



Nordic OUCH 5 Specification

INET Nordic

Nordic Equities Markets



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APPROVED

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1 Overview

Nasdaq Nordic¹ accepts limit orders from system participants and executes matching orders when possible. Non-matching orders may be added to the Nasdaq Nordic Limit Order Book, a database of available limit orders, where they wait to be matched according to the matching priority model.

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

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

OUCH is the low-level native protocol for connecting to Nasdaq Nordic. 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 Nordic 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.

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 (available separately) is typically 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 Nordic-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 UserRefNum field.

¹ Nasdaq Copenhagen, Nasdaq Helsinki, Nasdaq Iceland, Nasdaq Riga, Nasdaq Stockholm, Nasdaq Tallinn and Nasdaq Vilnius are respectively brand names for Nasdaq Copenhagen A/S, Nasdaq Helsinki Ltd, Nasdaq Iceland hf., Nasdaq Riga AS, Nasdaq Stockholm AB, Nasdaq Tallinn AS and AB Nasdaq Vilnius. Nasdaq Nordic represents the common offering by Nasdaq Copenhagen, Nasdaq Helsinki, Nasdaq Iceland and Nasdaq Stockholm. Nasdaq Baltic represents the common offering by Nasdaq Tallinn, Nasdaq Riga and Nasdaq Vilnius.

While most messages have a fixed message length, this is not the case for the Enter Order, Replace Order and their response message that support appendage fields. Those messages have a number of required fields followed by a TagValue field that is used to indicate what appendage fields are included in the message. Last in the message, the appendage fields are sent. Refer to sections 1.3 and [Appendix A](#) for further information.

Nasdaq Nordic can add new message fields and message types to this specification. In general, new message fields will be added to the end of the message. Participants should use decoders that ignore unknown outbound (from Nasdaq Nordic) message types as well as outbound messages that expand with new fields added to the end of the message. Participants should also be able to handle unknown tags to be added to the appendage buffer.

1.2 Data Types

Alpha and **alpha-numeric** fields are left-justified and padded on the right with spaces. Field must contain printable ASCII characters only. A non-printable character in such field causes OUCH to immediately disconnect its client.

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

Price fields are integers. 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 is 199,999.9900 (decimal, 7735939C hex).
- When entering orders without a limit/protection price, use the special value 214,748.3647 (decimal, 7FFFFFFF hex) in the price field.

Timestamp fields are given in nanoseconds past midnight. Timestamps are always expressed in UTC (Universal Time Coordinated).

Expire Time fields. Expire time specifies how many seconds a Good Til Time (GTT) order should live. This allows participants to control when an order expires. GTT orders are not retained after the market closes.

UserRefNum is an unsigned numeric. For a given OUCH port, the UserRefNum is used as a transaction identifier, and must be both unique and strictly increasing throughout the trading day. The system ignores new order requests identified with UserRefNums lower than the last one processed, assuming they are retransmissions.

Bit-masks are fields where every set bit represents a certain value.

1.3 Additional Attributes

An additional attribute on an order is communicated via a **TagValue** element, constructed as follows:

TagValue element				
Field	Offset	Length	Type	Notes
AppendageLength	0	1	Numeric	Remaining length of the TagValue element
AppendageTag	1	1	Numeric	Identifies the appendage (see Appendix A)
AppendageValue	2	variable	variable	Value of the appendage

The set of appendage attributes are set on an order via an appendage. Each of the individual appendages is formatted as a TagValue element, and the appendage is then constructed by concatenating together the selected set of appendages. See [Appendix A](#) for more details.

1.4 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 outbound messages would be simultaneously generated by both physical OUCH hosts.

1.5 Service Bureau Configuration (On Behalf Of)

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 orders on behalf of each represented participant with a Nasdaq Nordic 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 Identifier (MPID) in the Firm field upon order entry.

1.6 Cancel on Disconnect

With INET Nordic, you can have your resting orders cancelled upon disconnect by contacting Nasdaq and we will configure your connectors for this. Nasdaq does not support "suspend on disconnect" on an order-by-order basis.

If you have requested this configuration, we will cancel all resting orders that are open on the book, based on port configuration, in the event that your port is disconnected. In the event of a severe failure on the Host side COD will also be applied.

When COD occurs, Nasdaq will send unsolicited cancel accept confirmations to you when you log back on to the port. These messages will come with the

client-generated UserRefNum. The OrigUserRefNum will also contain the original client order id entered by the customer for the order.

More information about configuration options can be found in Nasdaq Nordic Market Model, Appendix X: Cancel on Disconnect (COD).

1.7 Protocol Breach

If a client message is in any way not conforming to this specification, Nasdaq considers that a Protocol Breach. The typical response to a Protocol Breach is different depending on the severity, it can be terminating the connection to the client, a silent drop of the message or a reject message. In the case of a disconnect the client can reconnect to the OUCH host and resume operations.

Reasons for Protocol Breaches can be:

- Message is not long enough.
- Enumerated field gets sent a value not in the specification.
- Numerical values outside allowed ranges.
- Tags not allowed on the message included in the Appendage.

2 Order Functionality

2.1 Reserve Orders

The following table describes how to send in a Reserve Order:

Field Name	Description
Display	Y = Display
Max Floor	Amount of shares visible in the lit book
Random Reserve	Optional: Randomize displayed quantity by this amount

When a Reserve Order Displayed Quantity is updated, an Order Restated message is sent with:

Field Name	Description
Restatement Reason	R = Refresh of Display
Display Quantity	Current quantity displayed on the book
Secondary Order Reference Number	The alternative order reference number used on market data feeds, identifying the displayed portion of the updated reserve order

2.2 Nordic@Mid Orders

The following table describes how to send in a Nordic@Mid order:

Field Name	Description
Peg Type	M = Midpoint Peg.
Peg Difference	Field is not supported for this kind of order.
Display	M = Nordic@Mid.
Price	Optional. Limit price act as a cap/floor for trade execution.
Minimum Quantity	Optional. Defines the smallest trade size that is acceptable.

