

Document title

TAQ NYSE ARCA INTEGRATED FEED CLIENT SPECIFICATION

Version

1.8

Date

30 Jan 2014

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PREFACE

DOCUMENT HISTORY

The following table provides a description of all changes to this document.

VERSION NO.	DATE	CHANGE DESCRIPTION
1.1	12/09/13	Initial Document
1.2	12/16/13	Remove Symbol Index in all MSGs except Symbol Index
1.3	12/18/13	Add quotes messages
1.4	1/06/14	Removed SymbolSeqNum from Symbol Index Mapping Message and removed Price, SSR Triggering Exchange ID, SSR, Triggering Volume, SSR Trigger Time, and Transaction ID from Security Status Message
1.5	1/21/14	Removed SourceTime from Symbol Index Mapping Message Made all SourceTime fields consistent in name and description
1.6	1/21/14	Fixed time reference issue in messages where not appropriate (2.5, 2.6, 2.7, 2.9, 2.10, 2.13, 2.14, 2.15)
1.7	1/23/14	Changed definition of decimal levels for Price Scale Code Added TimeReference Message (Msg Type '2')
1.8	1/30/14	Changed folder names Added Order ID and Price to Execution Message (Msg Type '103')

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FURTHER INFORMATION

- For additional product information, visit the [Product Page](#)
- For updated capacity figures, visit our capacity pages at: <http://www.nyxdata.com/capacity>
- For a full glossary, visit: <http://www.nyxdata.com/glossary/>

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1. INTRODUCTION

NYSE Arca Integrated Feed data is available on a historical/end-of-day basis in flat file format, enabling you to recreate the limit order book for any given time. This product is called *TAQ NYSE Arca Integrated Feed* (“TAQ” refers to “Trades and Quotes”).

TAQ NYSE Arca Integrated Feed includes the details of all open orders and order changes (including replaces and cancels), trades, security status and imbalance messages. The file contains messages disseminated via NYSE Arca’s real-time Integrated data feed and includes information for OTC, exchange-listed and ETF securities.

1.1 ACCESS AND DATA FORMAT

TAQ NYSE Arca Integrated Feed is available in a single daily file in ASCII, CSV file, and compressed using GNU Zip. TAQ NYSE Arca Integrated Feed files are approximately XX GB as of [REDACTED]. Files are available via File Transfer Protocol (FTP). All data in this file will come in the order it came into the real-time Arca Integrated Feed.

Subscribers must execute the appropriate agreement (Exhibit A and/or NYSE Vendor Agreement). Upon the approval, NYSE will issue the ftp credentials for accessing the data.

1.2 DATA TYPES

All numeric fields are composed of a string of ASCII characters (0-9), left justified and NULL padded. All alpha fields are left justified and NULL padded.

Prices are given in decimal format, left justified and NULL padded. The decimal portion of the price can go back up to decimal places of the price scale code for each particular symbol. Examples; “25.222”, “0.125”, “100.6”, “2.30”, “4.444’.

The Sequence number (on the Order, Modify, and Delete messages) is a sequential number that identifies the message per symbol. This number will start the trading session at one (1) and increment by one (1) for each new message per symbol.

There are two timestamp fields: one specifying seconds and the other specifying milliseconds associated with that second. The second timestamps are in seconds since midnight (00:00:00) of the trading day.

1.3 SYMBOLOGY

The Comstock symbology is embedded in the Stock field for orders with System Code = “L”. Nasdaq symbology will be used for orders with System Code = “O”, ETF will use the System Code of “E”, and BB will use the System Code of “B”.

1.4 FTP DIRECTORY STRUCTURE

Table 1 FTP Details

HOST	PATH
ftp2.nyxdata.com	Accessed directly from root.

Table 2 Folder Names

FILE TYPE	TOP LEVEL	SECOND LEVEL	THIRD LEVEL
Add / Modify / Delete	/TAQ_ArcaEq_IBF	/TAQ_ArcaEq_IBF_ YYYY	/TAQ_ArcaEq_IBF_ YYYYMM

The file name comprises the folder name (for example, TAQ_ArcaEq_IBF) concatenated with the trading date (in the format YYYYMMDD). Files are in compressed comma-separated value (CSV) format , for example:

- TAQ_ArcaEq_IBF2_20140130.csv
- TAQ_ArcaEq_IBF1_20140130.csv

1.5 ALTERNATIVE PRODUCTS

For details of related TAQ products and the full range of TAQ offerings, please refer to the Historical Data Products section of NYXData at: <http://www.nyxdata.com/Data-Products/Historical-Data>.

2. TAQ NYSE ARCA INTEGRATED MESSAGES

TAQ NYSE Arca Integrated supports the following message types, corresponding to the nature of the message submitted by the NYSE Arca matching engine:

2.1 ADD ORDER MESSAGE (MSG TYPE '100')

The Add Order message communicates the details of a new order added to NYSE Arca’s open order book. The order reference number will be a unique identifier per system code for this order.

