutingStrategy	N	<p>"DNR" "SRCH" "FINN" "POST"</p>
1083	DisplayWhen	N	<p>1=Immediate 2=Exhaust</p> <p>Required for Reserve Orders</p>
8020	DisplayRange	N	Random Refresh Quantity for Reserve Orders
9203	ExposureFlag	N	<p>Attributable orders:</p> <p>Note: Below fields can be provided on dissemination of an order C=Customer ID E=Expose All G=Give-up M=CMTA</p> <p>Block orders:</p> <p>Note: Suppression of Block Side/Price/Size is enabled (including the above) H=Hide All I=Instruction (Buy/Sell) P=Premium (Limit Price) Q=Quantity</p>
9204	BrokerPCT	N	0 ≤ n ≤ 40 (default value = 40) Used for RFP by the Responder
9210	RFPID	N	<p>Unique identifier assigned by the exchange.</p> <p>Used for RFP by the Responder</p>

Tag	Field Name	Req'd	Comments
9211	RFPInstr	N	Required for initiating and RFP Valid Values: B = Interact with Book upon unsuccessful RFP attempt C = Cancel back upon unsuccessful RFP attempt Neither MRX or GEMX will not support RFP on FIX
9370	AuctionID	N	Numeric auction id that this order is joining. When AuctionType is provided, AuctionID must be provided in order to respond to an auction. If RFPID and AuctionID are provided, the response will be rejected. NOTE: If this field is specified, but AuctionType is not specified then this order will be rejected. Neither MRX or GEMX will not support auction responses or RFP on FIX at this time
9373	AuctionType	N	Auction type for this order. Valid values: 'P' = PIM 'B' = Block Auction If the order is a response to an auction type listed above or an RFP, this field must be specified. Neither MRX or GEMX will not support auction responses or RFP on FIX at this time
9043	StepUpPriceType	N	1= Market 2= Limit Required when tag 9044 is provided
9044	StepUpPrice	N	Only provided when StepUpPriceType =2 and price must be at or better than original auction price. Order will be rejected if provided and StepupPriceType (9043)=1 for Market
<Standard Trailer>		Y	

Note:

- In case of absence of TimeInForce (Tag 59), it will be treated as a DAY order.

6.2. New Order Cross

A **New Order Cross message** is used to submit two-sided regular auctions or cross orders including PIM, Facilitation, Solicitation, QCC or CCC.

The following tags are supported on the **New Order Cross Message**:

Tag	Field Name	Req'd	Comments
	Standard Header	Y	MsgType = s (lowercase S)
18	ExecInst	N	Can contain only one instruction. f = InterMarket Sweep Order (ISO) G = All Or None (AON)
38	OrderQty	Y	Required. Acceptable range is 1 to 999999. No commas, decimals or spaces allowed, nor are negative numbers.
40	OrdType	Y	Valid values: 2 = Limit
44	Price	Y	Price field is required for Limit Orders. 1-10 character decimal price. "12.34" is the correct presentation of twelve dollars and thirty-four cents
55	Symbol	Y	1 – 6 character Options Root Symbol. Spaces, periods, commas not allowed.

Tag	Field Name	Req'd	Comments
59	TimeInForce	N	Specifies how long the order remains in effect. Absence of this field is interpreted as Day. Valid values: 0 = Market Hours (DAY) 1 = Good Till Cancel (GTC) 2 = OPG (Open Cross) 3 = Immediate or Cancel (IOC) 4 = Fill Or Kill 6 = Good Till Date (GTD)
60	TransactTime	Y	YYYYMMDD-HH-mm:SS.sss (milliseconds) YYYYMMDD-HH-mm:SS.sss.ssssssss (nanoseconds) Firm can configure by port to use nanoseconds or milliseconds
201	PutOrCall	Y	0 = put 1 = call
202	StrikePrice	Y	Strike Price for option: Valid values:
541	MaturityDate	Y	Month, Day, and Year of the maturity in YYYYMMDD format.
548	CrossID	Y	Maximum 20 characters. Any value exceeding 20 characters will be rejected
9373	AuctionType	Y	S=Solicitation C=CCC Order F=Facilitation P=PIM Q=QCC
9043	StepUpPriceType	N	1= Market 2= Limit <i>Required when tag 9044 is provided</i>
9044	StepUpPrice	N	Only provided when StepUpPriceType =2 and price must be at or better than original auction price. Order will be rejected if provided and StepupPriceType (9043)=1 for Market.
9204	BrokerPCT	N	0 <= n <= 40 (default value =40) Facilitation and PIM orders only
810	UnderlyingPx	N	Traded Price of the stock trade associated with the QCC Order
879	UnderlyingQty	N	Traded Quantity of the stock trade associated with the QCC Order
9811	PriceDelta	N	Price Delta of the stock trade associated with the QCC Order. 2
552	NoSides	Y	The 1st side is considering the "originating" side The 2nd side is considered the "counter-party" side
→ 11	ClOrdID	Y	ANCHOR Unique per side. Maximum 30 characters and any value exceeding will be rejected
→ 54	Side	Y	1=Buy 2=Sell The counter-party side must be opposite of the Originating Side
→ 1	Account	N	Maximum 10 characters – OCC Pass through field
→ 58	Text	N	Additional information about the order OCC Pass through field
→ 76	ExecBroker	N	1 <= n <= 99999 Give-up

Tag	Field Name	Req'd	Comments
→ 77	PositionEffect	Y	O=Open C=Close
→ 109	ClientID	N	Used for firm identification. Not supported for MRX
→ 204	CustomerOrFirm	Y	0 = Customer 1 = Firm 5 = Nasdaq registered Market Maker 2 = Broker Dealer 8 = Professional Customer 4 = Other exchange registered Market Maker 7 = Joint Back Office Not supported on GEMX or MRX at this time 9 = PHLX Market Maker w/CMTA Not supported on GEMX or MRX at this time
→ 207	SecurityExchange	N	If provided, must match target exchange from below: 1 = AMEX Z = BATS B = BSE C = C2 W = CBOE Y = ISE X = PHLX N = NYSE Q = NASDAQ T = BX Options 7 = MIAX H = ISE GEMINI E = BATS EDGX J = ISE MERCURY P = MIAX PEARL D = MIAX Emerald U = MEMX S = MIAX Sapphire <i>If not provided will default to the local exchange</i>
→ 439	ClearingFirm	N	1 <= n <= 99999 CMTA
→ 440	ClearingAccount	N	Four characters are accepted <i>Required when CustomerOrFirm = 4 or 5</i>
→ 79	AllocAccount	N	Exchange Internal Firm Identifier of the Preferred Participant for Preferred Order Flow; should not exceed 3 characters.
<Standard Trailer>		Y	

6.3. New Order Multileg

The New Order Multileg message is used to send new multi-leg orders. Orders may contain two to ten legs, with a maximum of 10 option legs, or 1 to 9 option legs plus 1 stock leg.