2.3 Auction On Demand (AOD) Book Orders

The following table describes how to send an AOD order:

Field	Description
Peg Type	Optional. Can be unset (no pegging) or any of the following values: M = Midpoint peg P = Market R = Primary
Peg Difference	Field is not supported for this kind of order.
Display	A = AOD

Field	Description
Price	Optional. Limit price act as a cap/floor for trade executions
Minimum Quantity	Optional. In the AOD book, interpreted as the minimum executable size (MES)
Time In Force	0 = DAY 3 = IOC 6 = GTT B = GFA

2.4 Market Price Orders

During continuous trading, a market price order is sent in as a market pegged order with:

Field	Description
Peg Type	P = Market
Peg Difference	0
Price	For a maket price order use the special value 214,748.3647 decimal (7FFFFFFF hex). Limit price not allowed.
Time In Force	3 = IOC

A market price order target to participate in an auction is sent in with Cross Type (pegging not allowed):

Field	Description
Price	For a maket price order use the special value 214,748.3647 decimal (7FFFFFFF hex). Limit price not allowed.
Cross Type	O = Opening I = Intraday C = Closing H = Halt
Time In Force	3 = IOC

A market priced order to trade regardless of which trading state the orderbook currently is in, is sent in as described below. This market order will be converted to participate as a Market Pegged order during continuous trading or as a Market Cross order if the orderbook is in an auction state:

Field	Description
Price	For a maket price order use the special value 214,748.3647 decimal (7FFFFFFF hex). Limit price not allowed.
Display	Y = Display

Field	Description
Time In Force	3 = IOC
Order Condition	T = Trade Now

Note! The Order Condition = “T” will not be populated on outbound messages.

2.5 Good-Till-Cancel (GTC) Orders

When a GTC order is carried over to the next day, an Order Accepted message will be sent in the morning with the remaining quantity. The Order Reference Number will contain a new value, and the Original Order Reference Number will contain the Order reference number of the latest user modification or entry of the order. The Original Order Entry Date contain the date of the initial order accept or later replaced order. Already executed quantity of the GTC order is available in the Cumulative Quantity.

The following table describes an Order Accepted message (carryover next day):

Field	Description
Order Reference Number	New Reference Number
Original Order Reference Number	Order reference number from the order entry of last time client modified the order
Original Order Entry Date	Original Order Entry Date for a the order (may be from initial order accepted or later replaced order).
Cumulative Quantity	Previously executed quantity of the order

2.6 Market Maker Orders (MMO)

The following table describes how to send in or update an MMO:

Field	Description
Price	Limit price
Display	Y = Display
Capacity	3 = Market Maker
Order Condition	W = Market Maker Order U = Market Maker Order Refresh
Time In Force	0 = DAY 6 = GTT

The order may be put in a pending queue if an MMO Pause has been triggered.

When an MMO Matching Pause is triggered, an outbound MMO Refresh Request Message will be sent to the Market Maker for the affected order book.

The Market Maker may optionally enter or replace orders until the Pause is over.

The Market Maker has two available Order Conditions for MMO orders:

- Condition 'W' is used to enter a regular MMO order.
- Condition 'U' is used to immediately release the order book during an MMO Matching Pause.

The Market Maker Order functionality is defined in detail in the Nasdaq Nordic Market Model - Appendix P "Market Maker Order" and Appendix P1: "MMF - Market Maker Order for Danish Investment Funds".

2.7 Pegged Orders In Lit Book

The following table describes how a pegged order is entered into the lit book:

Field name	Description
Peg Type	M = Midpoint Peg P = Market R = Primary
Peg Difference	Optional.
Display	Y = Displayed N = Hidden
Cross Type	Cannot be used for pegged orders
Price	Optional. Limit price act as a cap/floor for pegged price.
TIF	All except GTC and GFA

Pegged Orders are not allowed to be entered during any call (rejected).

2.8 Dark Lit Sweep

The Dark Lit SWEEP order tries to match at the midpoint of Nordic@Mid, before executing as IOC in the Lit book.

Field name	Description
Order Condition	Q = Dark-lit Sweep
Time In Force	3 = IOC only allowed
Display	Y = Displayed
Price	Limit price act as a cap/floor for trade execution.
Minimum Quantity	Optional. Defines the smallest trade size that is acceptable.

2.9 PureStream

PureStream matches Indications of Interest (IOIs) based on liquidity transfer rates (LTR), instead of a specific price to minimize market impact and automate execution of trading interests by trading a percentage of the market's future volume at the market's Volume-Weighted Average Price (VWAP).

IOIs are matched with one or multiple another PureStream IOIs based on the specified LTR, instead of a specific price. When IOIs are firm-ed-up and matched, Streams are established. PureStream trades are published in real time as negotiated VWAP trades.

The following table describes how to send a PureStream Indication-of-Interest (IOI) Order, and a Firm-Up Order as a respond to a Firm-Up Request:

Field name	Description
Display	S = PureStream
Time In Force	0 = Day, only allowed
Price	Limit price act as a cap/floor for trade execution.
Quantity	Total quantity entered. Must be greater than zero
Minimum Quantity	Optional. Minimum available quantity on contra IOI to initiate a stream.
Target Strategy	Optional. The target strategy of the PureStream order. 1 = 5 - 15 % 2 = 5 - 30 % 5 = 10 - 200 % C = Custom (Default)
Min Rate	Optional. PureStream minimum rate, in the 1-500% range. Only used for Target Strategy Custom Default = 1%
Max Rate	Optional. PureStream maximum rate, in the 1-500% range >= Min Rate Only used for Target Strategy Custom. Default = 500%
Conditional Type	"C" = Conditional Order (Default) "F" = Firm-Up Order (setting this value requires Firm-Up ID to be set as well)
Firm-Up ID	Optional. If this is sent it needs to be with a UserRefNum for an IOI that received a Firm-Up request. It also requires Conditional Type to be F (Firm-Up Order)

3 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 Nordic 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 Nordic’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 Nordic’s disaster fail over capability as well; if Nasdaq Nordic 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.

All inbound messages on an OUCH port are processed sequentially. This guarantees that if two orders are entered consecutively on the same connection, the first order entered will always be accepted first.

3.1 Order messages

3.1.1 Enter Order Message

The Enter Order Message lets you enter a new order into Nasdaq Nordic. Each new order must have a UserRefNum that is unique to the day and that logical OUCH 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 UserRefNum, the new order will be ignored.

Specific info for Cross Orders:

- In this context a cross order is an order that will only execute at the uncross ending an auction procedure.
- An order that participates in a Cross but enters the continuous market afterward if any portion of it is not executed is also considered a cross order. The difference in behavior is implied by the Time in Force field. Time in Force of 3 (immediate-or-cancel) will ensure that the order does not stay live beyond the Cross. Any other Time in Force is applied to the unexecuted portion of the order that enters the continuous market.

Minimum Quantity orders may be entered during the auctions; however, the minimum quantity feature will only be enforced during the continuous market.