Table 3 Add Order Message Format

FIELD NAME	FIELD ORDER	FORMAT	DESCRIPTION
Msg Type	1	Numeric	This field identifies the type of message. '100' – Add Order Message
SequenceNumber	2	Numeric	Message sequence number by channel. Must derive sequence number based on leading sequence number for each packet.
SourceTime	3	HH:MM:SS.nnnnnn	This field represents the nanosecond offset from the time reference second in UTC time (EPOCH)
Symbol	4	NYSE Symbology	This field displays the symbol in NYSE symbology
SymbolSeqNum	5	Numeric	This field contains the symbol sequence number
OrderID	6	Numeric	The Order ID identifies a unique order.
Price	7	Numeric	This field contains the price. Field is numeric and optionally has a decimal point. Examples: <ul style="list-style-type: none"> ■ 100000000 ■ 51.26 ■ 0.001
Volume	8	Numeric	This field contains the order quantity in shares
Side	9	Alpha	This field indicates the side of the order Buy/Sell Valid values: <ul style="list-style-type: none"> ■ 'B' – Buy ■ 'S' – Sell

FIELD NAME	FIELD ORDER	FORMAT	DESCRIPTION
OrderIDGTCIndicator	10	Numeric	This field specifies if Trade Order ID is a GTC order: <ul style="list-style-type: none"> ■ '0' – Day Order ■ '1' – GTC Order
TradeSession	11	Numeric	Bit Shift values: <ul style="list-style-type: none"> ■ '1' – OK for morning hours ■ '2' – OK for national hours (core) ■ '3' – OK for morning and core ■ '4' – OK for late hours ■ '6' – OK for core and late ■ '7' – OK for morning, core, and late

2.2 MODIFY ORDER MESSAGE (MSG TYPE '101')

XDP Integrated feed sends this message when an order in the Order Book is modified. The Order ID refers to the original order sent in the add order message. The following events trigger a modify order message.

- The price of an order changes
- The size of an order changes
- An order is routed to an away market with some shares remaining in the Order Book

Note: If an away market declines a routed order, a Modify Order message is sent to “add” the declined shares back to Order Book.

Table 4 Modify Order Message Format

FIELD NAME	FIELD ORDER	FORMAT	DESCRIPTION
Msg Type	1	Numeric	This field identifies the type of message. '101' – Modify Order Message
SequenceNumber	2	Numeric	Message sequence number by channel. Must derive sequence number based on leading sequence number for each packet.
SourceTime	3	HH:MM:SS.nnnnnn	This field represents the nanosecond offset from the time reference second in UTC time (EPOCH)
Symbol	4	NYSE Symbology	This field displays the symbol in NYSE symbology

FIELD NAME	FIELD ORDER	FORMAT	DESCRIPTION
SymbolSeqNum	5	Numeric	This field contains the symbol sequence number
OrderID	6	Numeric	The Order ID identifies a unique order.
Price	7	Numeric	This field contains the price point. Field is numeric and optionally has a decimal point. Examples: <ul style="list-style-type: none"> ■ 100000000 ■ 51.26 ■ 0.001
Volume	8	Numeric	This field contains the order quantity in shares
Side	9	Alpha	This field indicates the side of the order Buy/Sell Valid values: <ul style="list-style-type: none"> ■ 'B' – Buy ■ 'S' – Sell
OrderIDGTCIndicator	10	Numeric	This field specifies if Trade Order ID is a GTC order: <ul style="list-style-type: none"> ■ '0' – Day Order ■ '1' – GTC Order
ReasonCode	11	Numeric	Field not yet implemented Default: 0 Future implementation will have the following codes. Modify Reason: <ul style="list-style-type: none"> ■ '5' – Change (lost position in book) ■ '6' – Routed (keep position in book) ■ '7' – Modify Fill keep position

2.3 DELETE ORDER MESSAGE (MSG TYPE '102')

Arca Integrated feed sends this message when an order is taken off of the order book. The following events will trigger the transmission of a delete order message:

- An order is cancelled
- An order expires
- An order is routed to an away market. **Note:** If the away market declines the Matching Engine preference, an Add Order message with the original Order ID will be sent to return the order to the Order Book.

Table 5 Delete Order Message Format

FIELD NAME	FIELD ORDER	FORMAT	DESCRIPTION
Msg Type	1	Numeric	This field identifies the type of message. ‘102’ – Delete Order Message
SequenceNumber	2	Numeric	Message sequence number by channel. Must derive sequence number based on leading sequence number for each packet.
SourceTime	3	HH:MM:SS.nnnnnn	This field represents the nanosecond offset from the time reference second in UTC time (EPOCH)
Symbol	4	NYSE Symbology	This field displays the symbol in NYSE symbology
SymbolSeqNum	5	Numeric	This field contains the symbol sequence number ■
OrderID	6	Numeric	■ The Order ID identifies a unique order.
Side	7	Alpha	This field indicates the side of the order Buy/Sell Valid values: ■ ‘B’ – Buy ■ ‘S’ – Sell
OrderIDGTCIndicator	8	Numeric	This field specifies if Trade Order ID is a GTC order: ■ ‘0’ – Day Order ■ ‘1’ – GTC Order
ReasonCode	9	Numeric	Field not yet implemented Default: 0 Future implementation will have the following codes. Delete Reason:

FIELD NAME	FIELD ORDER	FORMAT	DESCRIPTION
			<ul style="list-style-type: none"> ■ '1' – User Cancel ■ '2' – Modify (taken off book, Order ID may add again) ■ '3' – Delete Filled

