Nasdaq TotalView Plus

Version 1.0

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Overview

Nasdaq TotalView Plus is a direct data feed product offered by The Nasdaq Stock Market, LLC. This specification covers the software version of the feed.

Nasdaq TotalView Plus features the following data elements (in binary number format) for all exchange-listed equities securities traded via the Nasdaq, PSX, and NTX execution systems:

- **Order level data with attribution:** For Nasdaq, PSX, and NTX execution systems, Nasdaq will provide its full order depth using the standard ITCH format. TotalView Plus uses a series of messages to track the life of a customer order. TotalView Plus is an outbound market data feed only. TotalView Plus carries order level data for NYSE, NYSE American, NYSE Arca, and BATS listed securities as well as for Nasdaq listed securities.
- **Trade messages:** To ensure that customers have complete information about Nasdaq order flow, TotalView Plus supports a trade message to reflect a match of a non-displayable order in the Nasdaq system. TotalView Plus also supports a separate trade message to reflect Cross transactions.
- **Net Order Imbalance Data:** In the minutes leading up to the Nasdaq Opening and Closing Crosses as well as the Nasdaq Crosses for IPO or halted/paused securities, Nasdaq disseminates the indicative clearing price and net order imbalance on Nasdaq. Because the calculation includes non-displayable as well as displayable order types, the Net Order Imbalance Indicator(NOII) is the best predictor of the Nasdaq opening and closing prices available to the public.
- **Administrative messages,** such trading actions and symbol directory messages:
  - Trading action messages are used to inform market participants when a security is halted/paused or released for trading.
  - Symbol Directory messages provide basic security data such as the market tier and Financial Status Indicator.
  - Market participant position message carries the Primary Market Maker status, Market Participant status and Market Maker mode fields used by some firms to comply with market regulations.
- **Event controls,** such as start of day, end of day and emergency market halt/resume.

Architecture

The TotalView Plus feed is 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 TotalView Plus protocol are typically delivered using a higher level protocol that takes care of sequencing and delivery guarantees.

Nasdaq offers the TotalView Plus data feed in three protocol options:.

- SoupBinTCP
- Compressed via SoupBinTCP
- MoldUDP64
- In the market data messages, instruments are identified by a Stock Locate Code code – a low lying integer employed with the intent of serving as an array index for rapidly looking up instrument details. The locate codes are dynamically assigned each day, starting with a value of 1, and communicated via the Stock Directory message.
  - An instrument's locate code will not change intraday; however, there should be no expectation that the assignment will be the same across multiple days.
  - The Stock Locate Code code appears on all messages, and at the same position in all messages to support efficient filtering. A default value of 0 will be applied to messages which are not stock dependent.
  - For stock locates, order reference numbers, and match numbers, customers should expect to see duplicate values across market centers/sessions, as these identifiers are only guaranteed to be unique within a given market center or session.

Data Types

All integer fields are big endian (network byte order) binary encoded numbers. Unless otherwise noted, they are unsigned.

All alpha 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 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 places. The maximum value of price (4) in TotalView Plus is 200,000.0000 (decimal, 77359400 hex).

Unless otherwise noted, timestamps are long and Big-endian, 64bit integers represented in nanoseconds since Epoch 1/1/1970, 00:00:00 UTC and unsigned.

Market Hours

Market Center	Identifier	Pre Market	Regular 9:30 AM–4:00 PM ET	Post Market	Extended Session
Nasdaq Extended Session	1	—	—	—	9:00 PM–4:00 AM ET
Nasdaq Core Session	2	4:00 - 9:30 AM ET	✓	4:00 - 8:00 PM ET	—
Nasdaq Texas	3	7:00 – 9:30 AM ET	✓	4:00 -7:00 PM ET	—
Nasdaq PSX	4	8:00 – 9:30 AM ET	✓	4:00-5:00 PM ET	—

Message Formats

The TotalView Plus feed is composed of a series of messages that describe orders added to, removed from, and executed on Nasdaq as well as disseminate Cross and Stock Directory information.

1.1 System Event Message

The system event message type is used to signal a market or data feed handler event. The format is as follows:

System Event Message

Name	Offset	Length	Value	Notes
Market/Session Indicator	0	1	Integer	Indicates the Session/Market the data originates from: • 1 = Nasdaq Extended Session • 2 = Nasdaq Core Session • 3 = Nasdaq Texas • 4 = PSX • 5 = reserved for future use
Message Type	1	1	"S"	System Event Message
Stock Locate Code	2	2	Integer	Always 0
Timestamp	4	8	Integer	Timestamp represented in nanoseconds since Epoch 1/1/1970, 00:00:00 UTC.

System Event Message

Name	Offset	Length	Value	Notes
Event Code	12	1	Alpha	• "O" = Start of Messages. Outside of time stamp messages, the start of day message is the first message sent in any trading day. • "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. • "M" = 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. It is still possible to receive Broken Trade messages and Order Delete messages after the End of Day. • "C" = End of Messages. This is always the last message sent in any trading day.
Total: 13 bytes				

1.2 Stock Related Messages

1.2.1. Stock Directory

At the start of each trading day, Nasdaq disseminates stock directory messages for all active symbols in the Nasdaq, NTX, and PSX execution system. Please note values across different market centers may have unique values.

