



Depth of Market

Version 4.00

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## 1. Overview

NASDAQ Futures Depth of Market is a direct data feed product offered by NASDAQ Futures, which features the following data elements:

- **Order and Quote level data:** NASDAQ Futures provides its full order and quote depth using a series of order and quote messages to track the life of an order and quote including cancellation and execution<sup>1</sup>.
- **Trade messages:** To ensure that customers have complete information about the NASDAQ Futures book, NASDAQ Futures Depth of Market will support a trade message to reflect trade matches other than executions of orders or quotes that have been disseminated on NASDAQ Futures Depth. Trade messages cover block trades, EFRP trades, manual trades, and at a later date will cover auction executions.
- **Administrative messages,** such as trading actions and symbol directory messages:
  - Trading action messages are used to inform market participants when a symbol is halted or released for trading.
  - Symbol Directory messages provide basic product symbol data

## 2. Architecture

The NASDAQ Futures Depth feed will be made up of a series of sequenced messages. Each message is variable in length based on the message type and is composed of binary bytes. The messages that make up the NASDAQ Futures Depth protocol are typically delivered using a higher level protocol that takes care of sequencing and delivery guarantees. NASDAQ Futures Depth is an outbound market data feed only. The NASDAQ Futures Depth protocol does not support order or quote entry.

The NASDAQ Futures Depth data feed is available in two protocol options:

<b>Protocol Option</b>	<b>Number of Outbound Channels</b>
<a href="#">SoupBinTCPv3.00</a>	Single outbound channel for all securities
<a href="#">MoldUDP64v1.00</a>	Single outbound channel for all securities

Both the primary ("A feed") and secondary ("B feed") will be hosted by servers co-located with the trading system and will have identical performance characteristics. In fact the "A" and "B" feeds are logically identical: Mold or Soup messages will have the same Mold or Soup sequence numbers across all the streams.

Please note that NASDAQ Futures has determined to provide local redundancy in the NY Metro Area ("A" and "B" feeds), while using the Mid-Atlantic Region ("C" feed) for disaster recovery in the event order entry is switched from the NY Metro Area.

A complete set of alternate connection parameters are available for each Multicast Channel and TCP Connection in the event of a failure in any of the primary connections.

### **3. Data Types**

All Alpha or Alphanumeric fields are left justified and padded on the right with spaces.

All Integer fields are unsigned big-endian (network byte order) binary encoded numbers unless otherwise specified. Integers may be 1, 2, 4 or 8 bytes long.

Prices are 4 byte or 8 byte Integer fields. When a 4 byte price is converted to a decimal format, prices are in fixed point format with 6 whole number places followed by 4 decimal digits. When a 8 byte price is converted to a decimal format, prices are in fixed point format with 10 whole number places followed by 8 decimal digits.

### **4. Message Formats**

The NASDAQ Futures Depth feed is composed of a series of messages that describe orders/quotes added to, removed from, modified and executed on the NASDAQ Futures Market as well as Symbol Directory information.

- System Event messages;
- Symbol Directory messages for all security symbols in the NASDAQ Futures execution system;
- Trading Action messages with the current trading state value for active security symbol in the NASDAQ Futures execution system;
- Symbol status message if either the opening or closing is done for an symbol;
- Base reference message;
- Add Quote messages for all the displayable quotes on the NASDAQ Futures execution system at the time of login request;
- Add Order messages for all the displayable orders on the NASDAQ Futures execution system at the time of login request

## 4.1. Time Messages

For bandwidth efficiency reasons, timestamp will be separated into two pieces:

Time Stamp Portion	Message Type	Notes
Seconds	Standalone message	Reflects the number of seconds past midnight (U.S. Eastern Time) that the Time Stamp message was generated. Note: A Time Stamp – Seconds message will be disseminated for every second for which there is at least one data message.
Nanoseconds	Field within individual data message	Reflects the number of nanoseconds since the most recent Time Stamp – Seconds message

### 4.1.1. Seconds Message

This message is sent every second for which at least one NASDAQ Futures Depth message is being generated.

