

FIX DROP RASH Format - ETMF
Updated March 5th, 2015

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1 Overview

NASDAQ accepts limit orders from subscribers and executes matching orders when possible. Non-matching orders may be added to the NASDAQ Limit Order Book, a database of available limit orders, where they wait to be matched in price-time priority or routed out to an external destination for execution.

FIX DROP is an application that delivers real-time information about activity that takes place on NASDAQ in FIX format. Each FIX DROP account is configured to transmit information concerning orders entered by one or more NASDAQ subscriber firms.

Each FIX DROP host can be configured to send a message anytime an order is entered, canceled, executed or broken – or any combination of these events.

FIX DROP does not provide the ability to enter orders into NASDAQ. To enter orders into NASDAQ, subscribers should use one of our [connectivity protocols](#), available separately.

1.1 Architecture

NASDAQ's RASH FIX DROP format is transmitted using the Financial Information Exchange (FIX) protocol.

Subscribers are required to log in to the FIX DROP application using a standard FIX logon message. Once logged in, the subscriber will need to send only a heartbeat message to keep the session active.

In the case where a subscriber loses a connection to the FIX DROP host, they can reconnect in either NASDAQ's primary or backup data center. When reconnecting, the subscriber should re-login to the session using the next transmitted sequence numbers. In the event that the sequence numbers are out of synch, the subscriber should send a resend request to retransmitted any potentially lost data.

1.2 Service Bureau Configuration

A single FIX DROP host can deliver information for one or more subscribers, allowing a service bureau configuration. In this case, each subscriber listed on the FIX DROP account must sign a Service Bureau Agreement providing authorization for the Service Bureau to receive the drop copies.

1.3 FIX DROP Configuration

Each FIX DROP port can be configured to include or exclude trades based on the subscriber's MMID, INET port and SenderSubID. Subscribers may receive drop copies for all their execution or limit it to specific ports. Configuration requests for existing ports should be directed to NASDAQ Subscriber Services at subscriber@nasdaq.com.

2 FIX Protocol Messages

2.1 Message Header

Tag	Field Name	Req'd	Comments
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8	BeginString	Y	FIX 4.0, 4.1 or 4.2
9	BodyLength	Y	Must be second field in message
35	MessageType	Y	
128	DeliverToSubID	Y	NASDAQ Account
49	SenderCompID	Y	NASDAQ
56	TargetCompID	Y	As assigned by NASDAQ
43	PossDupFlag	N	Always required for retransmitted messages.
34	MsgSeqNum	Y	
52	SendingTime	Y	Time of message transmission
122	OrigSendingTime	Y	Original time of message transmission
50	SenderSubID	N	NASDAQ
57	TargetSubID	N	This value will contain the SenderSubID received in order entry message. For trades entered via the Inet Terminal, this field will contain the Inet Terminal ID. If no SenderSubID is sent in the order entry message, it will default to the first four character of the NASDAQ account name.

2.2 Logon Message

<i>Tag</i>	<i>Field Name</i>	<i>Req'd</i>	<i>Comments</i>
	Standard Header	Y	MsgType = A
98	EncryptMethod	Y	Not Supported
108	HeartBtInt	Y	
141	ResetSeqNumFlag	Y	Indicates both sides of a FIX session should reset sequence numbers
	Standard Trailer	Y	

2.3 Execution Report

Tag	Field Name	Req'd	Comments
	Standard Header	Y	MsgType = 8
11	ClOrdID	Y	Client order ID as assigned in new order message
37	OrderID	Y	OrderID, as assigned by INET, is required to be unique for each chain of orders.
17	ExecID	Y	Identifier of execution message as assigned by broker (will be 0 (zero) for ExecTransType=3 (Status)). INET ATS assigns the ExecID based on the OUCH match number of the transaction. If you cross yourself on a trade the buy and sell orders will have the same ExecID.
20	ExecTransType	Y	Identifies transaction type Valid values: 0 = New 1 = Cancel <u>2 - Correct</u> Trade breaks will be sent with an ExecTransType of '1'. NASDAQ does not support trade corrections.
150	ExecType	Y	Describes the Specific Execution Report Valid Values: 0 = New 1 = Partial Fill 2= Filled 4 = Canceled 5 = Replaced 6 = Pending Cancel 8 = Rejected
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 4 = Canceled 5 = Replaced 6 = Pending Cancel 8 = Rejected
109	ClientID	N	Executing Firm's MMID
55	Symbol	Y	Ticker Symbol
54	Side	Y	Side of order Valid values: 1 = Buy 2 = Sell 5 = Short Sell 6 = Short Sell
38	OrderQty	Y	
32	LastShares	Y	Quantity of shares bought/sold on this (last) fill.
31	LastPx	Y	Price of this (last) fill.
151	LeavesQty	N	Amount of shares open for further execution.