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

Stock Directory

Name	Offset	Length	Type	Value/Description
Market/Session Indicator	0	1	Integer	Indicates the Session/Market the data originates from: • 1 = Nasdaq Extended Session • 2 = Nasdaq Core Session • 3 = Nasdaq Texas • 4 = PSX • 5 = reserved for future use
Message Type	1	1	"R"	Stock Directory Message
Stock Locate Code	2	2	Integer	Locate Code uniquely assigned to the security symbol for the day on each market center/session.
Timestamp	4	8	Integer	Timestamp represented in nanoseconds since Epoch 1/1/1970, 00:00:00 UTC.
Stock	12	8	Alpha	Denotes the security symbol for the issue in the Nasdaq execution system.

Stock Directory

Name	Offset	Length	Type	Value/Description
Market Category	20	1	Alpha	Indicates Listing market or listing market tier for the issue. Nasdaq-Listed Instruments: • “Q” = Nasdaq Global Select Market • “G” = Nasdaq Global Market • “S” = Nasdaq Capital Market Non-Nasdaq Listed Instruments: • “N” = New York Stock Exchange (NYSE) “A” = NYSE American • “P” = NYSE Arca • “M” = NYSE Texas • “Z” = BATS Z Exchange • “V” = Investors” Exchange, LLC • "F" = Texas Stock Exchange • “<space>” = Not available
Financial Status Indicator	21	1	Alpha	For Nasdaq-listed issues, this field indicates when a firm is not in compliance with Nasdaq continued listing requirements. Nasdaq-Listed Instruments: • “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 Non-Nasdaq-Listed Instruments: • “<space>” = Not available. Firms should refer to SIAC feeds for code if needed.
Round Lot Size	22	4	Integer	Denotes the number of shares that represent a round lot for the issue
Round Lots Only	26	1	Alpha	Indicates if market center system limits order entry for issue • “Y” = Market center system only accepts round lots orders for this security. • “N” = Market center system does not have any order size restrictions for this security. Odd and mixed lot orders are allowed.
Issue Classification	27	1	Alpha	Identifies the security class for the issue as assigned by Nasdaq. See Appendix for allowable values.
Issue Sub-Type	28	2	Alpha	Identifies the security sub-type for the issue as assigned by Nasdaq. See Appendix for allowable values.
Authenticity	30	1	Alpha	Denotes if an issue or quoting participant record is set-up in market center 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

Stock Directory

Name	Offset	Length	Type	Value/Description
Short Sale Threshold Indicator	31	1	Alpha	Indicates if a security is subject to mandatory close-out of short sales under SEC Rule 203(b)(3). • "Y" = Issue is restricted under SEC Rule 203(b)(3) • "N" = Issue is not restricted • "<space>" = Threshold Indicator not available
IPO Flag	32	1	Alpha	Indicates if the Nasdaq security is set up for IPO release. This field is intended to help Nasdaq market participant firms comply with FINRA Rule 5131(b). • Nasdaq-Listed Instruments: • "Y" = Nasdaq listed instrument is set up as a new IPO security • "N" = Nasdaq listed instrument is not set up as a new IPO security Non-Nasdaq-Listed Instruments: • "Z" = Nasdaq-listed instrument is a non-IPO new issue • "<space>" = Not available
LULD Reference Price Tier	33	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 applicable
ETP Flag	34	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
ETP Leverage Factor	35	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 leverages 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	39	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.
Total: 40 bytes				

1.2.2. 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

Name	Offset	Length	Value	Notes
Market/Session Indicator	0	1	Integer	Indicates the Session/Market the data originates from: • 1 = Nasdaq Extended Session • 2 = Nasdaq Core Session • 3 = Nasdaq Texas • 4 = PSX • 5 = reserved for future use
Message Type	1	1	"H"	Stock Trading Action Message.
Stock Locate Code	2	2	Integer	Locate Code uniquely assigned to the security symbol for the day on each market/session.
Timestamp	4	8	Integer	Timestamp represented in nanoseconds since Epoch 1/1/1970, 00:00:00 UTC.
Stock	12	8	Alpha	Stock symbol, right padded with spaces
Trading State	20	1	Alpha	Indicates the current trading state for the stock. Allowable values: • "H" = Halted across all U.S. equity markets / SROs • "P" = Paused across all U.S. equity markets / SROs (Nasdaq---listed securities only • "Q" = Quotation only period for cross /SRO halt or pause • "T" = Trading on Nasdaq
Reserved	21	1	Alpha	Reserved.
Reason	22	4	Alpha	Trading Action reason.
Total: 26 bytes				

1.2.3. Reg SHO Short Sale Price Test Restricted Indicator

In February 2011, the Securities and Exchange Commission (SEC) implemented 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 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
Market/Session Indicator	0	1	Integer	Indicates the Session/Market the data originates from: • 1 = Nasdaq Extended Session • 2 = Nasdaq Core Session • 3 = Nasdaq Texas • 4 = PSX • 5 = reserved for future use
Message Type	1	1	"Y"	Reg SHO Short Sale Price Test Restricted Indicator
Stock Locate Code	2	2	Integer	Locate Code uniquely assigned to the security symbol for the day on each market/session.
Timestamp	4	8	Integer	Timestamp represented in nanoseconds since Epoch 1/1/1970, 00:00:00 UTC.
Stock	12	8	Alpha	Stock symbol, right padded with spaces
Reg SHO Action	20	1	Alpha	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
Total: 21 bytes				

1.2.4. Market Participant Position

At the start of each trading day, Nasdaq disseminates a spin of market participant position messages. The message provides the Primary Market Maker status, Market Maker mode and Market Participant state for each Nasdaq market participant firm registered in an issue. Market participant firms may use these fields to comply with certain marketplace rules.

