

# O\*U\*C\*H

## Version 4.2

Updated April, 2023

### Table Of Contents

- 1. Overview ..... 2
  - 1.1. Architecture ..... 2
  - 1.2. Data Types ..... 2
  - 1.3. Fault Redundancy ..... 3
  - 1.4. Service Bureau Configuration ..... 3
- 2. Inbound Messages ..... 3
  - 2.1. Enter Order Message ..... 3
  - 2.2. Replace Order Message ..... 4
  - 2.3. Cancel Order Message ..... 6
  - 2.4. Modify Order Message ..... 6
- 3. Outbound Sequenced Messages ..... 7
  - 3.1. System Event Message ..... 7
  - 3.2. System Event Codes ..... 7
  - 3.3. Order Messages ..... 7
    - 3.3.1. Accepted Message ..... 7
    - 3.3.2. Replaced Message ..... 8
    - 3.3.3. Canceled Message ..... 10
      - 3.3.3.1. Cancel Order Reasons ..... 10
    - 3.3.4. AIQ Cancelled Message ..... 11
    - 3.3.5. Executed Message ..... 11
      - 3.3.5.1. Liquidity Flags ..... 12
    - 3.3.6. Broken Trade Message ..... 12
      - 3.3.6.1. Broken Trade Reasons ..... 12
    - 3.3.7. Rejected Message ..... 13
      - 3.3.7.1. Rejected Order Reasons ..... 13
    - 3.3.8. Cancel Pending Message ..... 14
    - 3.3.9. Cancel Reject Message ..... 14
    - 3.3.10. Order Priority Update Message ..... 14
    - 3.3.11. Order Modified Message ..... 15
- 4. Support ..... 15
- 5. Revision History ..... 15

## 1. Overview

NASDAQ OMX PSX accepts limit orders from system participants and executes matching orders when possible. Non-matching orders may be added to the NASDAQ OMX PSX Limit Order Book, a database of available limit orders, where they wait to be matched in price-time priority.

OUCH is a simple protocol that allows NASDAQ OMX PSX participants to enter, replace, and cancel orders and receive executions. It is intended to allow participants and their software developers to integrate NASDAQ OMX PSX into their proprietary trading systems or to build custom front ends.

OUCH only provides a method for participants to send orders to NASDAQ OMX PSX and receive updates on those orders entered. For information about all orders entered into and executed on the NASDAQ OMX PSX book, refer to the ITCH protocol (available separately).

OUCH is the low-level native protocol for connecting to NASDAQ OMX PSX. It is designed to offer the maximum possible performance at the cost of flexibility and ease of use. For applications that do not require this extreme level of performance, NASDAQ OMX PSX offers other, more standard interfaces that may be more suitable and easier to develop to.

### 1.1. Architecture

The OUCH protocol is composed of logical messages passed between the OUCH host and the client application. Each message type has a fixed message length.

All messages sent from the OUCH host to the client are assumed to be sequenced, and their delivery must be guaranteed by some lower level protocol. The SoupBinTCP and UFO (available separately) are the typical lower level protocols used to guarantee the delivery and sequencing of OUCH messages sent from the host to the client.

Messages sent from the OUCH client to the host are inherently non-guaranteed, even if they are carried by a lower level protocol that guarantees delivery (like TCP/IP sockets). Therefore, all host-bound messages are designed so that they can be benignly resent for robust recovery from connection and application failures.

Each physical OUCH host port is bound to a NASDAQ OMX PSX-assigned logical OUCH Account. On a given day, every order entered on OUCH is uniquely identified by the combination of the logical OUCH Account and the participant-created Token field.

### 1.2. Data Types

All integer fields are unsigned big-endian (network byte order) binary encoded numbers.

Alpha fields are left-justified and padded on the right with spaces.

Token fields are alphanumeric. All letters and numbers are allowed, as well as spaces. Tokens must be day unique per OUCH account. Tokens are case sensitive.

Prices are integer fields. When converted to a decimal format, prices are in fixed point format with 6 whole number places followed by 4 decimal digits. The maximum price in

OUCH 4.0 is \$199,999.9900 (decimal, 7735939C hex). When entering market orders for a cross, use the special price of \$214,748.3647 (decimal, 7FFFFFFF hex).

