

Nasdaq Best Bid and Offer (QBBO)

Version 2.1

Contents

1	Overview	3
	1.1 Product Description	3
2	Network Protocol Options	4
3	Architecture	4
4	Data Types	5
5	Message Formats	5
	5.1 System Event Message	5
	5.2 Administrative Messages	6
	5.2.1 Stock Directory	6
	5.2.2 Stock Trading Action	8
	5.2.3 Reg SHO Short Sale Price Test Restricted Indicator	10
	5.2.4 Market-Wide Circuit Breaker (MWCB) Messaging	10
	5.2.5 Operational Halt	11
5.	3 Quotation Message	12
5.	4 NextShares Quotation Message	13
5.	5 Retail Price Interest Indicator (PII)	. 14
5.	6 IPO Quoting Period Update	15
Co	ontact Information	16
Αį	pendix A – Stock Symbol Comvention	17
Αį	pendix B – Trading Action Reason Codes	18
Αļ	ppendix C - Issue Classification Values	20
Αį	ppendix D - Issue Sub-Type Values	21
Αį	ppendix E – Documentation Version Control Log	23

1 Overview

1.1 Product Description

Nasdaq Best Bid and Offer (QBBO) is a direct data feed product offered by The Nasdaq Stock Market, LLC. QBBO provides the exchange's best bid and offer position for securities listed on the Nasdaq, New York Stock Exchange (NYSE), and other U.S. regional exchanges.

Market data distributors may use the QBBO 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, QBBO is part of the Nasdag Basic entitlement.

For pricing and ordering information:

2 Network Protocol Options

For direct data feed subscribers, Nasdaq will offer the Nasdaq BBO data feed in the following protocol options:

- SoupBinTCP
- Compression over SoupBinTCP
- MoldUDP64

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

Data Channel	Securities coverage			
1	NYSE listed issues			
2	Other U.S. regional stock exchanges			
3	Nasdag listed issues			

3 Architecture

QBBO will be made up of a series of sequenced messages. Each message is variable in length based on the message type. The messages that make up the QBBO protocol are typically delivered using a higher level protocol that takes care of sequencing and delivery guarantees.

4 Data Types

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

All alphanumeric fields are ASCII fields which are left justified and padded on the right with spaces.

Prices are integer fields, supplied with an associated precision. When converted to a decimal format, prices are in a fixed point format, where the precision defines the number of decimal places. For example, a field flagged as Price (4) has an implied 4 decimal digits.

Timestamps reflects the Nasdaq system time at which the outbound message was generated. Nasdaq states time as the number of nanoseconds past midnight. The time zone is U.S. Eastern Time.

5 Message Formats

5.1 System Event Message

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

System Event Message							
Name	Offset	Length	Value	Notes			
Message Type	0	1	"S"	System Event			
Tracking Number	1	2	Integer	Nasdaq internal tracking number			
Time Stamp	3	6	Timestamp	Time stamp			
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, QBBO will support the following event codes:

SYSTEM EVENT CODES – DAILY				
Code	de Explanation			
0	Start of Transmissions: Denotes that QBBO has started its daily			
	transmission schedule			

S	Start of System Hours: This message indicates that Nasdaq is open and ready to start accepting orders.
Q	Start of Market Hours: This message is intended to indicate that Market Hours orders are available for execution.
М	End of Market Hours: This message is intended to indicate that Market Hours orders are no longer available for execution.
E	End of System Hours: It indicates that Nasdaq is now closed and will not accept any new orders today.
С	End of Transmissions: Denotes that QBBO has completed its daily transmission schedule.

5.2 Administrative Messages

5.2.1 Stock Directory

At the start of each trading day, Nasdaq 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 <u>Nasdaq-listed issues</u>.