SECONDS MESSAGE				
Name	Offset	Length	Value	Notes
Message Type	0	1	Alpha	"T" = Seconds Message
Second	1	4	Integer	Number of seconds since midnight

## 4.2. 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				
<b>Name</b>	<b>Offset</b>	<b>Length</b>	<b>Value</b>	<b>Notes</b>
Message Type	0	1	Alpha	"S" = System Event Message
Timestamp	1	4	Integer	Nanoseconds portion of timestamp
Event Code	5	1	Alpha	Refer to System Event Codes below
Version	6	1	Integer	Version of this interface. Currently set to 4.
Sub-version	7	1	Integer	Sub-version of this interface. Currently set to 0.

SYSTEM EVENT CODES		
<b>Code</b>	<b>Explanation</b>	<b>When (typically)</b>
"O"	<i>Start of Messages.</i> This is always the first message sent in any trading day.	After ~6:00am
"S"	<i>Start of System Hours.</i> This message indicates that NASDAQ Futures is open.	7:00am
"E"	<i>End of System Hours.</i> This message indicates that NASDAQ Futures is closed.	~5:30pm
"C"	<i>End of Messages.</i> This is always the last message sent in any trading day.	~5:35pm

### 4.3. Administrative Data

#### 4.3.1. Base Reference Message:

This message indicates the base reference number to which all the order/quote/trade reference number deltas must be added to obtain the absolute order/quote NASDAQ Futures reference number. As such this message is sent prior to any order, quote and trade messages. NASDAQ Futures Depth subscribers always get the reference number delta in the order, quote and trade messages.

NASDAQ Futures assigns a unique sequence number to an active order and quote. However for performance reasons NASDAQ Futures Depth publishes only the incremental value from the base reference number in the order, quote and trade messages.

BASE REFERENCE MESSAGE				
Name	Offset	Length	Value	Notes
Message Type	0	1	Alpha	"L" = Base Reference Message
Timestamp	1	4	Integer	Nanoseconds portion of timestamp
Base Reference Number	5	8	Long Integer	The base reference number.

#### 4.3.2. Directory Message

At the start of each trading day, NASDAQ Futures disseminates symbol directory messages for all active symbols in the NASDAQ Futures system.

DIRECTORY				
Name	Offset	Length	Value	Notes
Message Type	0	1	Alpha	"R" = Directory Message
Timestamp	1	4	Integer	Nanoseconds portion of timestamp
Product Type	5	1	Alpha	"F" = Future "O" = Option
Product ID	6	4	Integer	Product ID assigned daily, valid for trading day. Unique only when combined with Product Type
Symbol	10	6	Alphanumeric	Denotes the future or option symbol.
Expiration Date	16	4	Integer	option expiration in CCYYMMDD format
Explicit Strike Price	20	8	Integer	Explicit strike price. Refer to Data Types for field processing notes. Applicable for Product Type="O"
Option Type	28	1	Alpha	"C" = Call option "P" = Put option Applicable for Product Type="O"
Issue Symbol	29	13	Alphanumeric	Denotes the unique underlying issue symbol for the symbol, E.g., NAU
Tradable	42	1	Alpha	Denotes whether or not this symbol is tradable at NASDAQ Futures. The allowable values are: "Y" = symbol tradable "N" = symbol is not tradable

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DIRECTORY				
Name	Offset	Length	Value	Notes
MPV	43	8	Integer	Minimum Price Variation for this symbol. All prices must be a multiple of this price.
Symbol Start Time	51	4	Integer	Timestamp in seconds when the symbol starts trading
Symbol End Time	55	4	Integer	Timestamp in seconds when the symbol Ends trading
Issue Type	59	1	Byte	Provides Issue Type D=Commodity C=Currency I=Index F=ETF M=Metal E=Energy
Exec Algo	60	1	Byte	Execution Algorithm P=Price/Time R=Pro rata

