

RASHport<sup>SM</sup>  
**Version 1.0**  
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**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
2.1.1	<i>Special Values for Time in Force .....</i>	<i>5</i>
2.1.2	<i>Directed Order Destination Codes .....</i>	<i>6</i>
2.2	Enter Order Message with Cross functionality .....	7
2.3	Cancel Order Message .....	8
3	Outbound Sequence Messages .....	9
3.1	System Event Messages .....	9
3.2	System Event Code .....	9
3.3	Order Messages .....	9
3.3.1	<i>Accepted Order Message .....</i>	<i>9</i>
3.3.2	<i>Accepted Order Message with Cross Functionality .....</i>	<i>11</i>
3.3.3	<i>Canceled Order Message .....</i>	<i>13</i>
3.3.3.1	<i>Cancel Order Reasons .....</i>	<i>13</i>
3.3.3.2	<i>Pre-Trade Risk Management Reasons .....</i>	<i>14</i>
3.3.4	<i>Rejected Order Message .....</i>	<i>14</i>
3.3.4.1	<i>Rejected Order Reasons .....</i>	<i>14</i>
3.3.5	<i>Executed Order Message .....</i>	<i>15</i>
3.3.5.1	<i>Liquidity Flags .....</i>	<i>16</i>
3.3.6	<i>Broken Trade Message .....</i>	<i>16</i>
3.3.6.1	<i>Broken Trade Reasons .....</i>	<i>17</i>
4	Further Support .....	17
5	Revision History .....	17

# **1 Overview**

The NASDAQ OMX PSX system accepts limit orders from participants and executes matching orders when possible. Non-matching orders may be added to the NASDAQ OMX PSX Limit Order Book or routed out to the street based on the participant's routing strategy.

Routing and Special Handling (RASH<sup>SM</sup>) is a simple proprietary protocol that allows NASDAQ OMX PSX participants to enter orders, cancel existing orders and receive executions. RASH allows participants to use advanced functionality, including discretion, random reserve, pegging and routing. It is intended to allow participants and their software developers to integrate NASDAQ OMX PSX into their proprietary trading systems or build custom front ends.

RASH 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<sup>®</sup> protocol (available separately).

RASH is a low-level proprietary 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, such as FIX, that may be more suitable and easier to develop to.

## **1.1 Architecture**

The RASH protocol is composed of messages passed between the RASH machine and the client application. Each message type has a fixed message length. All messages are composed of non-control ASCII bytes.

All messages sent from the RASH host to the client are assumed to be sequenced, and their delivery must be guaranteed by some lower level protocol. The SoupTCP (available separately) is typically used to guarantee the delivery and sequencing of RASH messages sent from the host to the client.

Messages sent from the RASH 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 re-sent for robust recovery from connection and application failures.

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

## **1.2 Data Types**

Numeric fields are a string of ASCII-coded digits, right-justified and zero-filled on the left.

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

Prices are given in decimal format with six whole number places followed by four decimal digits. The whole number portion is padded on the left with zeroes; the decimal portion is padded on the right with zeroes. The decimal point is implied by position; it does not

appear inside the price field. The maximum valid price value on the NASDAQ OMX PSX system is \$199,999.00

Timestamp fields are given in milliseconds past midnight, Eastern Time (ET).

### **1.3 Fault Redundancy**

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

### **1.4 Service Bureau Configuration**

A single RASH account can accept orders from one or more firms, allowing a service bureau configuration. The service bureau RASH account must be specifically authorized to enter orders on behalf of each represented participant with a NASDAQ OMX PSX Service Bureau Agreement, available separately. Once an agreement has been submitted, the RASH 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 RASH 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 application error.

The idea of benign inbound message retransmission with end-to-end acknowledgement is fundamental to NASDAQ OMX PSX's fail-over redundancy. Should your connection ever fail, there is no way for you to know if pending messages actually made it over the link before the failure. A robust RASH 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; should NASDAQ OMX PSX ever need to fail-over to the backup site, some messages sent at the moment of failure may be lost. A robust application can simply re-send the pending messages, making the fail-over seamless to the end user.

DISCLAIMER: The specifications contain more functionality than what is in production. Functionality that is not currently available will be greyed out in the specs. Any changes will be conveyed via the NASDAQ OMX PSX Head Trader Alerts (HTA's).

