



NASDAQ OMX Europe Trade FeedSM – Version 1.00

1 Product Description

NASDAQ OMX Europe is a new marketplace designed for high performance trading of European blue chips. It will serve customers seeking a highly liquid trading and routing platform for the most actively traded European stocks. NASDAQ OMX Europe will enable best execution in high volume securities trading in a cross-border, multi-market environment. The market is scheduled to open in September 2008.

For the new market, NASDAQ OMX will offer the NASDAQ OMX Europe Trade Feed. Upon initial implement, NASDAQ OMX will allow firms to use this direct trade feed product to:

- Create a standalone time and sales display for the NASDAQ OMX Europe market or
- Integrate the data into an existing [NASDAQ OMX European Last Sale \(ELS\)](#) entitlement display

2 Network Protocol Options

NASDAQ OMX will offer the NASDAQ OMX Europe Trade Feed in the following protocol options:

- [SoupTCP](#)
- [MoldUDP](#)

3 Architecture

NASDAQ OMX Europe Trade Feed will be made up of a series of sequenced messages. Each message is variable in length based on the message type and is composed of non-control ASCII bytes. The messages that make up the NASDAQ OMX Europe Trade Feed protocol are typically delivered using a higher level protocol that takes care of sequencing and delivery guarantees.

4 Data Types

All numeric fields are represented in ASCII digits and are right-justified. Padding spaces appear on the left as necessary.

Prices are given in decimal format with 6 whole number places followed by 4 decimal digits. The whole number portion is padded on the left with spaces; the decimal portion is padded on the right with zeros. The decimal point is implied by position; it does not appear inside the price field.

Timestamp reflects the NASDAQ OMX Europe system time at which the outbound message was generated. NASDAQ OMX Europe states time as the number of milliseconds past midnight. The time zone is Western European Time.

All alpha fields are left-justified. Padding spaces appear on the right as necessary.

5 Message Formats

5.1 System Event Message

System Event Messages is used to signal key market or data feed control events.

System Event Message														
Name	Offset	Len	Value	Notes										
Time Stamp	0	8	Numeric	Time Stamp										
Message Type	8	1	Alphanumeric	S = System Event Message										
Event Code	9	1	Alphanumeric	Denotes the NASDAQ OMX Europe Trade Feed type of system event for which the message is being generated. The allowable values are: <table border="1" data-bbox="792 928 1343 1650"> <thead> <tr> <th>Code</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>O</td> <td>Start of Transmissions: Denotes that the NASDAQ OMX Europe Trade Feed system has started its daily transmission schedule.</td> </tr> <tr> <td>S</td> <td>Start of System Hours: Denotes that the NASDAQ OMX Europe system is open and ready to accept new orders.</td> </tr> <tr> <td>E</td> <td>End of System Hours: Denotes that the NASDAQ OMX Europe system is now closed and will not accept any new orders.</td> </tr> <tr> <td>C</td> <td>End of Transmissions: Denotes that the NASDAQ OMX Europe Trade Feed system has ended its daily transmission schedule.</td> </tr> </tbody> </table>	Code	Value	O	Start of Transmissions: Denotes that the NASDAQ OMX Europe Trade Feed system has started its daily transmission schedule.	S	Start of System Hours: Denotes that the NASDAQ OMX Europe system is open and ready to accept new orders.	E	End of System Hours: Denotes that the NASDAQ OMX Europe system is now closed and will not accept any new orders.	C	End of Transmissions: Denotes that the NASDAQ OMX Europe Trade Feed system has ended its daily transmission schedule.
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5.2 Trade Report

The following message is used to relay NASDAQ OMX Europe executions that are reported for the current business day.