## Symbol Directory Notes:

- 1) **IMPORTANT:** The unique key for each symbol is the combination of the product type and the product ID. Product IDs are NOT unique across different product types.
- 2) The product directory messages are sent once per symbol, typically before the "Start of System Hours" System Event. Should it be necessary, intra-day updates to this message will be sent as they occur.
- 3) If a Trading Symbol is removed from the system intra-day, a new directory message will be sent with "Tradable" field set to "N". Any Orders/Quotes sent for this removed symbol will be rejected. All existing orders/quotes for this symbol will be purged.
- 4) NASDAQ Futures validates incoming orders/quotes prices against the MPV.



### 4.3.3. Trading Action Message

The NASDAQ Futures system uses this administrative message to indicate the current trading status of a symbol within the NASDAQ Futures market.

Upon receipt of the Directory Message, the issue is initially in a trading state. The Trading Action Message is used to alter the trading state of the issue.

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

Trading Action Message				
Name	Offset	Length	Value	Notes
Message Type	0	1	Alpha	"H" = Trading Action
Nanoseconds	1	4	Integer	The sub-second portion of the time, in nanoseconds (0-999999999). The second portion of the time is obtained from the most recent timestamp message.
Product Type	5	1	Alpha	"F" = Future "O" = Option
Product ID	6	4	Integer	Product ID assigned daily, valid for trading day. Unique only when combined with Product Type
Current Trading State	10	1	Alpha	Reflects the current trading state for the NASDAQ Futures symbol in the NASDAQ Futures market. The allowable values are: "H" = Halt in effect "T" = Trading on the NASDAQ Futures system B = Buy Side Trading Suspended -i.e. Buy orders are not executable) S = Sell Side Trading Suspended -i.e. Sell orders are not executable)

#### 4.3.4. Symbol Status Message

NASDAQ Futures uses this administrative message to indicate when a symbol is open and available for order entry and auto execution or when the option has closed and is no longer available for order entry or auto execution.

Symbol Status Message				
Name	Offset	Length	Value	Notes
Message Type	0	1	Alpha	"O" = Symbol Status
Nanoseconds	1	4	Integer	The sub-second portion of the time, in nanoseconds (0-999999999). The second portion of the time is obtained from the most recent timestamp message.
Product Type	5	1	Alpha	"F" = Future "O" = Option
Product ID	6	4	Integer	Product ID assigned daily, valid for trading day. Unique only when combined with Product Type
Open State	10	1	Alpha	Reflects the current eligibility for auto execution of the symbol. The allowable values are: Y = Open for auto execution N = Closed for auto execution S = Start of Order Entry E = End of Order Entry

**Note:** Recipients should continue to process the Trading Action message in order to determine if a symbol is in a Halt state for the day. A symbol open message should **NOT** override the Trading action message indicating if a symbol is halted. Recipients should use both messages in tandem to indicate if the symbol is halted and/or or open for auto execution.

#### 4.4. Add Order Message

An Add Order Message indicates that a new order has been accepted by the NASDAQ Futures system and was added to the displayable book. The message includes a day-unique Order Reference Number used by NASDAQ Futures to track the order. For bandwidth efficiency reasons, this message can be published in either short or long format.

ADD ORDER MESSAGE – SHORT FORM				
Name	Offset	Length	Value	Notes
Message Type	0	1	Alpha	"a"= Short Form Add Order Message
Timestamp	1	4	Integer	Nanoseconds portion of timestamp
Order Reference Number Delta	5	4	Integer	The unique reference number delta assigned to the new order. The order reference number is Increasing, but not necessarily sequential.
Market Side	9	1	Alpha	"B" = Buy "S" = Sell
Product Type	10	1	Alpha	"F" = Future "O" = Option
Product ID	11	4	Integer	Product ID assigned daily, valid for trading day. Unique only when combined with Product Type
Price	19	4	Integer	The display price of the new order being added to the book. <b>NOTE:</b> When converted to a decimal format, this price is in fixed point format with 6 whole number places followed by 4 decimal digits.
Volume	23	2	Integer	The total number of contracts of the new order being added to the book.

