

DROP to FIX (OUCH) Format - ETMF
Updated March 5th, 2015

Table of Contents

1	Overview.....	2
1.1	<i>Architecture</i>	2
1.2	<i>Service Bureau Configuration</i>	2
1.3	<i>OUCH DROP Configuration</i>	2
2	FIX Protocol Messages	2
2.1	<i>Message Header</i>	3
2.2	<i>Logon Message</i>	3
2.3	<i>Order Acknowledgement</i>	3
2.4	<i>Order Replace Message</i>	5
2.5	<i>Order Cancel Message</i>	7
2.6	<i>Execution Report</i>	9
2.7	<i>Liquidity Flags</i>	11
2.8	<i>Broken Trade Message</i>	12
3	Revision History.....	14

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.

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

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

OUCH 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 CORE OUCH DROP format is transmitted using the Financial Information Exchange (FIX) protocol.

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

1.3 OUCH DROP Configuration

Each OUCH 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

Functionality that is not available will be greyed out in the specifications. Any changes will be conveyed via the NASDAQ OMX Head Trader Alerts or Technical Updates.

2.1 Message Header

Tag	Field Name	Req'd	Comments
8	BeginString	Y	FIX 4.0, 4.1 or 4.2
9	BodyLength	Y	Must be second field in message
35	MessageType	Y	
49	SenderCompID	Y	NASDAQ system/session Identifier
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	N	Original time of message transmission, required on retransmissions

2.2 Logon Message

Tag	Field Name	Req'd	Comments
	Standard Header	Y	MsgType = A
98	EncryptMethod	N	Not Supported
108	HeartBtInt	Y	
10	FIX Checksum	Y	

2.3 Order Acknowledgement

Tag	Field Name	Req'd	Comments
	Standard Header	Y	MsgType = 8
128	DeliverToCompID	N	Account originating the order
57	TargetSubID	Y	First 4 characters of the order entry port token
50	SenderSubID		NASDAQ sub system/Session identifier
1	Account		May be user field, otherwise not present
11	ClOrdID	Y	Client Order ID as specified on the order.
37	OrderID	Y	NASDAQ assigned sequence Number for this order
17	ExecID	Y	For fill and partial-fill execution reports. ExecID is 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. For other execution reports this is just a unique id of execution report. Uniqueness guaranteed within the session.
20	Exec TransType	Y	Identifies transaction type Valid values: 0 = New

Functionality that is not available will be greyed out in the specifications. Any changes will be conveyed via the NASDAQ OMX Head Trader Alerts or Technical Updates.

150	Exec Type	Y	Describes the Specific Execution Report Valid Values: 0 = New
39	Order Status	Y	Describes the current state of a CHAIN of orders. Valid Values: 0 = New
109	Client ID	N	Firm Identifier for the order entry firm.
55	Symbol	Y	Ticker Symbol
54	Side	Y	Side of the trade Valid Values: "1" = buy order "2" = sell order "5" = sell short, subscriber affirms ability to borrow securities in good deliverable form for delivery within three business days "6" = sell short exempt, subscriber affirms ability to borrow securities in good deliverable form for delivery within three business days
38	Order Quantity	Y	Shares available
32	Last Shares	Y	"0"
31	Last Price	Y	"0"
151	Leaves Quantity	N	Remaining shares
14	Cumulative Quantity	Y	"0"
6	Average Price	Y	"0"
44	Price	N	As specified in the NewOrder
40	Order Type	N	"2"
47	Rule 80A	N	Order Capacity Valid Values: A = Agent E = Registered Market Maker Trade P = Principal
29	Last Capacity	N	Broker Capacity In Order Execution Valid Values: <blank> 1 = Agency 4 = Principal
76	Exec Broker	N	"INET"
111	Max Floor	N	"0"
18	Exec Inst	N	"N"

Functionality that is not available will be greyed out in the specifications. Any changes will be conveyed via the NASDAQ OMX Head Trader Alerts or Technical Updates.

59	Time in Force	N	Valid Values: 0 = Day 2 = At the Opening 3 = Immediate or Cancel 4 = Fill or Kill 5 = Good Till Cancel (GTC) 6 = Good Till Date 7 = At the Close
58	Text		Free format text string. In case of reject will also contain NASDAQ order reject code. See "Reject Reasons" table.
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
10	FIX Checksum	Y	

2.4 Order Replace Message

Tag	Field Name	Req'd	Comments
	Standard Header	Y	MsgType = 8
128	DeliverToCompID	N	Account originating the order
57	TargetSubID	Y	First 4 characters of the order entry port token
50	SenderSubID	Y	NASDAQ sub system/session identifier
1	Account		May be user field, otherwise not present
11	ClOrdID	Y	Client Order ID as specified on the order.
41	OrigClOrdID	Y	This is your unique id of the original order, the order to be replaced. Limited to 20 characters.
37	OrderID	Y	NASDAQ assigned sequence Number for this order
17	ExecID	Y	For fill and partial-fill execution reports. ExecID is 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. For other execution reports this is just a unique id of execution report. Uniqueness guaranteed within the session.
20	Exec TransType	Y	Identifies transaction type Valid values: 0 = New
150	Exec Type	Y	Describes the Specific Execution Report Valid Values: 5 = Replaced

Functionality that is not available will be greyed out in the specifications. Any changes will be conveyed via the NASDAQ OMX Head Trader Alerts or Technical Updates.