2.4 EXECUTION MESSAGE (MSG TYPE '103')

FIELD NAME	FIELD ORDER	FORMAT	DESCRIPTION
Msg Type	1	Numeric	This field identifies the type of message. '103' – Execution Message
SequenceNumber	2	Numeric	Message sequence number by channel. Must derive sequence number based on leading sequence number for each packet.
SourceTime	3	HH:MM:SS.nnnnnn	This field represents the nanosecond offset from the time reference second in UTC time (EPOCH)
Symbol	4	NYSE Symbology	This field displays the symbol in NYSE symbology
SymbolSeqNum	5	Numeric	This field contains the symbol sequence number
OrderID	6	Numeric	The Order ID identifies a unique order.
Price	7	Numeric	This field contains the price point. Field is numeric and optionally has a decimal point. Examples: <ul style="list-style-type: none"> ■ 100000000 ■ 51.26 ■ 0.001
Volume	8	Numeric	This field contains the order quantity in shares
OrderIDGTCIndicator	9	Numeric	This field specifies if executed Order is a GTC order: <ul style="list-style-type: none"> ■ '0' – Day Order

FIELD NAME	FIELD ORDER	FORMAT	DESCRIPTION
			<ul style="list-style-type: none"> ■ '1' – GTC Order
ReasonCode	10	Numeric	<p>Field not yet implemented</p> <p>Default: 0</p> <p>Future implementation will have the following codes.</p> <p>Execution Reason:</p> <ul style="list-style-type: none"> ■ '3' – Filled ■ '7' – Partial Fill (Did not lose position)
TradeID	11	Numeric	The TradeID identifies a unique transaction in the matching and allows you to correlate execution reports to the last sale.

2.5 TRADE MESSAGE (MSG TYPE '220')

The trade messages provided on the NYSE ARCA Trades feed are the same Trade messages provided to the CTA.

FIELD NAME	FIELD ORDER	FORMAT	DESCRIPTION
Msg Type	1	Numeric	This field identifies the type of message. '220' – Trade Message
SequenceNumber	2	Numeric	Message sequence number by channel is derived by sequence number based on leading sequence number for each packet.
SourceTime	3	HH:MM:SS.nnnnnn	This field specifies the time when the msg was generated in the order book. The number represents the number of seconds at microsecond accuracy in UTC time (since EPOCH)
Symbol	4	NYSE Symbology	This field displays the symbol in NYSE symbology
SymbolSeqNum	5	Numeric	This field contains the symbol sequence number
TradeID	6	Numeric	The TradeID identifies a unique transaction in the matching and allows you to correlate execution reports to the

FIELD NAME	FIELD ORDER	FORMAT	DESCRIPTION
			last sale.
Price	7	Numeric	This field contains the price point. Field is numeric and optionally has a decimal point. Examples: <ul style="list-style-type: none"> ■ 100000000 ■ 51.26 ■ 0.001
Volume	8	Numeric	Volume of the trade in actual shares
TradeCond1	9	ASCII	This field contains a settlement related conditions. Valid values: <ul style="list-style-type: none"> ■ '@' - Regular Sale ■ 'C' – Cash ■ 'N'– Next Day Trade ■ 'R' – Seller
TradeCond2	10	ASCII	This field contains a the Reason for Trade Through Exemptions. Valid values: <ul style="list-style-type: none"> ■ '' – N/A ■ 'F' – Intermarket Sweep Order ■ 'O' – Market Center Opening Trade ■ '4' – Derivatively Priced ■ '5' – Market Center Reopening Trade ■ '6' – Market Center Closing Trade
TradeCond3	11	ASCII	This field contains extended hours/sequencing related conditions. Valid values: <ul style="list-style-type: none"> ■ '' – N/A ■ 'L' – Sold Last ■ 'T' – Extended Hours Trade ■ 'U' – Extended Hours Sold (Out of Sequence) ■ 'Z' – Sold

FIELD NAME	FIELD ORDER	FORMAT	DESCRIPTION
TradeCond4	12	ASCII	<p>This field contains the SRO Required Detail. Valid values:</p> <ul style="list-style-type: none"> ■ '@' - Regular Sale ■ '' - N/A ■ 'B' - Average Price Trade ■ 'E' - Automatic Execution ■ 'H' - Price Variation Trade ■ 'I' - Odd Lot Trade ■ 'K' - Rule 127 (NYSE only) or Rule 155 (NYSE MKT Only) ■ 'M' - Official Closing Price ■ 'P' - Prior Reference Price ■ 'Q' - Official Open Price ■ 'V' - Stock-Option Trade ■ 'X' - Cross Trade
Trade Through Exempt	13	Alpha	<ul style="list-style-type: none"> ■ 'X' - 611 Trade through Exempt ■ '' - N/A
LiquidityIndicatorFlag	14	Numeric	<p>This field indicates which side added liquidity to the trade. Bit Shift values:</p> <ul style="list-style-type: none"> ■ '1' - Buy Side ■ '2' - Sell Side ■ '4' - No Liquidity added
Ask Price	15	Numeric	<p>This field contains the Ask price point. Field is numeric and optionally has a decimal point.</p> <p>Examples:</p> <ul style="list-style-type: none"> ■ 100000000 ■ 51.26 ■ 0.001
Bid Price	16	Numeric	<p>This field contains the Bid price point. Field is numeric and optionally has a decimal point.</p> <p>Examples:</p>