ADD ORDER MESSAGE - LONG FORM				
Name	Offset	Length	Value	Notes
Message Type	0	1	Alpha	"A"=Long Form Add Order Message
Timestamp	1	4	Integer	Nanoseconds portion of timestamp
Order Reference Number Delta	5	4	Integer	The unique reference number delta assigned to the new order. The order reference number is Increasing, but not necessarily sequential.
Market Side	9	1	Alpha	"B" = Buy "S" = Sell
Product Type	10	1	Alpha	"F" = Future "O" = Option
Product ID	11	4	Integer	Product ID assigned daily, valid for trading day. Unique only when combined with Product Type
Price	19	8	Integer	The display price of the new order being added to the book.
Volume	23	4	Integer	The total number of contracts of the new order being added to the book.

## 4.5. Add Quote Message

An Add Quote Message indicates that a new quote has been accepted by the NASDAQ Futures system and added to the displayable book. The message includes a unique Bid/Ask Reference Numbers used by NASDAQ Futures to track the quote. The bid/ask sequence numbers can change during the day and will be reflected in the quote update messages.

For bandwidth efficiency reasons, this message can be published in either short or long format.

ADD QUOTE MESSAGE – SHORT FORM				
Name	Offset	Length	Value	Notes
Message Type	0	1	Alpha	"j" = Short Form Add Quote Message
Timestamp	1	4	Integer	Nanoseconds portion of timestamp
Bid Reference Number Delta	5	4	Integer	The bid reference number delta associated with the new quote.
Ask Reference Number Delta	9	4	Integer	The ask reference number delta associated with the new quote
Product Type	10	1	Alpha	"F" = Future "O" = Option
Product ID	11	4	Integer	Product ID assigned daily, valid for trading day. Unique only when combined with Product Type
Bid Price	19	4	Integer	The display bid price of the new quote. <b>NOTE:</b> When converted to a decimal format, this price is in fixed point format with 6 whole number places followed by 4 decimal digits.
Bid Size	23	2	Integer	The bid contracts of the new quote.
Ask Price	25	4	Integer	The display ask price of the new quote. <b>NOTE:</b> When converted to a decimal format, this price is in fixed point format with 6 whole number places followed by 4 decimal digits.
Ask Size	29	2	Integer	The ask contracts of the new quote.

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ADD QUOTE MESSAGE – LONG FORM				
Name	Offset	Length	Value	Notes
Message Type	0	1	Alpha	"J" = Long Form Add Quote Message
Timestamp	1	4	Integer	Nanoseconds portion of timestamp
Bid Reference Number Delta	5	4	Integer	The bid reference number delta associated with the new quote.
Ask Reference Number Delta	9	4	Integer	The ask reference number delta associated with the new quote
Product Type	10	1	Alpha	"F" = Future "O" = Option
Product ID	11	4	Integer	Product ID assigned daily, valid for trading day. Unique only when combined with Product Type
Bid	19	8	Integer	The display bid price of the new quote. <b>NOTE:</b> When converted to a decimal format, this price is in fixed point format with 10 whole number places followed by 8 decimal digits.
Bid Size	27	4	Integer	The bid contracts of the new quote.
Ask	31	8	Integer	The display ask price of the new quote. <b>NOTE:</b> When converted to a decimal format, this price is in fixed point format with 10 whole number places followed by 8 decimal digits.
Ask Size	39	4	Integer	The ask contracts of the new quote.

## 4.6. Modify Order/Quote Message

Modify messages always include the Reference Number of the order, one or both sides of the quote to which the update applies. The Reference Numbers on an order/quote will change in the Replace messages. NASDAQ Futures Depth subscribers must track these Reference Number changes to know the current active Reference Number. The Reference numbers must be tracked separately for each side of a quote. To determine the current display contracts for an order or quote, NASDAQ Futures Depth subscribers must adjust the number of contracts stated in the Modify message from the original number of contracts stated in the Add/Replace message with the same reference number.