Time in Force fields are also integer fields. Time in force specifies how many seconds the order should live. This allows participants to control when an order expires. Special values for Time in Force are listed below. Values larger than 99,999 is considered invalid and orders will only be open during system hours.

## Special Values for Time in Force

Value	Explanation
0 (0 hex)	<b>Immediate or cancel</b> — If no match for the order is available at the moment the order is accepted, any unexecuted shares in the order are immediately canceled.
99998 (1869E hex)	<b>Market Hours</b> — Indicates that the order should live until the market close on the primary market for the security
99999 (1869F hex)	<b>System Hours</b> — Indicates that the order should live until the end of the NASDAQ OMX PSX trading day

### 1.3. Fault Redundancy

A single OUCH Account can be bound to multiple physical OUCH machines. These OUCH machines then act as mirrors of each other for fault redundancy. In this configuration, both machines are able to accept orders and cancel requests, and any outbond messages would be simultaneously generated by both physical OUCH hosts.

### 1.4. Service Bureau Configuration

A single OUCH Account can accept orders from one or more firms, allowing a service bureau configuration. The service bureau OUCH Account must be specifically authorized to enter trades on behalf of each represented participant with a NASDAQ OMX PSX Service Bureau Agreement, available separately. Once an agreement has been submitted, the OUCH Account set up as the service bureau may enter orders for the represented firm by putting the represented firm's Market Maker Identifier in the Firm field upon order entry.

## 2. Inbound Messages

Inbound messages are sent from the participant's application to the OUCH host. They are not sequenced. All Inbound Messages may be repeated benignly. This gives the client the ability to re-send any Inbound message if it is uncertain whether NASDAQ OMX PSX received it in the case of a connection loss or an application error.

The idea of benign inbound message retransmission with end-to-end acknowledgement is fundamental to NASDAQ OMX PSX's fail-over redundancy. If your connection ever fails, there is no way for you to know if pending messages actually made it over the link before the failure. A robust OUCH client can safely re-send any pending messages over a mirrored link without worrying about generating duplicates. This applies to NASDAQ OMX PSX's disaster fail over capability as well; if NASDAQ OMX PSX ever needs to fail over to the backup site, some messages sent at the moment of the failure may be lost. A robust application can simply re-send the pending messages, making the fail over seamless to the end user.

### 2.1. Enter Order Message

The Enter Order Message lets you enter a new order into NASDAQ OMX PSX.

Each new order must have an Order Token that is unique for that day and that logical OUCH account. If you send a valid order, you should receive an acknowledgement as an Accepted Message or an Atomically Accepted and Canceled Message. If you send an Enter Order Message with a previously used Order Token, the new order will be ignored.

#### Enter Order Message

Name	Offset	Len	Value	Notes
Type	0	1	"0"	Identifies this message as Enter Order Message type
Order Token	1	14	Token	As described above in Data Types. You can put any information you like. Token must be day-unique for each OUCH account.

## Enter Order Message

Name	Offset	Len	Value	Notes
Buy/Sell Indicator	15	1	Alpha	"B" = buy order "S" = sell order "T" = sell short, client affirms ability to borrow securities in good deliverable form for delivery within three business days "E" = sell short exempt, client affirms ability to borrow securities in good deliverable form for delivery within three business days
Shares	16	4	Integer	Total number of shares entered. Must be greater than zero and less than 1,000,000
Stock	20	8	Alpha	Stock Symbol
Price	28	4	Integer	The price of the order. Please refer to the section in Data Types for more clarification.
Time in Force	32	4	Integer	The number of seconds that this order should live before being automatically canceled. Special values for Time in Force are listed in Data Types above.
Firm	36	4	Alpha	This field should contain all caps. Firm Identifier for the order entry firm. One logical OUCH Account can potentially enter orders for multiple firms in a Service Bureau configuration. If this field is blank-filled, the default firm for the OUCH Account will be used.
Display	40	1	Alpha	"A" = Attributable-Price to Display "Y" = Anonymous-Price to Comply "N" = Non-Display "P" = Post-Only "I" = Imbalance-Only (for opening and closing cross only) "M" = Mid-Point Peg "W" = Mid-Point Peg Post Only
Capacity	41	1	Alpha	Values other than "A", "P", or "R" will be converted to "O" = Other "A" = agency "P" = principal "R" = riskless
Intermarket Sweep Eligibility	42	1	Alpha	"Y" = eligible "N" = not eligible "y" = Trade-at Intermarket Sweep Order
Minimum Quantity	43	4	Integer	Specifies the minimum acceptable quantity to execute (Must be IOC)
Cross Type	47	1	Alpha	"N" = No cross (continuous market) "O" = Opening cross "C" = Closing cross

## 2.2. Replace Order Message

The Replace Order Message allows you to alter most of the attributes of an order in a single message. This is more efficient than canceling an existing order and immediately succeeding it with a new order. Replacing an order always gives it a new timestamp for its time priority on the book. If you wish you simply partially cancel an order and retain its time priority, send a Cancel Order Message instead.