FIELD NAME	FIELD ORDER	FORMAT	DESCRIPTION
			<ul style="list-style-type: none"> ■ 100000000 ■ 51.26 0.001
Ask Volume	17	Numeric	This field contains the Ask size of the last quote at the time of the trade
Bid Volume	18	Numeric	This field contains the Bid size of the last quote at the time of the trade

2.6 TRADE CANCEL OR BUST MESSAGE (MSG TYPE '221')

FIELD NAME	FIELD ORDER	FORMAT	DESCRIPTION
Msg Type	1	Numeric	This field identifies the type of message. '221' – Trade Cancel or Bust Message
SequenceNumber	2	Numeric	Message sequence number by channel. Must derive sequence number based on leading sequence number for each packet.
SourceTime	3	HH:MM:SS.nnnnnn	This field specifies the time when the msg was generated in the order book. The number represents the number of seconds at microsecond accuracy in UTC time (since EPOCH)
Symbol	4	NYSE Symbology	This field displays the symbol in NYSE symbology
SymbolSeqNum	5	Numeric	This field contains the symbol sequence number
OriginalTradeID	6	Numeric	This field is the TradeID of the original trade marked as a correction by this message.

2.7 TRADE CORRECTION MESSAGE (MSG TYPE '222')

FIELD NAME	FIELD ORDER	FORMAT	DESCRIPTION
Msg Type	1	Numeric	This field identifies the type of message. '222' – Trade Correction Message
SequenceNumber	2	Numeric	Message sequence number by channel.

FIELD NAME	FIELD ORDER	FORMAT	DESCRIPTION
			Must derive sequence number based on leading sequence number for each packet.
SourceTime	3	HH:MM:SS.nnnnnn	This field specifies the time when the msg was generated in the order book. The number represents the number of seconds at microsecond accuracy in UTC time (since EPOCH)
Symbol	4	NYSE Symbology	This field displays the symbol in NYSE symbology
SymbolSeqNum	5	Numeric	This field contains the symbol sequence number
OriginalTradeID	6	Numeric	This field is the source sequence number of the original trade marked as a correction by this message.
TradeID	7	Numeric	The LinkID identifies a unique transaction in the matching and allows you to correlate execution reports to the last sale.
Price	8	Numeric	This field contains the price point. Field is numeric and optionally has a decimal point. Examples: <ul style="list-style-type: none"> ■ 100000000 ■ 51.26 ■ 0.001
Volume	9	Numeric	Volume of the trade in actual shares
TradeCond1	10	ASCII	This field contains a settlement related conditions. Valid values: <ul style="list-style-type: none"> ■ '@' - Regular Sale ■ 'C' – Cash ■ 'N'– Next Day Trade ■ 'R' – Seller
TradeCond2	11	ASCII	This field contains a the Reason for Trade Through Exemptions. Valid values:

FIELD NAME	FIELD ORDER	FORMAT	DESCRIPTION
			<ul style="list-style-type: none"> ■ ‘ ’ – N/A ■ ‘F’ – Intermarket Sweep Order ■ ‘O’ – Market Center Opening Trade ■ ‘4’ – Derivatively Priced ■ ‘5’ – Market Center Reopening Trade ■ ‘6’ – Market Center Closing Trade
TradeCond3	12	ASCII	<p>This field contains extended hours/sequencing related conditions. Valid values:</p> <ul style="list-style-type: none"> ■ ‘ ’ – N/A ■ ‘L’ – Sold Last ■ ‘T’ – Extended Hours Trade ■ ‘U’ – Extended Hours Sold (Out of Sequence) ■ ‘Z’ – Sold
TradeCond4	13	ASCII	<p>This field contains the SRO Required Detail. Valid values:</p> <ul style="list-style-type: none"> ■ ‘@’ - Regular Sale ■ ‘ ’ – N/A ■ ‘B’ – Average Price Trade ■ ‘E’ – Automatic Execution ■ ‘H’ – Price Variation Trade ■ ‘I’ – Odd Lot Trade ■ ‘K’ – Rule 127 (NYSE only) or Rule 155 (NYSE MKT Only) ■ ‘M’ – Official Closing Price ■ ‘P’ – Prior Reference Price ■ ‘Q’ – Official Open Price ■ ‘V’ – Stock-Option Trade ■ ‘X’ – Cross Trade
Trade Through Exempt	14	Alpha	<ul style="list-style-type: none"> ■ ‘X’ – 611 Trade through Exempt ■ ‘ ’ – N/A

2.8 PBBO MESSAGE (MSG TYPE '104')

IMPORTANT: This message is not yet supported; release date to be determined.