The following tags are supported on the New Order Multileg message:

Tag	Field Name	Req'd	Comments
	Standard Header	Y	MsgType = AB
1	Account	N	Maximum 10 characters. OCC Pass through field
11	ClOrdID	Y	Maximum 30 characters. Any value exceeding 30 characters will be rejected.
18	ExecInst	N	Can contain only one instruction. G = All Or None (AON)

Tag	Field Name	Req'd	Comments
38	OrderQty	Y	Required. Acceptable range is 1 to 999999. No commas, decimals or spaces allowed, nor are negative numbers.
40	OrdType	Y	Valid values: 1 = Market 2 = Limit
44	Price	N	Required if OrdType ≠ 1 Price > 0: "Debit" — willing to pay Price < 0: "Credit" — wants cash back Price = 0: "Even" order Order will be rejected if this tag is present and OrdType(40)=1 for Market.
47	Rule80A (Capacity)	N	Describes the sender's capacity for the StockLeg. Allowed values are: P – Principal A – Agency R – Riskless principal If unspecified, the stock leg will default to Agency capacity (A).
58	Text	N	Additional information about the order. OCC pass-through field
59	TimeInForce	N	0=Day (default) 1=GTC 2=OPG 3=IOC 4=FOK 6=GTD
60	TransactTime	Y	YYYYMMDD-HH-mm:SS.sss (milliseconds) YYYYMMDD-HH-mm:SS.sss.ssssssss (nanoseconds) Firm can configure by port to use nanoseconds or milliseconds
76	ExecBroker	N	1 <= n <= 99999 Give-up
79	AllocAccount	N	
109	ClientID	N	Used for firm identification. Not supported for GEMX or MRX
204	CustomerOrFirm	Y	0 = Customer 1 = Firm 5 = Nasdaq registered Market Maker 2 = Broker Dealer 8 = Professional Customer 4 = Other exchange registered Market Maker 7 = Joint Back Office Not supported on GEMX or MRX at this time 9 = PHLX Market Maker w/CMTA Not supported on GEMX or MRX at this time

Tag	Field Name	Req'd	Comments
			If provided, must match target exchange from below: 1 = AMEX Z = BATS B = BSE C = C2 W = CBOE Y = ISE X = PHLX N = NYSE Q = NASDAQ T = BX Options 7 = MIAX H = ISE GEMINI E = BATS EDGX J = ISE MERCURY P = MIAX PEARL D = MIAX Emerald U = MEMX S = MIAX Sapphire <i>If not provided will default to the local exchange</i>
207	SecurityExchange	N	
432	ExpireDate	N	Required if TimeInForce = 6 (GTD). (In YYYYMMDD format)
439	ClearingFirm	N	CMTA Number (firm that will clear the trade) up to 5-character numeric. If this tag is not supplied, this order will not be a CMTA.
440	ClearingAccount	N	OCC Sub-account. Four characters are accepted Required when <i>CustomerOrFirm</i> = 4 or 5
1092	PriceProtectionScope	N	1=Local (Default) 2=National (DN TT – Consider Away Markets)
9076	StockLegGiveUp	N	Stock Leg Give Up <i>default MPID will always be used for QCC with Stock</i>
9202	SpecialOrdType	N	A=Combo Auction Order (CAO) N=Non-CAO
9203	ExposureFlag	N	Attributable orders: Note: Below fields can be provided on dissemination of an order C=Customer ID E=Expose All G=Give-up M=CMTA
	Leg Component block <InstrmtLegGrp>	Y	

6.4. Leg Component Block <InstrmtLegGrp>

Tag	Field Name	Req'd	Comments
555	NoLegs	Y	2 <= n <= 10
654	LegRefID	Y	ANCHOR Maximum 10 characters. Must be unique per leg
564	LegPositioneffect	Y	Required if LegCFICode = OC or OP O=Open C=Close
600	LegSymbol	Y	

Tag	Field Name	Req'd	Comments
608	LegCFICode	Y	OC=Option — Call [OPT] OP=Option — Put [OPT] ES=Equity Common Shares [CS]
611	LegMaturityDate	Y	Required if LegCFICode = OC or OP. Format is CCYYMMDD
612	LegStrikePrice	Y	Required if LegCFICode = OC or OP.
623	LegRatioQty	Y	1 ≤ n ≤ 9,999 This value must be an integer.
624	LegSide	Y	1=Buy 2=Sell 5=Sell Short (valid only if LegCFICode = ES) 6=Sell Short Exempt (valid only if LegCFICode = ES)
9564	ContraLegPositionEffect	Y	Required for crossing orders, option leg, only. O=Open C=Close
9624	ContraSideShortSell	Y	Optional for crossing orders, stock leg, only. 5=Sell Short (valid only if LegCFICode = ES) 6=Sell Short Exempt (valid only if LegCFICode = ES)
<Standard Trailer>		Y	

6.5. Multileg Order Cancel Replace

The **Multileg Order Cancel Replace** message is used to modify multi-leg orders. The following tags are supported on the **Multileg Order Cancel Replace** message:

Tag	Field Name	Req'd	Comments
1	Account	N	Maximum 10 characters. OCC Pass through field; if not provided original value will carry through
11	CIOrdID	Y	Maximum 30 characters. Any value exceeding 30 characters will be rejected. Can contain only one instruction.
18	ExecInst	N	f = InterMarket Sweep Order (ISO) G = All Or None (AON) This value must be specified if is it to be carried over
38	OrderQty	Y	Required. Acceptable range is 1 to 999999. No commas, decimals or spaces allowed, nor are negative numbers.
40	OrdType	Y	Valid values: 1 = Market 2 = Limit
41	OrigCIOrdID	Y	CIOrdID of the order to be modified
44	Price	N	Price < 0: "Credit" — wants cash back Price = 0: "Even" order Order will be rejected if this tag is present and OrdType(40)=1 for Market.
58	Text	N	Additional information about the order. OCC pass-through field Value from original order will be carried over if not specified

Tag	Field Name	Req'd	Comments
9043	StepUpPriceType	N	1= Market 2= Limit Required when tag 9044 is provided
9044	StepUpPrice	N	Only provided when StepUpPriceType =2 and price must be at or better than original auction price. This value must be specified if is it to be carried over. Order will be rejected if provided and StepupPriceType (9043)=1 for Market.
59	TimeInForce	N	0=Day (default) 1=GTC 2=OPG 3=IOC 4=FOK 6=GTD Value from original order will be carried over if not specified
60	TransactTime	Y	YYYYMMDD-HH-mm:SS.sss (milliseconds) YYYYMMDD-HH-mm:SS.sss.ssssssss (nanoseconds) Firm can configure by port to use nanoseconds or milliseconds
76	ExecBroker	N	1 <= n <= 99999 Give-up Value from original order will be carried over if not specified
79	AllocAccount	N	Value from original order will be carried over if not specified
109	ClientID	N	Used for firm identification. Not supported for GEMX or MRX
204	CustomerOrFirm	Y	Must match original order if provided or will be rejected: 0 = Customer 1 = Firm 5 = Nasdaq registered Market Maker 2 = Broker Dealer 8 = Professional Customer 4 = Other exchange registered Market Maker 7 = Joint Back Office Not supported on GEMX or MRX at this time 9 = PHLX Market Maker w/CMTA Not supported on GEMX or MRX at this time
207	SecurityExchange	N	If provided, must match target exchange from below: 1 = AMEX Z = BATS B = BSE C = C2 W = CBOE Y = ISE X = PHLX N = NYSE Q = NASDAQ T = BX Options 7 = MIAX H = ISE GEMINI E = BATS EDGX J = ISE MERCURY P = MIAX PEARL D= MIAX Emerald U = MEMX S = MIAX Sapphire <i>If not provided will default to the local exchange</i>