There are two Order Tokens in the Replace Order Message. The first must be filled out with the Order Token of the existing order; the second must be a new Order Token for the replacement. The replacement Order Token must be unique in the same way as Order Tokens are in the Enter Order Message, and replacement Order Tokens may not be the same as Tokens sent in Enter Order Messages. Any replacement Order Token that has already been used in another Enter Order Message or Replace Order Message will be ignored.

NASDAQ OMX PSX may respond to the Replace Order Message in several ways:

1. If the order for the existing Order Token is no longer live or if the replacement Order Token was already used, the replacement will be silently ignored.
2. If the order for the existing Order Token is live but the details of the replace are invalid (e.g.: new Shares >= 1,000,000), a Canceled Order Message will take the existing order out of the book. The replacement Order Token will not be consumed, and may be reused in this case.
3. If the order for the existing Order Token is live but the existing order cannot be canceled (e.g.: the existing Order is a cross order in the late period), there will be a Reject Message. This reject message denotes that no change has occurred to the existing order; the existing order remains fully intact with its original instructions. The Reject Message consumes the replacement Order Token, so the replacement Order Token may not be reused.
4. If the order for the existing Order Token is live and can be replaced, you will receive either a Replaced Message or an Atomically Replaced and Canceled Message.

Replace Order Messages may be chained together, so that a single order is replaced over and over again. There is no limit to the number of replaces; however no single order/replace chain may execute more than 999,999 shares cumulatively.

The Shares on the replace denote the total number of shares liable for the whole chain. Here is an example:

Enter Order Message for 500 shares

Accepted Message for 500 shares

Executed Message for 100 shares

At this point, you decide to replace the order. If you want to be exposed for

- a. the remaining 400 shares, send the Replace Order Message with 500 Shares. This 500 equals the 400 exposed plus the 100 previously executed.
- b. a new 500 shares, send the Replace Order Message with 600 Shares. This 600 equals the 500 new shares plus the 100 previously executed.

This may seem a bit confusing at first, but it inhibits the risk of double-liability throughout the order/replace chain.

#### Replace Order Message

Name	Offset	Len	Value	Notes
Type	0	1	"U"	Identifies this message as Replace Order Message type
Existing Order Token	1	14	Token	This must be filled out with the exact Order Token sent on the Enter Order Message or last Replace Order Message.
Replacement Order Token	15	14	Token	As described above in Data Types. You can put any information you like. Token must be day-unique for each OUCH account.
Shares	29	4	Integer	Total number of shares liable, inclusive of previous executions and Self Match Prevention decremented shares on this order chain. Must be greater than zero and less than 1,000,000
Price	33	4	Integer	The price of the replacement order. Please refer to the section in Data Types for more clarification.
Time in Force	37	4	Integer	The number of seconds that this replacement should live before being automatically canceled. Special values for Time in Force are listed in Data Types above.
Display	41	1	Alpha	"A" = Attributable-Price to Display "Y" = Anonymous-Price to Comply "N" = Non-Display "P" = Post-Only "I" = Imbalance-Only (for opening and closing cross only) "M" = Mid-Point Peg "W" = Mid-Point Peg Post Only

## Replace Order Message

Name	Offset	Len	Value	Notes
Intermarket Sweep Eligibility	42	1	Alpha	"Y" = eligible "N" = not eligible "y" = Trade-at Intermarket Sweep Order
Minimum Quantity	43	4	Integer	Specifies the minimum acceptable quantity to execute (Must be IOC)

## 2.3. Cancel Order Message

The Cancel Order Message is used to request that an order be canceled or reduced. In the Cancel Order Message, you must specify the new "intended order size" for the order. The "intended order size" is the maximum number of shares that can be executed in total after the cancel is applied.