FIELD NAME	FIELD ORDER	FORMAT	DESCRIPTION
Msg Type	1	Numeric	This field identifies the type of message. '104' – PBBO Message
SequenceNumber	2	Numeric	Message sequence number by channel. Must derive sequence number based on leading sequence number for each packet.
SourceTime	3	HH:MM:SS.nnnnnn	This field represents the nanosecond offset from the time reference second in UTC time (EPOCH)
Symbol	4	NYSE Symbology	This field displays the symbol in NYSE symbology
SymbolSeqNum	5	Numeric	This field contains the symbol sequence number
BidPrice	6	Numeric	This field contains the Bid price point. Field is numeric and optionally has a decimal point. Examples: <ul style="list-style-type: none"> ■ 100000000 ■ 51.26 0.001
AskPrice	7	Numeric	This field contains the Ask price point. Field is numeric and optionally has a decimal point. Examples: <ul style="list-style-type: none"> ■ 100000000 ■ 51.26 0.001

2.9 IMBALANCE MESSAGE (MSG TYPE '105')

FIELD NAME	FIELD ORDER	FORMAT	DESCRIPTION
Msg Type	1	Numeric	This field identifies the type of message.

FIELD NAME	FIELD ORDER	FORMAT	DESCRIPTION
			'105' – Imbalance Message
SequenceNumber	2	Numeric	Message sequence number by channel. Must derive sequence number based on leading sequence number for each packet.
SourceTime	3	HH:MM:SS.nnnnnn	This field specifies the time when the msg was generated in the order book. The number represents the number of seconds at microsecond accuracy in UTC time (since EPOCH)
Symbol	4	NYSE Symbology	This field displays the symbol in NYSE symbology
SymbolSeqNum	5	Numeric	This field contains the symbol sequence number
ReferencePrice	6	Numeric	The Reference Price is the Last Sale if the last sale is at or between the current best quote. Otherwise the Reference Price is the Bid Price if last sale is lower than Bid price, or the Offer price if last sale is higher than Offer price.
PairedQty	7	Numeric	This field contains the paired off quantity at the reference price point
TotalImbalanceQty	8	Numeric	This field contains the total imbalance quantity at the reference price point
MarketImbalanceQty	9	Numeric	This field indicates the total market order imbalance at the reference price
AuctionTime	10	hh:mm	Projected Auction Time
AuctionType	11	Alpha	<ul style="list-style-type: none"> ■ 'O' – Open (4am) Arca Only ■ 'M' – Market (9:30am) ■ 'H' - Halt ■ 'C' – Closing ■ 'R' – Regulatory Imbalance <p>Note: For the NYSE/MKT, the opening imbalance will have an "M" Auction Type</p>

FIELD NAME	FIELD ORDER	FORMAT	DESCRIPTION
ImbalanceSide	12	Alpha	<p>This field indicates the side of the imbalance Buy/sell. Valid Values:</p> <ul style="list-style-type: none"> ■ 'B' – Buy ■ 'S' – Sell ■ '' – No imbalance <p>Note: This field is a future enhancement for NYSE Arca and will have a '0' value until such time.</p>
ContinuousBook ClearingPrice	13	Numeric	<p>The Continuous Book Clearing Price is defined as the price closest to last sale where imbalance is zero.</p> <p>If a Book Clearing Price is not reached, the Clearing Price, a zero will be published in the Book Clearing Price Field</p> <p>Note: This field is a future enhancement for NYSE Arca and will have a '0' value until such time.</p>
ClosingOnly ClearingPrice	14	Numeric	<p>This field contains the indicative price against closing only order only</p> <p>Note: This field is a future enhancement for NYSE Arca and will have a '0' value until such time.</p>
SSRFilingPrice	15	Numeric	<p>This field contains the SSR Filing Price. This price is the price at which Sell Short interest will be filed in the matching in the event a Sell Short Restriction is in effect for the security.</p> <p>Note: The SSR Filing price is based on the National Best Bid at 9:30am. This price remains static after the SSR Filing price has been determined.</p> <p>Note: This field is a future enhancement for NYSE Arca and will have a '0' value until such time.</p>

2.10 SEQUENCE NUMBER RESET (MSG TYPE '1')

FIELD NAME	FIELD ORDER	FORMAT	DESCRIPTION
MsgType	1	Numeric	This field identifies the type of message. '1' – Sequence Number Reset message
SequenceNumber	2	Numeric	Message sequence number by channel. Must derive sequence number based on leading sequence number for each packet.
SourceTime	3	HH:MM:SS.nnnnnn	This field specifies the time when the msg was generated in the order book. The number represents the number of seconds at microsecond accuracy in UTC time (since EPOCH)
ProductID	4	Numeric	The product ID used in the XDP header to identify the NYSE Euronext feed. Range: 1-255.
ChannelID	5	Numeric	This field contains the multicast channel ID over which the packet was sent.