Enter Order Message				
Name	Offset	Len	Value	Notes
Type	0	1	“O”	Enter Order Message Identifier

Enter Order Message				
Name	Offset	Length	Value	Notes
UserRefNum	1	4	UserRefNum	Sequence number – starts at 1
Buy/Sell Indicator	5	1	Alpha	“B” = Buy Order “S” = Sell Order
Quantity	6	4	Integer	Total quantity entered. Must be greater than zero
Order Book	10	4	Integer	Order Book Id
Price	14	4	Price	The limit price of the order. Please refer to the section in Data Types for more clarification.
User	18	6	Alpha-numeric	Name of responsible trader (Trader ID)
Execution Within Firm	24	4	Integer	The short code representing the execution decision maker of the order. Data corresponding to this short code must have been previously supplied, or will be supplied by the end of the calendar day, per our Rules. For execution decision makers, the following value is reserved for applicable use: 3 = NORE (Time and venue of the order instructed by the client of the Participant or by another person from outside the Investment Firm.)
Investment Decision Within Firm	28	4	Integer	The short code representing the investment decision maker of the order. Data corresponding to this short code must have been previously supplied, or will be supplied by the end of the calendar day, per our Rules.
Client Identifier	32	4	Integer	The short code representing the client behind the order. Data corresponding to this short code must have been previously supplied, or will be supplied by the end of the calendar day, per our Rules For clients, the following values are reserved for applicable use: 0 = NONE (No client for this order) 1 = AGGR (An aggregation of multiple client orders) 2 = PNAL (Clients are pending allocation)

Enter Order Message							
Name	Offset	Len	Value		Notes		
Party Role Qualifier	36	1	Bit- mask	Bit- field	0-1	Client Identification	00: None 01: LEI/Firm 11: Natural Person
					2-3	Investment Decision within Firm	00: None 10: Algo 11: Natural Person
					4-5	Execution decision within Firm	00: None 10: Algo 11: Natural Person
					6-7	Reserved	
Capacity	37	1	Alpha-numeric		1 = Client – maps to ‘AOTC’ 2 = Own account – maps to ‘DEAL’ 3 = Market maker – maps to ‘DEAL’ 4 = Issuer holding – maps to ‘AOTC’ 6 = Issue price stabilizing – maps to ‘AOTC’ 7 = Riskless Principal – maps to ‘MTCH’ 8 = Issuer holding – maps to ‘DEAL’ 9 = Issue price stabilizing – maps to ‘DEAL’		
Algo Indicator	38	1	Alpha-numeric		Indicates that the order was placed as a result of an investment firm engaging in algorithmic trading. “-” = No algo “H” = Algo		
Appendage Length	39	2	Integer		Remaining length of the TagValue element		
Repeating Group							
Additional Appendage	41	Var	TagValue		Identifies the appendage. The available options supported on this message are: <ul style="list-style-type: none"> - Clearing Account - Clearing Account Type - Clearing Firm - Client Reference - Conditional Type - Cross Type - Customer Order Capacity 		

Enter Order Message				
Name	Offset	Le n	Value	Notes
				<ul style="list-style-type: none"> - DEA Indicator - Display - Expire Time - Firm - Firm-Up ID - Liquidity Provision Indicator - Max Floor - Max Rate - Min Rate - Minimum Quantity - Order Condition - Order Reference - Peg Difference - Peg Type (all) - Random Reserve - STP Action - STP Level - STP Trader Group - Target Strategy - Time in Force - Trading at Closing Price (see Appendix A for more detail)

3.1.2 Replace Order Message

The Replace Order Message allows you to alter 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 to simply partially cancel an order and retain its time priority, send a Cancel Order Message instead.

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

Nasdaq may respond to the Replace Order Message in several ways:

- a) If the order for the existing Order UserRefNum is no longer live or if the replacement Order UserRefNum was already used, the replacement will be silently ignored.

- b) If the order for the existing Order UserRefNum is live but the details of the replace fail validation (e.g.: new Shares exceed the maximum allowed quantity configured for the line), a Cancelled Order Message will take the existing order out of the book. The replacement Order UserRefNum will not be consumed, and may be reused in this case.
- c) If the order for the existing Order UserRefNum is live but the existing order cannot be cancelled, 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 UserRefNum, so the replacement Order UserRefNum may not be reused.
- d) If the order for the existing Order UserRefNum is live and can be replaced, you will receive a Replaced Message or just a cancelled message.
- e) If the order for the existing Order UserRefNum is in an ongoing AOD auction a Pending Replace Message is sent. After the auction a new response message will be sent dependent on the situation of the order at that time.

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.

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.

Note: A replace will replace all fields that are present in the replace message. If any field is left out from the options appendage the field will assume the default value.

Example of Responses to Replace Order Message:

1. Update existing Reserve Order by submitting Replace Order Message without a Max Floor.
 - Result: The resulting order will be entered as a regular display limit order as it does not have Max Floor set.
2. Update existing Order with Order Reference and Clearing Account field by submitting Replace Order Message and replacing Order Reference field only.

- Result: Order will be replaced with updated Order Reference value and existing value in Clearing Account will be removed in Outbound Order Replaced Message.

Replace Order Message				
Name	Offset	Len	Value	Notes
Type	0	1	"U"	Replace Order Message Identifier
OrigUserRefNum	1	4	UserRefNum	Sequence number of the order to be replaced
NewUserRefNum	5	4	UserRefNum	Sequence number – starts at 1
Quantity	9	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
Price	13	4	Price	The price of the replacement order. Please refer to the section in Data Types for more clarification.
User	17	6	Alpha-numeric	Name of responsible trader (Trader ID)
Appendage Length	23	2	Integer	Remaining length of the TagValue element
Repeating Group				
Additional Appendage	25	Var	TagValue	Identifies the appendage. The available options supported on this message are: <ul style="list-style-type: none"> - Clearing Account - Clearing Account Type - Clearing Firm - Client Reference - Cross Type - Display - Expire Time - Max Floor - Max Rate - Min Rate - Minimum Quantity - Order Condition - Order Reference - Random Reserve - Target Strategy - Time in Force (see Appendix A for more detail)

3.1.3 Cancel Order Message

The Cancel Order Message is used to request that an order be cancelled 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 quantity 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 Quantity field of zero.

Cancel Order Message				
Name	Offset	Len	Value	Notes
Type	0	1	“X”	Cancel Order Message Identifier
UserRefNum	1	4	UserRefNum	This must be filled out with the exact UserRefNum sent on the Enter Order Message or last Replace Order Message.
Quantity	5	4	Integer	Total number of shares liable, inclusive of previous executions and Self Match Prevention decremented shares on this order chain. Must be less than the total quantity of the order chain, entering a zero here will cancel any remaining open quantity on this order.
User	9	6	Alpha-numeric	Name of responsible trader (Trader ID)

3.1.4 Account Query Message

The Account Query Request message can be used when recovering state to request the next available UserRefNum that can be used for identifying new transactions.