To cancel the entire balance of an order, you would enter a Cancel Order Message with a Shares field of zero.

### Cancel Order Message

Name	Offset	Len	Value	Notes
Type	0	1	"X"	Cancel Order Message
Order Token	1	14	Token	The Order Token as was originally transmitted in an Enter Order Message
Shares	15	4	Integer	This is the new intended order size. This limits the maximum number of shares that can potentially be executed in total after the cancel is applied. Entering a zero here will cancel any remaining open shares on this order.

Note that the only acknowledgement to a Cancel Order Message is the resulting Canceled Order Message. There is no "too late to cancel" message since by the time you received it, you would already have gotten the execution. Superfluous Cancel Order Messages are silently ignored.

## 2.4. Modify Order Message

The Modify Order Message is used to request modifications that don't affect order priority on the book. Since priority of the order does not change allowed modifications are restricted to only the ones specified in the message details below.

### Modify Order Message

Name	Offset	Len	Value	Notes
Type	0	1	"M"	Modify Order Message
Order Token	1	14	Token	The Order Token as was originally transmitted in an Enter Order Message
Buy/Sell Indicator	15	1	Alpha	Only following transitions allowed: S→T, S→E, E→T, E→S, T→E, T→S
Shares	16	4	Integer	Total number of shares liable, inclusive of previous executions and Self Match Prevention decremented shares on this order chain. Must be greater than zero and less than 1,000,000

## 3. Outbound Sequenced Messages

Outbound messages are generated by the OUCH host port and received by your client application.

### 3.1. System Event Message

System Event Messages signal events that affect the entire NASDAQ OMX PSX system:

#### System Event Message

Name	Offset	Len	Value	Notes
Message Type	0	1	"S"	System Event Message identifier
Timestamp	1	8	Integer	Timestamp – reflected as the number of nanoseconds past midnight.
Event Code	9	1	Alpha	See Event Codes below.

### 3.2. System Event Codes

#### System Event Codes

Code	Explanation
"S"	<b>Start of Day</b> — This is always the first message each day. It indicates that NASDAQ OMX PSX is open and ready to start accepting orders.
"E"	<b>End of Day</b> — This indicates that NASDAQ OMX PSX is now closed and will not accept any new orders or replaces in this session. There will be no further executions during this session; however, it is still possible to receive Broken Trade Messages and Canceled Order Messages

### 3.3. Order Messages

Order messages inform you about each event in the lifetime of your orders.

#### 3.3.1. Accepted Message

This message acknowledges the receipt and acceptance of a valid Enter Order Message. The data fields from the Enter Order Message are echoed back in this message. Note that the accepted values may differ from the entered values for some fields.

Accepted Messages normally come before any Executed Messages or Canceled Messages for an order. However, when the Order State field of an Accepted Message is Order Dead ("D"), no additional messages will be received for that order. Order Dead means that the order was accepted and automatically canceled.

#### Accepted Message

Name	Offset	Len	Value	Notes
Message Type	0	1	"A"	"A" - Accepted Message Identifier
Timestamp	1	8	Integer	Timestamp – reflected as the number of nanoseconds past midnight.
Order Token	9	14	Token	The Order Token field as entered
Buy/Sell Indicator	23	1	Alpha	Buy/Sell Indicator as entered
Shares	24	4	Integer	Total number of shares accepted
Stock	28	8	Alpha	Stock symbol as entered
Price	36	4	Integer	The accepted price of the order. Please note that the accepted price could potentially be different than the entered price if the order was re-priced by NASDAQ OMX PSX on entry. The accepted price will always be better than or equal to the entered price.