Tag	Field Name	Req'd	Comments
432	ExpireDate	N	Required if TimeInForce = 6 (GTD) and this value must be specified if it is to be carried over. (In YYYYMMDD format)
439	ClearingFirm	N	CMTA Number (firm that will clear the trade) up to 5-character numeric. If this tag is not sent this order will not be a CMTA. This value must be specified if it is to be carried over. Port/Firm default will be used if not provided
440	ClearingAccount	N	OCC Sub-account. Required when CustomerOrFirm = 4 or 5 Four characters are accepted Will be carried over from original order if not provided. If not provided in the original order, default setting will be used.
1092	PriceProtectionScope	N	1=Local (Default) 2=National (DN TT – Consider Away Markets) Will Carry forward from original order if not provided
	Leg Component block <InstrmtLegGrp>	Y	

6.6. New Order Cross – Multileg

The **New Order Cross — Multileg** message is used to submit two-sided multi-leg auction orders (Facilitation, Solicitation, or PIM), or multi-leg CCC or QCC orders. Multi-leg cross orders may contain two to ten legs.

The following tags are supported on the New Order Cross — Multileg message:

Tag	Field Name	Req'd	Comments
	Standard Header	Y	MsgType = As (uppercase A, lowercase S)
38	OrderQty	Y	Required. Acceptable range is 1 to 999999. No commas, decimals or spaces allowed, nor are negative numbers.
40	OrdType	Y	Valid values: 2 = Limit
44	Price	Y	Price field is required for Limit Orders. 1-10 character decimal price. "12.34" is the correct presentation of twelve dollars and thirty-four cents
59	TimeInForce	N	Specifies how long the order remains in effect. Valid values: 0 = Market Hours (DAY) 1 = Good Till Cancel (GTC) 2 = OPG (Open Cross) 3 = Immediate or Cancel (IOC) 4 = Fill Or Kill 6 = Good Till Date (GTD)
60	TransactTime		YYYYMMDD-HH-mm:SS.sss (milliseconds) YYYYMMDD-HH-mm:SS.sss.ssssssss (nanoseconds) <i>Firm can configure by port to use nanoseconds or milliseconds</i>
100	ExDestination	C	Required for QCC order with routed stock component
548	CrossID	Y	Maximum 20 characters. Any value exceeding 20 characters will be rejected
9373	AuctionType	Y	S=Solicitation C= CCC F=Facilitation P =PIM Q = QCC

Tag	Field Name	Req'd	Comments
9043	StepUpPriceType	N	1= Market 2= Limit <i>Required when tag 9044 is provided</i>
9044	StepUpPrice	N	Only provided when StepUpPriceType =2 and price must be at or better than original auction price. Order will be rejected if provided and StepupPriceType (9043)=1 for Market.
9204	BrokerPCT	N	0 <= n <= 40 (default value =40) Facilitation and PIM orders only
810	UnderlyingPx	N	Traded Price of the stock trade associated with the QCC Order
879	UnderlyingQty	N	Traded Quantity of the stock trade associated with the QCC Order
9811	PriceDelta	N	Price Delta of the stock trade associated with the QCC Order.
552	NoSides	Y	2 The 1st side is considering the "originating" side The 2nd side is considered the "counter-party" side
→ 11	ClOrdID	Y	ANCHOR Unique per side. Maximum 30 characters and any value exceeding will be rejected
→ 1	Account	N	Maximum 10 characters – OCC Pass through field
→ 47	Rule80A (Capacity)	N	Describes the sender's capacity for the StockLeg. Allowed values are: P – Principal A – Agency R – Riskless principal If unspecified, the stock leg will default to Agency capacity (A).
→ 58	Text	N	Additional information about the order OCC Pass through field
→ 76	ExecBroker	N	1 <= n <= 99999 Give-up
→ 109	ClientID	N	Used for firm identification. Not supported for GEMX or MRX
→ 204	CustomerOrFirm	Y	0 = Customer 1 = Firm 5 = Nasdaq registered Market Maker 2 = Broker Dealer 8 = Professional Customer 4 = Other exchange registered Market Maker 7 = Joint Back Office Not supported on GEMX or MRX at this time 9 = PHLX Market Maker w/CMTA Not supported on GEMX or MRX at this time

Tag	Field Name	Req'd	Comments
			If provided, must match target exchange from below: 1 = AMEX Z = BATS B = BSE C = C2 W = CBOE Y = ISE X = PHLX N = NYSE Q = NASDAQ T = BX Options 7 = MIAX H = ISE GEMINI E = BATS EDGX J = ISE MERCURY P = MIAX PEARL D = MIAX Emerald U = MEMX S = MIAX Sapphire <i>If not provided will default to the local exchange</i>
→ 207	SecurityExchange	N	
→ 439	ClearingFirm	N	1 <= n <= 99999 CMTA
→ 440	ClearingAccount	N	OCC Sub-Account Four characters are accepted. <i>Required when CustomerOrFirm = 4 or 5</i>
→ 9076	StockLegGiveup	N	Stock Leg Give Up <i>default MPID will always be used for QCC with Stock</i>
	Component block <InstrmtLegGrp>	Y	See section 6.4

6.7. Request for PRISM Notification

Note: The Request for PRISM Function is not available currently on GEMX or MRX

The Request for PRISM Notification message will provide the Request for PRISM notification to recipients who have opted in to receive the message. The RFP notification allows participants to view the details of the Request of PRISM before responding. The Request for PRISM Notification message is for consumption of FIX users to be notified, not for sending responses. RFP notification recipients can use new order single as described above to respond.

Participants can opt in to receive RFP notifications on a port-by-port basis. All firm mnemonics permissioned for that port will receive the RFP notification.

Initiating firm identification will not be provided in the RFP notification.