Account Query Message				
Name	Offset	Len	Value	Notes
Type		1	“Q”	Account Query Message Identifier

4 Outbound Sequenced Messages

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

4.1 System Event Messages

System Event Messages signal events that affect the entire Nasdaq Nordic system:

System Event Message				
Name	Offset	Len	Value	Notes
Message Type	0	1	"S"	System Event Message identifier
Timestamp	1	8	Timestamp	See Data Types above.
Event Code	9	1	Alpha	"S" – Start of Day "E" – End of Day

System Event Codes		
Code	Name	Comments
"S"	Start of Day	This is always the first message each day. It indicates that Nasdaq Nordic is open and ready to start accepting orders.
"E"	End of Day	This indicates that Nasdaq Nordic is now closed and will not accept any new orders in this session. There will be no further executions during this session; however, it is still possible to receive Broken Trade Messages and Cancelled Order Messages

4.2 Order Messages

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

4.2.1 Order 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 the Order Accepted Message. Note that the accepted values may differ from the entered values for some fields. You will always receive an Order Accepted Message for an order before you get any Cancelled Order Messages or Executed Order Messages for the order.

Order Accepted Message				
Name	Offset	Len	Value	Notes
Message Type	0	1	"A"	Order Accepted Message Identifier
Timestamp	1	8	Timestamp	Timestamp
UserRefNum	9	4	UserRefNum	Sequence number – starts at 1
Price	13	4	Price	The accepted limit 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 Nordic on entry. The accepted price will always be better than or equal to the entered.
Order Reference Number	17	8	Integer	The day-unique Order Reference Number assigned by Nasdaq Nordic to this order
Buy/Sell Indicator	25	1	Alpha	"B" = Buy Order "S" = Sell Order
Order Book	26	4	Integer	Order Book Id
Quantity	30	4	Integer	Total quantity entered. Must be greater than zero
User	34	6	Alpha-numeric	Name of responsible trader (Trader ID)
Execution Within Firm	40	4	Integer	The short code representing the execution decision maker of the order. Data corresponding to this short code must have been previously supplied, or will be supplied by the end of the calendar day, per our Rules. For execution decision makers, the following value is reserved for applicable use:

Order Accepted Message							
Name	Offset	Len	Value		Notes		
					3 = NORE (Time and venue of the order instructed by the client of the Participant or by another person from outside the Investment Firm.)		
Investment Decision Within Firm	44	4	Integer		The short code representing the investment decision maker of the order. Data corresponding to this short code must have been previously supplied, or will be supplied by the end of the calendar day, per our Rules.		
Client Identifier	48	4	Integer		<p>The short code representing the client behind the order. Data corresponding to this short code must have been previously supplied, or will be supplied by the end of the calendar day, per our Rules</p> <p>For clients, the following values are reserved for applicable use: 0 = NONE (No client for this order) 1 = AGGR (An aggregation of multiple client orders) 2 = PNAL (Clients are pending allocation)</p>		
Party Role Qualifier	52	1	Bit-mask	Bit-field	0-1	Client Identification	00: None 01: LEI/Firm 11: Natural Person
					2-3	Investment Decision within Firm	00: None 10: Algo 11: Natural Person
					4-5	Execution decision within Firm	00: None 10: Algo 11: Natural Person
					6-7	Reserved	
Capacity	53	1	Alpha-numeric		1 = Client – maps to ‘AOTC’ 2 = Own account – maps to ‘DEAL’ 3 = Market maker – maps to ‘DEAL’ 4 = Issuer holding – maps to ‘AOTC’ 6 = Issue price stabilizing – maps to ‘AOTC’ 7 = Riskless Principal – maps to ‘MTCH’		

Order Accepted Message				
Name	Offset	Len	Value	Notes
				8 = Issuer holding – maps to 'DEAL' 9 = Issue price stabilizing – maps to 'DEAL'
Algo Indicator	54	1	Alpha-numeric	Indicates that the order was placed as a result of an investment firm engaging in algorithmic trading. “-“ = No algo – (default) “H” = Algo
Appendage Length	55	2	Integer	Remaining length of the TagValue element
Repeating Group				
Additional Appendage	57	Var	TagValue	Identifies the appendage. The available options supported on this message are: <ul style="list-style-type: none"> - Clearing Account - Clearing Account Type - Clearing Firm - Client Reference - Conditional Type - Cross Type - Cumulative Quantity - Customer Order Capacity - DEA Indicator - Display - Expire Time - Firm - Firm-Up ID - Liquidity Provision Indicator - Max Floor - Max Rate - Min Rate - Minimum Quantity - Order Condition - Order Reference - Original Order Entry Date - Original Order Reference Number - Peg Difference - Peg Type (all) - Random Reserve - STP Action - STP Level - STP Trader Group - Target Strategy - Time in Force

Order Accepted Message				
Name	Offset	Len	Value	Notes
				- Trading at Closing Price (see Appendix A for more detail)

4.2.2 Order Replaced Message

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

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 Nordic 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

Order Replaced Message				
Name	Offset	Len	Value	Notes
Message Type	0	1	"U"	Order Replaced Message Identifier
Timestamp	1	8	Timestamp	Timestamp
OrigUserRefNum	9	4	UserRefNum	This must be filled out with the exact UserRefNum sent on the Enter Order Message or last Replace Order Message.
NewUserRefNum	13	4	UserRefNum	The UserRefNum of the replacement order, as entered
Price	17	4	Price	The accepted price of the replacement.

Order Replaced Message				
Name	Offset	Len	Value	Notes
				Please note that the accepted price could potentially be different than the entered price if the order was re-priced by Nasdaq Nordic on entry. The accepted price will always be better than or equal to the entered.
Order Reference Number	21	8	Integer	The day-unique Order Reference Number assigned by Nasdaq Nordic to this order
Buy/Sell Indicator	29	1	Alpha	"B" = Buy Order "S" = Sell Order
Order Book	30	4	Integer	Order Book Id
Quantity	34	4	Integer	Total number of shares outstanding.
User	38	6	Alpha-numeric	Name of responsible trader (Trader ID)
Appendage Length	44	2	Integer	Remaining length of the TagValue element
Repeating Group				
Additional Appendage	46	Var	TagValue	Identifies the appendage. The available options supported on this message are: <ul style="list-style-type: none"> - Clearing Account - Clearing Account Type - Clearing Firm - Client Reference - Cross Type - Display - Expire Time - Firm - Max Floor - Max Rate - Min Rate - Minimum Quantity - Order Condition - Order Reference - Random Reserve - Target Strategy - Time in Force (see Appendix A for more detail)

4.2.3 Cancelled Order Message

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

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

Cancelled Order Message				
Name	Offset	Len	Value	Notes
Message Type	0	1	"C"	Cancelled Order Message Identifier
Timestamp	1	8	Timestamp	Timestamp
UserRefNum	9	4	UserRefNum	The UserRefNum of the order being (partially) cancelled
Decrement Quantity	13	4	Integer	The quantity just decremented from the order. This number is incremental, not cumulative.
Reason	17	1	Alpha	Reason the order was reduced or cancelled. See currently supported Cancel Order Reasons in the table below. Clients should anticipate additions to this list and thus support all capital letters of the English alphabet.