Throughout the day, Nasdaq will send out this message only if market center Operations changes the status of a market participant firm in an issue.

Market Participant Position

Name	Offset	Length	Value	Notes
Market/Session Indicator	0	1	Integer	Indicates the Session/Market the data originates from: • 1 = Nasdaq Extended Session • 2 = Nasdaq Core Session • 3 = Nasdaq Texas • 4 = PSX • 5 = reserved for future use
Message Type	1	1	"L"	Market Participant Position message
Stock Locate Code	2	2	Integer	Locate Code uniquely assigned to the security symbol for the day on each market/session.
Timestamp	4	8	Integer	Timestamp represented in nanoseconds since Epoch 1/1/1970, 00:00:00 UTC.
MPID	12	4	Alpha	Denotes the market participant identifier for which the position message is being generated
Stock	16	8	Alpha	Stock symbol, right padded with spaces

Market Participant Position

Name	Offset	Length	Value	Notes
Primary Market Maker	24	1	Alpha	Indicates if the market participant firm qualifies as a Primary Market Maker in accordance with Nasdaq marketplace rules • "Y" = primary market maker • "N" = non primary market maker
Market Maker Mode	25	1	Alpha	Indicates the quoting participant's registration status in relation to SEC Rules 101 and 104 of Regulation M • "N" = normal • "P" = passive • "S" = syndicate • "S" = syndicate • "R" = pre-syndicate • "L" = penalty
Market Participant State	26	1	Alpha	Indicates the market participant's current registration status in the issue: • "A" = Active • "E" = Excused/Withdrawn • "W" = Withdrawn • "S" = Suspended • "D" = Deleted
Total: 27 bytes				

1.2.5. Market-Wide Circuit Breaker (MWCB) Messaging

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
Market/Session Indicator	0	1	Integer	Indicates the Session/Market the data originates from: • 1 = Nasdaq Extended Session • 2 = Nasdaq Core Session • 3 = Nasdaq Texas • 4 = PSX • 5 = reserved for future use
Message Type	1	1	"V"	Market wide circuit breaker Decline Level Message.
Stock Locate Code	2	2	Integer	Always set to 0
Timestamp	4	8	Integer	Time at which the MWCB Decline Level message was generated. Timestamp represented in nanoseconds since Epoch 1/1/1970, 00:00:00 UTC.
Level 1	12	8	Price (8)	Denotes the MWCB Level 1 Value.
Level 2	20	8	Price (8)	Denotes the MWCB Level 2 Value.
Level 3	28	8	Price (8)	Denotes the MWCB Level 3 Value.
Total: 36 bytes				

1. MWCB Status Message

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

MWCB Status Message

Name	Offset	Length	Value	Notes
Market/Session Indicator	0	1	Integer	Indicates the Session/Market the data originates from: • 1 = Nasdaq Extended Session • 2 = Nasdaq Core Session • 3 = Nasdaq Texas • 4 = PSX • 5 = reserved for future use
Message Type	1	1	"W"	Market Wide Circuit Breaker Status message
Stock Locate Code	2	2	Integer	Always set to 0
Timestamp	4	8	Integer	Time at which the MWCB Breaker Status message was generated. Timestamp represented in nanoseconds since Epoch 1/1/1970, 00:00:00 UTC.
Breached Level	12	1	Alpha	Denotes the MWCB Level that was breached. • "1" = Level 1 • "2" = Level 2 • "3" = Level 3
Total: 13 bytes				

1.2.6. Quoting Period Update

Indicates the anticipated IPO quotation release time of a security. *IPO Message will populate for Nasdaq market only

Quoting Period Update

Name	Offset	Length	Value	Notes
Market/Session Indicator	0	1	Integer	Indicates the Session/Market the data originates from: • 1 = Nasdaq Extended Session • 2 = Nasdaq Core Session • 3 = Nasdaq Texas • 4 = PSX • 5 = reserved for future use
Message Type	1	1	"K"	IPO Quoting Period Update Message
Stock Locate Code	2	2	Integer	Always set to 0
Timestamp	4	8	Integer	Timestamp represented in nanoseconds since Epoch 1/1/1970, 00:00:00 UTC.
Stock	12	8	Alpha	Stock symbol, right padded with spaces
IPO Quotation Release Time	20	4	Integer	Denotes the IPO release time, in seconds since epoch time, for quotation to the nearest second. NOTE: If the quotation period is being canceled/postponed, we should state that: IPO Quotation Time will be set to 0 IPO Price will be set to 0

Quoting Period Update

Name	Offset	Length	Value	Notes
IPO Quotation Release Qualifier	24	1	Alpha	This value would be used when Market Center Operations initially enters the IPO instrument for release • "A" = Anticipated Quotation Release Time: This value would be used when Market Center Operations cancels or postpones the release of the new IPO instrument • "C" = IPO Release Canceled/Postponed:
IPO Price	25	4	Price (4)	Denotes the IPO Price to be used for intraday net change calculations
Total: 29 bytes				

1.2.7. Auction Collar

Indicates the auction collar thresholds within which a security can reopen following a LULD Trading Pause, MWCB Halt, and/or a Regulatory Halt.