Tag	Field Name	Req'd	Comments
	Standard Header	Y	MsgType = DSN
9210	RFPID	Y	Unique Identifier assigned by the exchange
18	ExecInst	N	f=Intermarket Sweep (ISO) RFP responder must provide ISO when notification includes, else be rejected
38	OrderQty	Y	
40	OrdType	Y	2=Limit
44	Price	N	Required if OrdType=2
54	Side	Y	1=Buy 2=Sell
55	Symbol	Y	OSI symbol for series

Tag	Field Name	Req'd	Comments
167	SecurityType	Y	OPT
201	PutorCall	Y	0=Put 1=Call
202	StrikePrice	Y	
			If provided, must match target exchange from below: 1 = AMEX Z = BATS B = BSE C = C2 W = CBOE Y = ISE X = PHLX N = NYSE Q = NASDAQ T = BX Options 7 = MIAX H = ISE GEMINI E = BATS EDGX J = ISE MERCURY P = MIAX PEARL D = MIAX Emerald U = MEMX <i>If not provided will default to the local exchange</i>
204	CustomerOrFirm	Y	
541	MaturityDate	Y	Month, Day, and Year of the maturity. Format YYYYMMDD
	<Standard Trailer>	Y	

6.8. Order Cancel Request

The **Order Cancel Request** Message requests the cancellation of all remaining quantity of an existing order. The request will only be accepted if the order can successfully be pulled back from the exchange trading system without executing.

Note that the **Order Cancel/Replace Request** should be used to partially cancel (reduce) an order.

A cancel request is assigned a *CIOrdID* and is treated as a separate entity. If rejected, the *CIOrdID* of the cancel request will be sent in the Cancel Reject message, as well as the *CIOrdID* of the actual order in the *OrigCIOrdID* field. The *CIOrdID* assigned to the cancel request must be unique amongst the *CIOrdID* assigned to regular orders and replacement orders.

The format of the Order Cancel Request message is shown in the following table:

Tag	Field Name	Req'd	Comments
	Standard Header	Y	MsgType = F
11	CIOrdID	Y	Unique ID of cancel request as assigned by the institution. Must be 30 characters or less.
38	OrderQty	N	Number of known open contracts
41	OrigCIOrdID	Y	CIOrdID of the original order to cancel, as assigned by the originating participant (Firm).
54	Side	N	This tag will be ignored by FIX Port
55	Symbol	N	Must match the original order if provided

Tag	Field Name	Req'd	Comments
60	TransactTime	Y	YYYYMMDD-HH-MM:SS.sss (milliseconds) YYYYMMDD-HH-MM:SS.sss.ssssss (nanoseconds) <i>Firm can configure by port to use nanoseconds or milliseconds</i>
201	PutorCall	N	Must match the original order if provided
202	StrikePrice	N	Must match the original order if provided
541	MaturityDate	N	Must match the original order if provided
	Leg Component block <InstrmtLegGrp>	N	Must Match original order. Optional for multi-leg order, must match original order if provided See section 6.4
	<Standard Trailer>	Y	

Note: The canonicals of the instrument must be provided in full, or it must be ignored. The 55 (Symbol), 201 (PutorCall), 202 (StrikePrice) and 541 (MaturityDate) must be provided together or should be ignored completely.

6.9. Order Cancel/Replace Request (a.k.a. Modification Request)

The Order Modification Request is used to change the parameters of an existing order.

Do not use this message to cancel the remaining quantity of an outstanding order. The Cancel Request message should be used to cancel the remaining quantity of an outstanding order.

The Order Modification request will only be accepted if the order can successfully be pulled back from the exchange trading system without fully executing. Requests that cannot be processed will be rejected using the Cancel Reject message. The Cancel Reject message will provide the ClOrdID and OrigClOrdID values that were specified on the Order Modification Request message for identification.

Note that while it is necessary for the ClOrdID to change and be unique, the broker's OrderID field does not necessarily have to change because of the Order Modification request.

Only price, quantity, tif, order type, Account ID and AllocAccount can be changed via the cancel/replace request message. All other fields should be retransmitted as sent in the original order, including clearing account. Attempts to change other fields not listed above, will result in a rejected cancel replace attempt.

Following changes are allowed for tif.

- DAY to GTC or IOC
- GTC to DAY or IOC

In case of PIM Cross orders, only the StepUpPrice, StepUpPriceType can be changed for the initiating order only.

The Order Modification Request Message is described in the following table:

Tag	Field Name	Req'd	Comments
	Standard Header	Y	MsgType = G
1	Account	N	If not provided, the account id of the original order will carry over
11	ClOrdID	Y	Unique identifier of replacement order as assigned by institution. Note that this identifier will be used in ClOrdID field of the Cancel Reject Message if the replacement request is rejected. Must be 30 characters or less.
18	ExecInst	N	This value must be specified if it is to be carried over
37	OrderID	N	Unique identifier of most recent order as assigned by broker.
38	OrderQty	Y	

Tag	Field Name	Req'd	Comments
40	OrdType	Y	1=Market 2-Limit 3=Stop 4=Stop Limit
41	OrigClOrdID	Y	ClOrdID of the original order to cancel, as assigned by the originating participant (Firm)
44	Price	N	Price field is required for Limit Orders. Order will be rejected if this tag is present and OrdType (40) =1 or 3 for Market or Stop.
54	Side	Y	Side of order – Valid values: 1 = Buy 2 = Sell Must match original side.
55	Symbol	Y	1 – 6 character Options Root Symbol. Spaces, periods, commas not allowed.
58	Text	N	If this tag is omitted, value from original order will be carried over
59	TimeInForce	N	If not provided, the time in force of the original order carries through to all replacements. Following changes in TIF are allowed. DAY to GTC or IOC GTC to DAY or IOC
60	TransactTime	Y	YYYYMMDD-HH-mm:SS.sss (milliseconds) YYYYMMDD-HH-mm:SS.sss.ssssssss (nanoseconds) <i>Firm can configure by port to use nanoseconds or milliseconds</i>
76	ExecBroker	N	Value from original order will be carried over if not specified
77	OpenClose	N	Value from original order will be carried over if not specified
79	AllocAccount	N	Exchange Internal Firm Identifier of the Directed Participant for Directed Order Flow; should not exceed 4 characters. Value from original order will be carried over if not specified
99	StopPx	N	Required if OrdType = 3 or 4. Order will be rejected if this tag is present and if OrdType (40) is not 3 or 4.
109	ClientID	N	Used for firm identification. Not supported on MRX at this time
110	MinQty	N	Not supported on GEMX or MRX at this time
111	MaxFloor	N	Display Quantity for Reserve Orders
201	PutOrCall	Y	0 = put 1 = call
202	StrikePrice	Y	Strike Price for option: Valid values: 0 – 999999.99999999 Must match original order if provided or will be rejected: 0 = Customer 1 = Firm
204	CustomerOrFirm	N	5 = Nasdaq registered Market Maker 2 = Broker Dealer 8 = Professional Customer 4 = Other exchange registered Market Maker 7 = Joint Back Office Not supported on MRX at this time 9 = PHLX Market Maker w/CMTA Not supported on MRX at this time

