Options Depth Glimpse Feed

Version 2.1

Table Of Contents

1. Overview

A complement to the MRX, GEMX, ISE, Nasdaq Texas Options and PHLX Depth of Market real-time data feed product, GLIMPSE for MRX, GEMX, ISE, Nasdaq Texas Options and PHLX Depth of Market are point-to-point data feed connections that provides direct data feed customers with the current Depth of Book in the MRX, GEMX, ISE, Nasdaq Texas Options and PHLX execution systems. GLIMPSE for MRX, GEMX, ISE, Nasdaq Texas Options and PHLX Depth of Market uses the same data formats as the MRX, GEMX, ISE, Nasdaq Texas Options and PHLX Depth of Market data feed products.

2. Architecture

GLIMPSE for MRX, GEMX, ISE, Nasdaq Texas Options and PHLX Depth of Markets (MRX, GEMX, ISE, Nasdaq Texas Options and PHLX Depth) are point-to-point data feed products comprised of a series of sequenced messages. Each message is variable in length based on the message type. The messages that make up the MRX, GEMX, ISE, Nasdaq Texas Options and PHLX GLIMPSE for Depth of Market (MRX, GEMX, ISE, Nasdaq Texas Options and PHLX Depth) protocol are typically delivered using a higher level protocol that takes care of sequencing and delivery guarantees.

MRX, GEMX, ISE, Nasdaq Texas Options and PHLX currently offers the Options GLIMPSE data feed in the SoupBinTCP protocol option only. Please note that GLIMPSE users must login to SoupBinTCP for sequence 1 to correctly receive data.

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 2 byte or 4 byte Integer fields. 2 byte Price fields are unsigned positive numbers. 4 byte Price fields are signed positive numbers. 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 2 byte price is converted to a decimal format, prices are in fixed point format with 3 whole number places followed by 2 decimal digits.

4. Message Formats

Upon logon to the GLIMPSE for MRX, GEMX, ISE, Nasdaq Texas Options and PHLX Depth of Market services, firms will receive the following data elements with the relevant system time stamp:

- System Event messages;
- Derivative Directory messages for all security symbols in the MRX, GEMX, ISE, Nasdaq Texas Options and PHLX execution systems;
- Trading Action messages with the current trading state value for active security symbol in the MRX, GEMX, ISE, Nasdaq Texas Options and PHLX execution systems;
- Add Order messages for all the displayable orders on the MRX, GEMX, ISE, Nasdaq Texas Options and PHLX execution systems at the time of login request;
- Add Quote messages for all the displayable quotes on the MRX, GEMX, ISE, Nasdaq Texas Options and PHLX execution systems at the time of login request;
- GLIMPSE Snapshot message that reflects the MRX, GEMX, ISE, Nasdaq Texas Options and PHLX Depth sequence number at the time that the MRX, GEMX, ISE, Nasdaq Texas Options and PHLX GLIMPSE spin was requested.

Please note that GLIMPSE for MRX, GEMX, ISE, Nasdaq Texas Options and PHLX Depth of Market uses the same Derivative Directory, Trading Action, Add Order and Add Quote message formats as the MRX, GEMX, ISE, Nasdaq Texas Options and PHLX Depth of Market data feeds.

At the end of the spins, GLIMPSE for MRX, GEMX, ISE, Nasdaq Texas Options and PHLX Depth of Market will send a Snapshot message to denote where firms should begin processing real- time updates via the MRX, GEMX, ISE, Nasdaq Texas Options and PHLX Depth of Market products.

4.1.   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
Message Type	0	1	Alpha	"S" = System Event Message
Tracking Number	1	2	Integer	Internal system tracking number
Timestamp	3	8	Integer	Nanoseconds since midnight.
Event Code	11	1	Alpha	Refer to System Event Codes below

System Event Codes

Code	Explanation	When (typically)
"O"	Start of Messages. This is always the first message sent in any trading day.	After ~12:30am
"S"	Start of System Hours. This message indicates that the options system is open and ready to start accepting orders.	After Start of Messages and before Start of Currency Opening Process
"Q"	Start of Opening Process. This message is intended to indicate that the options system has started its opening auction process.	9:30:00am
"N"	Start of Normal Hours Closing Process. This message is intended to indicate that the options system will no longer generate new executions for options that trade during normal hours.	4:00:00pm
"L"	Start of Late Hours Closing Process. This message is intended to indicate that the options system will no longer generate new executions for options that trade during extended hours.	4:15:00pm
"E"	End of System Hours. This message indicates that the options system is now closed.	~5:15pm
"C"	End of Messages. This is always the last message sent in any trading day.	~5:20pm
"W"	End of WCO Early closing. This message is intended to indicate that the exchange will no longer accept any new orders or changes to existing Orders on last trading date of WCO options.	12:00 Noon