39	Order Status	Y	Describes the current state of a CHAIN of orders. Valid Values: 5 = Replaced
109	Client ID	N	Firm Identifier for the order entry firm.
55	Symbol	Y	Ticker Symbol
54	Side	Y	Side of the trade Valid Values: "1" = buy order "2" = sell order "5" = sell short, subscriber affirms ability to borrow securities in good deliverable form for delivery within three business days "6" = sell short exempt, subscriber affirms ability to borrow securities in good deliverable form for delivery within three business days
38	Order Quantity	Y	Shares available
32	Last Shares	Y	"0"
31	Last Price	Y	"0"
151	Leaves Quantity	N	Remaining shares
14	Cumulative Quantity	Y	Currently executed shares for chain of orders.
6	Average Price	Y	Calculated average price of all fills on this order.
44	Price	N	As specified in the NewOrder
40	Order Type	N	Valid Values: 1 = Market 2 = Limit 3 = Cross
47	Rule 80A	N	Order Capacity Valid Values: A = Agent E = Registered Market Maker Trade P = Principal
29	Last Capacity	N	Broker Capacity In Order Execution Valid Values: <blank> 1 = Agency 4 = Principal
76	Exec Broker	N	"INET"
111	Max Floor	N	"0"
18	Exec Inst	N	"N"

Functionality that is not available will be greyed out in the specifications. Any changes will be conveyed via the NASDAQ OMX Head Trader Alerts or Technical Updates.

59	Time in Force	N	Valid Values: 0 = Day 2 = At the Opening 3 = Immediate or Cancel 4 = Fill or Kill 5 = Good Till Cancel (GTC) 6 = Good Till Date 7 = At the Close
58	Text		Free format text string. In case of reject will also contain NASDAQ order reject code. See "Reject Reasons" table.
10	FIX Checksum	Y	

2.5 Order Cancel Message

<i>Tag</i>	<i>Field Name</i>	<i>Req'd</i>	<i>Comments</i>
	Standard Header	Y	MsgType = 8
128	DeliverToCompID	N	Account originating the order
57	TargetSubID	Y	First 4 characters of the order entry port token
50	SenderSubID	Y	NASDAQ sub system/Session identifier
1	Account		May be user field, otherwise not present
11	ClOrdID	Y	Client Order ID as specified on the order.
37	OrderID	Y	NASDAQ assigned sequence Number for this order
17	ExecID	Y	For fill and partial-fill execution reports. ExecID is 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. For other execution reports this is just a unique id of execution report. Uniqueness guaranteed within the session.
20	Exec TransType	Y	Identifies transaction type Valid values: 0 = New
150	Exec Type	Y	Describes the Specific Execution Report Valid Values: 4 = Canceled
39	Order Status	Y	Describes the current state of a CHAIN of orders, same scope as OrderQty, CumQty, LeavesQty, and AvgPx Valid Values: 4 = Canceled
109	Client ID	N	Firm Identifier for the order entry firm.
55	Symbol	Y	Ticker Symbol

Functionality that is not available will be greyed out in the specifications. Any changes will be conveyed via the NASDAQ OMX Head Trader Alerts or Technical Updates.

54	Side	Y	Side of the trade Valid Values: "1" = buy order "2" = sell order "5" = sell short, subscriber affirms ability to borrow securities in good deliverable form for delivery within three business days "6" = sell short exempt, subscriber affirms ability to borrow securities in good deliverable form for delivery within three business days
38	Order Quantity	Y	Shares available
32	Last Shares	Y	Quantity of shares bought/sold on this (last) fill.
31	Last Price	Y	Price of this (last) fill.
151	Leave Quantity	N	Remaining shares
14	Cumulative Quantity	Y	Currently executed shares for chain of orders.
6	Average Price	Y	Calculated average price of all fills on this order.
44	Price	N	As specified in the NewOrder
40	Order Type	N	Valid Values: 1 = Market 2 = Limit 3 = Cross
47	Rule 80A	N	Order Capacity Valid Values: A = Agent E = Registered Market Maker Trade P = Principal
29	Last Capacity	N	Broker Capacity In Order Execution Valid Values: <blank> 1 = Agency 4 = Principal
76	Exec Broker	N	"INET"
111	Max Floor	N	"0"
18	Exec Inst	N	"N"
59	Time in Force	N	Valid Values: 0 = Day 2 = At the Opening 3 = Immediate or Cancel 4 = Fill or Kill 5 = Good Till Cancel (GTC) 6 = Good Till Date 7 = At the Close
58	Text		Free format text string. In case of reject will