Tag	Field Name	Req'd	Comments
207	SecurityExchange	N	<p>If provided, must match target exchange from below:</p> <p>1 = AMEX Z = BATS B = BSE C = C2 W = CBOE Y = ISE X = PHLX N = NYSE Q = NASDAQ T = BX Options 7 = MIAX H = ISE GEMINI E = BATS EDGX J = ISE MERCURY P = MIAX PEARL D = MIAX Emerald U = MEMX S = MIAX Sapphire</p> <p><i>If not provided will default to the local exchange</i></p>
432	ExpireDate	N	Required if TimeInForce = 6 (GTD) and this value must be specified if it is to be carried over. (In YYYYMMDD format)
439	ClearingFirm	N	This value must be specified if it is to be carried over. Port/Firm default will be used if not provided.
440	ClearingAccount	N	<p>Will be carried over from original order if not provided. If not provided in the original order, default setting will be used. Four characters are accepted</p> <p><i>Required when CustomerOrFirm = 4 or 5</i></p>
541	MaturityDate	Y	Month, Day, and Year of the maturity in YYYYMMDD format.
1083	DisplayWhen	N	<p>1=Immediate 2=Exhaust</p> <p>Required for Reserve Orders and must be specified if it is to be carried over</p>
8020	DisplayRange	N	Random Refresh Quantity for Reserve Orders. This value must be specified if it is to be carried over
9043	StepUpPriceType	N	<p>1= Market 2= Limit</p> <p><i>Required when tag 9044 is provided</i></p>
9044	StepUpPrice	N	Only provided when StepUpPriceType =2 and price must be at or better than original auction price. This value must be specified if it is to be carried over. Order will be rejected if this tag is present and StepupPriceType (9043) =1 for Market.
	Standard Trailer	Y	

6.10. Execution Report

The execution report message is used to:

1. Confirm the receipt of an order or response
2. Confirm changes to an existing order (i.e., accept cancel and replace requests)
3. Relay order status information
4. Relay fill information on working orders or responses
5. Reject orders

6. GTC/GTD Restatement at Start of Day

7. Done for Day at End of Day

Each execution message will contain information that will describe the current state of the order and execution status as understood by NASDAQ.

In case of a bust or PTA Allocation the fields of OrderID (37), StopPX (77), MaxFloor (111) and PriceProtectionScope (1092) will be populated with the right values. But the fields of AvgPX (6) and CumQty (14) will be populated as 0.

Tag	Field Name	Req'd	Comments
	Standard Header	Y	MsgType = 8
1	Account	N	As specified in the New Order
6	AvgPx	Y	Will be provided for new executions. Busts and cancels related to busts will not have it or have 0
11	ClOrdID	N	As specified in the New Order
14	CumQty	Y	Currently executed contracts for chain of orders. Will be set to '0' for busts or other post-trade corrections
17	ExecID	Y	Identifier for the execution
18	ExecInst	N	f = InterMarket Sweep Order (ISO) G = All or None (AON)
19	ExecRefID	N	Present if ExecTransType = 0 (New) or 1 (Cancel)
20	ExecTransType	Y	Identifies transaction type Valid values: 0 = New 1 = Cancel 3 = Status For stock trades, market that executed the stock leg. 1=BNY ConvergEx U.S. Transaction Services 3=BNY ConvergEx Millennium ATS 8=Cheevers 9=Libucki 10=FOG Equities For option linkage trades, away execution exchange: A = NYSE AMEX B = BOX C = CBOE E = EDGX D = MIAX Emerald H = GEMX I = ISE J = MRX M = Miami N = NYSE ARCA Q = NASDAQ P = MIAX Pearl S = MIAX Sapphire T = NASDAQ BX W = C2 X = NASDAQ PHLX Z = BATS U = MEMX
30	LastMkt	N	
31	LastPx	Y	Price of this (last) fill. Should be "0" for non-fills (Note: "fill" defined as ExecTransType = New and ExecType = Partial Fill or Fill).
32	LastShares	Y	Number of contracts bought/sold on this (last) fill. Should be "0" for non-fills (Note: "fill" defined as ExecTransType = New and ExecType = Partial Fill or Fill).

Tag	Field Name	Req'd	Comments
37	OrderID	Y	OrderID, as assigned by the venue, is required to be unique for each chain of orders.
38	OrderQty	Y	The number of contracts.
39	OrdStatus	Y	Describes the current state of a CHAIN of orders, same scope as OrderQty, CumQty, LeavesQty, and AvgPx Valid Values: 0 = New 1 = Partial Fill 2= Filled 3= Done for day 4 = Cancelled 5 = Replaced 6 = Pending Cancel 8 = Rejected
40	OrdType	N	Valid values: 1 = Market 2 = Limit
41	OrigClOrdID	N	Required if this is in response to an Order Cancel Request or Order Cancel/Replace request (ExecType = PendingCancel, Replaced or Cancelled). ClOrdID of the previous order (NOT the initial order of the day) when cancelling or replacing an order and for unsolicited cancel reports.
44	Price	N	As specified in the Order
54	Side	Y	Side of the order
55	Symbol	Y	1 – 6 character Options Root Symbol. Spaces, periods, commas not allowed.
58	Text	N	Free format text string
59	TimeInForce	N	
60	TransactTime	Y	YYYYMMDD-HH-mm:SS.sss (milliseconds) YYYYMMDD-HH-mm:SS.sss.ssssssss (nanoseconds)
76	ExecBroker	N	If provided with original order. <i>Will Always be populated on busts/PTA actions</i>
77	OpenClose	Y	O = opening position C = closing position
99	StopPX	N	
103	OrdRejReason	N	0=Broker / Exchange option 1=Unknown symbol 2=Exchange closed 3=Order exceeds limit 4=Too late to enter 5=Unknown Order 6=Duplicate Order (e.g., duplicate ClOrdID) 8=StaleOrder 11=Unsupported order characteristic 13=Incorrect quantity 16=Buy Market Order cancelled due to no offer 18 =Suspend 99=Other
111	MaxFloor	N	
150	ExecType	Y	Describes the type of execution report. Valid Values: 0 = New 1 = Partial Fill 2= Filled 3= Done for day 4 = Cancelled 5 = Replaced 6 = Pending Cancel 8 = Rejected I = Order Status E = Pending Replace D = Restated