Cancel Order Reasons		
Reason	Name	Comments
"U"	User requested cancel	Sent in response to a Cancel 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 quantity was immediately cancelled.
"T"	Timeout	The Time In Force for this order has expired.
"S"	Supervisory	This order was manually cancelled or reduced by a Nasdaq Nordic supervisory terminal. This is usually in response to a participant request via telephone.
"Q"	Self-Match Prevention	The order was cancelled because it would have executed with an order entered by the same user.
"L"	Hidden Peg Not LIS	Hidden Peg order was cancelled as it failed to fulfil LIS criteria after client update.
"N"	Bad Quote	Order cannot be managed due to the current quote state.

Cancel Order Reasons		
Reason	Name	Comments
"R"	State	Current orderbook state does not allow the management of this order.
"F"	PureStream Firm-Up Request	Conditional IOI was canceled due to potential match found. Firm-up to release the match.
"P"	Price	Price movements in the market forced this order to be cancelled.

4.2.4 Cancel Pending Message

A Cancel Pending Message is sent in response to a cancel request signifying that it cannot be immediately applied. Any unexecuted portion of the order will automatically be cancelled as soon as possible.

While a cancel or replace is pending, any following cancel request for the same order will be ignored by OUCH.

Cancel Pending Message				
Name	Offset	Len	Value	Notes
Message Type	0	1	"P"	Cancel Pending Message Identifier
Timestamp	1	8	Timestamp	Timestamp
UserRefNum	9	4	UserRefNum	The UserRefNum of the order suffering the pending cancel
Reason	13	1	Alpha	Reason the order was pended. Clients should anticipate additions to this list and thus support all capital letters of the English alphabet. "A" = Cancel pending completion of Auction on Demand (AOD) "S" = System Processing

4.2.5 Replace Pending Message

A Replace Pending Message is sent in response to a replace request signifying that it cannot be immediately applied. The active order will automatically be replaced as soon as possible.

While a cancel or replace is pending, any following replace request for the same order will be ignored by OUCH.

Replace Pending Message				
Name	Offset	Len	Value	Notes
Message Type	0	1	"N"	Replace Pending Message Identifier
Timestamp	1	8	Timestamp	Timestamp

Replace Pending Message				
Name	Offset	Len	Value	Notes
OrigUserRefNum	9	4	UserRefNum	This must be filled out with the exact UserRefNum sent on the last Replace Order Message.
UserRefNum	13	4	UserRefNum	The UserRefNum of the replacement order, as entered
Reason	17	1	Alpha	Reason the order was pended. Clients should anticipate additions to this list and thus support all capital letters of the English alphabet. "A" = Replace pending completion of Auction on Demand (AOD) "S" = System Processing

4.2.6 Executed Order Message

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

Executed Order Message				
Name	Offset	Len	Value	Notes
Message Type	0	1	"E"	Executed Order Message Identifier
Timestamp	1	8	Timestamp	Execution time
UserRefNum	9	4	UserRefNum	The UserRefNum of the order being executed
Executed Quantity	13	4	Integer	Incremental quantity executed
Execution Price	17	4	Price	The price at which these shares were executed.
Liquidity Flag	21	1	Alpha	"A" = Continuous market trade "C" = Auction trade "P" = Auction On Demand (AOD) trade "G" = Trading at Close Price "M" = Nordic@Mid "S" = PureStream

Executed Order Message						
Name	Offset	Len	Value		Notes	
Match Number	22	4	Integer		Assigned by Nasdaq Nordic to each match executed. Each match consists of one buy and one sell. The matching buy and sell executions share the same match number. Unique over order books per trading day.	
Contra Firm	26	4	Alpha		The MPID of the counterparty.	
Trading Mode	30	1	Alpha		MMT Level 2 "O" = Scheduled Opening Auction "K" = Scheduled Closing Auction "I" = Scheduled Intraday Auction "U" = Unscheduled Auction "2" = Continuous Trading "3" = At Market Close Trading "P" = On Demand Auction (AOD) "5" = Trade Reporting (On Exchange)	
Transaction Category	31	1	Alpha		MMT Level 3.1 "D" = Dark Trade "-" = None apply	
Transaction Type: Algo Indicator	32	1	Alpha		MMT Level 3.9 "H" = Algorithmic Trade "-" = No Algorithmic Trade	
Liquidity Attributes	33	1	Bit-field	0-2	Reserved	
				3-4	Liquidity Indicator	00: Added Liquidity 01: Removed Liquidity 10: Auction 11: Reserved
				5	Liquidity Internalized	0: Not Internalized 1: Internalized
				6	Liquidity Top Of Book	0: Not Top-of-Book 1: Top-of-Book
				7	Liquidity Self Trade	0: Non Self-Trade 1: Self-Trade (no clear, no publish)
Last Market	34	1	Integer		Indicates the execution venue. Note that separate MIC codes are used for Nordic@Mid dark	

Executed Order Message				
Name	Offset	Len	Value	Notes
				book trades, AOD and PureStream order book trades . See currently supported markets below. Clients should anticipate additions to this list.