## Accepted Message

Name	Offset	Len	Value	Notes
Time in Force	40	4	Integer	The accepted Time in Force of the order. Please note that the accepted Time in Force may potentially be different than the entered Time in Force. The accepted Time in Force will always be equal to or shorter in scope than the entered Time in Force.
Firm	44	4	Alpha	The accepted firm for the order. Please note that if the firm was left blank on entry, the default firm for the OUCH account will appear here.
Display	48	1	Alpha	The accepted display type for the order. "A" = Attributable - Price to Display "I" = Imbalance-Only "N" = Non-Display "P" = Post-Only "Y" = Anonymous - Price to Comply "Z" = Entered as displayed but changed to non-displayed (Priced to comply) "M" = Mid-Point Peg "W" = Mid-Point Peg Post Only
Order Reference Number	49	8	Integer	The day-unique Order Reference Number assigned by NASDAQ OMX PSX to this order
Capacity	57	1	Alpha	The capacity specified on the order
Intermarket Sweep Eligibility	58	1	Alpha	"Y" = eligible "N" = not eligible "y" = Trade-at Intermarket Sweep Order
Minimum Quantity	59	4	Integer	Minimum number of shares to execute on the replacement.
Cross Type	63	1	Alpha	The Cross Type as entered
Order State	64	1	Alpha	"L" = Order Live "D" = Order Dead
BBO Weight indicator	65	1	Alpha-numeric	"0" = 0-0.2% "1" = 0.2%-1% "2" = 1%-2% "3" = greater than 2% space = unspecified "S" = Sets the PBBO while joining the NBBO (Price/Time only) "N" = Improves the NBBO upon entry (Price/Time only)

### 3.3.2. Replaced Message

This message acknowledges the receipt and acceptance of a valid Replace Order Message. The data fields from the Replace Order Message are echoed back in this message. Note that the accepted values may differ from the entered values for some fields. You will receive one and only one of these two for each replacement.

Like Accepted Messages, Replaced Messages use the Order State field to denote that a replace was accepted and then automatically canceled when the Order State is Order Dead ("D"). No further Executed Messages nor Canceled Messages will be received for the replaced order unless the Order State is not Order Dead.



The Shares field on the replace indicates how many shares were left exposed when the replacement completed. E.g.:

Enter Order Message for 500 shares

Accepted Message for 500 shares

Executed Messages for 100 shares

Replace Order Message for 500 shares

Replaced Messages with 400 shares

The 400 shares in the Replace Message indicate that 400 shares exist on the book. This same scenario could happen if the execution was in flight back to you while the Replace Order Message was traveling to NASDAQ OMX PSX as follows:

Enter Order Message for 500 shares

Accepted Message for 500 shares

Replace Order Message for 500 shares

Executed Messages for 100 shares on original order

Replaced Messages with 400 shares

#### Replaced Message

Name	Offset	Len	Value	Notes
Message Type	0	1	"U"	"U" – Replaced Message Identifier
Timestamp	1	8	Integer	Timestamp – reflected as the number of nanoseconds past midnight.
Replacement Order Token	9	14	Alpha-numeric	The Replacement Order Token field as entered
Buy/Sell Indicator	23	1	Alpha	Buy/sell indicator as entered on the original order in the chain
Shares	24	4	Integer	Total number of shares outstanding
Stock	28	8	Alpha	Stock symbol as entered on the original
Price	36	4	Integer	The accepted price of the replacement. Please note that the accepted price could potentially be different than the entered price if the order was re-priced by NASDAQ OMX PSX on entry. The accepted price will always be better than or equal to the entered.
Time in Force	40	4	Integer	The accepted Time in Force of the replacement. Please note that the accepted Time in Force may potentially be different than the entered Time in Force. The accepted Time in Force will always be equal to or shorter in scope than the entered Time in Force.
Firm	44	4	Alpha	The accepted firm for the original order.
Display	48	1	Alpha	The accepted display type for the order. "A" = Attributable - Price to Display "I" = Imbalance-Only "N" = Non-Display "P" = Post-Only "Y" = Anonymous - Price to Comply "Z" = Entered as displayed but changed to non-displayed (Priced to comply) "M" = Mid-Point Peg "W" = Mid-Point Peg Post Only
Order Reference Number	49	8	Integer	The day-unique Order Reference Number assigned by NASDAQ OMX PSX to this order
Capacity	57	1	Alpha	The Capacity of original order.

## Replaced Message

Name	Offset	Len	Value	Notes
Intermarket Sweep Eligibility	58	1	Alpha	"Y" = eligible "N" = not eligible "y" = Trade-at Intermarket Sweep Order
Minimum Quantity	59	4	Integer	Minimum number of shares to execute on the replacement.
Cross Type	63	1	Alpha	The Cross Type of the replacement
Order State	64	1	Alpha	"L" = Order Live "D" = Order Dead
Previous Order Token	65	14	Token	The Order Token of the order that was replaced
BBO Weight indicator	79	1	Alpha-numeric	"0" = 0-0.2% "1" = 0.2%-1% "2" = 1%-2% "3" = greater than 2% space = unspecified "S" = Sets the QBBO while joining the NBBO (Price/Time only) "N" = Improves the NBBO upon entry (Price/Time only)

### 3.3.3. Canceled Message

A Canceled Message informs you that an order has been reduced or canceled. This could be acknowledging a Cancel Order Message, or it could be the result of the order timing out or being canceled automatically.