Tag	Field Name	Req'd	Comments
151	LeavesQty	Y	Number of contracts open for further execution. If the OrdStatus is Cancelled, DoneForTheDay, Expired, Calculated, or Rejected (in which case the order is no longer active) then LeavesQty could be 0, otherwise LeavesQty = OrderQty – CumQty.
167	SecurityType	Y	CS OPT MLEG <i>Configurable by request</i>
201	PutOrCall	Y	0 = put 1 = call
202	StrikePrice	Y	Strike Price for option: Valid values: 0 – 999999.99999999
204	CustomerOrFirm	N	Capacity from original order 0 = Customer 1 = Firm 5 = Nasdaq registered Market Maker 2 = Broker Dealer 8 = Professional Customer 4 = Other exchange registered Market Maker 7 = Joint Back Office Not supported on GEMX or MRX at this time 9 = PHLX Market Maker w/CMTA Not supported on GEMX or MRX at this time
378	ExecRestatementReason	N	"1" = GTC/GTD Restatement
424	DayOrderQty	N	GTC/GTD orders only: DayOrderQty is the OrderQty minus the contracts that were traded on previous day
425	DayCumQty	N	GTC/GTD orders only: The number of contracts that have traded today. Will be 0 for busts or other post-trade corrections
426	DayAvgPx	N	GTC/GTD orders only: The average price of contracts that have traded today. Will be 0 for busts or other post-trade corrections
432	ExpireDate	N	Provided with GTD orders. (In YYYYMMDD format)
439	ClearingFirm	N	CMTA
440	ClearingAccount	N	OCC Sub-account Four characters are accepted
442	MultiLegReportingType	N	2=individual leg of a multi-leg security 3=Multi-leg security
541	MaturityDate	Y	Month, Day, and Year of the maturity. Format YYYYMMDD (e.g., 20100918 to represent Sept 18, 2010) This will not be present If ExecType = 8 – Rejected
548	CrossID	N	As specified on New Order Cross or New Order Cross Multi-leg
636	WorkingIndicator	N	Y = Order is currently being worked
654	LegRefID	N	
1092	PriceProtectoinScope	N	
9730	LiquidityIndicator	N	Will be returned within all execution reports that contain a partial or full fill. See Liquidity Flags Table below for values

Tag	Field Name	Req'd	Comments
9373	AuctionType	N	Auction type for this order. Valid values: P = PIM Cross B = Block Auction C = Customer to Customer Cross S = Solicitation Auction F = Facilitation Auction Q = QCC
9043	StepUpPriceType	N	1= Market 2= Limit
9044	StepUpPrice	N	
9370	AuctionID	N	
9210	RFPID	N	
1083	DisplayWhen	N	
8020	DisplayRange	N	
	Standard Trailer	Y	

6.11. Order Cancel Reject

The **Order cancel reject** message is issued by NASDAQ upon receipt of a Cancel Request or Cancel/Replace Request Message that cannot be honored.

The format of the **Order Cancel Reject Message** is as follows:

Tag	Field Name	Req'd	Comments
	Standard Header	Y	MsgType = 9
37	OrderID	Y	If the cancel reject is for an unknown order this field will contain the text "Unknown". Otherwise, it will contain the OrderID of the last order in the chain of orders.
11	CIOrdID	Y	Unique order id assigned by broker to the cancel request or to the replacement order.
41	OrigCIOrdID	Y	CIOrdID that could not be cancelled/replaced. CIOrdID of the previous order (NOT the initial order of the day) when cancelling or replacing an order.
39	OrdStatus	Y	OrdStatus value after this cancel reject is applied.
102	CxlRejReason	N	Code to identify reason for cancel rejection. Valid values: 0 = Too late to cancel 1 = Unknown order 2 = Broker Option (Used for unidentified business reasons.) 3 = Order already in Pending Cancel status
58	Text	N	See "Rejected Order Reasons" in section 7
434	CxlRejResponseT	Y	Identifies the type of request that a Cancel Reject is in response to. Valid values: 1 = Order Cancel Request 2 = Order Cancel/Replace Request
	Standard Trailer	Y	

6.12. Allocation

The **Allocation** message is used to perform post-trade clearing changes. The following tags are supported on the **Allocation** message:

Tag	Field Name	Req'd	Comments
	Standard Header	Y	MsgType = J

Tag	Field Name	Req'd	Comments
48	SecurityID	N	Underlying Symbol of the options series
53	Shares	Y	Total quantity of original execution
54	Side	Y	1=Buy 2=Sell
55	Symbol	Y	OCC Options symbol for a series
60	TransactTime	Y	YYYYMMDD-HH-mm:SS.sss (milliseconds) YYYYMMDD-HH-mm:SS.sss.ssssssss (nanoseconds) <i>Firm can configure by port to use nanoseconds or milliseconds</i>
70	AllocID	Y	Unique identifier for allocation message
71	AllocTransType	Y	0=New
11	ClOrdID	Y	Identifier of the original order
201	PutorCall	Y	0=Put 1=Call
202	StrikePrice	Y	
541	MaturityDate		Month, Day, and Year of the maturity in YYYYMMDD format.
124	NoExecs	Y	1
→ 17	ExecID	Y	ANCHOR Identifier of the original execution
78	NoAllocs	Y	1 < n < 10
→ 80	AllocShars	Y	ANCHOR Quantity for this allocation. Sum of all AllocShares must be equal to Shares
→ 1	Account	N	Maximum 10 characters. OCC Pass-through field
→ 58	Text	N	Additional information about the order OCC Pass-through field
→ 76	ExecBroker	Y	1 <= n <= 99999 Give-up
→ 77	OpenClose	N	O=Open C=Close
→ 204	CustomerOrFirm	N	0 = Customer 1 = Firm 5 = Nasdaq registered Market Maker 2 = Broker Dealer 8 = Professional Customer 4 = Other exchange registered Market Maker 7 = Joint Back Office Not supported on GEMX or MRX at this time 9 = PHLX Market Maker w/CMTA Not supported on GEMX or MRX at this time
→ 439	ClearingFirm	N	1 <= n <= 99999 CMTA
→ 440	ClearingAccount	N	OCC Sub-account. Four characters accepted. <i>Required when CustomerOrFirm = 4 or 5</i>
→ 9076	StockLegGiveUp	N	Stock Leg give up <i>default MPID will always be used for QCC with Stock</i>

Tag	Field Name	Req'd	Comments
→ 47	Rule80A(Capacity)	C	P – Principal A – Agency R – Riskless principal If unspecified, the stock leg will be carried forward from prior message

Note:

- The Rule80A (tag 47) field can be used to change capacity for the stock leg.
- SecurityID (tag 48) is required for Stock leg Allocation.
- One of tags 76 or 9076 must be present depending on whether it is stock or option leg.
- Tags 55, 77, 201, 202 and 541 are only required for Options Post trade Allocations. For Stocks trade, this must not be present.

6.13. Allocation Acknowledgement

The **Allocation Acknowledgement** message is returned by the exchange and acknowledges or rejects the Allocation request.

The following tags are supported on the Allocation ACK message:

Tag	Field Name	Req'd	Comments
	Standard Header	Y	MsgType = P
58	Text	N	8=Exchange Symbol
60	TransactTime	Y	YYYYMMDD-HH-mm:SS.sss (milliseconds) YYYYMMDD-HH-mm:SS.sss.ssssssss (nanoseconds) <i>Firm can configure by port to use nanoseconds or milliseconds</i>
70	AllocID	Y	Unique identifier for allocation message
87	AllocStatus	Y	0=Accepted (successfully processed) 1=Rejected
			Present if AllocStatus = 1 (Rejected)
88	AllocRejCode	N	0=Unknown account(s) 1=Incorrect quantity 3=Unknown executing broker mnemonic 5=Unknown Order ID 7=Other
	<Standard Trailer>	Y	

6.14. Member Kill Switch

The Member Kill Switch message is used to block a Firm or a Firm specific port's ability to enter new orders or alter existing orders. The transaction also causes all open orders for the Specified Firm/Port to be cancelled.