14	CumQty	Y	Currently executed shares for chain of orders.
6	AvgPx	Y	Calculated average price of all fills on this order.
18	ExecInst	Y	Order Handling Instructions First byte – Peg type Valid Values: M – Midpoint N – No Peg P – Market R – Primary Q – Market Maker Peg Second byte – blank Third byte – ISO flag f = InterMarket Sweep Order (ISO)
44	Price	N	As specified in the NewOrder
40	Order Type	N	Valid Values: 1 = Market 2 = Limit 3 = Cross
47	Rule80A	N	Order Capacity Valid Values: A = Agent E = Registered Market Maker Trade P = Principal
29	LastCapacity	N	Broker Capacity In Order Execution Valid Values: 1 = Agent 2 = Cross as agent 3 = Cross as principal 4 = Principal
76	Exec Broker	N	NASDAQ
59	TimeInForce	N	Valid Values: 0 = Day 2 = At the Opening 3 = Immediate or Cancel 4 = Fill or Kill (FOK) 5 = Good Till Crossing (GTX) 7 = At the Close R = Re-routed every 4 minutes (applies to certain routing strategies) C = Market Hours Good-Til-Cancel (GTC) M = System Hours Good-Til-Cancel (GTC)
58	Text	N	Text Message
75	TradeDate	N	Date of Execution
60	TransactTime	N	Time of execution/order creation. This field will now appear on all messages; previously this only appeared on execution or break messages.
9882	LiquidityFlag	N	Will be returned within all execution reports that contain a partial or full fill. A = Added R = Removed

			<p> X = Routed D = DOT F = Opening Trade (on NYSE) G = On-Close order (on NYSE) O = Opening Cross M = Opening Cross (imbalance-only) C = Closing Cross L = Closing Cross (imbalance-only) H = Halt/IPO Cross Halt Cross J = J = Non-displayed adding liquidity Y = Re-Routed to NYSE S = Odd Lot Execution (on NYSE) U = Added Liquidity (on NYSE) B = Routed to BX E = NYSE Other P = Routed to PSX T = Opening Trade (on ARCA) Z = On-Close order (on ARCA) W = Added post-only (not currently available) m = Removed liquidity at a midpoint k = Added liquidity via a midpoint order 0 = Supplemental order execution 7 = Displayed, liquidity-adding order improves the NBBO 8 = Displayed, liquidity-adding order sets the QBBO while joining the NBBO d = Retail designated execution that removed liquidity (not currently available) e = Retail designated execution that added displayed liquidity f = Retail designated execution that added non-displayed liquidity (not currently available) j = RPI order that provides liquidity r = Retail order that removes RPI liquidity t = Retail order that removes price improving non-displayed other than RPI liquidity 4 = Added displayed liquidity in a Select Symbol 5 = Added non-displayed liquidity in a Select Symbol 6 = Liquidity Removing Order in a Select Symbol g = Added non-displayed midpoint liquidity in a Select Symbol </p>
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9140	Display Inst	N	Valid Values: Y = Anonymous-Price to Comply N = Non-Displayed A = Attributable- Price to Display I = Imbalance Only P = Post-Only W = Mid-Point Peg Post Only L = Post-Only and Attributable – Price to Display
20006	Customer type	N	NOTE: only sent if tag 20006 is set to "R" on enter order message or the firm setting is set to "R" R = Retail designated order
20007	<u>Intraday Indicative Price</u>	<u>N</u>	<u>The current best estimate as to the end-of-day NAV for the instrument. Available only for exchange traded managed funds.</u>
	Standard Trailer	Y	

2.4 Restatement Message

This message will tell the user the amount their orders were reduced down to as a result of a partially cancelled quantity.

Tag	Field Name	Req'd	Comments
	Standard Header	Y	MsgType = 8
11	ClOrdID	Y	Client order ID as assigned in new order message
37	OrderID	Y	OrderID, as assigned by INET, is required to be unique for each chain of orders.
17	ExecID	Y	Identifier of execution message as assigned by broker (will be 0 (zero) for ExecTransType=3 (Status)). INET ATS assigns the ExecID based on the OUCH match number of the transaction. If you cross yourself on a trade the buy and sell orders will have the same ExecID.
20	ExecTransType	Y	Identifies transaction type Valid values: 0 = New 1 = Cancel Trade breaks will be sent with an ExecTransType of '1'. NASDAQ does not support trade corrections.
150	ExecType	Y	Describes the type of execution report. For restatement, this value will always be: D = Restated
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

			4 = Canceled 5 = Replaced 6 = Pending Cancel 8 = Rejected
378	ExecRestatementReason	Y	For restatement, this value will always be: 5 = Partial decline of <u>OrderQty</u>
109	ClientID	N	Executing Firm's MMID
55	Symbol	Y	Ticker Symbol
54	Side	Y	Side of order Valid values: 1 = Buy 2 = Sell 5 = Short Sell 6 = Short Sell
38	OrderQty	Y	
32	LastShares	Y	Quantity of shares bought/sold on this (last) fill. For restatement, this value will always be "0".
31	LastPx	Y	Price of this (last) fill.
151	LeavesQty	N	Amount of shares open for further execution.
14	CumQty	Y	Currently executed shares for chain of orders.
6	AvgPx	Y	Calculated average price of all fills on this order.
111	MaxFlow	N	As specified in the NewOrder
18	ExecInst	Y	Order Handling Instructions
44	Price	N	As specified in the NewOrder
40	Order Type	N	Valid Values: 1 = Market 2 = Limit
47	Rule80A	N	Order Capacity Valid Values: A = Agent E = Registered Market Maker Trade P = Principal
29	LastCapacity	N	Broker Capacity In Order Execution Valid Values: 1 = Agent 2 = Cross as agent 3 = Cross as principal 4 = Principal
76	Exec Broker	N	NASDAQ
59	TimeInForce	N	Valid Values: 0 = Day 2 = At the Opening 3 = Immediate or Cancel 5 = Good Till Crossing (GTX) 7 = At the Close
	Standard Trailer	Y	

3 Revision History

Version	Date	Notes
1.0	06/18/2014	Updated the format of the document
1.0	06/26/2014	Added Table of Contents
1.0	01/15/2015	Added Liquidity flag values "j", "r", "t", "4", "5", "g"
ETMF	03/05/2015	Draft version of ETMF specifications Added Ordstatus value "2" to the execution message Added intraday indicative price field to the execution message