STOCK DIRECTORY	STOCK DIRECTORY						
Name	Offset	Length	Value	Notes			
Message Type	0	1	"R"	Stock Directory Message			
Tracking Number	1	2	Integer	Nasdaq Internal Tracking Number			
Timestamp	3	6	Numeric	Time at which the directory message was generated. Refer to Data Types for field processing notes.			
Stock	9	8	Alpha	Denotes the security symbol for the issue in the Nasdaq execution system.			
Market Category	17	1	Alpha	Indicates Listing market or listing market tier for the issue "Q" = Nasdaq Global Select Market SM "G" = Nasdaq Global Market SM "S" = Nasdaq Capital Market [®] "N" = New York Stock Exchange (NYSE) "A" = NYSE American "P" = NYSE Arca "Z" = BATS BZX Exchange "V" = Investors' Exchange, LLC <space> = Not Available</space>			

Financial Status	18	1	Alpha	For Nasdag-listed issues, this field indicates when a
Indicator	10	1	Aipiia	firm is not in compliance with Nasdaq continued
maicator				listing requirements.
				"D" = Deficient
				"E" = Delinquent
				"Q" = Bankrupt
				"S" = Suspended
				"G" = Deficient and Bankrupt
				"H" = Deficient and Delinquent
				"J" = Delinquent and Bankrupt
				"K" = Deficient, Delinquent and Bankrupt
				"C" = Creations and/or Redemptions Suspended for
				Exchange Traded Product
				"N" = Normal (Default): Issuer Is NOT Deficient, Delinquent, or Bankrupt
				<space> = Company is in compliance, if Nasdaq-</space>
	1			listed issue
Round Lot Size	19	4	Integer	Indicates the number of shares that represent a round lot for the issue
Round Lots Only	23	1	Alpha	Indicates if Nasdaq system limits order entry for
,				issue
				"Y" = only round lots are accepted in this stock
				"N" = odd/mixed lots are allowed
Issue	24	1	Alpha	Identifies the security class for the issue as assigned
Classification			1	by Nasdaq. See Appendix for allowable values.
Issue Sub-type	25	2	Alpha	Identifies the security sub-type for the issue as
				assigned by Nasdaq. See Appendix for allowable
				values.
Authenticity	27	1	Alpha	Denotes if an issue or quoting participant record is
				set-up in Nasdaq systems in a live/production, test,
				or demo state. Please note that firms should only
				show live issues and quoting participants on public
				quotation displays.
				"P" = Live/Production
				"T" = Test
Short Sale	28	1	Alpha	Indicates if a security is subject to mandatory close-
Threshold				out of short sales under SEC Rule 203(b)(3).
Indicator				
				"Y" = Issue is restricted under SEC Rule 203(b)(3)
				"N" = Issue is not restricted
	1			" <space>" = Threshold Indicator not available</space>
IPO Flag	29	1	Alpha	Indicates if the Nasdaq security is set up for IPO
	1			release. This field is intended to help Nasdaq market
				participant firms comply with FINRA Rule 5131(b).
				Nasdag-Listed Instruments
	1			"Y" = Nasdaq listed instrument is set up as a new IPO
	1			security
	1			"N" = Nasdaq listed instrument is not set up as a
				new IPO security
				Non-Nasdaq Listed Instruments
				" <space>" = Not available</space>

LULD Reference Price Tier	30	1	Alpha	Indicates which Limit Up / Limit Down price band calculation parameter is to be used for the instrument. Refer to LULD Rule for details. "1" = Tier 1 NMS Stocks and select ETPs "2" = Tier 2 NMS Stocks " <space>" = Not Available</space>
ETP Flag	31	1	Alpha	Indicates whether the security is an exchange traded product (ETP): "Y" = Instrument is an ETP "N" = Instrument is not an ETP " <space>" = Not Available</space>
ETP Leverage Factor	32	4	integer	Tracks the integral relationship of the ETP to the underlying index. Example: If the underlying Index increases by a value of 1 and the ETP's Leverage factor is 3, indicates the ETF will increase/decrease (see Inverse) by 3. Leverage Factor is rounded to the nearest integer below, e.g. leverage factor 1 would represent leverage factors of 1 to 1.99. This field is used for LULD Tier I price band calculation purposes. ETP Leverage Factor currently not supported for Non-Nasdaq listed ETP's.
Inverse Indicator	36	1	Alpha	Indicates the directional relationship between the ETP and underlying index. "Y" = ETP is an Inverse ETP "N" = ETP is not an Inverse ETP Example: An ETP Leverage Factor of 3 and an Inverse value of 'Y' indicates the ETP will decrease by a value of 3.

5.2.2 Stock Trading Action

Nasdaq 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 will send out a Trading Action spin. In the spin, Nasdaq 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 platform at the start of the system hours. Please note that securities may be halted in the Nasdaq system for regulatory or operational reasons.

After the start of system hours, Nasdaq 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*
- Released for quotation
- Released for trading

* The paused status will be disseminated for Nasdaq-listed securities only. Trading pauses on non-Nasdaq listed securities will be treated simply as a halt.