Auction Collar

Name	Offset	Length	Value	Notes
Market/Session Indicator	0	1	Integer	Indicates the Session/Market the data originates from: • 1 = Nasdaq Extended Session • 2 = Nasdaq Core Session • 3 = Nasdaq Texas • 4 = PSX • 5 = reserved for future use
Message Type	1	1	"J"	LULD Auction Collar
Stock Locate Code	2	2	Integer	Locate Code uniquely assigned to the security symbol for the day on each market/session.
Timestamp	4	8	Integer	Timestamp represented in nanoseconds since Epoch 1/1/1970, 00:00:00 UTC.
Stock	12	8	Alpha	Stock symbol, right padded with spaces
Auction Collar Reference Price	20	4	Price (4)	Reference price used to set the Auction Collars
Upper Auction Collar Price	24	4	Price (4)	Indicates the price of the Upper Auction Collar Threshold
Lower Auction Collar Price	28	4	Price (4)	Indicates the price of the Lower Auction Collar Threshold
Auction Collar Extension	32	4	Integer	Indicates the number of the extensions to the Reopening Auction
Total: 36 bytes				

1.2.8. 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 marketplace.

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

Operational Halt

Name	Offset	Length	Type	Value/Description
Market/Session Indicator	0	1	Integer	Indicates the Session/Market the data originates from: • 1 = Nasdaq Extended Session • 2 = Nasdaq Core Session • 3 = Nasdaq Texas • 4 = PSX • 5 = reserved for future use
Message Type	1	1	"h"	Operational Halt
Stock Locate Code	2	2	Integer	Locate Code uniquely assigned to the security symbol for the day on each market/session.
Timestamp	4	8	Integer	Timestamp represented in nanoseconds since Epoch 1/1/1970, 00:00:00 UTC.
Stock	12	8	Alpha	Denotes the security symbol for the issue in Nasdaq execution system
Market Code	20	1	Alpha	• "Q": Nasdaq • "B": Nasdaq Texas • "X": PSX
Operational Halt Action	21	1	Alpha	• "H": Operationally Halted on the identified Market • "T": Operational Halt has been lifted and Trading resumed
Total: 22 bytes				

1.3 Add Order Message

An Add Order Message indicates that a new order has been accepted by the Nasdaq system and was added to the displayable book. The message includes a day-unique Order Reference Number per market center/session used by Nasdaq to track the order. Nasdaq will support two variations of the Add Order message format.

1.3.1. Add Order – No MPID Attribution

This message will be generated for unattributed orders accepted by the Nasdaq system. (Note: If a firm wants to display a MPID for unattributed orders, Nasdaq recommends that it use the MPID of "NSDQ".)

Add Order Message

Name	Offset	Length	Value	Notes
Market/Session Indicator	0	1	Integer	Indicates the Session/Market the data originates from: • 1 = Nasdaq Extended Session • 2 = Nasdaq Core Session • 3 = Nasdaq Texas • 4 = PSX • 5 = reserved for future use
Message Type	1	1	"A"	Add Order – No MPID Attribution Message.
Stock Locate Code	2	2	Integer	Locate Code uniquely assigned to the security symbol for the day on each market/session.
Timestamp	4	8	Integer	Timestamp represented in nanoseconds since Epoch 1/1/1970, 00:00:00 UTC.
Order Reference Number	12	8	Integer	The unique reference number assigned to the new order at the time of receipt on each market/session.
Buy/Sell Indicator	20	1	Alpha	The type of order being added: • "B" = Buy Order • "S" = Sell Order.

Add Order Message

Name	Offset	Length	Value	Notes
Shares	21	4	Integer	The total number of shares associated with the order being added to the book.
Stock	25	8	Alpha	Stock symbol, right padded with spaces
Price	33	4	Price (4)	The display price of the new order. Refer to Data Types for field processing notes.
Total: 37 bytes				

1.3.2. Add Order with MPID Attribution

This message will be generated for attributed orders and quotations accepted by the Nasdaq system.

Add Order - MPID Attribution Message

Name	Offset	Length	Value	Notes
Market/Session Indicator	0	1	Integer	Indicates the Session/Market the data originates from: • 1 = Nasdaq Extended Session • 2 = Nasdaq Core Session • 3 = Nasdaq Texas • 4 = PSX • 5 = reserved for future use
Message Type	1	1	"F"	Add Order – MPID Attribution Message.
Stock Locate Code	2	2	Integer	Locate Code uniquely assigned to the security symbol for the day on each market/session.
Timestamp	4	8	Integer	Timestamp represented in nanoseconds since Epoch 1/1/1970, 00:00:00 UTC.
Order Reference Number	12	8	Integer	The unique reference number assigned to the new order at the time of receipt on each market/session.
Buy/Sell Indicator	20	1	Alpha	The type of order being added: • "B" = buy order • "S" = sell order
Shares	21	4	Integer	The total number of shares associated with the order being added to the book
Stock	25	8	Alpha	Stock symbol, right padded with spaces
Price	33	4	Price (4)	The display price of the new order. Refer to Data Types for field processing notes.
Attribution	37	4	Alpha	Nasdaq Market participant identifier associated with the entered order
Total: 41 bytes				

1.4 Modify Order Messages

Modify Order messages always include the Order Reference Number of the Add Order to which the update applies. To determine the current display shares for an order, ITCH subscribers must deduct the number of shares stated in the Modify message from the original number of shares stated in the Add Order message with the same reference number. Nasdaq may send multiple Modify Order messages for the same order reference number and the effects are cumulative. When the number of display shares for an order reaches zero, the order is dead and should be removed from the book.