Trade Report Message								
<i>Name</i>	<i>Offset</i>	<i>Len</i>	<i>Type</i>	<i>Value/Description</i>				
Time Stamp	0	8	Numeric	Denotes the time stamp of the NASDAQ OMX Europe system that generated the trade transaction.				
Message Type	8	1	Alphanumeric	T = Trade Report				
Market Center Identifier	9	1	Alphabetic	Denotes the NASDAQ OMX market system that generated the trade report message. The allowable value is: <table border="1" data-bbox="873 751 1382 856"> <thead> <tr> <th>Code</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>P</td> <td>NASDAQ OMX Europe</td> </tr> </tbody> </table>	Code	Value	P	NASDAQ OMX Europe
Code	Value							
P	NASDAQ OMX Europe							
Issue Symbol	10	6	Alphanumeric	Denotes the NASDAQ OMX Europe-assigned issue symbol of the security for which the trade report is being generated. See the Symbol Directory message for more information on NASDAQ OMX Europe symbology.				
Security Type	16	1	Alphabetic	Indicates type of instrument being traded. The allowable value is: <table border="1" data-bbox="873 1213 1382 1318"> <thead> <tr> <th>Code</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>E</td> <td>Equity</td> </tr> </tbody> </table>	Code	Value	E	Equity
Code	Value							
E	Equity							
Trade Control Number	17	10	Alphanumeric	Indicates the NASDAQ OMX Europe internal control number associated with the given trade transaction. Please note that this number is used as a key field for trade cancellations and trade corrections. For the NASDAQ OMX Europe system, the terms "Trade Control Number" and "Match Number" are interchangeable.				
Trade Price	27	10	Numeric	Denotes the report price on the trade transaction.				
Trade Size	37	9	Numeric	Indicates the reported number of shares on the trade transaction.				

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Sale Condition Modifier	46	4	Alphanumeric	Sale condition modifier consists of four levels as defined below.								
Sale Condition Modifier – Trade Type Indicator	46	1	<i>Alphanumeric</i>	Indicates the type of NASDAQ OMX Europe transaction that is being reported. The allowable values are: <table border="1" data-bbox="873 394 1383 632"> <thead> <tr> <th>Code</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>@</td> <td>Ordinary (Regular) trade</td> </tr> <tr> <td>N</td> <td>Negotiated trade</td> </tr> <tr> <td>O</td> <td>Odd lot transaction (less than 100 shares in size)</td> </tr> </tbody> </table>	Code	Value	@	Ordinary (Regular) trade	N	Negotiated trade	O	Odd lot transaction (less than 100 shares in size)
Code	Value											
@	Ordinary (Regular) trade											
N	Negotiated trade											
O	Odd lot transaction (less than 100 shares in size)											
Sale Condition Modifier – Trade Time Indicator	47	1	<i>Alphanumeric</i>	Indicates if the NASDAQ OMX Europe trade occurred outside the standard market hours for the primary market. The allowable values are: <table border="1" data-bbox="873 783 1383 968"> <thead> <tr> <th>Code</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>T</td> <td>Extended hours transaction</td> </tr> <tr> <td><space></td> <td>Not applicable</td> </tr> </tbody> </table>	Code	Value	T	Extended hours transaction	<space>	Not applicable		
Code	Value											
T	Extended hours transaction											
<space>	Not applicable											
Sale Condition Modifier – Reserved	48	1	<i>Alphanumeric</i>	Field reserved for Cross Type Indicator in future. For the initial release, this field will be space filled.								
Sale Condition Modifier – Reserved	49	1	<i>Alphanumeric</i>	Reserved for future use as market or regulatory needs dictate. In initial release, this field will be space filled.								

5.3 Trade Cancel/Error

The following message is used in the event that a NASDAQ OMX Europe transaction is cancelled on the same business day that it is reported.

Trade Cancel/Error Message								
<i>Name</i>	<i>Offset</i>	<i>Len</i>	<i>Type</i>	<i>Value/Description</i>				
Time Stamp	0	8	Numeric	Denotes the time stamp of the NASDAQ OMX Europe system that generated the trade cancel/error message.				
Message Type	8	1	Alphanumeric	X = Trade Cancel/Error				
Market Center Identifier	9	1	Alphabetic	Denotes the NASDAQ OMX system that generated the trade report and cancel/error message. The allowable value is: <table border="1" data-bbox="857 829 1383 932"> <thead> <tr> <th>Code</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>P</td> <td>NASDAQ OMX Europe</td> </tr> </tbody> </table>	Code	Value	P	NASDAQ OMX Europe
Code	Value							
P	NASDAQ OMX Europe							
Issue Symbol	10	6	Alphanumeric	Denotes the NASDAQ OMX Europe-assigned issue symbol of the security for which the trade report is being generated. See the Symbol Directory message for more information on NASDAQ OMX Europe symbology.				
Security Type	16	1	Alphabetic	Indicates type of instrument being traded. The allowable value is: <table border="1" data-bbox="857 1285 1383 1388"> <thead> <tr> <th>Code</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>E</td> <td>Equity</td> </tr> </tbody> </table>	Code	Value	E	Equity
Code	Value							
E	Equity							
Original Trade Control Number	17	10	Alphanumeric	Indicates the NASDAQ OMX Europe internal control number associated with the given trade transaction.				
Original Trade Price	27	10	Numeric	Reported price for the original transaction.				
Original Trade Size	37	9	Numeric	Reported number of shares for original transaction.				
Original Sale Condition Modifier	46	4	Alphanumeric	Defines the sale condition modifiers as reported on the original trade transaction.				