STOCK TRADING ACTION MESSAGE							
Name	Offset	Length	Value	Notes			
Message Type	0	1	"H"	Trading Actio	on		
Tracking Number	1	2	Integer	Nasdaq inter	nal tracking number		
Time Stamp	3	6	Timestamp	Timestamp			
Stock	9	8	Alphanumeric	stock trading	gned indicator for issue for which the g action message is being generated. In Nasdaq symbology, please refer to		
Security Class	17	1	Alphanumeric	Indicates the Allowable va	e primary listing market for the issue. alues are:		
				Code	Value		
				Q	Nasdaq-Listed Issue		
				N	NYSE		
				А	NYSE American		
				Р	NYSE Arca		
				Z	BATS		
				V	IEXG		
Current Trading State	18 1	1	1 Alphanumeric		current trading state for the Illowable values are:		
				Code V	'alue		
					lalted/Paused on lasdaq and all JTP participants		
				p	Quotation only period for ross-SRO halt or pause		
				U / li	raused across all J.S. equity markets SROs (Nasdaq- sted securities inly)		

				Т	Trading on Nasdaq Market
Reason	19	4	Alphanumeric	MarketW code for	the Market Ops or Vatch the trading state change. Refer to x C for current code list.

5.2.3 Reg SHO Short Sale Price Test Restricted Indicator

In November 2010, the Securities and Exchange Commission (SEC) implemented changes to Rule 201 of the Regulation SHO (Reg SHO). For details, please refer to <u>SEC Release Number 34-61595</u>. In association with the Reg SHO rule change, Nasdaq introduced the following Reg SHO Short Sale Price Test Restricted Indicator message format.

For Nasdaq-listed issues, Nasdaq supports 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 also sends the Reg SHO Short Sale Price Test Restricted Indicator message in the event of an intraday status change.

For other exchange-listed issues, Nasdaq relays the Reg SHO Short Sale Price Test Restricted Indicator message when it receives an update from the primary listing exchange.

Nasdaq processes orders based on the most Reg SHO Restriction status value.

REG SHO RESTRICTION						
Name	Offset	Length	Value	Notes		
Message	0	1	"Y"	Reg SHO Short Sale Price Test		
Туре				Restricted Indicator		
Tracking Number	1	2	Integer	Nasdaq internal tracking number		
Timestamp	3	6	Timestamp	Time at which the market participant position message was generated		
Stock	9	8	Alphanumeric	Stock symbol right padded with spaces.		
Reg SHO Action	17	1	Alphanumeric	Denotes the Reg SHO Short Sale Price Test Restriction status for the issue at the time of the message dissemination. Allowable values are: "0" = No price test in place "1" = Reg SHO Short Sale Price Test Restriction in effect due to an intra- day price drop in security "2" = Reg SHO Short Sale Price Test Restriction remains in effect		

5.2.4 Market-Wide Circuit Breaker (MWCB) Messaging

5.2.4.1 MWCB Decline Level Message

Informs data recipients what the daily MWCB breach points are set to for the current trading day.

MWCB Decline Level Message							
Name	Offset	Length	Value	Notes			
Message	0	1	"V"	Market wide circuit breaker Decline			
Туре				Level Message.			
Tracking	1	2	Integer	Nasdaq internal tracking number			
Number							
Timestamp	3	6	Timestamp	Time at which the MWCB Decline Level			

				message was generated
Level 1	9	8	Price (8)	Denotes the MWCB Level 1 Value.
Level 2	17	8	Price (8)	Denotes the MWCB Level 2 Value.
Level 3	25	8	Price (8)	Denotes the MWCB Level 3 Value.

5.2.4.2 MWCB Status Message

Informs data recipients when a MWCB has breached one of the established levels

MWCB Breach Message							
Name	Offset	Length	Value	Notes			
Message	0	1	"W"	Market-Wide Circuit Breaker Status			
Туре				message			
Tracking	1	2	Integer	Nasdaq internal tracking number			
Number							
Timestamp	3	6	Timestamp	Time at which the MWCB Breaker			
				Status message was generated			
Breached	9	1	Alphanumeric	Denotes the MWCB Level that was			
Level				breached.			
				"1" = Level 1			
				"2" = Level 2			
				"3" = Level 3			

5.2.5 Operational Halt

The Exchange uses this message to indicate the current Operational Status of a security to the trading community. An Operational Halt means that there has been an interruption of service on the identified security impacting only the designated Market Center. These Halts differ from the "Stock Trading Action" message types since an Operational Halt is specific to the exchange for which it is declared, and does not interrupt the ability of the trading community to trade the identified instrument on any other market place.