1.4.1. Order Executed Message

This message is sent whenever an order on the book is executed in whole or in part. It is possible to receive several Order Executed Messages for the same order reference number if that order is executed in several parts. The multiple Order Executed Messages on the same order are cumulative.

By combining the executions from both types of Order Executed Messages and the Trade Message, it is possible to build a complete view of all non-cross executions that happen on Nasdaq. Cross execution information is available in one bulk print per symbol via the Cross Trade Message.

Order Executed Message

Name	Offset	Length	Value	Notes
Market/Session Indicator	0	1	Integer	Indicates the Session/Market the data originates from: • 1 = Nasdaq Extended Session • 2 = Nasdaq Core Session • 3 = Nasdaq Texas • 4 = PSX • 5 = reserved for future use
Message Type	1	1	"E"	Add Order – Order Executed Message
Stock Locate Code	2	2	Integer	Locate Code uniquely assigned to the security symbol for the day on each market/session.
Timestamp	4	8	Integer	Timestamp represented in nanoseconds since Epoch 1/1/1970, 00:00:00 UTC.
Order Reference Number	12	8	Integer	The unique reference number assigned to the new order at the time of receipt on each market center/session.
Executed Shares	20	4	Integer	The number of shares executed
Match Number	24	8	Integer	The Nasdaq generated day unique Match Number of this Execution on each market center/session. The Match Number is also referenced in the Trade Break Message
Total: 32 bytes				

1.4.2. Order Executed With Price Message

This message is sent whenever an order on the book is executed in whole or in part at a price different from the initial display price. Since the execution price is different than the display price of the original Add Order, Nasdaq includes a price field within this execution message.

It is possible to receive multiple "Order Executed" and "Order Executed With Price" messages for the same order if that order is executed in several parts. The multiple Order Executed messages on the same order are cumulative.

These executions may be marked as non-printable. If the execution is marked as non-printed, it means that the shares will be included into a later bulk print (e.g., in the case of cross executions). If a firm is looking to use the data in time-and-sales displays or volume calculations, Nasdaq recommends that firms ignore messages marked as non-printable to prevent double counting.

Order Executed With Price Message

Name	Offset	Length	Value	Notes
Market/Session Indicator	0	1	Integer	Indicates the Session/Market the data originates from: • 1 = Nasdaq Extended Session • 2 = Nasdaq Core Session • 3 = Nasdaq Texas • 4 = PSX • 5 = reserved for future use

Order Executed With Price Message

Name	Offset	Length	Value	Notes
Message Type	1	1	"C"	Add Order –Order Executed with Price Message
Stock Locate Code	2	2	Integer	Locate Code uniquely assigned to the security symbol for the day on each market/session.
Timestamp	4	8	Integer	Timestamp represented in nanoseconds since Epoch 1/1/1970, 00:00:00 UTC.
Order Reference Number	12	8	Integer	The unique reference number assigned to the new order at the time of receipt on each market center/session.
Executed Shares	20	4	Integer	The number of shares executed
Match Number	24	8	Integer	The Nasdaq generated day unique Match Number of this Execution on each market center/session. The Match Number is also referenced in the Trade Break Message
Printable	32	1	Alpha	Indicates if the execution should be reflected on time and sales displays and volume calculations • "N" = Non-Printable • "Y" = Printable
Execution Price	33	4	Price(4)	The Price at which the order execution occurred. Refer to Data Types for field processing notes
Total: 37				

1.4.3. Order Cancel Message

This message is sent whenever an order on the book is modified as a result of a partial cancellation.

Order Cancel Message

Message Name	Offset	Length	Value	Notes
Market/Session Indicator	0	1	Integer	Indicates the Session/Market the data originates from: • 1 = Nasdaq Extended Session • 2 = Nasdaq Core Session • 3 = Nasdaq Texas • 4 = PSX • 5 = reserved for future use
Message Type	1	1	"X"	Order Cancel Message
Stock Locate Code	2	2	Integer	Locate Code uniquely assigned to the security symbol for the day on each market/session.
Timestamp	4	8	Integer	Timestamp represented in nanoseconds since Epoch 1/1/1970, 00:00:00 UTC.
Order Reference Number	12	8	Integer	The reference number of the order being canceled on each market center/session.
Cancelled Shares	20	4	Integer	The number of shares being removed from the display size of the order as a result of a cancellation
Total: 24 bytes				

1.4.4. Order Delete Message

This message is sent whenever an order on the book is being cancelled. All remaining shares are no longer accessible so the order must be removed from the book.

Order Delete Message

Message Name	Offset	Length	Value	Notes
Market/Session Indicator	0	1	Integer	Indicates the Session/Market the data originates from: • 1 = Nasdaq Extended Session • 2 = Nasdaq Core Session • 3 = Nasdaq Texas • 4 = PSX • 5 = reserved for future use
Message Type	1	1	"D"	Order Delete Message
Stock Locate Code	2	2	Integer	Locate Code uniquely assigned to the security symbol for the day on each market/session.
Timestamp	4	8	Integer	Timestamp represented in nanoseconds since Epoch 1/1/1970, 00:00:00 UTC.
Order Reference Number	12	8	Integer	The reference number of the order being canceled on each market center/session.
Total: 20 bytes				

1.4.5. Order Replace Message

This message is sent whenever an order on the book has been replaced. All remaining shares from the original order are no longer accessible, and must be removed. The new order details are provided for the replacement, along with a new order reference number which will be used henceforth. Since the side, stock symbol and attribution (if any) cannot be changed by an Order Replace event, these fields are not included in the message. Firms should retain the side, stock symbol and MPID from the original Add Order message.