Please note that a Canceled Message does not necessarily mean the entire order is dead; some portion of the order may still be alive.

#### Canceled Message

Name	Offset	Len	Value	Notes
Message Type	0	1	"C"	Canceled Order Message
Timestamp	1	8	Integer	Timestamp – reflected as the number of nanoseconds past midnight.
Order Token	9	14	Token	The Order Token of the order being reduced
Decrement Shares	23	4	Integer	The number of shares just decremented from the order. This number is incremental, not cumulative.
Reason	27	1	Alpha	Reason the order was reduced or canceled. See currently supported Cancel Order Reasons below. Clients should anticipate additions to this list and thus support all capital letters of the English alphabet.

### 3.3.3.1. Cancel Order Reasons

#### Cancel Order Reasons

Reason	Explanation
"U"	User requested cancel. Sent in response to a Cancel Order Message or a Replace Order Message
"I"	Immediate or Cancel order. This order was originally sent with a timeout of zero and no further matches were available on the book so the remaining unexecuted shares were immediately canceled
"T"	Timeout. The Time In Force for this order has expired
"S"	Supervisory. This order was manually canceled or reduced by a NASDAQ OMX PSX supervisory terminal. This is usually in response to a participant request via telephone.
"D"	This order cannot be executed because of a regulatory restriction (e.g.: trade through restrictions).

## Cancel Order Reasons

Reason	Explanation
"Q"	Self Match Prevention. The order was cancelled because it would have executed with an existing order entered by the same MPID.
"Z"	System cancel. This order was cancelled by the system.
"E"	Closed. Any DAY order that was received after the closing cross is complete in a given symbol will receive this cancel reason.
"F"	Post Only Cancel. This Post Only order was cancelled because it would have been price slid for NMS.
"G"	Post Only Cancel. This Post Only order was cancelled because it would have been price slid due to a contra side displayed order on the book.

### 3.3.4. AIQ Cancelled Message

#### AIQ Cancelled Message

Name	Offset	Len	Value	Notes
Message Type	0	1	"D"	Cancelled Order Message
Timestamp	1	8	Integer	Timestamp – reflected as the number of nanoseconds past midnight.
Order Token	9	14	Token	The Order Token of the order being reduced
Decrement Shares	23	4	Integer	The number of shares just decremented from the order. This number is incremental, not cumulative.
Reason	27	1	"Q"	Reason the order was reduced or canceled. For AIQ Cancel message, this value will be "Q".
Quantity Prevented from Trading	28	4	Integer	Shares that would have executed if the trade would have occurred
Execution price	32	4	Integer	Price at which the trade would have occurred
Liquidity flag	36	1	Alpha	Liquidity flag the order would have received

### 3.3.5. Executed Message

An Executed Order Message informs you that all or part of an order has been executed.

#### Executed Message

Name	Offset	Len	Value	Notes
Message Type	0	1	"E"	Order Executed Message
Timestamp	1	8	Integer	Timestamp – reflected as the number of nanoseconds past midnight
Order Token	9	14	Token	The Order Token of the executing order
Executed Shares	23	4	Integer	Incremental number of shares executed
Execution Price	27	4	Integer	The price at which these shares were executed
Liquidity Flag	31	1	Alpha	See Liquidity Flag Values table below.
Match Number	32	8	Integer	Assigned by NASDAQ OMX PSX to each match executed. Each match consists of one buy and one sell. The matching buy and sell executions share the same match number.

### 3.3.5.1. 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 and added liquidity
m	Removed liquidity at a midpoint
k	Added liquidity via a midpoint order
v	Displayed added liquidity with original order size of greater than or equal to 2,000 shares. Only applicable to symbols that are set to the pro rata execution algorithm
u	Added non-displayed liquidity via a Reserve order

### 3.3.6. Broken Trade Message

A Broken Trade Message informs you that an execution has been broken. The trade is no longer good and will not clear. The reason for the break is given.

