



# NASDAQ OMX BX Best Bid and Offer

For BX Trading Venue

NASDAQ OMX Global Data Products  
805 King Farm Blvd.  
Rockville, MD 20850  
+1 301 978 5307  
11/1/2013

## BX Best Bid and Offer (BX BBO)

# 1 Overview

## 1.1 Product Description

BX Best Bid and Offer (BX BBO) is a direct data feed product offered by NASDAQ OMX to support the BX Trading Market. BX BBO provides the exchange's best bid and offer position for securities listed on the NASDAQ, New York Stock Exchange (NYSE), NYSE Amex, BATS BZX Exchange (BATS) and other U.S. regional exchanges.

Market data distributors may use the BX BBO data feed to feed dynamically updating stock tickers, portfolio trackers, trade alert programs, time and quote graphs, and other display systems. For market data administration purposes, BX BBO is part of the BX Basic entitlement.

For pricing and ordering information:

1. Refer to [Market Data section](#) of the NASDAQ OMX Trader website.
2. Contact the [NASDAQ OMX Global Data Products Account Team](#) at +1 301 978 5307 or +45 33 93 33 66.

## 1.2 Upcoming Product Enhancements

The BX BBO 1.1 feed is designed to support the expanded equity symbols up to 8 characters in total length.

# 2 Network Protocol Options

For direct data feed subscribers, NASDAQ OMX will offer the BX BBO data feed in the following protocol options:

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

In order to match the BX Basic entitlement structure, BX BBO will initially support three outbound channels for both protocol options. The BX BBO data set will be channelized based on the listing market of a security.

Data Channel	Securities coverage
1	NASDAQ-listed issues
2	NYSE- and BATS-listed issues
3	NYSE Amex-, NYSE Arca- and U.S. regional stock exchange-listed issues

# 3 Architecture

BX BBO 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 BX BBO 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 BX system time at which the outbound message was generated. BX states time as the number of milliseconds past midnight. The time zone is U.S. Eastern Time. All alpha fields are left-justified. Padding spaces appear on the right as necessary.

## 5 Message Formats

### 5.1 System Event Message

The System Event message is used to signal key market or data feed control events. BX BBO will support the System Event messages.

SYSTEM EVENT MESSAGE				
Name	Offset	Length	Value	Notes
Time Stamp	0	8	Numeric	Time stamp
Message Type	8	1	Alphanumeric	S = System Event
Event Code	9	1	Alphanumeric	Denotes the type of event for which the message is being generated. See list below for allowable values.

On a daily basis, BX BBO will support the following event codes:

SYSTEM EVENT CODES – DAILY	
Code	Explanation
O	<i>Start of Transmissions:</i> Denotes that BX BBO has started its daily transmission schedule
S	<i>Start of System Hours:</i> This message indicates that BX is open and ready to start accepting orders.
Q	<i>Start of Market Hours:</i> This message is intended to indicate that Market Hours orders are available for execution.
M	<i>End of Market Hours:</i> This message is intended to indicate that Market Hours orders are no longer available for execution.
E	<i>End of System Hours:</i> It indicates that BX is now closed and will not accept any new orders today.
C	<i>End of Transmissions:</i> Denotes that BX BBO has completed its daily transmission schedule.

In the event of an emergency market condition (EMC), BX BBO will also support the following event codes:

SYSTEM EVENT CODES – AS NEEDED	
Code	Explanation
A	<i>Emergency Market Condition – Halt:</i> This message is sent to inform BX market participants that the EMC is in effect. No trading is allowed during the EMC.
R	<i>Emergency Market Condition – Quote Only Period:</i> This message is sent

BX BEST BID AND OFFER VERSION 1.1  
INTERFACE SPECIFICATION

	to inform BX market participants that the EMC quotation only period is in effect.
B	<i>Emergency Market Condition – Resumption:</i> This message is sent to inform BX market participants that EMC is no longer in effect.