5.4 Administrative Messages

To help firms create a full display, NASDAQ OMX Europe supports the following two administrative messages: (1) Trading Action and (2) Symbol Directory.

5.4.1 Stock Trading Action

NASDAQ OMX Europe uses this administrative message to indicate the current trading status of a security to the trading community.

Prior to the start of system hours, NASDAQ OMX Europe will send out a Trading Action spin. In the spin, NASDAQ OMX Europe will send out a Stock Trading Action message with the "T" (Trading Resumption) for all securities that are eligible for trading on the NASDAQ OMX Europe platform at the start of the system hours. If a security is absent from the pre-opening Trading Action spin, firms should assume that the security is being treated as halted in the NASDAQ OMX Europe platform at the start of the system hours. Please note that securities may be halted in the NASDAQ OMX Europe system for regulatory or operational reasons.

After the start of system hours, NASDAQ OMX Europe will use the Trading Action message to relay changes in trading status for an individual security. Messages will be sent when a stock is halted or is released for trading.

Trading Action Message										
Name	Offset	Len	Type	Value/Description						
Time Stamp	0	8	Numeric	Time Stamp.						
Message Type	8	1	Alphanumeric	H = Trading Action						
Issue Symbol	9	6	Alphanumeric	NASDAQ OMX Europe-assigned indicator for issue for which the trading action message is being generated.						
Current Trading State	15	1	Alphabetic	Reflects the current trading state for the issue on the NASDAQ OMX Europe. The allowable values are: <table border="1" data-bbox="803 1432 1349 1619"> <thead> <tr> <th>Code</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>H</td> <td>Halt in effect</td> </tr> <tr> <td>T</td> <td>Trading on NASDAQ OMX Europe</td> </tr> </tbody> </table>	Code	Value	H	Halt in effect	T	Trading on NASDAQ OMX Europe
Code	Value									
H	Halt in effect									
T	Trading on NASDAQ OMX Europe									
Reserved	16	1	Alphanumeric	Reserved for future use. For initial release, this field will be space filled.						
Reason	17	4	Alphanumeric	Reflects the NASDAQ OMX Europe reason code for the trading state change.						

6 Stock Directory

At the start of each trading day, NASDAQ OMX Europe will disseminate stock directory messages for all active symbols for the trading day.

STOCK DIRECTORY				
Name	Offset	Length	Value	Notes
Time Stamp	0	8		
Message Type	8	1	"R"	Stock Directory Message
Stock	9	6	Alphabetic	Denotes the security symbol for the issue in NASDAQ OMX Europe system.
ISIN	15	12	Alphanumeric	Denotes the International Security Identification Number (ISIN) that has been assigned to the issue by the listing market or country.
Currency Code	27	3	Alphabetic	Denotes the ISO 4217 Currency Code in the stock is traded on the NASDAQ OMX Europe system. For the initial market launch, NASDAQ OMX Europe expects to support the following ISO codes: GBX = Pence Sterling GBP = Pound Sterling SEK = Swedish Krona EUR = Euro CHF = Swiss Franc
MIC	30	4	Alphabetic	Denotes the ISO 10383 Market Identifier Code (MIC) of the listing exchange.
Tick Size	34	6	Numeric	Denotes the tick size, which will be expressed as a decimal fraction of the unit of currency,

7 Contact Information

Questions about the NASDAQ OMX Europe Trade Feed entitlement and display guidelines may be directed to [NASDAQ OMX Global Data Products](#) at +1 301 978 5307.

Questions about the NASDAQ OMX Europe Trade Feed transmissions may be directed to [NASDAQ OMX Europe Technical Support](#) at +44 20 7065 8160.

Appendix A – Documentation Version Control Log

NASDAQ OMX Europe Trade Feed Version 1.00 **September 1, 2008**

NASDAQ OMX Europe Trade Feed specification document released to public.