Nasdaq uses this administrative message to indicate the current trading status of the three market centers operated by Nasdaq.

Operational Halt							
Name	Offset	Length	Value	Notes			
Message Type	0	1	"h"	Operational Halt			
Tracking Number	1	2	Integer	Nasdaq internal tracking number			

Timestamp	3	6	Integer		the Operational Halt message was fer to Data Types for field es.
Stock	9	8	Alpha	Denotes the security symbol for the issue in the Nasdaq execution system	
Market Code	17	1	Alpha		
				Code	Value
				Q	Nasdaq
				В	BX
				Х	PSX
Operational	18	1	Alpha		
Halt Action				Code	Value
			Н	Operationally Halted on the identified Market	
				Т	Operational Halt has been lifted and Trading resumed

5.3 Quotation Message

QBBO will broadcast a real-time update every time that the exchange's best bid and offer quote is updated during the trading day. Please note that this message is for non-NextShares messages. NextShares messages will be supported in 5.4 (NextShares Quotation Message)

QBBO QUOTATION	QBBO QUOTATION MESSAGE							
Name	Offset	Length	Value	Notes				
Message Type	0	1	"Q"	Quotation Message				
Tracking Number	1	2	Integer	Nasdaq internal tracking number				
Time Stamp	3	6	Timestamp	Timestamp				
Stock	9	8	Alphanumeric	Denotes the security symbol for the issue in the Nasdaq execution system.				
Security Class	17	1	Alphanumeric	Indicates the primary listing market for the stock. The allowable values are as follows:				
				Code Value				

				Q	Nasdaq-Listed Issue
				N	NYSE
				А	NYSE American
				Р	NYSE Arca
				Z	BATS
				V	Investors' Exchange LLC
Nasdaq Best Bid Price	18	4	Price (4)	– the higl	the Nasdaq best bid price nest price for uy order(s) in the ystem.
Nasdaq Best Bid Size	22	4	Integer	of shares for displa market co	the aggregated number available y within the Nasdaq enter system at the est bid Price.
Nasdaq Best Offer Price	26	4	Price (4)	exchange	
Nasdaq Best Offer Size	30	4	Integer	of shares for displa market co	the aggregated number available y within the Nasdaq enter system at the est Offer Price.

5.4 NextShares Quotation Message

This version of the Quotation message format will be used for Exchange Traded Managed Funds (NextShares). For this asset class, Nasdaq will support both Proxy Price and Net Asset Value (NAV) premium/discount amount for the best bid and offer.

NextShares Quotation Message						
Name	Offset	Length	Value	Notes		
Message Type	0	1	"A"	NextShares Quotation Message		
Tracking Number	1	2	Integer	Nasdaq internal tracking number		
Timestamp	3	6	Timestamp	Time at which the message was generated		
NextShares Symbol	9	8	Alphanumeric	Denotes the NextShares symbol in the Nasdaq execution system.		
Security Class	17	1	Alphanumeric	Indicates the primary listing market for the stock. The allowable values are as follows: Code Value		

				Q	Nasdaq-listed security	
Nasdag Best Bid -	18	4	Price (4)	Denote	es the Nasdag best bid	

Proxy Price				price for NextShares in proxy price format.
Nasdaq Best Bid Size	22	4	Integer	Denotes the aggregated number of shares available for display within the Nasdaq market center system at the Nasdaq best bid price.
Nasdaq Best Bid - NAV Premium/Discount Amount	26	4	Signed Price (4)	Denotes premium or discount amount to the NAV reflected in the Nasdaq best bid. Please note: This is a signed (+/-) field.
Nasdaq Best Offer - Proxy Price	30	4	Price (4)	Denotes the Nasdaq best offer for the EMTF in proxy price format .
Nasdaq Best Offer Size	34	4	Integer	Denotes the aggregated number of shares available for display within the Nasdaq market center system at the Nasdaq best offer price.
Nasdaq Best Offer - NAV Premium/Discount Amount	38	4	Signed Price (4)	Denotes the premium or discount amount to the NAV reflected in the Nasdaq best offer. Please note: this is a signed (+/-) field.