Functionality that is not available will be greyed out in the specifications. Any changes will be conveyed via the NASDAQ OMX Head Trader Alerts or Technical Updates.

			also contain NASDAQ order reject code. See "Reject Reasons" table.
10	FIX Checksum	Y	

2.6 Execution Report

<i>Tag</i>	<i>Field Name</i>	<i>Req'd</i>	<i>Comments</i>
	Standard Header	Y	MsgType = 8
128	DeliverToCompID	N	Account originating the order
57	TargetSubID	Y	First 4 characters of the order entry port token
50	SenderSubID	Y	NASDAQ sub system/Session identifier
1	Account		May be user field, otherwise not present
11	ClOrdID	Y	Client Order ID as specified on the order.
37	OrderID	Y	NASDAQ assigned sequence Number for this order
17	ExecID	Y	For fill and partial-fill execution reports. ExecID is 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. For other execution reports this is just a unique id of execution report. Uniqueness guaranteed within the session.
20	Exec TransType	Y	Identifies transaction type Valid values: 0 = New 1 = Cancel 2 =Correct
150	Exec Type	Y	Describes the Specific Execution Report Valid Values: 1 = Partial Fill 2= Filled
39	Order Status	Y	Describes the current state of a CHAIN of orders, same scope as OrderQty, CumQty, LeavesQty, and AvgPx Valid Values: 1 = Partial Fill 2= Filled
109	Client ID	N	Firm Identifier for the order entry firm.
55	Symbol	Y	Ticker Symbol

Functionality that is not available will be greyed out in the specifications. Any changes will be conveyed via the NASDAQ OMX Head Trader Alerts or Technical Updates.

54	Side	Y	Side of the trade Valid Values: "1" = buy order "2" = sell order "5" = sell short, subscriber affirms ability to borrow securities in good deliverable form for delivery within three business days "6" = sell short exempt, subscriber affirms ability to borrow securities in good deliverable form for delivery within three business days
38	Order Quantity	Y	Shares available
32	Last Shares	Y	Quantity of shares bought/sold on this (last) fill.
31	Last Price	Y	Price of this (last) fill.
151	Leave Quantity	N	Remaining shares
14	Cumulative Quantity	Y	Currently executed shares for chain of orders.
6	Average Price	Y	Calculated average price of all fills on this order.
44	Price	N	As specified in the NewOrder
40	Order Type	N	"2"
47	Rule 80A	N	Order Capacity Valid Values: A = Agent E = Registered Market Maker Trade P = Principal
29	Last Capacity	N	Broker Capacity In Order Execution Valid Values: <blank> 1 = Agency 4 = Principal
76	Exec Broker	N	"INET"
111	Max Floor	N	"0"
18	Exec Inst	N	"N"
59	Time in Force	N	Valid Values: 0 = Day 2 = At the Opening 3 = Immediate or Cancel 4 = Fill or Kill 5 = Good Till Cancel (GTC) 6 = Good Till Date 7 = At the Close
58	Text	N	Free format text string. In case of reject will also contain NASDAQ order reject code. See "Reject Reasons" table.

Functionality that is not available will be greyed out in the specifications. Any changes will be conveyed via the NASDAQ OMX Head Trader Alerts or Technical Updates.

75	Trade Date	N	Used when reporting other than current day trades.
60	Transaction Time	N	Time of execution/order creation (expressed in GMT). This field will now appear on all messages; previously this only appeared on execution or break messages.
9882	Liquidity Flag	N	Will be returned within all execution reports that contain a partial or full fill. See Liquidity Flags Table below for values
30	<u>Last Exchange</u>	N	Market of execution for last fill <space> = not provided Q = Nasdaq B = Nasdaq BX X = Nasdaq PSX
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	Intraday Indicative Price	N	The current best estimate as to the end-of-day NAV for the instrument. Available only for exchange traded managed funds.
10	FIX Checksum	Y	

2.7 Liquidity Flags

Liquidity Flags	
Flag	Value
A	Added
R	Removed
O	Opening Cross
M	Opening Cross (imbalance-only)
C	Closing Cross
L	Closing Cross (imbalance-only)
H	Halt/IPO Cross
K	Halt Cross
J	Non-displayed adding liquidity
W	Added post-only
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
e	Retail designated execution that added displayed liquidity
f	Retail designated execution that added non-displayed liquidity
j	RPI (Retail Price Improving) order provides liquidity
r	Retail Order removes RPI liquidity
t	Retail Order removes price improving non-displayed liquidity other than RPI liquidity

Functionality that is not available will be greyed out in the specifications. Any changes will be conveyed via the NASDAQ OMX Head Trader Alerts or Technical Updates.