You will always get an Executed Order Message prior to getting a Broken Trade Message for a given execution.

#### Broken Trade Message

Name	Offset	Len	Value	Notes
Message Type	0	1	"B"	Broken Trade Message
Timestamp	1	8	Integer	Timestamp – reflected as the number of nanoseconds past midnight.
Order Token	9	14	Token	The Order Token of the order for which the given Match Number is being broken.
Match Number	23	8	Integer	Match Number as transmitted in the Executed Order Message being broken.
Reason	31	1	Alpha	The reason the trade was broken. See currently supported Broken Trade Reasons table below. Clients should anticipate additions to this list and thus support all capital letters of the English alphabet.

#### 3.3.6.1. Broken Trade Reasons

#### Broken Trade Reasons

Reason	Explanation
"E"	Erroneous — The trade was deemed clearly erroneous.
"C"	Consent — The two parties mutually agreed to break the trade.
"S"	Supervisory — The trade was manually broken by a NASDAQ OMX PSX supervisory terminal.
"X"	External — The trade was broken by an external third party.

### 3.3.7. Rejected Message

A Rejected Message may be sent in response to an Enter Order Message or Replace Order Message if the order or replace cannot be accepted at this time. The reason for the rejection is given.

The Order Token of a Rejected Message cannot be re-used.

#### Rejected Order Message

Name	Offset	Len	Value	Notes
Message Type	0	1	"J"	Rejected Order Message
Timestamp	1	8	Integer	Timestamp – reflected as the number of nanoseconds past midnight
Order Token	9	14	Token	Order Token field as was entered.
Reason	23	1	Alpha	The reason the order was rejected. See currently supported Rejected Order Reasons below. Clients should anticipate additions to this list and thus support all capital letters of the English alphabet.

#### 3.3.7.1. Rejected Order Reasons

##### Rejected Order Reasons

Reason	Explanation
"a"	Risk: Restricted Stock
"b"	Risk: Short Sell Restricted
"c"	Risk: Order Type Restricted
"C"	NASDAQ OMX PSX is closed
"d"	Risk: Exceeds ADV Limit
"D"	Invalid Display Type - Sent when Display Type entered cannot be accepted in current circumstances and can't be simply converted to a valid Display Type.
"e"	Risk: Fat Finger
"H"	Halted — There is currently a trading halt so no orders can be accepted in this stock at this time.
"L"	Requested firm not authorized for requested clearing type on this account — To authorize additional firms, use the NASDAQ OMX PSX Service Bureau Agreement.
"m"	Risk: Max Shares Exceeded
"M"	Outside of permitted times for requested clearing type
"n"	Risk: Max Notional Exceeded
"N"	Invalid Minimum Quantity
"r"	Risk: Market Impact
"R"	This order is not allowed in this type of cross (stock or time restrictions)
"S"	Invalid stock — The stock field must be a valid issue, tradable on NASDAQ OMX PSX.
"T"	Test Mode — This OUCH Account is configured for test mode and is not able to accept orders in non-TEST securities.
"v"	Risk: Aggregate Exposure Exceeded
"w"	Risk: Symbol Message Rate Restriction
"W"	Invalid Midpoint Post Only Price
"x"	Risk: Port Message Rate Restriction
"X"	Invalid price
"y"	Risk: Duplicate Message Rate Restriction
"Z"	Shares exceeds configured safety threshold — The number of shares entered must be less than the safety threshold configured for this Account. The safety threshold can be added/updated through NASDAQ OMX PSX Subscriber Services.

### 3.3.8. Cancel Pending Message

A Cancel Pending Message is sent in response to a cancel request for a cross order during a pre-cross late period signifying that it cannot be canceled at this time, but any unexecuted portion of this order will automatically be canceled immediately after the cross completes.

This message will only be sent once for a given token. Duplicate cancel requests for the same token will be ignored by OUCH.

#### Cancel Pending Message

Name	Offset	Len	Value	Notes
Message Type	0	1	"P"	Cancel Pending Message
Timestamp	1	8	Integer	Timestamp – reflected as the number of nanoseconds past midnight
Order Token	9	14	Token	Order Token for the order that has its cancel pending

### 3.3.9. Cancel Reject Message

A Cancel Reject Message is sent in response to a partial cancel request (with non-zero "intended order size") for a cross order during a pre-cross late period signifying that it cannot be partially canceled at this time. No automatic cancel will be scheduled for this order. Clients could repeat their request for any unexecuted portion of the order after the cross completes.