The following tags are supported on the **Member Kill Switch** message:

Tag	Name	Required	Description
	Standard Header	Y	MsgType = UDA
1770	EntitlementRequestID	Y	
1772	NoPartyEntitlements	Y	1
→ 1324	ListUpdateAction	Y	ANCHOR D=Delete
→ 1671	NoPartyDetails	Y	1 <= n <= 2
→ → 1691	PartyDetailID	Y	ANCHOR Firm or Port Account to be blocked, e.g., "ABCD" or "FIXBC1"
→ 1693	PartyDetailRole	Y	59=Executing Unit 55=Session ID (Port) <i>Note: Port level blocking is currently not supported</i>
	<Standard Trailer>	Y	

6.15. Member Kill Switch Response

The following tags supported on the Member Kill Switch Response message:

Tag	Name	Required	Description
	Standard Header	Y	MsgType = UDB
58	Text	N	Present if EntitlementRequestStatus=2 (Reject)
1770	EntitlementRequestID	Y	
1772	NoPartyEntitlements	Y	1
→ 1324	ListUpdateAction	Y	ANCHOR D=Delete
→ 1671	NoPartyDetails	Y	1 <= n <= 2
→ → 1691	PartyDetailID	Y	ANCHOR Firm or Port Account to be blocked, e.g., "ABCD" or "FIXBC1"
→ → 1693	PartyDetailRole	Y	59=Executing Unit 55=Session ID (Port) <i>Note: Port level blocking is currently not supported</i>
→ 1883	EntitlementStatus	Y	0=Accepted 2=Rejected
1881	EntitlementRequestResult	N	Present if EntitlementRequestStatus = 2 (Reject) 99=Other
1882	EntitlementRequestStatus	Y	0=Accept 2=Reject
	<Standard Trailer>	Y	

6.16. Member Kill Switch Trigger/Reset

The Member Kill Switch trigger/reset message is used to inform firms when a KillSwitch has been triggered and when it has been reset.

The following tags are supported on the Member Kill Switch Trigger/Reset message:

Tag	Name	Required	Description
	Standard Header	Y	MsgType = UDC (Nasdaq Proprietary)
60	TransactionTime	Y	Time when the block or reset happened
1772	NoPartyEntitlements	Y	1
			ANCHOR
→ 1324	ListUpdateAction	Y	D=Delete R=Reset
→ 1671	NoPartyDetails	Y	1 <= n <= 2
			ANCHOR
→ → 1691	PartyDetailID	Y	Firm or Port Account blocked or reset, e.g., "ABCD" or "FIXBC1"
			59 = Executing Unit (Firm) 55 = Session ID (Port)
→ → 1693	PartyDetailRole	Y	Note: Port level is currently not supported
	<Standard Trailer>	Y	

6.17. Business Message Reject

The Business Message Reject message is used to reject an application message that fulfils session- level rules but that cannot be rejected by other means. For example, an order message missing a required specific field. The following tags are supported on the Business Message Reject message:

Tag	Name	Required	Description
	Standard Header	Y	MsgType = j (lowercase J)
45	RefSeqNum	Y	MsgSeqNum of rejected message
58	Text	N	Textual reject reason
372	RefMsgType	Y	MsgType of rejected message
379	BusinessRejectRefID	N	ID of rejected message (for example, ClOrdID from rejected New Order Single or CrossID from New Order Cross/New Order Cross Multi-leg)
			0=Other 2=Unknown Security 3=Unsupported Message Type 5=Conditionally Required Tag missing
380	BusinessRejectReason	Y	
	<Standard Trailer>	Y	

7. Order Reject/Cancel Reasons

The FIX Text field, tag 58, will be returned within all order reject and cancel messages (msgType=8) and will contain a description of the reject or cancel.

7.1. Rejected Order Reasons

OrdRejectReason Code	Text=<Error String>	Description.
0	"INVALID TIME FOR ACCEPTANCE"	Exchange is not open for order acceptance.
0	"LIMIT TOO FAR BELOW BID"	Reference price is out of bounds.
0	"LIMIT TOO FAR ABOVE ASK"	Reference price is out of bounds.
0	"IOC IS INVALID"	IOC is not allowed for this order.
0	"INVALID VOLUME"	Order volume is Invalid.
0	"FOK IS INVALID"	Fill or Kill is invalid

OrdRejectReason Code	Text=<Error String>	Description.
0	"INVALID LIMIT PRICE"	Invalid Limit Price.
0	"MISSING ACCOUNT ID"	
0	"INVALID CMTA NUMBER"	Invalid CMTA number- tag ClearingFirm (439).
0	"CANCELLED BY RECEIVER"	Order Cancelled by Broker.
0	"FEATURE NOT SUPPORTED"	Feature not supported
1	"UNKNOWN SYMBOL"	Invalid Symbol information.
2	"NOT OPEN FOR TRADING"	Exchange closed.
3	"UNACCEPTABLE VOLUME"	Order Exceeds limit.
4		Too Late to enter- Not Used.
5		Unknown Order- Not Used.
6	"DUPLICATE ORDER ID"	Duplicate Order ID i.e., Duplicate Tag – ClOrdID (11).
7		Duplicate of a verbally communicated order – Not Used.
8	"Stale Order"	IOC Order is stale.
0	"POST ONLY REPRICE"	POST ONLY Order cancelled or rejected due to being repriced.
0	"MKT INVALID DURING LULD"	MKT Order cancelled or rejected due to underlying being in Limit Up Limit Down state.
0	"SUSPEND"	Order Cancelled Due To ATR
0	"OPEN DELAY"	Order Cancelled Due To Opening delay
0	"PRE OPEN IOC NOT ALLOWED"	Pre-Market IOC Invalid
0	"KILLSWITCH TRIGGERED"	Order Cancelled/Rejected due to firm being in Kill-Switch state.
0	"INVALID RFP ISTRUCTION"	Tag 9211 has an invalid value
0	"RFP INSTRUCTION AND ID CANNOT BE SPECIFIED TOGETHER"	Tag 9210 and 9211 are both provided in the message

7.2. Cancel Reject Reason

The FIX Text field, tag 58, will be returned within all cancel reject messages (msgType=9) and will contain a description of the reject or cancel

CxlRejReason Code	Text=<"Error String">	Description
0	"TARGET FILLED"	Too Late to Cancel- Target is already completely Filled or Rejected.
1	"TARGET NOT FOUND"	Target order Not found or Unknown order.
2	"TARGET CANCELLED"	Target Already Cancelled.
2	"TARGET NOT OPEN"	Target order is not Open.
2	"CANCEL BUY SELL MISMATCH"	Cancel Request Buy/Sell attribute do not match with Target order.
2	"CANCEL SYMBOL MISMATCH"	Cancel Request Symbol do not match with Target order.
2	"DON'T REPLACE SYMBOL"	Cancel Replace cannot replace Symbol for target order.
2	"CANCEL VOLUME MISMATCH"	Cancel Request Order Quantity attribute doesn't match with Target order.
2	"CANCEL PRICE MISMATCH"	Cancel Request Order Price attribute doesn't match with Target order.
2	"CANCEL ORIGIN MISMATCH"	
2	"CANCEL TIF MISMATCH"	
2	"CANCEL BAD LEAVES VOLUME"	Cancel Leaves volume is bad.
2	"BROKER OPTION"	Broker Option.
3	"TARGET CANCEL PENDING"	Target order is already in Cancel Pending status.