4	Added displayed liquidity in a Select Symbol
5	Added non-displayed liquidity in a Select Symbol
6	Removed liquidity in a Select Symbol
g	Added non-displayed mid-point liquidity in a Select Symbol

2.8 Broken Trade Message

Tag	Field Name	Req'd	Comments
	Standard Header	Y	MsgType = 8
128	DeliverToCompID	N	Account originating the order
57	TargetSubID	Y	First 4 characters of the order entry port token
50	SenderSubID	Y	NASDAQ sub system/Session identifier
1	Account		May be user field, otherwise not present
11	ClOrdID	Y	Client Order ID as specified on the order.
37	OrderID	Y	NASDAQ assigned sequence Number for this order
17	ExecID	Y	For fill and partial-fill execution reports. ExecID is 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. For other execution reports this is just a unique id of execution report. Uniqueness guaranteed within the session.
20	Exec TransType	Y	Identifies transaction type Valid values: 1 = Cancel Trade breaks will be sent with an ExecTransType of '1'. NASDAQ does not support trade corrections.
150	Exec Type	Y	Describes the Specific Execution Report Valid Values: 2= Filled
39	Order Status	Y	Describes the current state of a CHAIN of orders, same scope as OrderQty, CumQty, LeavesQty, and AvgPx Valid Values: 2= Filled
109	Client ID	N	Firm Identifier for the order entry firm.
55	Symbol	Y	Ticker Symbol

Functionality that is not available will be greyed out in the specifications. Any changes will be conveyed via the NASDAQ OMX Head Trader Alerts or Technical Updates.

54	Side	Y	Side of the trade Valid Values: "1" = buy order "2" = sell order "5" = sell short, subscriber affirms ability to borrow securities in good deliverable form for delivery within three business days "6" = sell short exempt, subscriber affirms ability to borrow securities in good deliverable form for delivery within three business days
38	Order Quantity	Y	
32	Last Shares	Y	"0"
31	Last Price	Y	"0"
151	Leave Quantity	N	Amount of shares open for further execution.
14	Cumulative Quantity	Y	"0"
6	Average Price	Y	"0"
44	Price	N	As specified in the NewOrder
40	Order Type	N	"2"
47	Rule 80A	N	Order Capacity Valid Values: A = Agent E = Registered Market Maker Trade P = Principal
29	Last Capacity	N	Broker Capacity In Order Execution Valid Values: <blank> 1 = Agency 4 = Principal
76	Exec Broker	N	"INET"
111	Max Floor	N	"0"
18	Exec Inst	N	"N"
59	Time in Force	N	Valid Values: 0 = Day 2 = At the Opening 3 = Immediate or Cancel 4 = Fill or Kill 5 = Good Till Cancel (GTC) 6 = Good Till Date 7 = At the Close
19	Exec Ref ID	N	Appears on Breaks only and contains the ExecID of the trade being broken.
58	Text	N	Free format text string. In case of reject will also contain NASDAQ order reject code. See "Reject Reasons" table.

Functionality that is not available will be greyed out in the specifications. Any changes will be conveyed via the NASDAQ OMX Head Trader Alerts or Technical Updates.

75	Trade Date	N	Used when reporting other than current day trades.
60	Transaction Time	N	Time of execution/order creation (expressed in GMT). This field will now appear on all messages; previously this only appeared on execution or break messages.
9882	Liquidity Flag	N	Will be returned within all execution reports that contain a partial or full fill. E = Erroneous Trade C = Consensus S = Supervisory X = Default
10	FIX Checksum	Y	

3 Revision History

Version	Date	Notes
1.0	05/18/2011	Completed initial document
1.0	06/18/2011	Changed the logic for cumulative quantity/average price for order replace and order cancel messages
1.0	04/19/2012	Added liquidity flag values "k", "m", "0"
1.0	08/13/2012	Renamed the spec to DROP to FIX (OUCH)
1.0	10/23/2012	Added liquidity flag values "7", "8"
1.0	11/12/2012	Added tag 30 to execution report
1.0	01/10/2013	Added liquidity flag values "d", "e", "f" Added tag 20006 on the Order Acknowledgement message Added tag 20006 on the execution report message Clarified use of tag 60 in the execution report
1.0	01/28/2013	Added liquidity flag values "6"
1.0	06/18/2014	Updated the format of the document
1.0	06/27/2014	Added Table of Contents to the document
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 report Added intraday indicative price field to the execution report

Functionality that is not available will be greyed out in the specifications. Any changes will be conveyed via the NASDAQ OMX Head Trader Alerts or Technical Updates.