4.2.   Administrative Messages

4.2.1.   Derivative Directory Message

At the start of each trading day, Nasdaq disseminates options symbol directory messages for all active options symbols in the system. Notes on the Derivative Directory Messages:

- The Derivative 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. In the case of an intra-day update, for a given Option Id, the canonical information for the option is invariant (will not change). The canonical information consists of Security Symbol, Expiration Year Month and Day, Strike Price and Option Type. Other attributes for the Option may change.
- Firms should note that they will only receive Derivative Directory messages for the symbol range associated with the matching engine serving that connection.
- The Underlying Symbol is in most cases the same as the industry standard ticker underlying. In rare cases, such as a special settlement symbol, the exchange assigns unique underlying symbols.
- If an Option is removed from the system intra-day, a new options directory message will be sent with "Tradable" field set to "N".

Any Quotes sent for this removed Option will be rejected. All existing quotes for this option will be purged.

- The Minimum Price Variation (MPV) has the following values:
    - "E" – All prices are in penny increments
    - "S" – Prices below $3.00 are in increments of $0.05, prices above $3.00 are in increments of $0.10
    - "P" – Prices below $3.00 are in increments of $0.01, prices above $3.00 are in increments of $0.05

Derivative Directory Message

Name	Offset	Length	Value	Notes
Message Type	0	1	Alpha	"m" = Directory Message
Tracking Number	1	2	Integer	Internal System tracking number
Timestamp	3	8	Integer	The time, expressed as the number of nanoseconds after midnight.
Instrument ID	11	4	Integer	Integer ID of the option, as defined in the Options Directory Message.
Security Symbol	15	8	Alphanumeric	Denotes the option root symbol (security symbol)
Expiration Year	23	1	Integer	Last two digits of the year of the option expiration
Expiration Month	24	1	Integer	Expiration Month of the option (1-12)
Expiration Day	25	1	Integer	Day of the Month of expiration (1-31)
Explicit Strike Price	26	4	Integer	Explicit strike price. Refer to Data Types for field processing notes.
Option Type	30	1	Alpha	"C" = Call option "P" = Put option "N" = Not Applicable
Underlying Symbol	31	13	Alpha	Denotes the unique symbol assigned to the underlying security within the Exchange System.
Closing Type	44	1	Alpha	Denotes which System Event is used to determine when trading ceases in this symbol. "N" = Normal Hours "L" = Late Hours "W" = WCO Early Closing at 12:00
Tradable	45	1	Alpha	Denotes whether or not this option is tradable at the exchange: "Y" = Option is tradable "N" = Option is not tradable
MPV	46	1	Alpha	Minimum Price Variation for this option: "E" = penny Everywhere "S" = Scaled "P" = penny Pilot
Reserved	47	16	Alpha	Reserved for future use.

4.2.2.   Trading Action Message

The options system uses this administrative message to indicate the current trading status of an index or equity option within the options market.

The Options Trading Action message will be used to indicate the current trading state of the instrument as it transitions through the various states during the trading session. It will begin with Pre Open state if it is eligible for trading. The states Opening and Re-Opening indicate that the instrument is undergoing an auction prior to it moving into Continuous Trading state. Buy Side and Sell Side Trading Suspended states are special cases of Continuous Trading. The instrument transitions to Closed state at the end of trading hours. At any point before the Closed state the instrument can enter the Halted state 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 option. Messages will be sent when an option: is halted, is released for quotation, released for trading, or temporarily suspended for trading on the buy or sell side.