### 4.6.1. Single Side Executed Message

A "Side order" represents an order or one side of a quote.

This message is sent whenever a Side order is executed in whole or in part. It is possible to receive several Single Side Executed Messages for the same Side order if that Side order is executed in several parts. The multiple Single Side Executed Messages on the same order are cumulative. By combining the executions received separately via two types of Single Side Executed Messages and Trade Messages, it is possible to build a complete view of all executions that happen against resting orders or quotes on the NASDAQ Futures book. Block and EFRP execution information is available in the Trade Message.

SINGLE SIDE EXECUTED MESSAGE				
Name	Offset	Length	Value	Notes
Message Type	0	1	Alpha	"E" = Single Side Order/Quote Executed Message
Timestamp	1	4	Integer	Nanoseconds portion of timestamp
Reference Number Delta	5	4	Integer	The order/quote reference number delta associated with the executed order.
Executed Contracts	9	4	Integer	The number of contracts executed.
Cross ID	13	4	Integer	Trade Group Id. Ties together all trades of a given atomic transaction in the matching engine.
Match Number	17	4	Integer	Execution Id. Identifies the component of an execution. Unique for a given day. The match number is also referenced in the Trade Break Message.
Trade Condition	21	1	Alpha	Please refer to Appendix B for trade condition code.

#### 4.6.2. Single Side Executed with Price Message

A "Side order" represents an order or one side of a quote.

This message is sent whenever an incoming Side order is executed against the book 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/Replace, NASDAQ Futures includes a price field within this execution message. It is possible to receive multiple Single Side Executed and Single Side Executed with Price messages for the same Side order if that Side order is executed in several parts. The multiple Single Side Executed messages on the same Side order are cumulative.

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

SINGLE SIDE EXECUTED WITH PRICE MESSAGE				
Name	Offset	Length	Value	Notes
Message Type	0	1	Alpha	"C" = Single Side Order/Quote Executed With Price Message
Timestamp	1	4	Integer	Nanoseconds portion of timestamp
Reference Number Delta	5	4	Integer	The order/quote reference number delta associated with the executed order.
Cross ID	9	4	Integer	Trade Group Id. Ties together all trades of a given atomic transaction in the matching engine.
Match Number	13	4	Integer	Execution Id. Identifies the component of an execution. Unique for a given day. The match number is also referenced in the Trade Break Message.
Trade Condition	17	1	Alpha	Please refer to Appendix B for trade condition code.
Printable	18	1	Alpha	Indicates if the execution should be reflected on time and sale displays and volume calculations. "N" = non-printable "Y" = printable
Price	19	8	Integer	The execution price.
Volume	27	4	Integer	The execution contracts.

### 4.6.3. 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				
<i><b>Name</b></i>	<i><b>Offset</b></i>	<i><b>Length</b></i>	<i><b>Value</b></i>	<i><b>Notes</b></i>
Message Type	0	1	Alpha	"X" = Order Cancel Message
Timestamp	1	4	Integer	Nanoseconds portion of timestamp
Order Reference Number Delta	5	4	Integer	The order reference number delta associated with the executed order.
Cancelled Contracts	9	4	Integer	The number of contracts to be removed from the display size of the order as the result of a cancellation.



#### 4.6.4. Single Side Replace Message

This message is sent whenever an order or one side of a quote on the book is replaced. The replacement has a new sequence number and replaces the prior sequence number. For bandwidth efficiency reasons, this message can be published in either short or long format.

SINGLE SIDE REPLACE MESSAGE – SHORT FORM				
Name	Offset	Length	Value	Notes
Message Type	0	1	Alpha	"u" = Short Form Single Side Replace Message
Timestamp	1	4	Integer	Nanoseconds portion of timestamp
Original Reference Number Delta	5	4	Integer	The original reference number delta associated with the order being replaced.
New Reference Number Delta	9	4	Integer	The new reference number delta associated with the new order.
Price	13	4	Integer	The display price of the replaced order being added to the book. <b>NOTE:</b> When converted to a decimal format, this price is in fixed point format with 6 whole number places followed by 4 decimal digits.
Volume	17	2	Integer	The total number of contracts of the replaced order being added to the book.