5.5 Retail Price Interest Indicator (PII)

Identifies a retail interest indication of the Bid, Ask or both the Bid and Ask for Nasdaq-listed securities.

Price Improvement Message						
Name	Offset	Length	Value	Notes		
Message Type	0	1	"N"	Retail Interest message		
Tracking	1	2	Integer	Nasdaq internal tracking number		
Time Stamp	3	6	Timestamp	Timestamp		
Stock	9	8	Alphanumeric	Denotes the security symbol for the issue in the Nasdaq execution system. Refer to Appendix B for stock symbol convention information.		

Interest Flag	17	1	Alphanumeric	"B" = PI orders available on the buy side
				"S" = PI orders available on the sell side
				"A" = PI orders available on
				both sides (buy and sell)
				"N" = No PI orders available

5.6 IPO Quoting Period Update

Indicates the anticipated IPO quotation release time of a security.

Price Improvement Message							
Name	Offset	Length	Value	Notes			
Message Type	0	1	"K"	IPO Release Message			
Tracking	1	2	Integer	Nasdaq internal tracking number			
Time Stamp	3	6	Timestamp	Time at which the IPO message was generated			
Stock	9	8	Alphanumeric	Denotes the security symbol for the issue in the Nasdaq execution system.			
IPO Quotation Release Time	17	4	Integer	Denotes the IPO release time, in seconds since midnight, for quotation to the nearest second.			
				NOTE: If the quotation period is being canceled/postponed, we should state that:			
				1. IPO Quotation Time will be set to 0			
				2. IPO Price will be set to 0			
IPO Quotation Release Qualifier	21	1	Alphanumeric	"A" = Anticipated quotation release time - This value would be used when Nasdaq Market Operations initially enters the IPO instrument for release.			
				"C" = IPO release canceled/postponed - This value would be used when Nasdaq Market Operations cancels or postpones the release of the IPO instrument.			
IPO Price	22	4	Price (4)	Denotes the IPO price to be used for intraday net change calculations.			
				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.			

Contact Information

Questions about the Nasdaq Basic entitlement and QBBO specification document may be directed to <u>Clientsuccess@nasdaq.com.</u>

Questions about QBBO transmissions may also be directed to <u>Nasdaq Operations Center</u>.

Appendix A – Stock Symbol Comvention

For Nasdaq-listed issues, Nasdaq currently restricts its symbol length to a maximum of 8 characters. For common stock issuances, Nasdaq, BX and PSX 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 Trader website.

For NYSE-, NYSE American- and NYSE Arca-listed securities with subordinate issue types, please refer to <u>Ticker Symbol Convention</u> page on the Nasdaq 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 CQS issues, Nasdaq, BX and PSX abide by any regulatory trading halts and trading pauses instituted by the primary or listing market as appropriate.

For all issue types, Nasdaq, BX and/or PSX may also halt trading for operational reasons. Nasdaq, BX and/or PSX will send out a trading action message to inform its market participants when the trading status of an issue changes. For informational purposes, Nasdaq, BX, and PSX also attempt to provide the reason for each trading action update. For bandwidth efficiency reasons, Nasdaq, BX and PSX 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	
Н9	Halt Filings Not Current	
H10	Halt SEC Trading Suspension	
H11	Halt Regulatory Concern	
01	Operations Halt; Contact Market Operations	
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	
IPO1	IPO Issue Not Yet Trading	
M1	Corporate Action	
M2	Quotation Not Available	
<space></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
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 Securities Only)
IPOE	IPO Security — Positioning Window Extension (Nasdaq Securities Only)
<space></space>	Reason Not Available

For the current list of regulatory halts, please refer to the <u>Trading Halts page</u> on the Nasdaq Trader website.