2.11 SYMBOL INDEX MAPPING MESSAGE (MSG TYPE '3')

FIELD NAME	FIELD ORDER	FORMAT	DESCRIPTION
MsgType	1	Numeric	This field identifies the type of message. '3' – Sequence Number Reset message
SequenceNumber	2	Numeric	Message sequence number by channel. Must derive sequence number based on leading sequence number for each packet.
Symbol	3	NYSE Symbology	This field displays the symbol in NYSE symbology
SymbolIndex	4	Numeric	This field identifies the numerical representation of the NYSE symbol. This field is unique for products within each respective market and cannot be used to cross reference a security between markets.
Market ID	5	Numeric	ID of the Originating Market: <ul style="list-style-type: none"> ■ '1' - NYSE Cash

FIELD NAME	FIELD ORDER	FORMAT	DESCRIPTION
			<ul style="list-style-type: none"> ■ '2' - Europe Cash ■ '3' – NYSE Arca Cash ■ '4' - NYSE/Arca Options ■ '5' - NYSE/Arca Bonds ■ '6' – ArcaEdge ■ '7' – LIFFE ■ '8' – NYSE Amex Options ■ '9' - NYSE MKT Cash
System ID	6	Numeric	ID of the Originating System.
Exchange Code	7	ASCII Character	Exchanges where it is listed: <ul style="list-style-type: none"> ■ 'N' – NYSE ■ 'P' – NYSE Arca ■ 'Q' – NASDAQ ■ 'A' – NYSE MKT ■ 'T' – NASDAQ stock traded on NYSE Arca ■ 'U' – OTCBB symbol for ArcaEdge ■ 'V' – Other OTC symbols for ArcaEdge ■ 'Z' - BATS
PriceScaleCode	8	Numeric	Price fields are sent in integer format. Prices in this feed are represented by two fields, separating the denominator and the numerator. All prices in the feed share a common denominator, which is represented in the PriceScaleCode.
Security Type	9	ASCII String	Type of Security applicable only for Arca: <ul style="list-style-type: none"> ■ 'A' – ADR ■ 'C' - COMMON STOCK ■ 'D' – DEBENTURES ■ 'E' – ETF ■ 'F' – FOREIGN ■ 'H' – AMERICAN DEPOSITARY SHARES

FIELD NAME	FIELD ORDER	FORMAT	DESCRIPTION
			<ul style="list-style-type: none"> ■ 'I' – UNITS ■ 'L' – INDEX LINKED NOTES ■ 'M' - MISC/LIQUID TRUST ■ 'O' – ORDINARY SHARES ■ 'P' - PREFERRED STOCK ■ 'R' – RIGHTS ■ 'S' - SHARES OF BENEFICIARY INTEREST ■ 'T' – TEST ■ 'U' – UNITS ■ 'W' – WARRANT <p>Type of Security applicable only for NYSE and NYSE MKT:</p> <ul style="list-style-type: none"> ■ 'A' – COMMON STOCK ■ 'B' – PREFERRED STOCK ■ 'C' – WARRANT ■ 'D' – RIGHT ■ 'E' – CORPORATE BOND ■ 'F' – TREASURY BOND ■ 'G' – STRUCTURED PRODUCT ■ 'H' – ADR COMMON ■ 'I' – ADR PREFERRED ■ 'J'-ADR WARRANTS ■ 'K' – ADR RIGHTS ■ 'L' – ADR CORPORATE BOND ■ 'M' – NY REGISTERED SHARE ■ 'N' – GLOBAL REGISTERED SHARE ■ 'O' – INDEX ■ 'P' – FUND ■ 'Q' – BASKET

FIELD NAME	FIELD ORDER	FORMAT	DESCRIPTION
			<ul style="list-style-type: none"> ■ 'R' – UNIT ■ 'S' – LIQUIDATING TRUST ■ 'U' - UNKOWN
Lot Size	10	Numeric	Round lot size.
PrevClosePrice	11	Numeric	This field contains the previous day's closing price for the security.
PrevCloseVolume	12	Numeric	This field contains the previous day's closing volume for the security.
Price Resolution	13	Numeric	<ul style="list-style-type: none"> ■ '0' - All Penny ■ '1' - Penny/Nickel ■ '5' - Nickel/Dime
Round Lot	14	ASCII String	Round Lot Accepted: <ul style="list-style-type: none"> ■ 'Y' – Yes ■ 'N' – No

2.12 VENDOR MAPPING MESSAGE (MSG TYPE '4')

This field will be a future enhancement

FIELD NAME	FIELD ORDER	FORMAT	DESCRIPTION
MsgType	1	Numeric	This field identifies the type of message. '4' – Vendor Mapping Message
SequenceNumber	2	Numeric	Message sequence number by channel. Must derive sequence number based on leading sequence number for each packet.
Symbol	3	NYSE Symbology	This field displays the symbol in NYSE symbology
VendorID	4	ASCII	See Vendor Mapping Table below
VendorID2	5	ASCII	See Vendor Mapping Table below
Vendor	6	Numeric	This field identifies which vendor this mapping applies to: <ul style="list-style-type: none"> ■ 0 – Comstock ■ 1 – Bloomberg

Vendor Mapping Table

VENDOR	VENDORID	VENDORID2
Comstock	Not Used	This field contains the Comstock symbol
Bloomberg	Unique global identifier assigned by BloombergGlobalID (ID_BB_Global) for all securities across every asset class	Unique Bloomberg Security identifier (BSID) including the Bloomberg source for all Bloomberg securities as an integer value. This field is used for B Pipe and subscription services. (ID_BB_SEC_NUM_SRC)