SINGLE SIDE REPLACE MESSAGE – LONG FORM				
Name	Offset	Length	Value	Notes
Message Type	0	1	Alpha	"U" = Long Form Single Side Replace Message
Timestamp	1	4	Integer	Nanoseconds portion of timestamp
Original Reference Number Delta	5	4	Integer	The original reference number delta associated with the order being replaced.
New Reference Number Delta	9	4	Integer	The new reference number delta associated with the new order.
Price	13	8	Integer	The display price of the replaced order being added to the book. <b>NOTE:</b> When converted to a decimal format, this price is in fixed point format with 10 whole number places followed by 8 decimal digits.
Volume	21	4	Integer	The total number of contracts of the replaced order being added to the book.

### 4.6.5. Single Side Delete Message

The message is sent when an order or a side of a quote is being cancelled. All remaining contracts are no longer accessible so the side should be removed from the book.

SINGLE SIDE DELETE MESSAGE				
Name	Offset	Length	Value	Notes
Message Type	0	1	Alpha	"D" = Single Side Order/Quote Delete Message
Timestamp	1	4	Integer	Nanoseconds portion of timestamp
Reference Number Delta	5	4	Integer	The order/quote reference number delta associated with the cancelled order.

### 4.6.6. Single Side Update Message

This message is sent whenever an order or a side of a quote is being updated for price and (or) contracts. The reference number associated with the order/quote is unchanged.

SINGLE SIDE CHANGE MESSAGE				
Name	Offset	Length	Value	Notes
Message Type	0	1	Alpha	"G" = Single Side Order/Quote Update message
Timestamp	1	4	Integer	Nanoseconds portion of timestamp
Reference Number Delta	5	4	Integer	The reference number delta associated with the update for an order or quote.
Change Reason	9	1	Alpha	'U' - USER 'R' - REPRICE 'S' - SUSPEND
Price	10	8	Integer	The display price of the updated side order on the book. <b>NOTE:</b> When converted to a decimal format, this price is in fixed point format with 10 whole number places followed by 8 decimal digits.
Volume	18	4	Integer	The total number of contracts of the updated side order on the book.

The order/ bid (ask) quote retains its priority on the book.

#### 4.6.7. Quote Replace Message

This message is sent whenever a quote on the book is replaced. The replaced quote has new sequence numbers on both sides. These new sequence numbers replace the prior sequence numbers on the quote. For bandwidth efficiency reasons, this message can be published in either short or long format.

QUOTE REPLACE - SHORT FORM				
Name	Offset	Length	Value	Notes
Message Type	0	1	Alpha	"k" = Short Form Quote Replace Message
Timestamp	1	4	Integer	Nanoseconds portion of timestamp
Original Bid Reference Number Delta	5	4	Integer	The original bid reference number delta that is replaced
Bid Reference Number Delta	9	4	Integer	The bid reference number delta associated with the replaced quote
Original Ask Reference Number Delta	13	4	Integer	The original ask reference number delta that is replaced
Ask Reference Delta Number	17	4	Integer	The ask reference number delta associated with the replaced quote
Bid Price	21	4	Integer	The display bid price of the replaced quote. <b>NOTE:</b> When converted to a decimal format, this price is in fixed point format with 6 whole number places followed by 4 decimal digits.
Bid Size	25	2	Integer	The display bid contracts of the replaced quote.
Ask Price	27	4	Integer	The display ask price of the replaced quote. <b>NOTE:</b> When converted to a decimal format, this price is in fixed point format with 6 whole number places followed by 4 decimal digits.
Ask Size	31	2	Integer	The display ask contracts of the replaced quote.