### **2.1 Enter Order Message**

The Enter Order Message lets you enter a new order into NASDAQ OMX PSX. Each new order must have a Token that is unique to the day and that logical RASH Port account. If you send a valid order, you should receive an Accepted Order Message. If you send an Enter Order Message with a previously used Token, the new order will be ignored. Please note that if you send a poorly formatted order, the port *will* drop you.

In order to send a market order, the Peg Type field must be set to "P". The Price field on this market order can be anything from zero to \$200,000.00. If a price greater than zero is specified, the market order will be capped at the price given. Note that the primary peg works the same way as market — where a price can be given to limit the peg. Beware that

a Price field of zero is accepted only on orders that have a Peg Type other than "N". If a zero Price field is received when the Peg Type is "N", the client connection will be dropped.

Random Reserve is a feature for reserve orders that changes the displayed amount of shares every time the displayed shares are depleted. Random Reserve works as a range from the Max Floor. In other words, the maximum amount displayed will be the Max Floor plus the Random Reserve, and the minimum amount displayed will be the Max Floor minus the Random Reserve. Due to this, the amount given in the Random Reserve field must be less than the number in the Max Floor field. (e.g.: On a 5,000 share order with a Max Floor of 300 and a Random Reserve of 200, the order would be displayed at 100, 200, 300, 400 or 500 shares every time it refreshes. The amount displayed is chosen randomly from those choices.)

<b>Enter Order Message</b>				
<b>Name</b>	<b>Offset</b>	<b>Length</b>	<b>Value</b>	<b>Notes</b>
Type	0	1	"O"	Identifies this message as an Enter Order Message Type
Order Token/Client Order ID	1	14	Alpha-Numeric	Token must be day unique for each Rash Port account
Side	15	1	Alpha	B/S/T/E Buy/Sell/Short/Short Exempt
Shares/OrderQty	16	6	Numeric	Total Number of shares entered. Must be greater than zero
Stock Symbol	22	6	Alpha	Stock Symbol
Price	28	10	Price	6.4 (implied decimal)
Time In Force	38	5	Numeric	The number of seconds that this order should live before being automatically canceled. Special values for Time in Force are listed <a href="#">here</a> .
Firm/Client ID	43	4	Alpha	MPID
Display	47	1	Alpha	Y = Anonymous-Price to Comply N = Non-Displayed A = Attributable- Price to Display I = Imbalance Only P = Post-Only M = Mid-Point Peg W= Mid-Point peg post only
MinQty	48	6	Numeric	Minimum Fill Amount Allowed.
Max Floor	54	6	Numeric	Shares to Display. If zero this field will default to the order qty. Use the display field to specify a hidden order.
Peg Type	60	1	Alpha	M – Midpoint N – No Peg P – Market R – Primary

Peg Difference Sign	61	1	Alpha	+ - If peg type is set to "N", specify "+"
Peg Difference	62	10	Price	Amount; 6.4 (implied decimal). If peg type is set to "N", specify "0"
Discretion Price	72	10	Price	Discretion Price for Discretionary Order. If set to "0", this order does not have discretion.
Discretion Peg Type	82	1	Alpha	M – Midpoint N – No Peg P – Market R – Primary
Discretion Peg Difference Sign	83	1	Alpha	+ - If peg type is set to "N", specify "+"
Discretion Peg Difference	84	10	Price	Amount; 6.4 (implied decimal). If peg type is set to "N", specify "0"
Capacity/Rule 80A Indicator	94	1	Alpha	Capacity Code
Random Reserve	95	6	Numeric	Shares to do random reserve with
Route Dest/Exec Broker	101	4	Alpha	Target ID: INET, PMOP, PSTG, PSCN, PTFY, PCRT, TFYX, XCST, XDRK, DOTA, DOTD, DOTI, DOTM, SCAR and "Directed Orders" See Directed Order Destination Code table <a href="#">here</a> .
Cust/Terminal ID/Sender SubID	105	32	Alpha-Numeric	Client Initiated; Pass-thru. Must be left-justified and may not start with a space.

### 2.1.1 Special Values for Time in Force

Special Values for Time in Force	
Value	Explanation
0	Immediate or cancel (IOC). If no match for the order is available at the moment the order is accepted, any unexecuted shares in the order are immediately canceled. If the order is routable (strategy other than INET), an IOC will result in the order trying to exhaust all potential liquidity at the specified price before returning.
99960	Market Hours Good-Til-Canceled (GTC). Because this order spans days, the token must be unique across all days that it is live.
99961	Market Hours Do-Not-Increment (DNI) Good-Til-Canceled (GTC). Because this order spans days, the token must be unique across all days that it is live.