2.13 SYMBOL CLEAR MESSAGE (MSG TYPE '32')

FIELD NAME	FIELD ORDER	FORMAT	DESCRIPTION
MsgType	1	Numeric	This field identifies the type of message. '32' – Symbol Clear
SequenceNumber	2	Numeric	Message sequence number by channel. Must derive sequence number based on leading sequence number for each packet.
SourceTime	3	HH:MM:SS.nnnnnn	This field specifies the time when the msg was generated in the order book. The number represents the number of seconds at microsecond accuracy in UTC time (since EPOCH)
Symbol	4	NYSE Symbology	This field displays the symbol in NYSE symbology
NextSourceSeqNum	5	Numeric	This field contains the source sequence number value that the recipient should expect in the immediately succeeding message for the specific symbol

2.14 TRADING SESSION CHANGE MESSAGE (MSG TYPE '33')

FIELD NAME	FIELD ORDER	FORMAT	DESCRIPTION
MsgType	1	Numeric	This field identifies the type of message. '33' – Symbol Trading Session Change
SequenceNumber	2	Numeric	Message sequence number by channel. Must derive sequence number based on

FIELD NAME	FIELD ORDER	FORMAT	DESCRIPTION
			leading sequence number for each packet.
SourceTime	3	HH:MM:SS.nnnnnn	This field specifies the time when the msg was generated in the order book. The number represents the number of seconds at microsecond accuracy in UTC time (since EPOCH)
Symbol	4	NYSE Symbology	This field displays the symbol in NYSE symbology
SymbolSeqNum	5	Numeric	This field contains the symbol sequence number
Trading Session	6	Numeric	A Trading session can be a combination of the three-bit values: <ul style="list-style-type: none"> ■ 0x01 - Ok for morning hours ■ 0x02 - Ok for national hours (core) ■ 0x04 - Ok for late hours

2.15 SECURITY STATUS MESSAGE (MSG TYPE '34')

FIELD NAME	FIELD ORDER	FORMAT	DESCRIPTION
MsgType	1	Numeric	This field identifies the type of message. '34' – Security Status Message
SequenceNumber	2	Numeric	Message sequence number by channel. Must derive sequence number based on leading sequence number for each packet.
SourceTime	3	HH:MM:SS.nnnnnn	This field specifies the time when the msg was generated in the order book. The number represents the number of seconds at microsecond accuracy in UTC time (since EPOCH)
Symbol	4	NYSE Symbology	This field displays the symbol in NYSE symbology
SymbolSeqNum	5	Numeric	This field contains the symbol sequence number
Security Status	6	ASCII	The following are Halt Status Codes: <ul style="list-style-type: none"> ■ '3' - Opening Delay

FIELD NAME	FIELD ORDER	FORMAT	DESCRIPTION
			<ul style="list-style-type: none"> ■ '4' - Trading Halt ■ '5' - Resume ■ '6' - No open/no resume <p>The following are Short Sale Restriction Codes:</p> <ul style="list-style-type: none"> ■ 'A' – Short Sale Restriction Activated (Day 1) ■ 'C' – Short Sale Restriction Continued (Day 2) ■ 'D' - Short Sale Restriction Deactivated <p>The following conditions will appear only in the event of a prior day correction/cancel affecting the Short Sale Restriction</p> <ul style="list-style-type: none"> ■ '~' – No Short Sale in Effect ■ 'E' – Short Sale restriction in Effect ■ 'F' – Short Sale restriction Filing Price <p>The following codes are meant to define the change of session and are applicable to NYSE Arca only:</p> <ul style="list-style-type: none"> ■ 'W' – Early Session Start (For Future Use) ■ 'Y' – Core Session Start (For Future Use) ■ 'Z' – Late Session Start (For Future Use) <ul style="list-style-type: none"> ■ Only Applicable to NYSE and NYSE MKT ■ 'O'-Opened ■ 'P'-Pre-Opening ■ 'X'-Closed <p>Note: For NYSE Arca, only the following values are applicable: '4', '5', and 'E'.</p>

FIELD NAME	FIELD ORDER	FORMAT	DESCRIPTION
Halt Condition	7	ASCII	<ul style="list-style-type: none"> ■ '0x20' – Not applicable ■ '~' - Security not delayed/halted ■ 'A' - As of Update ■ 'D' - News dissemination ■ 'I' - Order imbalance ■ 'P' - News pending ■ 'J' - Due to related security - news dissemination ■ 'K' - Due to related security - news pending ■ 'M' – LULD pause ■ 'Q' - Due to related security ■ 'S' - Related security (not used) ■ 'V' - In view of common ■ 'X' - Equipment changeover ■ 'Y' - Sub penny Trading ■ 'Z' - No open/No resume <p>Market Wide Circuit Breakers are as follows:</p> <ul style="list-style-type: none"> ■ '1' – 7% decline occurring after 9:30 am (EST) and up to including 3:25pm (EST) ■ '2' - 13% decline occurring after 9:30 am (EST) and up to including 3:25pm (EST) ■ '3' - 20% decline occurring at any time, trading would be halted for the remainder of the day

2.16 SOURCE TIME REFERENCE MESSAGE (MSG TYPE '2')

FIELD NAME	FIELD ORDER	FORMAT	DESCRIPTION
Msg Type	1	Numeric	This field identifies the type of message. '2' – Time Reference Message
SequenceNumber	2	Numeric	Message sequence number by channel. Must derive sequence number