Last Market		
Value	MIC	Name
1	DCSE	NASDAQ COPENHAGEN A/S - NORDIC@MID
2	MCSE	NASDAQ COPENHAGEN A/S - AUCTION ON DEMAND
3	XCSE	NASDAQ COPENHAGEN A/S
4	XTAL	NASDAQ TALLINN AS
5	DHEL	NASDAQ HELSINKI LTD - NORDIC@MID
6	MHEL	NASDAQ HELSINKI LTD - AUCTION ON DEMAND
7	XHEL	NASDAQ HELSINKI LTD
8	DICE	NASDAQ ICELAND HF. - NORDIC@MID
9	MICE	NASDAQ ICELAND HF. - AUCTION ON DEMAND
10	XICE	NASDAQ ICELAND HF.
11	XRIS	NASDAQ RIGA AS
12	XLIT	AB NASDAQ VILNIUS
14	DSTO	NASDAQ STOCKHOLM AB - NORDIC@MID
15	ESTO	NASDAQ STOCKHOLM AB - NORWAY ETF
16	MSTO	NASDAQ STOCKHOLM AB - AUCTION ON DEMAND
17	XSTO	NASDAQ STOCKHOLM AB
18	DNDK	FIRST NORTH DENMARK - NORDIC@MID
19	DSME	FIRST NORTH DENMARK - SME GROWTH MARKET
20	FNDK	FIRST NORTH DENMARK
21	MNDK	FIRST NORTH DENMARK - AUCTION ON DEMAND
22	FNEE	FIRST NORTH ESTONIA
23	DNFI	FIRST NORTH FINLAND - NORDIC@MID
24	FNFI	FIRST NORTH FINLAND
25	FSME	FIRST NORTH FINLAND - SME GROWTH MARKET
26	MNFI	FIRST NORTH FINLAND - AUCTION ON DEMAND
27	DNIS	FIRST NORTH ICELAND - NORDIC@MID
28	FNIS	FIRST NORTH ICELAND
29	MNIS	FIRST NORTH ICELAND - AUCTION ON DEMAND
30	FNLV	FIRST NORTH LATVIA
31	FNLT	FIRST NORTH LITHUANIA
32	DNSE	FIRST NORTH SWEDEN - NORDIC@MID
33	DOSE	FIRST NORTH SWEDEN - NORWAY NORDIC@MID
34	FNSE	FIRST NORTH SWEDEN
35	MNSE	FIRST NORTH SWEDEN - AUCTION ON DEMAND
36	MOSE	FIRST NORTH SWEDEN - NORWAY AUCTION ON DEMAND
37	ONSE	FIRST NORTH SWEDEN - NORWAY
38	SSME	FIRST NORTH SWEDEN - SME GROWTH MARKET
39	XSAT	SPOTLIGHT STOCK MARKET AB

Last Market		
Value	MIC	Name
40	SPDK	SPOTLIGHT STOCK MARKET DENMARK
41	SPFI	SPOTLIGHT STOCK MARKET FINLAND
42	SPNO	SPOTLIGHT STOCK MARKET NORWAY
43	PCSE	NASDAQ COPENHAGEN A/S - PURESTREAM
44	PHEL	NASDAQ HELSINKI LTD - PURESTREAM
45	PSTO	NASDAQ STOCKHOLM AB - PURESTREAM
46	PFSE	FIRST NORTH SWEDEN – PAN-EUROPEAN PURESTREAM
47	PEUR	FIRST NORTH FINLAND – PAN-EUROPEAN PURESTREAM
255	Undefined	MIC of the execution is one not currently defined in this specification.

4.2.7 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	Len	Value	Notes
Message Type	0	1	"B"	Broken Trade Message Identifier
Timestamp	1	8	Timestamp	Timestamp
UserRefNum	9	4	UserRefNum	The UserRefNum of the order whose execution corresponding to given Match Number is being broken
Match Number	13	4	Integer	Match Number as transmitted in the Executed Order Message being broken.
Reason	17	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. "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

Broken Trade Message				
Name	Offset	Len	Value	Notes
				Nasdaq Nordic supervisory terminal. "X" = External. The trade was broken by an external third party.
Trading Mode	18	1	Alpha	MMT Level 2 "O" = Scheduled Opening Auction "K" = Scheduled Closing Auction "I" = Scheduled Intraday Auction "U" = Unscheduled Auction "2" = Continuous Trading "3" = At Market Close Trading "P" = On Demand Auction (AOD) "5" = Trade Reporting (On Exchange)
Transaction Category	19	1	Alpha	MMT Level 3.1 "D" = Dark Trade "-" = None apply
Transaction Type: Algo Indicator	20	1	Alpha	MMT Level 3.9 "H" = Algorithmic Trade "-" = No Algorithmic Trade

4.2.8 Rejected Order Message

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

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

Rejected Order Message				
Name	Offset	Len	Value	Notes
Message Type	0	1	"J"	Rejected Order Message Identifier
Timestamp	1	8	Timestamp	Timestamp
UserRefNum	9	4	UserRefNum	The UserRefNum of the order being rejected
Reason	13	2	Integer	The reason the order was rejected. See currently supported reject reasons below. Clients should anticipate additions to this list.

Rejected Order Reasons	
Reason	Explanation
1	Halted — There is currently a trading halt so no orders can be accepted in this stock at this time.
2	Quantity exceeds configured safety threshold — The quantity entered must be less than the safety threshold configured for this Account. The safety threshold can be added/updated through Nasdaq Nordic Member Services.
3	Invalid order book identity — The order book identity field must be a valid issue, tradable on Nasdaq Nordic.
4	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.
5	Nasdaq Nordic is closed.
6	Firm Not Authorized.
7	Outside of permitted times for requested clearing type
8	This order is not allowed in this type of cross (stock or time restrictions).
9	Invalid price
10	Invalid Minimum Quantity
11	Invalid User ID
12	Invalid Data
13	Unspecified Error
14	Invalid Side
15	Invalid Short Code
16	Outside of price collar
17	Exceeds maximum order quantity
18	Exceeds maximum order value
19	Invalid Trading At Close
20	Exceeds maximum number of messages per second configured for this account
21	Test Mode — This OUCH Account is configured for test mode and is not able to accept orders in non-TEST securities.
22	Dark Trading Capped
23	GTC not allowed
24	Invalid peg
25	Invalid reserve
26	Invalid GTC
27	Invalid RoundLot – Quantity below round lot requirements
100	Cancel requested on unknown order
101	Cancel requested on order that already has a pending cancel

Pre-Trade Risk Management (PRM) Reasons	
Reason	Explanation
2561	PRM – Order Entry Disabled
2562	PRM – Invalid Symbol
2563	PRM – Restricted Symbol
2564	PRM – Fails Price Check

Pre-Trade Risk Management (PRM) Reasons	
Reason	Explanation
2565	PRM – Market orders not allowed
2566	PRM – Surpasses Max Order Share Threshold
2567	PRM – Surpasses Max Order Value Threshold
2568	PRM – Surpasses Notional Value Threshold (future use)
2569	PRM – Over Total Risk Value
2570	PRM – Over Daily Trade One-Sided Value
2571	PRM – Over Daily Trade Total Value
2572	PRM – Over Daily Open Order One-Sided Value
2573	PRM – Over Daily Open Order Total Value
2574	PRM – Market price order moves auction price too far

4.2.9 Cancel Rejected Message

A Cancel Rejected Message is sent in a response to a Cancel Order Message that cannot be accepted at this time, the reason for the rejection is given.