This message will only be sent once for a given token. Duplicate cancel requests for the same token will be ignored by OUCH.

#### Cancel Reject Message

Name	Offset	Len	Value	Notes
Message Type	0	1	"I"	Cancel Reject Message
Timestamp	1	8	Integer	Timestamp – reflected as the number of nanoseconds past midnight.
Order Token	9	14	Token	Order Token for the order that was cancel-rejected

### 3.3.10. Order Priority Update Message

A Priority Update Message is sent whenever priority of the order has been changed by the system.

#### Order Priority Update Message

Name	Offset	Len	Value	Notes
Message Type	0	1	"T"	Order Priority Update Message
Timestamp	1	8	Integer	Timestamp – reflected as the number of nanoseconds past midnight.
Order Token	9	14	Token	This is the order Token of the order whose priority has been updated
Price	23	4	Integer	The limit price of the order.
Display	27	1	Alpha	The display type for the order. "Y" = Anonymous - Price to Comply
Order Reference Number	28	8	Integer	The day-unique Order Reference Number assigned by NASDAQ to this order. As a result of the updated priority, a new order reference number will be assigned.

### 3.3.11. Order Modified Message

An Order Modified Message is sent in response to an order modify request.

Order Modified Message				
Name	Offset	Len	Value	Notes
Message Type	0	1	"M"	Order Modified Message
Timestamp	1	8	Integer	Timestamp – reflected as the number of nanoseconds past midnight.
Order Token	9	14	Token	This is the order Token of the order that was modified
Buy/Sell Indicator	23	1	Alpha	Buy/sell indicator as entered.
Shares	24	4	Integer	Total number of shares outstanding

## 4. Support

If you have any questions or comments about this specification, email [tradingservices@nasdaqomx.com](mailto:tradingservices@nasdaqomx.com). We welcome suggestions for new features or improvements.

## 5. Revision History

Revision #	Date	Change
4.1	04/13/2010	Initial Version for NASDAQ OMX PSX
4.1	11/12/2010	Re-introduced the sell short exempt value in the buy sell indicator field. Added mid-point pegging, which was accidentally deleted from specs Added Liquidity flag Value "V"
4.1	04/04/2011	Revised description of shares field for replace message
4.1	08/15/2011	Added PRM rejects
4.1	10/04/2011	Added display value "U" for minimum life orders
4.1	11/06/2011	Added AIQ cancelled message
4.1	03/08/2012	Added default value for capacity field Removed legacy value "R" from display field Removed legacy value "H" from cross type field Removed legacy value "I" from cross type field Removed legacy value "I" from liquidity flag field
4.1	04/19/2012	Added cancel reason "Z"
4.1	04/25/2012	Added Order Priority Update Message type
4.2	05/25/2012	Derived Version 4.2 from Version 4.1. Added the order modify message (incoming). Added the order modified message (outgoing).
4.2	09/20/2012	Added liquidity flag values "k", "m" for midpoint executions
4.2	05/01/2013	Removed Order Priority Update Message type Updated specifications for price-time functionality
4.2	05/15/2014	Added BBO Weight indicator field to Accepted and Replaced messages Added liquidity flag value "V" Added Display value "W" for mid-point peg post only

Revision #	Date	Change
4.2	06/13/2014	Updated the format of the document Removed Price Correction Message and Price Correction Reasons Changed "Liquidity Code" to "Liquidity Flag"
4.2	12/09/2014	Added "W" rejected order reason
4.2		Greyed out display value "W" Greyed out cross type values "O","C"
4.2	03/23/2015	Added cancel reasons "E", "X" (greyed out) Greyed out various liquidity flag values
4.2	06/04/2015	Added liquidity flag "V" Changed wording of liquidity flag values "O", "M", "C", "L", "H", and "K" to make consistent with all specifications
4.2	06/23/2015	Updated description for cancel order reason "E" Removed cancel order reason "X"
4.2	08/03/2015	Added Order Priority Update Message
4.2	07/18/2016	Added intermarket sweep eligibility value "y"
4.2	04/07/2020	Added cancel reason code "F" and "G"
4.2	08/21/2020	Added reject reason code "n"