Order Replace Message

Name	Offset	Length	Value	Notes
Market/Session Indicator	0	1	Integer	Indicates the Session/Market the data originates from: • 1 = Nasdaq Extended Session • 2 = Nasdaq Core Session • 3 = Nasdaq Texas • 4 = PSX • 5 = reserved for future use
Message Type	1	1	"U"	Order Replace Message
Stock Locate Code	2	2	Integer	Locate Code uniquely assigned to the security symbol for the day on each market/session.
Timestamp	4	8	Integer	Timestamp represented in nanoseconds since Epoch 1/1/1970, 00:00:00 UTC.
Original Order Reference Number	12	8	Integer	The original order reference number of the order being replaced
New Order Reference Number	20	8	Integer	The new reference number for this order at time of replacement on the market center/session Please note that the market center system will use this new order reference number for all subsequent updates
Shares	28	4	Integer	The new total displayed quantity
Price	32	4	Price (4)	The new display price for the order. Please refer to Data Types for field processing notes
Total: 36 bytes				

1.5 Trade Messages

1.5.1. Trade Message (Non-Cross)

The Trade Message is designed to provide execution details for normal match events involving non-displayable order types. (Note: There is a separate message for Nasdaq cross events.)

Since no Add Order Message is generated when a non-displayed order is initially received, Nasdaq cannot use the Order Executed messages for all matches. Therefore, this message indicates when a match occurs between non-displayable order types. A Trade Message is transmitted each time a non-displayable order is executed in whole or in part. It is possible to receive multiple Trade Messages for the same order if that order is executed in several parts. Trade Messages for the same order are cumulative.

Trade Messages should be included in Nasdaq time-and-sales displays as well as volume and other market statistics. Since Trade Messages do not affect the book, however, they may be ignored by firms just looking to build and track the Nasdaq execution system display.

Trade Message - Non Cross

Name	Offset	Length	Value	Notes
Market/Session Indicator	0	1	Integer	Indicates the Session/Market the data originates from: • 1 = Nasdaq Extended Session • 2 = Nasdaq Core Session • 3 = Nasdaq Texas • 4 = PSX • 5 = reserved for future use
Message Type	1	1	"P"	Trade Message
Stock Locate Code	2	2	Integer	Locate Code uniquely assigned to the security symbol for the day on each market/session.
Timestamp	4	8	Integer	Timestamp represented in nanoseconds since Epoch 1/1/1970, 00:00:00 UTC.
Order Reference Number	12	8	Integer	The unique reference number assigned to the order on the book being executed on each market center/session. Effective December 6, 2010, Nasdaq will populate the Order Reference Number field within the Trade (Non--- Cross) message as zero. For the binary versions of the TotalView ITCH data feeds, the field will be null-filled bytes (which encodes sequence of zero)
Buy/Sell Indicator	20	1	Alpha	The type of non-display order on the book being matched • "B" = Buy Order • "S" = Sell Order Effective 07/14/2014, this field will always be "B" regardless of the resting side
Shares	21	4	Integer	The number of shares being matched in this execution
Stock	25	8	Alpha	Stock Symbol, right padded with spaces
Price	33	4	Price (4)	The match price of the order Please refer to Data Types for field processing notes
Match Number	37	8	Integer	The unique Match Number for this trade on each market center/session. The Match Number is referenced in the Trade Break Message
Total: 45 bytes				

1.5.2. Cross Trade Message

Cross Trade message indicates that Nasdaq has completed its cross process for a specific security. Nasdaq sends out a Cross Trade message for all active issues in the system following the Opening, Closing and EMC cross events. Firms may use the Cross Trade message to determine when the cross for each security has been completed. (Note: For the halted / paused securities, firms should use the Trading Action message to determine when an issue has been released for trading.)

For most issues, the Cross Trade message will indicate the bulk volume associated with the cross event. If the order interest is insufficient to conduct a cross in a particular issue, however, the Cross Trade message may show the shares as zero.

To avoid double counting of cross volume, firms should not include transactions marked as non-printable in time and sales displays or market statistic calculations.

Cross Trade Message

Message	Offset	Length	Value	Notes
Market/Session Indicator	0	1	Integer	Indicates the Session/Market the data originates from: 1 = Nasdaq Extended Session 2 = Nasdaq Core Session 3 = Nasdaq Texas 4 = PSX 5 = reserved for future use
Message Type	1	1	"Q"	Cross Trade Message
Stock Locate Code	2	2	Integer	Locate Code uniquely assigned to the security symbol for the day on each market/session.
Timestamp	4	8	Integer	Timestamp represented in nanoseconds since Epoch 1/1/1970, 00:00:00 UTC.
Shares	12	8	Integer	The number of shares matched in the identified market center Cross.
Stock	20	8	Alpha	Stock symbol, right padded with spaces
Cross Price	28	4	Price (4)	The price at which the cross occurred. Refer to Data Types for field processing notes.
Match Number	32	8	Integer	The unique match number of this execution generated on each market center/session.
Cross Type	40	1	Alpha	• "C" = Closing Cross • "O" = Opening Cross • "H" = Cross for IPO and halted / paused securities
Total: 41 bytes				

1.5.3. Broken Trade / Order Execution Message

The Broken Trade Message is sent whenever an execution on Nasdaq is broken. An execution may be broken if it is found to be "clearly erroneous" pursuant to Nasdaq's Clearly Erroneous Policy. A trade break is final; once a trade is broken, it cannot be reinstated.