Appendix C - Issue Classification Values

Identifies the security class for the issue as assigned by Nasdaq

CODES FOR ISSUE CLASSIFICATION VALUES		
Code	Value	
Α	American Depositary Share	
В	Bond	
С	Common Stock	
F	Depository Receipt	
I	144A	
L	Limited Partnership	
N	Notes	
0	Ordinary Share	
Р	Preferred Stock	
Q	Other Securities	
R	Right	
S	Shares of Beneficial Interest	
T	Convertible Debenture	
U	Unit	
V	Units/Benif Int	
W	Warrant	

Appendix D - Issue Sub-Type Values

CODES FOR ISSUE CLASSIFICATION VALUES		
Code	Value	
A	Preferred Trust Securities	
Al	Alpha Index ETNs	
В	Index Based Derivative	
С	Common Shares	
СВ	Commodity Based Trust Shares	
CF	Commodity Futures Trust Shares	
CL	Commodity-Linked Securities	
СМ	Commodity Index Trust Shares	
СО	Collateralized Mortgage Obligation	
СТ	Currency Trust Shares	
CU	Commodity-Currency-Linked Securities	
CW	Currency Warrants	
D	Global Depositary Shares	
E	ETF-Portfolio Depositary Receipt	
EG	Equity Gold Shares	
EI	ETN-Equity Index-Linked Securities	
EM	Exchange Traded Managed Funds *	
EN	Exchange Traded Notes	
EU	Equity Units	
F	HOLDRS	
FI	ETN-Fixed Income-Linked Securities	
FL	ETN-Futures-Linked Securities	
G	Global Shares	
1	ETF-Index Fund Shares	
IR	Interest Rate	
IW	Index Warrant	
IX	Index-Linked Exchangeable Notes	
J	Corporate Backed Trust Security	
L	Contingent Litigation Right	
LL	Identifies securities of companies that are set up as a Limited Liability Company (LLC)	
М	Equity-Based Derivative	
MF	Managed Fund Shares	
ML	ETN-Multi-Factor Index-Linked Securities	
MT	Managed Trust Securities	
N	NY Registry Shares	
0	Open Ended Mutual Fund	
Р	Privately Held Security	
PP	Poison Pill	
PU	Partnership Units	

Q	Closed-End Funds
R	Reg-S
RC	Commodity-Redeemable Commodity-Linked Securities
RF	ETN-Redeemable Futures-Linked Securities
RT	REIT
RU	Commodity-Redeemable Currency-Linked Securities
S	SEED
SC	Spot Rate Closing
SI	Spot Rate Intraday
Т	Tracking Stock
TC	Trust Certificates
TU	Trust Units
U	Portal
V	Contingent Value Right
W	Trust Issued Receipts
WC	World Currency Option
Х	Trust
Υ	Other
Z	Not Applicable

Appendix E – Documentation Version Control Log

QBBO Version 2.1

July 14, 2022

Due to the launch of non-integer leverage factors, updated ETP Leverage Factor from section 5.2.1 page 7.

QBBO Version 2.1

May 3, 2018

Nasdaq made the decision to fall back to the previous version number to avoid customer confusion related to different sequencing between the version number of the product specifications and the version number of the actual product code.

QBBO Version 2.2

March 3, 2018

Released a new version of Nasdaq Best Bid and Offer documentation to add a new Operational Halt message (Section 5.2.5) to indicate the current Operational Status of a security to the trading community.

QBBO Version 2.1

September 12, 2017

Nasdaq added a new Market Category code in the Stock Directory message for the Investors' Exchange, LLC to distinguish IEX-listed issues. New market category code is "V". Nasdaq also added a new Security Class field ("V") for Investors' Exchange, LLC in the Quotation messages and Stock Trading Action messages.

QBBO Version 2.1

March 6, 2015

The QBBO Specification was updated include:

- Addition of ETMF Quotation Message
- New Issue Sub-Type Code "EM" for Exchange Traded Managed Funds
- Clarification Data Types section

These changes will take effect 10/1/2015. The 2.1 version will go live on 10/1/2015 - with v 2.0 running in parallel through 1/29/16.

Nasdaq and NFS are requesting that market data vendors display ETMF orders, quotations and trades in NAV-based format if at all possible. For display purposes, Nasdaq is including the NAV premium / discount amount data points on QBBO, NLS and NLS Plus for this purposes. Firms may also calculate the NAV premium / discount amount from proxy price field by deducting \$100 from the disseminated value.

If firms decide to display ETMF data in proxy price format, Nasdaq and NFS are asking firms to add an indicator to the display so consumers to understand that this value is not the actual execution price for the trade/quote.

QBBO Version 2.00

January 2, 2015

Nasdaq RPI program ceased on 12/31/14. Please refer to Equity Trader Alert #2014-94.