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QUOTE REPLACE - LONG FORM				
Name	Offset	Length	Value	Notes
Message Type	0	1	Alpha	"K" = Long Form Quote Replace Message
Timestamp	1	4	Integer	Nanoseconds portion of timestamp
Original Bid Reference Number Delta	5	4	Integer	The original bid reference number delta that is replaced
Bid Reference Number Delta	9	4	Integer	The bid reference number delta associated with the replaced quote
Original Ask Reference Number Delta	13	4	Integer	The original ask reference number delta that is replaced
Ask Reference Delta Number	17	4	Integer	The ask reference number delta associated with the replaced quote
Bid Price	21	8	Integer	The display bid price of the replaced quote. <b>NOTE:</b> When converted to a decimal format, this price is in fixed point format with 10 whole number places followed by 8 decimal digits.
Bid Size	29	4	Integer	The display bid contracts of the replaced quote.
Ask Price	33	8	Integer	The display ask price of the replaced quote. <b>NOTE:</b> When converted to a decimal format, this price is in fixed point format with 10 whole number places followed by 8 decimal digits.
Ask Size	41	4	Integer	The display ask contracts of the replaced quote.

#### 4.6.8. Quote Delete Message

The message is sent when a single quote is being cancelled. All remaining contracts are no longer accessible so the quote should be removed from the book.

QUOTE DELETE MESSAGE				
Name	Offset	Length	Value	Notes
Message Type	0	1	Alpha	"Y" = Quote Delete Message
Timestamp	1	4	Integer	Nanoseconds portion of timestamp
Bid Reference Number Delta	5	4	Integer	The bid reference number delta associated with the delete
Ask Reference Number Delta	9	4	Integer	The ask reference number delta associated with the delete

#### 4.6.9. Block Single Side Delete Message

This message contains a block of Single Side Deletes. Each reference number inside the block represents an order or a side of a quote that is being cancelled. All remaining contracts are no longer accessible so the side should be removed from the book.

BLOCK DELETE MESSAGE				
Name	Offset	Length	Value	Notes
Message Type	0	1	Alpha	"Z" = Block Single Side Delete Message
Timestamp	1	4	Integer	Nanoseconds portion of timestamp
Total Number of Reference Number Deltas.	5	2	Integer	The number of single side deletes in this block. Max possible value = 360
Reference Number Delta(n)	7 + 4n	4	Integer	The order/quote side reference number delta associated with the cancelled order/quote. n = 0 to (Total Number - 1)

## 4.7. Trade Messages

### 4.7.1. Trade (Non-Auction)

This Trade Message is designed to provide execution details for normal trade events involving Block, EFRP and manual trades.

These messages should be included in NASDAQ Futures time-and-sales displays as well as volume and other market statistics. Since Trade Messages do not affect the book, however, they should not update last sale and may be ignored by firms just looking to build and track the NASDAQ Futures System display.

<b>Trade(Non-Auction)</b>				
<b>Name</b>	<b>Offset</b>	<b>Length</b>	<b>Value</b>	<b>Notes</b>
Message Type	0	1	Alpha	"P" = Trade Message Identifier
Timestamp	1	4	Integer	Nanoseconds portion of timestamp
Product Type	5	1	Alpha	"F" = Future "O" = Option
Product ID	6	4	Integer	Product ID assigned daily, valid for trading day. Unique only when combined with Product Type
Cross ID	10	4	Integer	Ties together all trades of a given atomic transaction in the matching engine.
Match Number	14	4	Integer	Execution Id. Identifies the component of an execution. Unique for a given day. The match number is also referenced in the Trade Break Message.
Trade Condition	18	1	Alpha	Please refer to Appendix B for trade condition code.
Price	19	8	Integer	The execution price.
Volume	27	4	Integer	The execution contracts.

#### 4.7.2. Broken Trade/Order Execution Message

The Broken Trade Message is sent whenever an execution on NASDAQ Futures is broken (cancelled). A trade break is final; once a trade is broken, it cannot be reinstated.