CxlRejReason Code	Text=<"Error String">	Description
	"STALE ORDER"	
	"IN TRADING HALT"	
	"NOT NBBO"	
	"REF PRICE OUT OF BOUND"	
	"UNKNOWN CLEARING FIRM"	
	"S ORIG ORDER REJECTED"	
	"TOO LATE TO CANCEL"	
	"S OTHER"	

7.3. Liquidity Codes

The below liquidity codes will be available for MRX and GEMX symbols and will be populated in the LiquidityIndicator (Tag 9730):

Note, not all liquidity codes will be applicable to MRX and GEMX at this time.

9730	LiquidityIndicator	String	1=Add/Maker 2=Remove/Taker 4=Response 5=Hidden 6=Opening 7=Cross 8=Flashed Order 9=Flash Response 10=Routed Out 11=Trade Report 12=Combo Maker Against Combo 13=Combo Taker Against Combo 14=Combo Response Against Combo 15=Combo Hidden Against Combo 16=Combo Opening Rotation 17=Combo Cross 18=Combo Taker Against Regular 19=Regular Maker Against Combo 20=Combo Taker Against IO 21=Regular Taker Against IO (incl. PIM) 22=IO Maker Against Combo 23=IO Maker Against Regular 24=Regular Maker Against IO Participant 25=IO Participant Taker Against Regular 26=Broken Price Improvement§§ 27=Broken Facilitation 28=Broken Solicitation 29=Combo Broken Price Improvement 30=Combo Broken Facilitation 31=Combo Broken Solicitation 32=Block 33=Block Response 34=Directed Response 35=Facilitation 36=Facilitation Response 37=Price Improvement 38=Price improvement Response 39=Solicitation 40=Solicitation Response 41=Qualified Contingent Cross 42=Customer to Customer 43=Combo Facilitation 44=Combo Facilitation Response 45=Combo Price Improvement 46=Combo Price Improvement Response 47=Combo Solicitation 48=Combo Solicitation Response 49=Combo Qualified Contingent Cross 50=Combo Customer to Customer 51=Sweep Routed Out 52=Sweep Trade Report 53=Combo Taker Against Regular – Thru NBBO 54=Combo Taker Against IO – Thru NBBO 55=Simple Exposure Order – Upon Receipt 56=Simple Exposure Order – Subsequent 57=Simple Exposure Order – Responder NON-STANDARD field (MRX)
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8. Revision History

Revision #	Date	Change
13.0	11/7/2022	<ol style="list-style-type: none"> MRX FIX Specification 1.0 publication upon replatform
13.0	11/7/2022	<ol style="list-style-type: none"> Removing StockLegGiveup (9076) and SpecialOrdType (9202) from Multileg Order Cancel Replace as these fields will not be modifiable Removing IOC to Day or GTC from Order Cancel/Replace Request as allowable change Clarifying TransactTime (60) is a required field for all messages Clarifying handling of absent tags in Order Cancel Replace Request and Multileg Order Cancel Replace Clarifying that TimelnForce (59) is available tag in New Order Cross – Multileg Clarifying that ExposureFlag (9203) is available tag in New Order – Multileg Clarifying handling of Price (44), StopPx (99) and StepupPrice (9044) for Market, Stop (Market) or StepUpPriceType (Market) instructions Adding Tag 47 for Allocation message to support changes to Stock Leg Capacity Adding Member Killswitch Trigger/Reset message to inform firms when Killswitch is triggered or reset. Removing CrossID (548) from Execution Report Clarifying that TransactTime (60) will be the matching engine timestamp. Tag 440 ClearingAccount will be required for both Away and Floor Market Makers (4 or 5). Tag 440 ClearingAccount will be accepted with 4 characters. (Modified: 9/8/2022) Tag 11 (ClOrdId) can be up to 30 characters Clarifying the position of Tag 17 and Tag 124 in Allocation messages (Added: 9/8/2022) Clarifying the TimelnForce for Routing Strategies (Added: 9/8/2022) Clarifying the behavior of Tag 440 ClearingAccount on the Cancel Replace messages (Added: 9/20/2022) Clarifications for PIM Step-up replace and Tag 48 SecurityID usage on Allocation message for stock legs. (Added: 10/6/2022)
13.0	11/21/2022	<ol style="list-style-type: none"> Clarifying the required tags for Order Cancel Request
13.0	1/17/2023	<ol style="list-style-type: none"> Clarifying the tags populated for Busts and PTA in Execution Report
13.0	1/31/2023	<ol style="list-style-type: none"> Clarifying the requirement for Tag 100 (ExDestination) for New Order Multileg - Cross
13.1	3/31/2023	<ol style="list-style-type: none"> GEMX to adopt version FIX version 13.1 during the Replatform scheduled to begin on November 6, 2023 Introducing placeholder new enumeration in Tag 100 ExDestination for future support MRX Stock tied functionality. Implementation of stock tied functionality onto MRX is planned for a date to be determined and announced by the exchange in a future update. Introducing placeholder functionality update to support execution rate checks for the Market Wide Risk Protection Complex with stock instruments. Implementation of stock tied functionality onto MRX is planned for a date to be determined and announced by the exchange in a future update. Clarifying tag 9076 StockGiveUp will always use default MPID for QCC Stock tied Crosses, only for non-QCC Complex with stock instruments can adjust the StockGiveUp Introduction placeholder functionality update to support tag 9076 StockLEgGiveup as a field that can be changed via the Post Trade Allocation Message. Implementation of stock tied functionality onto MRX is planned for a date to be determined and announced by the exchange in a future update.
13.1	6/14/2023	<ol style="list-style-type: none"> Adding MEMX spec updates to Security Exchange, Last Mkt, Liquidity Flag, Execution Mkt and Origin Mkt.
13.1	11/16/2023	<ol style="list-style-type: none"> Adding Unsolicited Status Message descriptions for Done for Day Messages Introducing support for GTC/GTD Restatement Messages
13.1	1/29/2024	<ol style="list-style-type: none"> Adding MIAX Sapphire support to Tag 207 SecurityExchange and tag 30 LastMkt
13.1	4/23/2024	<ol style="list-style-type: none"> Clarifying ALO orders in case of Order Exposure