## 5.2 Administrative Messages

### 5.2.1 Stock Directory

At the start of each trading day, NASDAQ OMX BX disseminates stock directory messages for all active symbols in its market center system.

Market data vendors should process this message to populate the Financial Status Indicator (required display field) and the Market Category (recommended display field) for NASDAQ-listed and BX-listed issues.

STOCK DIRECTORY MESSAGE																						
Name	Offset	Length	Value	Notes																		
Time Stamp	0	8	Numeric	Time Stamp.																		
Message Type	8	1	Alphanumeric	R = Stock Directory																		
Issue Symbol	9	8	Alphanumeric	Denotes the security symbol for the issue for which the directory message is being generated. For details on symbology, please refer to Appendix A.																		
Market Category	17	1	Alphanumeric	Denotes the listing market for the issue. The allowable values are: <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Code</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>N</td> <td>New York Stock Exchange (NYSE)</td> </tr> <tr> <td>A</td> <td>NYSE Amex</td> </tr> <tr> <td>P</td> <td>NYSE Arca</td> </tr> <tr> <td>Q</td> <td>NASDAQ Global Select Market</td> </tr> <tr> <td>G</td> <td>NASDAQ Global Market</td> </tr> <tr> <td>S</td> <td>NASDAQ Capital Market</td> </tr> <tr> <td>Z</td> <td>BATS BZX Exchange</td> </tr> <tr> <td>&lt;Space&gt;</td> <td>Not available</td> </tr> </tbody> </table>	Code	Value	N	New York Stock Exchange (NYSE)	A	NYSE Amex	P	NYSE Arca	Q	NASDAQ Global Select Market	G	NASDAQ Global Market	S	NASDAQ Capital Market	Z	BATS BZX Exchange	<Space>	Not available
Code	Value																					
N	New York Stock Exchange (NYSE)																					
A	NYSE Amex																					
P	NYSE Arca																					
Q	NASDAQ Global Select Market																					
G	NASDAQ Global Market																					
S	NASDAQ Capital Market																					
Z	BATS BZX Exchange																					
<Space>	Not available																					

BX BEST BID AND OFFER VERSION 1.1  
INTERFACE SPECIFICATION

Financial Status Indicator	18	1	Alphanumeric	For NASDAQ-listed and BX-listed issues, this field indicates when a firm is not in compliance with NASDAQ or BX continued listing requirements.	
				The allowable values are:	
				Code	Value
				D	Deficient
				E	Delinquent
				Q	Bankrupt
				G	Deficient and Bankrupt
				H	Deficient and Delinquent
				J	Delinquent and Bankrupt
				K	Deficient, Delinquent, and Bankrupt
<space>	Company is in compliance, if NASDAQ-listed  OR  Issue is not listed on NASDAQ Market				

### 5.2.2 Stock Trading Action

NASDAQ OMX BX 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 BX will send out a Trading Action spin. In the spin, NASDAQ OMX BX will send out a Stock Trading Action message with the "T" (Trading Resumption) for all NASDAQ- and other exchange-listed securities that are eligible for trading 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 BX platform at the start of the system hours. Please note that securities may be halted in the NASDAQ OMX BX system for regulatory or operational reasons.

After the start of system hours, BX 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 / paused, is released for quotation, or is released for trading.

STOCK TRADING ACTION MESSAGE				
Name	Offset	Length	Value	Notes
Time Stamp	0	8	Numeric	Time Stamp.
Message	8	1	Alphanumeric	H = Trading Action