Firms that use the NASDAQ Futures Depth 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 NASDAQ Futures Depth feed to build a book, however, these messages may be ignored as they have no impact on the current book.

<b>BROKEN TRADE/ORDER EXECUTED MESSAGE</b>				
<b>Name</b>	<b>Offset</b>	<b>Length</b>	<b>Value</b>	<b>Notes</b>
Message Type	0	1	Alpha	"B"=Broken Trade/Order Executed Message
Timestamp	1	4	Integer	Nanoseconds portion of timestamp
Cross Number	5	4	Integer	Trade Group Id. Ties together all trades of a given atomic transaction in the matching engine.
Match Number	9	4	Integer	Execution Id. Identifies the component of an execution. Unique for a given day. The match number is also referenced in the Trade Break Message.

## 4.8. Summary Messages

### 4.8.1. End of Day Summary

End Of Day Summary				
Name	Offset	Length	Value	Notes
Message Type	0	1	Alpha	"M" = Trade Message Identifier
Timestamp	1	4	Integer	Nanoseconds portion of timestamp
Product Type	5	1	Alpha	"F" = Future "O" = Option
Product ID	6	4	Integer	Product ID assigned daily, valid for trading day. Unique only when combined with Product Type
High Price	10	8	Integer	High Trade Price for the day
Low Price	26	8	Integer	Low Trade Price for the day
Last Sale Price	34	8	Integer	Last Trade Price for the day
Daily Settlement Value	42	8	Integer	Daily Settlement Value
Final Settlement Value	50	8	Integer	Final Settlement Value
Market Direction First	51	1	Byte	"+" = First sale of the day is higher than previous day's last sale "- " = First sale of the day is lower than previous day's last sale "=" First sale of the day is same as the previous day's last sale " " = not applicable. There is no current-day last sale.
Market Direction Second to Last	52	1	Byte	"+" = last sale of the day is higher than next previous sale "- " = last sale of the day is lower than next previous sale "=" Last sale of the day is same as the next previous sale " " = not applicable. There is no current-day last sale.
Market Direction Last Sale	53	1	Byte	"+" = Last sale of the day is higher than previous day's last sale "- " = Last sale of the day is lower than previous day's last sale "=" Last sale of the day is same as the previous day's last sale " " = not applicable. There is no current-day last sale.
Cumulative Volume	54	8	Integer	Total Volume traded for the Day



## 5. Support

- For general product support for NASDAQ data feeds, please contact NASDAQ Market Data Distribution at 301.978.5307 or [dataproduts@nasdaqomx.com](mailto:dataproduts@nasdaqomx.com).
- For technical support for NASDAQ data feeds, please contact NASDAQ Systems Engineering at [devsupport@nasdaq.com](mailto:devsupport@nasdaq.com).

## Appendix A – Document Revision Control Log

### May 6, 2013

- Initial release for NASDAQ Futures System

### July 22, 2013

- Removed "Buy/Sell Indicator" field from the Trade Message.
- Added Trade Condition Code in Execution Message, Execution with Price Message, and Trade Message.
- Added Appendix B – Trade Condition Code

## Appendix B – Trade Condition Code

Code	Description	
<b>Space Filled</b>	REGULAR	Indicates that the transaction was a regular automated system match.
<b>"L"</b>	Regular Late	Regular automated system match that was reported late.
<b>"B"</b>	Block	Block Trade – trade meeting minimum size for block status as defined in the contract specifications in the NASDAQ Futures rule book.
<b>"E"</b>	EFP	Exchange for Physical (EFP)
<b>"R"</b>	EFR	Exchange for Risk (EFR)
<b>"O"</b>	EOO	Exchange of Options for Options (EOO)
<b>"U"</b>	Block As Of	As Of Block Trade
<b>"V"</b>	EFP As Of	As Of Exchange for Physical (EFP) Trade
<b>"W"</b>	EFR As Of	As Of Exchange for Risk (EFR) Trade
<b>"X"</b>	EOO As Of	As Of Exchange of Options for Options (EOO) Trade