Trading Action Message				
Name	Offset	Length	Value	Notes
Message Type	0	1	Alpha	"H" = Trading Action
Tracking Number	1	2	Integer	Internal System Tracking number
Timestamp	3	8	Integer	The time, expressed as the number of nanoseconds after midnight.
Instrument ID	11	4	Integer	Integer ID of the option, as defined in the Options Directory Message.
Current Trading State	15	1	Alpha	Reflects the current trading state for the options security in the options market. The allowable values are: "B"=Buy Side Suspended "S" =Sell-Side Suspended "H" = Halt in effect "T" = Continuous Trading "I" = Pre-Open "O" = Opening Auction "R" = Re-Opening "X" = Closed

4.3. Add Order Message

An Add Order Message indicates that a new order has been accepted by the Nasdaq MRX, GEMX, ISE, Nasdaq Texas Options and PHLX systems and was added to the displayable book. The message includes a day-unique Order Reference Number used by MRX, GEMX, ISE, Nasdaq Texas Options and PHLX 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	"r" = Add Order Message
Tracking Number	1	2	Integer	Internal system tracking number
Timestamp	3	8	Integer	The time, expressed as the number of nanoseconds after midnight.
Instrument ID	11	4	Integer	Integer ID of the option, as defined in the Options Directory Message.
Order Reference Number	15	8	Integer	The unique reference number assigned to the new order. The order reference number is Increasing, but not necessarily sequential
Side	23	1	Alpha	Indicates the side of the order: "B" = buy "S" = sell "M" = buy implied "N" = sell implied

Add Order Message – Short Form

Name	Offset	Length	Value	Notes
Order Capacity	24	1	Alpha	Indicates whether this is a: "C" = Customer Order "F" = Firm Order "M" = Nasdaq registered Market Maker Order "B" = Broker Dealer Order "P" = Professional Order "O" = Other exchange registered Market Maker Order 'J' = JBO (Joint Back Office, only PHLX) " " = N/A (For Implied Order)
Price	25	2	Integer	The display price of the new order being added to the book. NOTE: When converted to a decimal format, this price is in fixed point format with 3 whole number places followed by 2 decimal digits.
Volume	27	2	Integer	The total quantity of the new order being added to the book
Reserved	29	4	Alpha	Reserved for future use

Add Order Message – Long Form

Name	Offset	Length	Value	Notes
Message Type	0	1	Alpha	"o" = Add Order Message
Tracking Number	1	2	Integer	Internal system tracking number
Timestamp	3	8	Integer	The time, expressed as the number of nanoseconds after midnight.
Instrument ID	11	4	Integer	Integer ID of the option, as defined in the Options Directory Message.
Order Reference Number	15	8	Integer	The unique reference number assigned to the new order. The order reference number is Increasing, but not necessarily sequential
Side	23	1	Alpha	Indicates the market side of the imbalance: "B" = buy "S" = sell "M" = buy implied "N" = sell implied
Order Capacity	24	1	Alpha	Indicates whether this is a: "C" = Customer Order "F" = Firm Order "M" = Nasdaq registered Market Maker Order "B" = Broker Dealer Order "P" = Professional Order "O" = Other exchange registered Market Maker Order 'J' = JBO (Joint Back Office, only PHLX) " " = N/A (For Implied Order)
Price	25	4	Integer	The display price of the new order being added to the book. NOTE: When converted to a decimal format, this price is in fixed point format with 6 whole number places followed by 4 decimal digits.
Volume	29	4	Integer	The total quantity of the new order being added to the book
Reserved	33	4	Alpha	Reserved for future use

4.4.   Add Quote Message

An Add Quote Message indicates that a new quote has been accepted by the MRX, GEMX, ISE, Nasdaq Texas Options and PHLX Option system and was added to the displayable book. The message includes a unique Bid/Ask Reference Numbers used by MRX, GEMX, ISE, Nasdaq Texas Options and PHLX 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" = New Quote Message
Tracking Number	1	2	Integer	Internal system tracking number
Timestamp	3	8	Integer	Nanoseconds since midnight
Instrument ID	11	4	Integer	Integer ID of the option, as defined in the Options Directory Message.
Bid Reference Number	15	8	Integer	The bid reference number associated with the new quote
Ask Reference Number	23	8	Integer	The ask reference number associated with the new quote
Bid Price	31	2	Integer	The display bid price of the new quote. NOTE: When converted to a decimal format, this price is in fixed point format with 3 whole number places followed by 2 decimal digits.
Bid Size	33	2	Integer	The bid quantity of the new quote.
Ask Price	35	2	Integer	The display ask price of the new quote. NOTE: When converted to a decimal format, this price is in fixed point format with 3 whole number places followed by 2 decimal digits.
Ask Size	37	2	Integer	The ask quantity of the new quote.