Firms that use the TotalView Plus ITCH feed to create time-and-sales displays or calculate market statistics should be prepared to process the broken trade message. If a firm is only using the TotalView Plus ITCH feed to build a book, however, it may ignore these messages as they have no impact on the current book.

Broken Trade Message

Name	Offset	Length	Value	Notes
Market/Session Indicator	0	1	Integer	Indicates the Session/Market the data originates from: • 1 = Nasdaq Extended Session • 2 = Nasdaq Core Session • 3 = Nasdaq Texas • 4 = PSX • 5 = reserved for future use
Message Type	1	1	"B"	Broken Trade Message.
Stock Locate Code	2	2	Integer	Locate Code uniquely assigned to the security symbol for the day on each market/session.
Timestamp	4	8	Integer	Timestamp represented in nanoseconds since Epoch 1/1/1970, 00:00:00 UTC.
Match Number	12	8	Integer	The Nasdaq Match Number of the execution that was broken on each market center/session. This refers to a Match Number from a previously transmitted Order Executed Message, Order Executed With Price Message, or Trade Message.
Total: 20 bytes				

1.6 Net Order Imbalance Indicator (NOII) Message

- Nasdaq begins disseminating Net Order Imbalance Indicators (NOII) at 9:25 a.m. for the Opening Cross and 3:50 p.m. for the Closing Cross.
- Between 9:25 and 9:28 a.m. and 3:50 and 3:55 p.m., Nasdaq disseminates the NOII information every 10 seconds.
- Between 9:28 and 9:30 a.m. and 3:55 and 4:00 p.m., Nasdaq disseminates the NOII information every second.
- For Nasdaq Halt, IPO and Pauses, NOII messages will be disseminated at 1 second intervals starting 1 second after quoting period starts/trading action is released.
- For more information, please see the FAQ on Opening and Closing Crosses.
- Nasdaq will also disseminate an Extended Trading Close (ETC) message from 4:00 p.m. to 4:05 p.m. at five second intervals.
- For more information, please see the FAQ on Extended Trading Close.

*NOII Message will populate for Nasdaq market only

Net Order Imbalance Indicator

Name	Offset	Length	Value	Notes
Market/Session Indicator	0	1	Integer	Indicates the Session/Market the data originates from: • 1 = Nasdaq Extended Session • 2 = Nasdaq Core Session • 3 = Nasdaq Texas • 4 = PSX • 5 = reserved for future use
Message Type	1	1	"I"	NOII Message
Stock Locate Code	2	2	Integer	Locate Code uniquely assigned to the security symbol for the day on each market/session.
Timestamp	4	8	Integer	Timestamp represented in nanoseconds since Epoch 1/1/1970, 00:00:00 UTC.
Paired Shares	12	8	Integer	The total number of shares that are eligible to be matched at the Current Reference Price.
Imbalance Shares	20	8	Integer	The number of shares not paired at the Current Reference Price.

Net Order Imbalance Indicator

Name	Offset	Length	Value	Notes
Imbalance Direction	28	1	Alpha	The market side of the order imbalance. • "B" = buy imbalance • "S" = sell imbalance • "N" = no imbalance • "O" = Insufficient orders to calculate • "P" = Paused
Stock	29	8	Alpha	Stock symbol, right padded with spaces
Far Price	37	4	Price (4)	A hypothetical auction-clearing price for cross orders only. Refer to Data Types for field processing notes.
Near Price	41	4	Price (4)	A hypothetical auction clearing price for cross orders as well as continuous orders. Refer to Data Types for field
Current Reference Price	45	4	Price (4)	The price at which the NOII shares are being calculated. Refer to Data Types for field processing notes.
Cross Type	49	1	Alpha	The type of market center cross for which the NOII message is being generated: • "O" = Opening Cross • C" = Closing Cross • "H" = Cross for IPO and halted / paused securities • "A" = Extended Trading Close
Price Variation Indicator	50	1	Alpha	This field indicates the absolute value of the percentage of deviation of the Near Indicative Clearing Price to the nearest Current Reference Price. • "L" = Less than 1% • "1" = 1 to 1.99% • "2" = 2 to 2.99% • "3" = 3 to 3.99% • "4" = 4 to 4.99% • "5" = 5 to 5.99% • "6" = 6 to 6.99% • "7" = 7 to 7.99% • "8" = 8 to 8.99% • "9" = 9 to 9.99% • "A" = 10 to 19.99% • "B" = 20 to 29.99% • "C" = 30% or greater • <Space> = Cannot be calculated
Total: 51 bytes				

1.7 Retail Price Improvement Indicator (RPII)

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

*RPII Message will populate for Nasdaq Texas market only

Retail Price Improvement Indicator (RPII)

Name	Offset	Length	Value	Notes
Market/Session Indicator	0	1	Integer	Indicates the Session/Market the data originates from: • 1 = Nasdaq Extended Session • 2 = Nasdaq Core Session • 3 = Nasdaq Texas • 4 = PSX • 5 = reserved for future use
Message Type	1	1	"N"	Retail Interest message
Stock Locate Code	2	2	Integer	Locate Code uniquely assigned to the security symbol for the day on each market/session.
Timestamp	4	8	Integer	Timestamp represented in nanoseconds since Epoch 1/1/1970, 00:00:00 UTC.
Stock	12	8	Alpha	Stock symbol, right padded with spaces
Interest Flag	20	1	Alpha	• "B" = RPI orders available on the buy side • "S" = RPI orders available on the sell side • "A" = RPI orders available on both sides (buy and sell) • "N" =No RPI orders available
Total: 21 bytes				

1.8 Direct Listing with Capital Raise Price Discovery Message

The following message is disseminated only for Direct Listing with Capital Raise (DLCR) securities. Nasdaq begins disseminating messages once per second as soon as the DLCR volatility test has successfully passed.