BX BEST BID AND OFFER VERSION 1.1  
INTERFACE SPECIFICATION

Type																
Issue Symbol	9	8	Alphanumeric	Denotes the security symbol for the issue for which the stock trading action message is being generated. For details on symbology, please refer to Appendix A.												
Security Class	17	1	Alphabetic	Indicates the primary listing market for the issue. Allowable values are: <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Code</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Q</td> <td>NASDAQ Listed Issue</td> </tr> <tr> <td>N</td> <td>NYSE</td> </tr> <tr> <td>A</td> <td>NYSE Amex</td> </tr> <tr> <td>P</td> <td>NYSE Arca</td> </tr> <tr> <td>Z</td> <td>BATS</td> </tr> </tbody> </table>	Code	Value	Q	NASDAQ Listed Issue	N	NYSE	A	NYSE Amex	P	NYSE Arca	Z	BATS
Code	Value															
Q	NASDAQ Listed Issue															
N	NYSE															
A	NYSE Amex															
P	NYSE Arca															
Z	BATS															
Current Trading State	18	1	Alphabetic	Reflects the current trading state for the issue. The allowable values are: <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Code</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>H</td> <td>Halted on across all U.S. equity markets</td> </tr> <tr> <td>Q</td> <td>Quotation only period for cross-market halt or pause</td> </tr> <tr> <td>T</td> <td>Trading on BX</td> </tr> </tbody> </table>	Code	Value	H	Halted on across all U.S. equity markets	Q	Quotation only period for cross-market halt or pause	T	Trading on BX				
Code	Value															
H	Halted on across all U.S. equity markets															
Q	Quotation only period for cross-market halt or pause															
T	Trading on BX															
Reason	19	4	Alphanumeric	Reflects the Market Ops or MarketWatch code for the trading state change. Refer to Appendix C for current code list.												

### 5.2.3 Reg SHO Short Sale Price Test Restricted Indicator

In February 2011, the Securities and Exchange Commission (SEC) will implement changes to Rule 201 of the Regulation SHO (Reg SHO). For details, please refer to [SEC Release Number 34-61595](#). In association with the Reg SHO rule change, NASDAQ will introduce the following Reg SHO Short Sale Price Test Restricted Indicator message format.

For NASDAQ-listed issues, NASDAQ will support a full pre-opening spin of Reg SHO Short Sale Price Test Restricted Indicator messages indicating the Rule 201 status for all active issues. NASDAQ will also send the Reg SHO Short Sale Price Test Restricted Indicator message in the event of an intraday status change.

NASDAQ will process orders based on the most Reg SHO Restriction status value.

REG SHO RESTRICTION				
Name	Offset	Length	Value	Notes
Timestamp	0	8	Numeric	Time at which the market participant position message was generated
Message Type	9	1	"Y"	Reg SHO Short Sale Price Test Restricted Indicator
Stock	10	8	Alpha	Stock symbol right padded with spaces.

BX BEST BID AND OFFER VERSION 1.1  
INTERFACE SPECIFICATION

Reg SHO Action	18	1	Alpha	<p>Denotes the Reg SHO Short Sale Price Test Restriction status for the issue at the time of the message dissemination. Allowable values are:</p> <p>“0” = No price test in place</p> <p>“1” = Reg SHO Short Sale Price Test Restriction in effect due to an intra-day price drop in security</p> <p>“2” = Reg SHO Short Sale Price Test Restriction remains in effect</p>
----------------	----	---	-------	--

### 5.3 Quotation Message

BX BBO will broadcast a real-time update every time that the exchange’s best bid and offer quote is updated during the trading day.

BX BBO QUOTATION MESSAGE																
Name	Offset	Length	Value	Notes												
Time Stamp	0	8	Numeric	Time stamp												
Message Type	8	1	Alphanumeric	Q = BX BBO Quotation Message												
Stock	9	8	Alphanumeric	Denotes the BX market center system issue identifier for which the BX BBO quotation message is being generated.												
Security Class	17	1	Alphabetic	<p>Indicates the primary listing market for the stock. The allowable values are as follows:</p> <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Code</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Q</td> <td>NASDAQ Listed Issue</td> </tr> <tr> <td>N</td> <td>NYSE</td> </tr> <tr> <td>A</td> <td>NYSE Amex</td> </tr> <tr> <td>P</td> <td>NYSE Arca</td> </tr> <tr> <td>Z</td> <td>BATS</td> </tr> </tbody> </table>	Code	Value	Q	NASDAQ Listed Issue	N	NYSE	A	NYSE Amex	P	NYSE Arca	Z	BATS
Code	Value															
Q	NASDAQ Listed Issue															
N	NYSE															
A	NYSE Amex															
P	NYSE Arca															
Z	BATS															
BX Best Bid Price	18	10	Numeric	Denotes the BX best bid price – the highest price for market buy order(s) in the BX system. Price format is \$\$\$\$\$\$dddd.												
BX Best Bid Size	28	9	Numeric	Denotes the aggregated number of shares available for display within the BX market center system at the BX best bid Price.												
BX Best Offer Price	37	10	Numeric	Denotes the BX exchange’s best offer price – the lowest price for market sell order(s) in the BX system. Price format is \$\$\$\$\$\$dddd.												
BX Best Offer	47	9	Numeric	Denotes the aggregated number of												