Cancel Rejected Message				
Name	Offset	Len	Value	Notes
Type	0	1	"I"	Cancel Rejected Message Identifier
Timestamp	1	8	Timestamp	Expressed as nanoseconds since midnight
UserRefNum	9	4	UserRefNum	The UserRefNum of the order that was cancel-rejected
Reason	13	2	Integer	The reason the cancel was rejected. See currently supported reject reasons in the table in 4.2.8. Clients should anticipate additions to this list.

4.2.10 MMO Refresh Request Message

An MMO Refresh Request Message is sent to request that a previously submitted MMO be refreshed. The message will be delivered only to firms enabled for MMO entry.

MMO Refresh Request Message				
Name	Offset	Len	Value	Notes
Message Type	0	1	"W"	MMO Refresh Request Message Identifier
Timestamp	1	8	Timestamp	Timestamp
Firm	9	4	Alpha	Firm to whom the request is directed
Order Book	13	4	Integer	Order Book to be refreshed
Reason	17	1	Alpha	Protection triggered for: "P" = Passive MMO "A" = Aggressive MMO

4.2.11 Order Restated Message

The Order Restated Message is sent to indicate that the system has modified an order as part of its order management.

Order Restated Message				
Name	Offset	Len	Value	Notes
Type	0	1	"T"	Order Restated Message Identifier
Timestamp	1	8	Timestamp	Expressed as nanoseconds since midnight
UserRefNum	9	4	UserRefNum	The UserRefNum of the order being restated
Reason	13	1	Alpha	The reason for this order being restated R = Refresh of display (on an order with reserves) P = Update of displayed price
Appendage Length	14	2	Integer	Remaining length of the TagValue element
Repeating Group				
Additional Appendage	16	Var	TagValue	Identifies the appendage. The available options supported on this message are: <ul style="list-style-type: none"> - Display Price - Display Quantity - Secondary Order Reference Number (see Appendix A for more detail)

4.2.12 Account Query Response

The Account Query Response message is sent in response to an Account Query Request to indicate the next available UserRefNum that can be used to identify new transactions.

Account Query Response Message				
Name	Offset	Len	Value	Notes
Type		1	"Q"	Account Query Response Message Identifier
Timestamp	1	8	Timestamp	Expressed as nanoseconds since midnight
NextUserRefNum	9	4	UserRefNum	The next available UserRefNum

4.2.13 GTC Cancelled Message

A GTC cancelled message is sent if a GTC order could not be restated in the morning. The main reason is if the order no longer fulfills the regular order entry criteria.

GTC Cancelled Message				
Name	Offset	Len	Value	Notes
Type		1	"G"	GTC Cancelled Message Identifier
Timestamp	1	8	Timestamp	Expressed as nanoseconds since midnight
Original Order Entry Date	9	4	Integer	YYYYMMDD - Original Order Entry Date for a cancelled GoodTilCancel order. Note: Updated when order is replaced.
Original Order Reference Number	13	8	Integer	Original Nasdaq-supplied Order Reference Number for a cancelled GoodTilCancel order. Note: Updated when order is replaced.
Reason	21	2	Integer	The reason the GTC order was cancelled. See currently supported cancelled reasons in the Rejected Order Reasons Table in 4.2.8. Clients should anticipate additions to this list.

4.2.14 Pending Order Message

An Order Pending Message is sent in response to an order request signifying that it cannot be immediately applied. The order will automatically be entered as soon as possible.

While a request is pending, any following request for the same order will be ignored by OUCH.

Pending Order Message				
Name	Offset	Len	Value	Notes
Message Type	0	1	"M"	Pending Order Message Identifier
Timestamp	1	8	Timestamp	Timestamp
UserRefNum	9	4	UserRefNum	Sequence number – starts at 1
Reason	17	1	Alpha	"S" - System Processing

4.2.15 Stream Status Message

Is sent whenever an IOI have changes in it's streaming, please note that this can be an aggregate of streams with several counterparties.

Stream Status Message				
Name	Offset	Len	Value	Notes
Message Type	0	1	"D"	Stream Status Message Identifier
Timestamp	1	8	Timestamp	Timestamp
UserRefNum	9	4	UserRefNum	Sequence number – starts at 1
CumRate	13	2	Integer	The current cumulative streaming LTR the order is achieving (includes all active streams for this IOI)
Status	15	1	Alpha	"O" = Stream On "X" = Stream Off

5 Market Maker Instruction Messages

The "Market Maker Instruction Message" may be used by a designated Market Maker to initiate a state change and following actions in order to manage order books utilizing MMO orders. The message can also be used to set a note code, or a reason code when it comes to some select processes. For more information, see the latest version of the Nasdaq Nordic Market Model.

5.1 Inbound Message

MM Market Maker Instruction Message				
Name	Offset	Len	Value	Notes
Message Type	0	1	"M"	MMI Notification Request Identifier
UserRefNum	1	4	UserRefNum	The UserRefNum is unique number for this message.
Order Book	5	4	Integer	Order Book Id
Instruction	9	1	Alpha-numeric	Notification reason 1 = SO (Sold-Out Buy-Back) 2 = BB (Buy-Back) 3 = KB (Knock-Out Buy-Back) 4 = SK (Soft Knock) 5 = UN (Underlying Not Quoted) 6 = KO (Trading Halt Knock Out)
Add or remove	10	1	Alpha	This instruction should be added or removed A = Add R = Remove
Firm	11	4	Alpha-numeric	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.
User	15	6	Alpha-numeric	Name of responsible trader (Trader ID)

5.2 Outbound Message

MM Market Maker Instruction Response Message				
Name	Offset	Len	Value	Notes
Message Type	0	1	"R"	Response to the MMI Notification Request Identifier
Timestamp	1	8	Timestamp	See Data Types above.
UserRefNum	9	4	UserRefNum	The UserRefNum is unique number for this message.
Order Book	13	4	Integer	Order Book Id
Instruction	17	1	Alpha-numeric	Notification reason 1 = SO (Sold-Out Buy-Back) 2 = BB (Buy-Back) 3 = KB (Knock-Out Buy-Back) 4 = SK (Soft Knock) 5 = UN (Underlying Not Quoted) 6 = KO (Trading Halt Knock Out)
Add or remove	18	1	Alpha	This instruction should be added or removed A = Add R = Remove
Firm	19	4	Alpha-numeric	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.
User	23	6	Alpha-numeric	Name of responsible trader (Trader ID)
Instruction Accept / Reject	29	1	Alpha-numeric	The instruction was Accepted or Rejected. The currently supported instruction reasons in the table below

Instruction Reasons	
Reason	Explanation
"A"	The instruction was accepted
"H"	Halted — There is currently a trading halt so no instructions can be accepted in this instrument at this time.
"S"	Invalid order book identity — The order book identity field must be a valid issue, tradable on Nasdaq Nordic.
"C"	Nasdaq Nordic is closed.
"L"	Firm Not Authorized.
"U"	Invalid User ID