99962	Market Hours Do-Not-Reduce (DNR) Good-Til-Canceled (GTC). Because this order spans days, the token must be unique across all days that it is live.
99963	Market Hours Do-Not-Increment (DNI) and Do-Not-Reduce (DNR) Good-Til-Canceled (GTC). Because this order spans days, the token must be unique across all days that it is live.
99964	System Hours Good-Til-Canceled (GTC). Because this order spans days, the token must be unique across all days that it is live.
99965	System Hours Do-Not-Increment (DNI) Good-Til-Canceled (GTC). Because this order spans days, the token must be unique across all days that it is live.
99966	System Hours Do-Not-Reduce (DNR) Good-Til-Canceled (GTC). Because this order spans days, the token must be unique across all days that it is live.
99967	System Hours Do-Not-Increment (DNI) and Do-Not-Reduce (DNR) Good-Til-Canceled (GTC). Because this order spans days, the token must be unique across all days that it is live.
99991	On Open, Non-NASDAQ NASDAQ OMX PSX-Listed. Use to send an On-Open order in non-NASDAQ-listed securities, when used in conjunction with a "DOT" strategy. To do a limit-on-open, send with a limit price; to do market, send with pegging set to Market.
99992	On-Close, Non-NASDAQ-Listed. Use to send an On-Close order in non-NASDAQ-listed securities when used in conjunction with a "DOT" strategy. To do a limit-on-close, send with a limit price; to do market, send with pegging set to Market.
99994	For some routing strategies, this TIF designates that the order be re-routed every four minutes or so.
99998	Market Day. Indicates that the order should remain live until the market close on the primary market for the security.
99999	NASDAQ OMX PSX Day. Indicates that the order should remain live until the end of the NASDAQ OMX PSX trading day.

## 2.1.2 Directed Order Destination Codes

Directed Order Destination Codes	
Market Center	Destination Code
NASDAQ	ISNQ
AMEX	ISAM
ARCA/PCX	ISPA
CBOE	ISCB
CHSX	ISCX
EDGA	ISGA
EDGX	ISGX
NYSE National	ISCN
DATA	ISDA
ISE	ISIS
LavaFlow	ISLF
NYSE	ISNY
PHLX	ISPX
TRAC	ISTR

## 2.2 Enter Order Message with Cross functionality

This new message lets you enter orders into NASDAQ OMX PSX in much the same way as the previous, with a few additional fields. Notably, the Cross Type Flag allows you to specify that an order begins participation in a cross.

Enter Order Message with Cross Functionality				
Name	Offset	Length	Value	Notes
Type	0	1	"Q"	Identifies this message as an Enter Order Message with Cross Type
Order Token/Client Order ID	1	14	Alpha-Numeric	Token must be day unique for each Rash Port account
Side	15	1	Alpha	B/S/T/E Buy/Sell/Short/Short
Shares/OrderQty	16	6	Numeric	Total Number of shares entered. Must be greater than zero
Stock Symbol	22	6	Alpha	Stock Symbol
Price	28	10	Price	6.4 (implied decimal)
Time In Force	38	5	Numeric	The number of seconds that this order should live before being timed automatically canceled. Special values for Time in Force are listed <a href="#">here</a> .
Firm/Client ID	43	4	Alpha	MPID
Display	47	1	Alpha	Y = Anonymous-Price to Comply N = Non-Displayed A = Attributable- Price to Display I = Imbalance Only P = Post-Only M = Mid-Point Peg
MinQty	48	6	Numeric	Minimum Fill Amount Allowed.
Max Floor	54	6	Numeric	Shares to Display. If zero this field will default to the order qty. Use the display field to specify a hidden order.
Peg Type	60	1	Alpha	M – Midpoint N – No Peg P – Market R – Primary
Peg Difference Sign	61	1	Alpha	+ - If peg type is set to "N", specify "+"
Peg Difference	62	10	Price	Amount; 6.4 (implied decimal). If peg type is set to "N", specify "0"