Direct Listing with Capital Raise Price

Name	Offset	Length	Value	Notes
Market/Session Indicator	0	1	Integer	Indicates the Session/Market the data originates from: • 1 = Nasdaq Extended Session • 2 = Nasdaq Core Session • 3 = Nasdaq Texas • 4 = PSX • 5 = to be announced
Message Type	1	1	"O"	Direct Listing with Capital Raise Message
Stock Locate Code	2	2	Integer	Locate Code uniquely assigned to the security symbol for the day on each market/session.
Timestamp	4	8	Integer	Timestamp represented in nanoseconds since Epoch 1/1/1970, 00:00:00 UTC.
Stock	12	8	Alpha	Stock symbol, right padded with spaces
Open Eligibility Status	20	1	Alpha	Indicates if the security is eligible to be released for trading • "N" = Not Eligible • "Y" = Eligible
Minimum Allowable Price	21	4	Price (4)	20% below Registration Statement Lower Price
Maximum Allowable Price	25	4	Price (4)	80% above Registration Statement Highest Price
Near Execution Price	29	4	Price (4)	The current reference price when the DLCR volatility test has successfully passed
Near Execution Time	33	8	Integer	Timestamp represented in nanoseconds since Epoch 1/1/1970, 00:00:00 UTC.

Direct Listing with Capital Raise Price

Name	Offset	Length	Value	Notes
Lower Price Range Collar	41	4	Price (4)	Indicates the price of the Lower Auction Collar Threshold (10% below the Near Execution Price)
Upper Price Range Collar	45	4	Price (4)	Indicates the price of the Upper Auction Collar Threshold (10% above the Near Execution Price)
Total: 49 bytes				

Support

- For general product support and technical support for Nasdaq data feeds, please contact Nasdaq Global Information Services at clientsuccess@nasdaq.com

Appendix A – Stock Symbol Convention

For Nasdaq-listed issues, Nasdaq currently restricts its symbol length to a maximum of 8 characters. For common stock issuances, Nasdaq, PSX and Nasdaq Texas 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 e.g., XXXX.A. For subordinate securities, Nasdaq and Nasdaq Texas 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 NasdaqTrader website.

For NYSE, NYSE American – and NYSE Arca listed securities with subordinate issue types, please refer to Ticker Symbol Convention 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 abides by any regulatory trading halts and trading pauses instituted by the primary or listing market as appropriate.

For both issue types, Nasdaq may also halt trading for operational reasons.

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

Reason Codes For Trading Halts

Code	Value
T1	Halt News Pending
T2	Halt News Disseminated
T5	Single Security Trading Pause In Effect
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

Reason Codes For Trading Halts

Code	Value
H11	Halt Regulatory Concern
O1	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

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	Reason Not Available
T3	News and Resumption Times
T7	Single Security Trading Pause / Quotation Only Period

Appendix C – Issue Classification Values

Identifies the security class for the issue as assigned by Nasdaq

Codes For Issue Classification Values

Code	Value
A	American Depositary Share
B	Bond
C	Common Stock
F	Depository Receipt
I	144A
L	Limited Partnership
N	Notes
O	Ordinary Share

Codes For Issue Classification Values

Code	Value
P	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
AI	Alpha Index ETNs
B	Index Based Derivative
C	Common Shares
CB	Commodity Based Trust Shares
CF	Commodity Futures Trust Shares
CL	Commodity-Linked Securities
CM	Commodity Index Trust Shares
CO	Collateralized Mortgage Obligation
CT	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	NextShares Exchange Traded Managed Fund*
EN	Exchange Traded Notes
EU	Equity Units
F	HOLDRS
FI	ETN-Fixed Income-Linked Securities
FL	ETN-Futures-Linked Securities
G	Global Shares
I	ETF-Index Fund Shares
IR	Interest Rate
IW	Index Warrant
IX	Index-Linked Exchangeable Notes
J	Corporate Backed Trust Security

Codes For Issue Classification Values

Code	Value
L	Contingent Litigation Right
LL	Identifies securities of companies that are set up as a Limited Liability Company (LLC)
M	Equity-Based Derivative
MF	Managed Fund Shares
ML	ETN-Multi-Factor Index-Linked Securities
MT	Managed Trust Securities
N	NY Registry Shares
O	Open Ended Mutual Fund
P	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
T	Tracking Stock
TC	Trust Certificates
TU	Trust Units
U	Portal
V	Contingent Value Right
W	Trust Issued Receipts
WC	World Currency Option
X	Trust
Y	Other
Z	Not Applicable

Appendix E - Documentation Version Control Log

Version 1.0: May 18, 2026

Introduced Version 1.0 of Nasdaq Totalview Plus.

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Version 1.0: June 17, 2026

Updated Market Category field to include additional listing market value "F".