BX BEST BID AND OFFER VERSION 1.1  
INTERFACE SPECIFICATION

Size				shares available for display within the BX market center system at the BX Best Offer Price.
------	--	--	--	---



## 6 Contact Information

Questions about the BX Basic entitlement and BX BBO specification document may be directed to [NASDAQ OMX Global Data Products](#) at +1 301 978 5307.

Questions about BX BBO transmissions may also be directed to [NASDAQ OMX Operations Center](#).

## Appendix A

### Stock Symbol Convention

For NASDAQ-listed issues, NASDAQ OMX currently restricts its symbol length to a maximum of 8 characters. For common stock issuances, NASDAQ, PSX and BX will only assign root symbols of 1 to 4 characters in length with possible fifth and or sixth character denoting a suffix. In certain instances, a dot "." delimiter may be applied to symbols after the root and between the suffix eg., XXXX.A. For subordinate securities, NASDAQ and BX will assign a 5 character symbol for which the last character relays information about the issue class or issue type. For the current list of fifth and or six character symbol suffixes, please refer to [Ticker Symbol Convention](#) page on the NASDAQ OMX Trader website.

For NYSE-, NYSE MKT- and NYSE Arca-listed securities with subordinate issue types, please refer to [Ticker Symbol Convention](#) page on the NASDAQ OMX Trader website.

## Appendix B

### Trading Action Reason Codes

For NASDAQ-listed issues, NASDAQ acts as the primary market and has the authority to institute a trading halt or trading pause in an issue due to news dissemination or regulatory reasons.

For BX-listed issues, NASDAQ OMX BX acts as the primary market and has the authority to institute a trading halt in an issue due to news dissemination or regulatory reasons.

For CQS issues, NASDAQ abides by any regulatory trading halts and trading pauses instituted by the primary or listing market as appropriate.

For all issue types, NASDAQ and/or BX may also halt trading for operational reasons.

NASDAQ and/or BX will send out a trading action message to inform its market participants when the trading status of an issue changes. For informational purposes, NASDAQ and BX also attempt to provide the reason for each trading action update. For bandwidth efficiency reasons, NASDAQ and BX use a 4-byte code for the reason on its outbound data feeds.

REASON CODES FOR TRADING HALT ACTIONS	
Code	Value
T1	Halt News Pending
T2	Halt News Disseminated
T5	Single Security Trading Pause In Affect
T6	Regulatory Halt — Extraordinary Market Activity
T8	Halt ETF
T12	Trading Halted; For Information Requested by Listing Market
H4	Halt Non-Compliance
H9	Halt Filings Not Current
H10	Halt SEC Trading Suspension
H11	Halt Regulatory Concern
LUDP	Volatility Trading Pause
LUDS	Volatility Trading Pause – Straddle Condition
MWC1	Market Wide Circuit Breaker Halt – Level 1
MWC2	Market Wide Circuit Breaker Halt – Level 2
MWC3	Market Wide Circuit Breaker Halt – Level 3
MWC0	Market Wide Circuit Breaker Halt – Carry over from previous day
O1	Operations Halt; Contact Market Operations
IPO1	IPO Issue Not Yet Trading
M1	Corporate Action
M2	Quotation Not Available
<space>	Reason Not Available