Discretion Price	72	10	Price	Discretion Price for Discretionary Order. If set to "0", then this order does not have discretion.
Discretion Peg Type	82	1	Alpha	M – Midpoint N – No Peg P – Market R – Primary
Discretion Peg Difference Sign	83	1	Alpha	+ - If peg type is set to "N", specify "+"
Discretion Peg Difference	84	10	Price	Amount; 6.4 (implied decimal). If peg type is set to "N", specify "0"
Capacity/Rule 80A Indicator	94	1	Alpha	Capacity Code
Random Reserve	95	6	Numeric	Shares to do random reserve with
Route Dest/Exec Broker	101	4	Alpha	Target ID: INET, DOTA, DOTD, DOTI, DOTM, PMOP, PSTG, PSCN, SCAR and "Directed Orders" See Directed Order Destination Code table <a href="#">here</a> .
Cust/Terminal ID/Sender SubID	105	32	Alpha-Numeric	Client Initiated; Pass-thru. Must be left-justified and may not start with a space.
Inter-market sweep eligibility	137	1	Alpha	Y – eligible N – not eligible y = Trade-at Intermarket Sweep Order
Cross type	138	1	Alpha	O – opening cross C – closing cross I – Intraday cross N – order is immediately live (don't wait for a cross)

## 2.3 Cancel Order Message

The Cancel Order Message is used to request that an order be canceled. To cancel the entire balance of an order, you would enter a Cancel Order Message with a Shares field of zero. To cancel down, you would enter a Cancel Order Message with a Shares field of the new intended order size. This means that if you want to cancel 200 shares out of 1,000 share order, you must send a Shares field of 800.

Cancel Order Message				
Name	Offset	Length	Value	Notes
Type	0	1	"X"	Identifies this message as a Cancel Order Message



Order Token/Client Order ID	1	14	Alpha-Numeric	The Order Token as was originally transmitted in an Enter Order Message
Shares	15	6	Numeric	Specify zero to cancel the order.

### 3 Outbound Sequence Messages

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

#### 3.1 System Event Messages

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

System Event Message				
Name	Offset	Len	Value	Notes
Time Stamp	0	8	Timestamp	See Data Types <a href="#">here</a> .
Message Type	8	1	"S"	System Event Message
Event Code	9	1	Alpha	See Event Codes <a href="#">here</a> .

#### System Event Code

System Event Code	
Code	Explanation
S	Start of Day. This is always the first message each day. It indicates that NASDAQ OMX PSX is open and ready to start accepting orders.
E	End of Day. This indicates that NASDAQ OMX PSX is now closed and will not accept any new orders in this session. There will not be any more executions during this session, however, it is still possible to receive Broken Trade messages and Canceled Order Messages

#### 3.2 Order Messages

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

##### 3.2.1 Accepted Order Message

An Accepted Order Message acknowledges the receipt of a valid Enter Order Message. The data fields from the Enter Order Message are echoed back in the Order Accept Message. Please note: The accepted values may differ for the entered values for some fields. You should receive an Accepted Order Message for an order before you get any Canceled Order Messages or Executed Order Messages for the order except when there is a race condition where a cancel request is received before an order goes live on our system.

Accepted Order Message				
Name	Offset	Length	Value	Notes
Time Stamp	0	8	Numeric	
Type	8	1	"A"	Identifies this message as an Order Accepted Message
Order Token/Client Order ID	9	14	Alpha-Numeric	Token must be day unique for each RASH Port account

Side	23	1	Alpha	B/S/T/E Buy/Sell/Short/Short Exempt
Shares/OrderQty	24	6	Numeric	Total Number of shares entered. Must be greater than zero
Stock Symbol	30	6	Alpha	Stock Symbol
Price	36	10	Price	6.4 (implied decimal)
Time In Force	46	5	Numeric	Seconds (OUCH® conforming)
Firm/Client ID	51	4	Alpha	MPID
Display	55	1	Alpha	Y = Anonymous-Price to Comply N = Non-Displayed A = Attributable- Price to Display I = Imbalance Only P = Post-Only M = Mid-Point Peg
Order Reference Number	56	9		The day-unique Order Reference Number assigned by NASDAQ OMX PSX to this order.
MinQty	65	6	Numeric	Minimum Fill Amount Allowed
Max Floor	71	6	Numeric	Shares to Display. If zero this field will default to the order qty. Use the display field to specify a hidden order.
Peg Type	77	1	Alpha	M – Midpoint N – No Peg P – Market R – Primary
Peg Difference Sign	78	1	Alpha	+ -
Peg Difference	79	10	Price	Amount; 6.4 (implied decimal)
Discretion Price	89	10	Price	Discretion Price for Discretionary Order
Discretion Peg Type	99	1	Alpha	M – Midpoint N – No Peg P – Market R – Primary
Discretion Peg Difference Sign	100	1	Alpha	+ -
Discretion Peg Difference	101	10	Price	Amount; 6.4 (implied decimal)
Capacity/Rule 80A Indicator	111	1	Alpha	Capacity Code
Random Reserve	112	6	Numeric	Shares to do random reserve with