Add Quote Message – Long Form

Name	Offset	Length	Value	Notes
Message Type	0	1	Alpha	"J" = New Quote message
Tracking Number	1	2	Integer	Internal system tracking number
Timestamp	3	8	Integer	Nanoseconds since midnight
Instrument ID	11	4	Integer	Integer ID of the option, as defined in the Options Directory Message.
Bid Reference Number	15	8	Integer	The bid reference number associated with the new quote
Ask Reference Number	23	8	Integer	The ask reference number associated with the new quote
Bid Price	31	4	Integer	The display bid price of the new quote. NOTE: When converted to a decimal format, this price is in fixed point format with 3 whole number places followed by 4 decimal digits.
Bid Size	35	4	Integer	The bid quantity of the new quote.
Ask Price	39	4	Integer	The display ask price of the new quote. NOTE: When converted to a decimal format, this price is in fixed point format with 3 whole number places followed by 4 decimal digits.
Ask Size	43	4	Integer	The ask quantity of the new quote.

5. Snapshot Message

The Snapshot message reflects the MRX, GEMX, ISE, Nasdaq Texas Options and PHLX Options Depth of Market sequence number at the time that the MRX, GEMX, ISE, Nasdaq Texas Options and PHLX GLIMPSE spin was requested.

To maintain a real-time order display, firms should begin to process real-time MRX, GEMX, ISE, Nasdaq Texas Options and PHLX Depth messages beginning with the sequence number stated in this MRX, GEMX, ISE, Nasdaq Texas Options and PHLX GLIMPSE snapshot message.

Snapshot Message

Name	Offset	Length	Value	Notes
Message Type	0	1	Alpha	"M" = End of Snapshot Message
Sequence Number	1	20	Numeric	Depth of Market Feed sequence number when the Glimpse snapshot was taken. To keep the stream current, process the Depth of Market Feed messages beginning with the message sequence number in this snapshot message. Note: While Depth of Market Feed is a binary data feed, the SoupBINTCP protocol uses ASCII characters for the sequence number in the logon request message format.

6. Support

- For general product support for Nasdaq data feeds, please contact Nasdaq Market Data at clientsuccess@nasdaq.com.

7. Document History

Revision	Published	Author(s)	Summary of Changes
Version 2.0	March 16, 2022		• Initial Draft

Version 2.01	June 16, 2022		• Updated the Trading Action Message with the following enumerations added to the Current Trading State Field:
			  – "B"=Buy Side Suspended
			  – "S" =Sell-Side Suspended
			• Re-named the Add Order Message (Short & Long Form) Market Side field to Side and added the following enumerations:
			  – "M" = buy implied
			  – "N" = sell implied

Version 2.02	January 9, 2023		• Version updated to 2.02 • Clarifying the Data Types: Added "2 byte Price Fields are unsigned positive numbers. 4 byte Price fields are signed positive numbers."
Version 2.02	March 31, 2023		• GEMX will adopt Depth of Market Glimpse v2.02 during the replatform scheduled to complete November 13, 2023
Version 2.02	April 1, 2024		• ISE will adopt Depth of Market Glimpse v2.02 during the replatform scheduled to complete September 23, 2024.
Version 2.1	October 2, 2024		Derivative Directory Message • Message type changed to 'm' • Increase Security Symbol size from 6 characters to 8 characters. • Add reserved field of 16 characters Add Order Message Short Form • Message type changed to 'r' • Add reserve field of 4 characters Long Form • Message type changed to 'R' • Add reserve field of 4 characters
Version 2.1	December 19, 2024		Add Order Message - Long Form • Message type changed from "R" to "o"
Version 2.1	January 9, 2025		Appendix A • Flex Symbology table added
Version 2.1	May 7, 2025		• Replaced the title to align with the title used for replatform • PHLX to adopt the Options Depth of Market Glimpse v2.1 during Replatform.
Version 2.1	September 15, 2025		• the order capacity messages have been edited to include JBO = Joint Back Office (only PHLX)
Version 2.1	February 13, 2026		• BX Options references have been replaced with Nasdaq Texas Options.

Flex Symbology

Underlying Security	Lead Character	Settlement Type	Exercise Style
Index	1	AM	American
Index	2	AM	European
Index	3	PM	American
Index	4	PM	European
Equity/ETF	1	PM	American
Equity/ETF	2	PM	European
ETF Cash	3	PM	American
ETF Cash	4	PM	European