Instruction Reasons	
Reason	Explanation
"E"	This Note Code is already set
"F"	This Note Code is not set
"G"	The stop code is not currently active
"B"	The previous MarketMakerInstruction is currently in progress for this instrument

6 Support

Specification documents are located at:

<https://www.nasdaq.com/solutions/european-trading-services>

Appendix A - Additional Fields

Tag	Name	Size ²	Value	Notes
1	Clearing Account	12	Alpha	Supplemental accounting information that is forwarded to the CCP. Field will only be used by the CCP if there is a bilateral agreement in place.
2	Clearing Account Type	1	Alpha-numeric	Designates the account type to be used for the order when submitted to clearing. 1 = Customer (Client) - default 2 = Firm (House)
3	Clearing Firm	4	Alpha	User supplied Clearing Firm. Pass-through field. (Note that the field is not forwarded to the CCP).
4	Client Reference	15	Alpha	User supplied client reference. Pass through field to be returned unchanged on outgoing order and trade messages. The intended use of the client reference is for back office related information.
5	Cross Type	1	Alpha	“C” = closing cross “O” = opening cross “I” = scheduled intraday cross “H” = Halt cross “A” = Auction on Demand
6	DEA Indicator	1	Alpha	Identifies the origin of the order. Used to indicate whether DEA activity (as defined under MiFID II) is involved in the order. Will use configured default if not provided.

² The Size cited is that of just the optional field itself, not the encasing TagValue element

Tag	Name	Size ²	Value	Notes
				1 = Order received from a customer 2 = Order received from within the firm 3 = Order received from another broker-dealer 4 = Order received from a customer or originated with the firm 5 = Order received from a direct access or sponsored access customer
7	Display	1	Alpha	"Y" = Display (default) "N" = Non-Display "A" = Auction On Demand "M" = Nordic@Mid "S" = PureStream
8	Display Price	4	Price	Price of restated child order
9	Display Quantity	4	Integer	Quantity of restated child order
10	Expire Time	2	Integer	The number of seconds that this order should live before being automatically cancelled.
11	Firm	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.
12	Liquidity Provision Indicator	1	Alpha	This flag is used to indicate whether the order is related to any sort of liquidity provision activity, as defined under MiFID II. Flag is required for the order to be considered to count towards meeting any obligation pursuant to the Nasdaq Liquidity Provider "N" = No liquidity Provision – (default) "Y" = Liquidity Provision

Tag	Name	Size ²	Value	Notes
13	Max Floor	4	Integer	Displayed quantity, if the desire is to display only a portion of the order and not the full order quantity (iceberg order).
14	Minimum Quantity	4	Integer	Minimum quantity that could be traded. Allowed to be non-zero only on non-displayed orders (eg., hidden or IOC orders). For PureStream the minimum available quantity on contra IOI to initiate a stream.
15	Order Reference	10	Alpha	User supplied order reference. Pass through field to be returned unchanged on outgoing order and trade messages. The intended use of the order reference is for front office related information.
16	Original Order Entry Date	4	Integer	YYYYMMDD - Original Order Entry Date for a GoodTillCancel order. Note: Updated when order is replaced.
17	Original Order Reference Number	8	Integer	Original Nasdaq-supplied Order Reference Number for a GoodTillCancel order. Note: Updated when order is replaced.
18	Peg Difference	4	Integer (signed)	Number of ticks to offset the price from the peg target. The sign is an absolute sign, not a relative sign. That is, a positive value on a buy order makes it more aggressive. A negative offset on a sell order makes it more aggressive.
19	Peg Type	1	Alpha	Valid for any peggable order. "M" = Midpoint

Tag	Name	Size ²	Value	Notes
				"P" = Market "R" = Primary
20	Random Reserve	4	Integer	The system will randomize the display size by this value each time it decides to refresh the display of the order.
21	Secondary Order Reference Number	8	Integer	An alternative order reference number used when publishing the order on the NASDAQ market data feeds (identifying, for example, the displayed portion of a reserve order)
22	STP Action	1	Alpha-numeric	The parameter is ignored if the STP Level is not specified. 1 = Cancel passive order 2 = Cancel aggressive order 3 = Cancel both orders 4 = Create a transfer transaction
23	STP Level	1	Alpha-numeric	Defines that the order is eligible for self-trade prevention and the scope of prevention. 1 = MPID + Trader 2 = MPID 3 = Specified Trader Group (requires STP Trader Group to be specified)
24	STP Trader Group	2	Alpha-numeric	Defines the trader group. Client defined values. Conditionally required for STP Level = 3, otherwise ignored.
25	Time in Force	1	Alpha-numeric	0 = Day (default) 1 = GTC Good Till Cancelled) 3 = IOC (Immediate or cancel) 6 = GTT (time is specified in the Expire Time field) B = GFA (Good For Auction). Valid for Auction on Demand.

Tag	Name	Size ²	Value	Notes
26	Trading at Closing price	1	Alpha	Indicates if the order should participate in trading at closing price. “Y” = Participate in Trading at Closing Price “N” = Do Not participate in Trading at Closing Price If not included, pre-defined configuration will be used.
27	Order Condition	1	Alpha	Conditions that in some way change the behavior of the order. “W” = MarketMaker Order “U” = MarketMaker Order Refresh “P” = Top-of-Book “Q” = Dark-lit Sweep “T” = Trade Now (only inbound messages)
28	Cumulative Quantity	4	Integer	Previously executed quantity of the GTC order.
29	Customer Order Capacity	1	Alpha	“5” = Order sent in by Retail customer, defined as order originating from clients who are not considered to be “professional clients” according to MiFID or equivalent definition.
30	Target Strategy	1	Alpha	The target strategy of the PureStream order. “0” = 5 - 15% “1” = 5 - 30% “5” = 10 - 200% “C” = Custom (Default) No default outbound.
31	Min Rate	2	Integer	PureStream minimum rate in the 1-500% range. Default = 1%

Tag	Name	Size ²	Value	Notes
				Only used for Target Strategy Custom. No default outbound.
32	Max Rate	2	Integer	PureStream maximum rate in the 1-500% range >= Min Rate. Default = 500% Only used for Target Strategy Custom. No default outbound.
33	Conditional Type	1	Alpha	PureStream Order Type. "C" = Conditional Order "F" = Firm-Up Order (setting this value requires Firm-Up ID to be set as well)
34	Firm-Up ID	4	Integer	If this is sent it needs to be with a UserRefNum for an IOI that received a Firm-Up request. It also requires Conditional Type to be "F" (Firm-Up Order)