Route Dest/Exec Broker	118	4	Alpha	Target ID: INET, PMOP, PSTG, PSCN, PTFY, PCRT, TFYX, XCST, XDRK, DOTA, DOTD, DOTI, DOTM, SCAR and "Directed Orders" See Directed Order Destination Code table <a href="#">here</a> .
Cust/Terminal ID/Sender SubID	122	32	Alpha-Numeric	Client Initiated; Pass-thru

### 3.2.2 Accepted Order Message with Cross Functionality

Similar to the regular Accepted Order Message, with the additional information provided upon order entry using the Enter Order Message with Cross Functionality. Please note that the "R" Order Message Type can be used for the entry of all order types, including those in the "A" Order Message Type.

Accepted Order Message with Cross Functionality				
Name	Offset	Length	Value	Notes
Time Stamp	0	8	Numeric	
Type	8	1	"R"	Identifies this message as an Order Accepted Message
Order Token/Client Order ID	9	14	Alpha-Numeric	Token must be day unique for each RASH Port account
Side	23	1	Alpha	B/S/T/E Buy/Sell/Short/Short Exempt
Shares/OrderQty	24	6	Numeric	Total Number of shares entered. Must be greater than zero
Stock Symbol	30	6	Alpha	Stock Symbol
Price	36	10	Price	6.4 (implied decimal)
Time In Force	46	5	Numeric	Seconds (OUCH conforming)
Firm/Client ID	51	4	Alpha	MPID
Display	55	1	Alpha	Y = Anonymous-Price to Comply N = Non-Displayed A = Attributable-Price to Display I = Imbalance Only P = Post-Only M = Mid-Point Peg
Order Reference Number	56	9		The day-unique Order Reference Number assigned by NASDAQ OMX PSX to this order.

MinQty	65	6	Numeric	Minimum Fill Amount Allowed
Max Floor	71	6	Numeric	Shares to Display. If zero, this field will default to the order qty. Use the display field to specify a hidden order.
Peg Type	77	1	Alpha	M - Midpoint N - No Peg P - Market R - Primary
Peg Difference Sign	78	1	Alpha	+ -
Peg Difference	79	10	Price	Amount; 6.4 (implied decimal)
Discretion Price	89	10	Price	Discretion Price for Discretionary Order
Discretion Peg Type	99	1	Alpha	M - Midpoint N - No Peg P - Market R - Primary
Discretion Peg Difference Sign	100	1	Alpha	+ -
Discretion Peg Difference	101	10	Price	Amount; 6.4 (implied decimal)
Capacity/Rule 80A Indicator	111	1	Alpha	Capacity Code
Random Reserve	112	6	Numeric	Shares to do random reserve with
Route Dest/Exec Broker	118	4	Alpha	Target ID: INET, PMOP, PSTG, PSCN, PTFY, PCRT, TFYX, XCST, XDRK, DOTA, DOTD, DOTI, DOTM, SCAR and "Directed Orders" See Directed Order Destination Code table <a href="#">here</a> .
Cust/Terminal ID/Sender SubID	122	32	Alpha-Numeric	Client Initiated; Pass-thru
Inter-market sweep eligibility	154	1	Alpha	Y - eligible N - not eligible y = Trade-at Intermarket Sweep Order
Cross type	155	1	Alpha	O - opening cross C - closing cross I - Intraday cross N -immediately live

### 3.2.3 Canceled Order Message

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

Please note that a Cancel Order Message does not necessarily mean the entire order is canceled; some portion of the order may still be live. Canceled shares will reflect the number of shares that are "out."

Canceled Order Message				
Name	Offset	Length	Value	Notes
Time Stamp	0	8	Numeric	
Type	8	1	"C"	Identifies this message as an Order Canceled Message
Order Token/Client Order ID	9	14	Alpha-Numeric	The Order Token as was originally transmitted in an Enter Order Message
Shares	23	6	Numeric	The number of shares canceled
Reason	29	1	Alpha	The reason the order was reduced or canceled. See Cancel Order Reasons <a href="#">here</a> .