FIELD NAME	FIELD ORDER	FORMAT	DESCRIPTION
			based on leading sequence number for each packet.
Symbol	3	NYSE Symbology	This field displays the symbol in NYSE symbology
SymbolSeqNum	4	Numeric	This field contains the symbol sequence number
TimeReference	5	HH:MM:SS	This field represents the the UTC time (EPOCH) in seconds (note: NOT nanoseconds)

2.17 QUOTE MESSAGE (MSG TYPE '140')

FIELD NAME	FIELD ORDER	FORMAT	DESCRIPTION
Msg Type	1	Numeric	This field identifies the type of message. '140' – Imbalance Message
SequenceNumber	2	Numeric	Message sequence number by channel. Must derive sequence number based on leading sequence number for each packet.
SourceTime	3	HH:MM:SS.nnnnnn	This field represents the nanosecond offset from the time reference second in UTC time (EPOCH)
Symbol	4	NYSE Symbology	This field displays the symbol in NYSE symbology
SymbolSeqNum	5	Numeric	This field contains the symbol sequence number
Ask Price	6	Numeric	This field contains the Ask price point. Field is numeric and optionally has a decimal point. Examples: <ul style="list-style-type: none"> ■ 100000000 ■ 51.26 ■ 0.001

FIELD NAME	FIELD ORDER	FORMAT	DESCRIPTION
Bid Price	7	Numeric	<p>This field contains the Bid price point. Field is numeric and optionally has a decimal point.</p> <p>Examples:</p> <ul style="list-style-type: none"> ■ 100000000 ■ 51.26 <p>0.001</p>
Ask Volume	8	Numeric	<p>This field contains the Ask size of the last quote at the time of the trade</p>
Bid Volume	9	Numeric	<p>This field contains the Bid size of the last quote at the time of the trade</p>
Quote Condition	10	ASCII	<p>Valid values:</p> <ul style="list-style-type: none"> ■ 'C' - Closing ■ 'E' - Slow on the Bid Due to an LRP or depletion of 100 shares ■ 'F' - Slow on the Ask Due to an LRP or depletion of 100 shares ■ 'O' - Opening Quote ■ 'R' - Regular Quote ■ 'U' - Slow on the Bid and Ask Due to an LRP or Gap Quote ■ 'W' - Slow on the Bid and Ask due to a "Set Slow List" <p>Note: For NYSE Arca, only condition R is applicable.</p>

APPENDIX A: NYSE STOCK SYMBOL SUFFIXES

Table 6 NYSE Stock Symbol Suffixes

Please see the NYSE Symbology Client Spec [here](#).

Table 7 Suffix Definitions

SUFFIX	DESCRIPTION
Called	An issue being redeemed by its issuing corporation under definite conditions before maturity.
Certificate	Refers to a negotiable certificate representing deposit of stock with a pending change in its condition.
Convertible	A preferred share which its owner may convert into common stock or another security, usually in the same company, in accordance with the terms of issue.
Preferred	A class of stock with priority over common stock in regard to earnings and/or liquidations.
Rights	Represent the privilege to subscribe (in proportion to the number of shares owned) to new or additional securities, usually at or below the current market price. Rights ordinarily have market values of their own and are traded actively. In most cases they must be exercised within a relatively short period of time.
Stamped	Indicates rights and privileges different from securities of the same issue, class, or series not stamped.
Warrant	Indicates a certificate giving its holder the right to purchase securities at a stipulated price, either within a specified time limit or in perpetuity.
When Distributed	Signifies a short form of “when, as, and if distributed” (see ‘When Issued’).
When Issued	Means a short form of “when, as, and if issued”; indicates a transaction in a security authorized for issuance, but not yet issued. All “When Issued” transactions are on an “if” basis, to be settled if and when the actual security is issued.
With Warrants	A security with a warrant attached that entitles the holder to purchase another security at stipulated price(s), either within a specified time or in perpetuity. Warrants may be immediately detachable from their underlying securities or detachable after specified periods.
Without Warrants	A security from which the warrant(s) has been removed.

APPENDIX B: NASDAQ STOCK SYMBOL SUFFIXES

Source: Nasdaq web site: <http://www.nasdaq.com/reference/glossary.stm>

Table 8 NASDAQ Stock Symbol Suffixes

SUFFIX	DESCRIPTION
A	Class A
B	Class B
C	Issuer qualification exception – the issuer has been granted a continuance in NASDAQ under an exception to the qualification standards for a limited period.
D	New
E	Delinquent in required filings with the SEC
F	Foreign
G	First convertible bond
H	Second convertible bond, same company
I	Third convertible bond, same company
J	Voting
K	Nonvoting
L	Miscellaneous situations, such as depositary receipts, stubs, additional warrants, and units
M	Fourth preferred, same company
N	Third preferred, same company
O	Second preferred, same company
P	First preferred, same company
Q	Bankruptcy - the issuer is involved in bankruptcy proceedings.
R	Rights
S	Shares of beneficial interest
T	With warrants or with rights
U	Units
V	When-issued and when-distributed
W	Warrants
Y	ADR (American Depositary Receipt)
Z	Miscellaneous situations, such as depositary receipts, stubs, additional warrants, and units