REASON CODES FOR QUOTATION/TRADING RESUMPTION ACTIONS	
Code	Value
T3	News and Resumption Times
T7	Single Security Trading Pause / Quotation Only Period
R4	Qualifications Issues Reviewed/Resolved; Quotations/Trading to Resume
R9	Filing Requirements Satisfied/Resolved; Quotations/Trading To Resume
C3	Issuer News Not Forthcoming; Quotations/Trading To Resume
C4	Qualifications Halt ended; Maintenance Requirements Met; Resume
C9	Qualifications Halt Concluded; Filings Met; Quotes/Trades To Resume

BX BEST BID AND OFFER VERSION 1.1  
INTERFACE SPECIFICATION

C11	Trade Halt Concluded By Other Regulatory Auth.; Quotes/Trades Resume
MWCQ	Market Wide Circuit Breaker Resumption
R1	New Issue Available
R2	Issue Available
IPOQ	IPO Security Released for Quotation (NASDAQ and BX Securities Only)
IPOE	IPO Security — Positioning Window Extension (NASDAQ and BX Securities Only)
<space>	Reason Not Available

For the current list of regulatory halts, please refer to the [Trading Halts page](#) on the NASDAQ OMX Trader website.

## Appendix C

### Documentation Version Control Log

**November 1, 2013: BX BBO Version 1.10**

NASDAQ OMX released a new version of the documentation to support details of expanded symbology (Appendix A).

**March 11, 2013: BX BBO Version 1.10**

NASDAQ OMX added the following Trading Action Reason Code for LULD to reflect when the National Best Bid is below the lower price band and/or the National Best Offer is above than the upper price band and the NMS Stock is not in a Limit State.

- LUDS - Volatility Trading Pause – Straddle Condition

**January 9, 2013: BX BBO Version 1.10**

NASDAQ OMX added the following Trading Action Reason Code:

- MWC0 - Market Wide Circuit Breaker Halt – Carry over from previous day

**January 8, 2013: BX BBO Version 1.10**

NASDAQ OMX removed the Trading Action State, "P", from the Stock Trading Message.

**November 6, 2012: BX BBO Version 1.10**

Released a new version of the BX BBO documentation to support the following changes:

- Added the "P" value to the Trading State in the Stock Trading Message.
- Modified the values for the Trading Action Reason Codes. Added the following codes:
  - LUDP - Volatility Trading Pause
  - MWC1 - Market Wide Circuit Breaker Halt – Level 1
  - MWC2 - Market Wide Circuit Breaker Halt – Level 2
  - MWC3 - Market Wide Circuit Breaker Halt – Level 3
  - MWCQ - Market Wide Circuit Breaker Resumption
- Removed the Trading State, "V", related to the Volatility Guard Program.

**November 1, 2011: BX BBO Version 1.10**

NASDAQ OMX updated the Market Category message to include the code "Z" for BATS-listed securities.

**July 14, 2010: BX BBO Version 1.10**

NASDAQ OMX added a new Regulation SHO Short Sale Price Test Restricted Indicator message format to be introduced in the fourth quarter of 2010.

**July 2, 2010: BX BBO Version 1.10**

NASDAQ OMX added a new Trading State code value of "V" to the Stock Trading Action message to denote a NASDAQ Volatility Guard trading pause.

**May 25, 2010: BX BBO Version 1.10**

NASDAQ added two new Trading Action Reason code values (T5 and T7) for single security trading pause situations.

**January 26, 2010: BX BBO Version 1.10**

Released a new version of the BX BBO documentation to support the following changes:

- Increased length of the symbol field from 6 characters to 8 characters in support of the equity symbology initiative.
- Modified the values for the Market Category / Security Class fields to delineate among NYSE-, NYSE Amex- and NYSE Arca-listed issues.

BX BEST BID AND OFFER VERSION 1.1  
INTERFACE SPECIFICATION

- Added note to Appendix B to reflect that NASDAQ OMX is reviewing its stock symbol conventions to determine if changes are needed.