#### 3.2.3.1 Cancel Order Reasons

Cancel Order Reasons	
Reason	Explanation
"U"	User requested cancel. Sent in response to a Cancel Request Message.
"I"	Immediate or Cancel Order.
"T"	Timeout. The Time In Force for this order has expired
"S"	Supervisory. The order was manually canceled or reduced by an NASDAQ supervisory terminal.
"D"	This order cannot be executed because of a regulatory restriction (e.g.: trade through restrictions).
"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.
"K"	This order cannot be executed because of Market Collars
"E"	Closed. Any DAY order that was received after the closing cross is complete in a given symbol will receive this cancel reason.
"J"	System cancel. This order was cancelled because it was rejected by an away destination.
"A"	Administrative cancel. This order was cancelled by the system.
"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.

### 3.2.3.2 Pre-Trade Risk Management Reasons

Reason	Explanation
A	invalid message format
B	No quote
C	invalid account
D	short sale violation
E	order rejected due to ISO order check
F	order rejected due to GTC order check
G	order rejected due to pre-market order check
H	order rejected due to post-market order check
I	order rejected due to the delayed checking flag turned off
J	Exceeded maximum shares threshold
K	Exceeded maximum value threshold
M	order rejected due to previous command to reject all orders
N	order rejected due to invalid price (fat finger)
O	Order rejected due to symbol not listed on easy to borrow list
P	PRM is Not Available
Q	Invalid Message
R	Snap Is In Process
S	Symbol Halted
T	Order Rejected Due To On Open
U	Order Rejected Due To On Close
V	Order Rejected Due To Program Trading
{	Order rejected due to symbol not listed on restricted list

### 3.2.4 Rejected Order Message

A Rejected Order Message may be sent in response to an Enter Order Message if the order cannot be accepted at this time. The reason for the rejection is given. No further actions are permitted on this order.

The Token of a rejected order cannot be re-used.

Rejected Order Message				
Name	Offset	Length	Value	Notes
Time Stamp	0	8	Numeric	
Type	8	1	"J"	Identifies this message as an Order Rejected Message
Order Token/Client Order ID	9	14	Alpha-Numeric	The Order Token as was originally transmitted in an Enter Order Message
Reason	23	1	Alpha	See Reject Order Reason <a href="#">here</a> .

#### 3.2.4.1 Rejected Order Reasons

Rejected Order Reasons	
Reason	Explanation

"Y"	No Shares Found for Routing
"C"	NASDAQ OMX PSX is Closed
"I"	Invalid Order Side
"E"	Invalid Peg
"L"	Invalid Firm
"Z"	Quantity Exceeds Threshold
"O"	Other. A reason not contemplated in this version of RASH.
"B"	Quote not available for pegged order.
"P"	Pegging Not Allowed
"X"	Invalid Price
"G"	Destination Not Available
"J"	Processing Error
"N"	Invalid Routing Instructions
"D"	Invalid Display value
"M"	Outside of Permitted Times for Clearing Destination
"H"	Security is Halted
"S"	Invalid Symbol
"Q"	Invalid Order Quantity
"K"	Invalid Minimum Quantity
"W"	Invalid Destination
"A"	Advance Features Not Allowed
"U"	Possible Duplicate Order
"V"	Invalid Order Type
"T"	Test Mode
"R"	Routing Not Allowed
"F"	Order not marketable Conflicting instructions Improper cross type

### 3.2.5 Executed Order Message

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

Executed Order Message				
Name	Offset	Length	Value	Notes
Time Stamp	0	8	Numeric	
Type	8	1	"E"	Identifies this message as an Order Executed Message
Order Token/Client Order ID	9	14	Alpha-Numeric	The Order Token as was originally transmitted in an Enter Order Message
Shares	23	6	Numeric	The number of shares executed
Price	29	10	Numeric	The price at which the execution occurred
Liquidity	39	1	Alpha	See Liquidity Flag table <a href="#">here</a> .
Match number	40	9	Numeric	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.
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### 3.2.5.1 Liquidity Flags

Liquidity Flags	
Flag	Value
A	Added
R	Removed
J	Non-displayed and added liquidity
X	Routed
D	DOT
F	Added or Opening Trade (on NYSE)
G	Odd Lot or On-Close order (on NYSE)
O	Open Cross
M	Open Cross (imbalance-only)
C	Closing Cross
L	Closing Cross (imbalance-only)
H	Halt/IPO Cross
K	Halt/IPO
Y	Re-Routed by NYSE
S	Odd Lot Execution (on NYSE)
U	Added Liquidity (on NYSE)
B	Routed to BX
E	NYSE Other
T	Opening Trade (on ARCA)
Z	On-Close order (on ARCA)
Q	Routed to Nasdaq
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.