QBBO Version 2.00

December 5, 2014

The QBBO Specification was updated to include missing Issue Sub-Type Codes (Appendix D):

AI – Alpha Indexes ETNs

CO - Collateralized Mortgage Obligation

EU - Equity Units

F-HOLDRS

IR - Interest Rate

IW - Index Warrant

J - Corporate Backed Trust Security

PP - Poison Pill

Q - Closed -End Funds

RT - REIT

SC - Spot Rate Closing

SI – Spot Rate Intraday

WC - World Currency Option

X - Trust

Y - Other

Z - NA

QBBO Version 2.00

October 31, 2013

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

Corrected the Timestamp length in the MWCB Status Message

QBBO Version 2.00

October 1, 2013

Released a new version of the QBBO documentation to support the following changes: Conversion to binary.

QBBO Version 2.00

August 2, 2013

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

- Inclusion of the Appendices for Issue Classification and Issue Sub-Type
- Changed the IPO Quotation Release Message Type to "K"
- Updated offsets in the IPO Quotation Release Message
- Updated offsets in the Symbol Directory Message
- Updated offsets and lengths for the MWCB Decline Level Message
- Renamed the Compliance ID field to TrackingID
- Updated the offsets for the Reg SHO Short Sale Price Test Restricted Indicator

QBBO Version 2.00

July 10, 2013

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

- Addition of the Enhanced Symbol Directory
- Addition of IPO Quotation Release Message
- Addition of Market-Wide Circuit Breaker (MWCB) Messaging
 - o MWCB Decline Level Message
 - o MWCB Status Message
- Addition of an internal tracking number to the Stock Trading Action Message and the Quotation Message
- Addition of 'C' to the Financial Status Indicator field in the Symbol Directory message

QBBO Version 1.10

March 11, 2013

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

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

QBBO Version 1.10

January 9, 2013

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

Added the following Trading Action Reason Code:

o MWCO - Market Wide Circuit Breaker Halt – Carry over from previous day Removed the Trading State, "R", from the Stock Trading Action message.

QBBO Version 1.10

January 8, 2013

Released a new version of the QBBO documentation to support the following changes: Modified the Retail Price Interest Indicator Message. Changed the message type from "G" to "N".

QBBO Version 1.10

November 6, 2012

Released a new version of the QBBO 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:

- o LUDP Volatility Trading Pause
- o MWC1 Market Wide Circuit Breaker Halt Level 1
- o MWC2 Market Wide Circuit Breaker Halt Level 2
- o MWC3 Market Wide Circuit Breaker Halt Level 3
- o MWCQ Market Wide Circuit Breaker Resumption

Removed the Trading Action values related to the Volatility Guard Program. Removed

Trading State, "V". Eliminated Trading Action Reason Codes, V1 and V2.

Added Retail Price Interest Indicator Message

QBBO Version 1.10

November 1, 2011

Nasdaq added a new Market Center code, "Z", for BATS-listed securities to the Market Category and Security Class fields.

QBBO Version 1.10

April 6, 2011

Nasdaq added two new Trading Action – Reason codes to Appendix B for the Nasdaq Volatility Guard pilot program. New Reason codes were V1 and V2.

QBBO Version 1.10

Nasdaq updated the Reg SHO message description to reflect the new SEC implementation date.

QBBO Version 1.10 October 14, 2010

Nasdaq fixed a documentation error related to the field layout for the the Stock Trading

Action message. (Error was introduced in July of 2010.)

QBBO Version 1.10 September 3, 2010

Nasdaq corrected time stamp error in Stock Trading Action message format.

QBBO Version 1.10 July 14, 2010

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

QBBO Version 1.10 July 2, 2010

Nasdaq added new Action Trading code(s) to the Stock Trading Action message for the

Nasdaq Volatility Guard trading pause.

QBBO Version 1.10 May 25, 2010

Nasdaq updated the QBBO specification to reflect the following change:

Added two new Trading Action – Reason Code values (T5 and T7) for the Single Stock

Trading Pause.

QBBO Version 1.10 January 26, 2010

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

Increased length of the symbol field from 6 characters to 8 characters in multiple message formats 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.

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

QBBO Version 1.00 September 21, 2009

Corrected line channel numbering to match MoldUDP address list.

QBBO Version 1.00

October 30, 2008

Modified the Stock Directory and the Stock Trading Action message formats to match the Nasdaq Last Sale (NLS) data formats.

QBBO Version 1.00

September 17, 2008

Initial release of the QBBO data feed specification for internal Nasdaq use.