### 3.2.6 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 order/execution.

Broken Trade Message				
Name	Offset	Length	Value	Notes
Time Stamp	0	8	Numeric	Timestamp
Message Type	8	1	"B"	Broken Trade Message



Order Token	9	14	Alpha-Numeric	The order Token field as entered.
Match Number	23	9	Numeric	Match Number as transmitted in the preceding Executed Order Message
Reason	32	1	Alpha	The reason the trade broken. See Broken Trade Reasons table <a href="#">here</a> .

### 3.2.6.1 Broken Trade Reasons

Broken Trade Reason	
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.

## 4 Further Support

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

## 5 Revision History

Version	Date	Notes
1.0	04/13/2010	Initial document for NASDAQ OMX PSX
1.0	11/12/2010	Re-introduced the sell short exempt value in the side field Added liquidity flag value "V"
1.0	04/04/2011	Added Cancel reason code "K"
1.0	08/15/2011	Added PRM reject codes
1.0	10/04/2011	Added Post only display values "P", "W" Added support for Routing
1.0	11/07/2011	Added numeric liquidity flag values Removed IOC requirement for minimum quantity orders
1.0	03/07/2012	Added display value "U" for minimum life orders
1.0	04/19/2012	Added liquidity flag value "k" Added liquidity flag value "m"
1.0	09/05/2012	Added execbroker value "TFYX" Removed liquidity flag value "k" Removed liquidity flag value "m"
1.0	02/27/2013	Added execbroker value "XCST", "XDRK"
1.0	05/01/2013	Updated specifications for price-time functionality
1.0	05/02/2013	Added display value "M"
1.0	05/14/2014	Added liquidity flag value "V"
1.0	06/13/2014	Updated the format of the document Changed "Liquidity Code" to "Liquidity Flag"
1.0	06/24/2014	Added "F" Rejected Order Reasons
1.0	06/26/2014	Added Table of Contents

		Removed Samples of How to build messages Added P = Post-Only; W = Mid-Point Peg Post Only to Display of Enter Order Message with Cross Functionality Changed the footer
1.0	08/04/2014	Removed display value "W"
1.0	03/23/2015	Added cancel reasons "E", "X" (greyed out) Greyed out various liquidity flag values
1.0	06/04/2015	Removed liquidity flag "I" Added liquidity flag "V" Changed wording of liquidity flag values "O", "M", "C", "L", "H", and "K" to make consistent with all specifications Added display value "W"
1.0	06/23/2015	Updated description for cancel order reason "E" Removed cancel order reason "X"
1.0	08/27/2015	Greyed out liquidity flag values "D", "E", "F", "G"
1.0	09/24/2015	Greyed out directed order destinations
1.0	07/18/2016	Added value "y" to inter-market sweep eligibility field
1.0	10/14/2016	Added and greyed out routing strategy XRPO to Route Dest/Exec Broker
1.0	11/07/16	Greyed out "Directed Orders" in all ExecBroker fields
1.0	1/23/2017	Changed wording of Accepted Order Message to read "You should receive an Accepted Order Message for an order before you get any Canceled Order Messages or Executed Order Messages for the order except when there is a race condition where a cancel request is received before an order goes live on our system."
1.0	02/22/2017	Added new value "J" to cancel order reasons.
1.0	02/27/2017	Added new value "A" to cancel order reason Modified description to cancel order reason "J"
1.0	03/13/2017	Modified description to cancel order reason "J"
1.0	04/27/2017	Removed XRPO from Route Dest/Exec Broker
1.0	07/11/2017	Updated explanation of existing cancel order reason "J"
1.0	05/14/2018	Renamed market center "CINN/NSX" to "NYSE National"
1.0	04/02/2019	Added "SCAR" in the list of target IDs for "Route Dest/Exec Broker"
1.0	4/7/2020	Add cancel reasons "F" and "G"

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