



PILLAR OPTIONS DEEP CLIENT SPECIFICATION

NYSE ARCA OPTIONS DEEP FEED

NYSE AMERICAN OPTIONS DEEP FEED

Version

1.2d

Date

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PREFACE

DOCUMENT HISTORY

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

VERSION NO.	DATE	CHANGE DESCRIPTION
1.0	Nov 10, 2020	Added outright series support for NYSE Arca and American Options
1.1	March 5, 2021	Added complex series support for NYSE Arca Options
1.2	June 2, 2021	Removed references to cabinet orders as they will not be included in initial pillar launch
1.2a	June 21, 2021	Added ProductID section to specification Added SourceTime field to summary and imbalance/rfq messages Fixed typo for reserve field in imbalance message from 4 to 2 bytes
1.2b	July 27, 2021	Removed Cross Correction message (Msg 313) Updated CustIndicator value of 'Derived' with (for future use) in Add Order (Msg 300), Replace Order (Msg 304) and Add Order Refresh (Msg 306) Message
1.2c	September 30, 2021	Updated Side description on RFQ Message (Msg 307) Updated RFQ Capacity value with "-- N/A (space or 0x20)
1.2d	November 3, 2021	Added Trade Condition to Execution (Msg 303) and Non Display Trade (Msg 310) Added 1 byte to Non Display Trade (Msg 310) Updated position of PriceType field on Non Display Trade (Msg 310)

REFERENCE MATERIAL

The following lists the associated documents, which either should be read in conjunction with this document or which provide other relevant information for the user:

- [IGN Information](#)
- [NYSE Symbology](#)
- [IP Addresses](#)

CONTACT INFORMATION

- Connectivity connectivity@nyse.com
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FURTHER INFORMATION

- For additional information about the product, visit the [PILLAR DEEP Feed Product Page](#)
- For updated capacity statistics, visit the [Capacity](#) page.

Contents

- PREFACE 2**

- DOCUMENT HISTORY..... 2**
- REFERENCE MATERIAL 2**
- Contact Information 2**
- FURTHER INFORMATION 2**

- 1. INTRODUCTION 5**

- 1.1 PUBLICATION TIMES 5**

- 2. CONTROL MESSAGE TYPES USED IN THE DATA FEEDS..... 6**

- 3. DEEP MESSAGES 7**

- 3.1 Options Add Order Message – Msg Type 300 7**
- 3.2 Options Modify Order Message – Msg Type 301 8**
- 3.3 Options Replace Order Message – Msg Type 304 9**
- 3.4 Options Delete Order Message – Msg Type 302 10**
- 3.5 Options Order Execution Message – Msg Type 303 11**
- 3.6 Options Non-Displayed Trade Message – Msg Type 310 13**
- 3.7 Options Trade Cancel Message – Msg Type 312 15**
- 3.8 Options Cross Trade Message – Msg Type 311 16**
- 3.9 Options Imbalance Message – Msg Type 305 17**
- 3.10 Options Add Order Refresh Message – Msg Type 306..... 19**
- 3.11 Series RFQ Message - Msg 307..... 21**

- 4. OUTRIGHT SERIES SUMMARY MESSAGE – MSG TYPE 323..... 24**

- 4.1 Message Structure for Outright Series Summary Message..... 24**

- 5. PRODUCT ID 26**

1. INTRODUCTION

The Deep Feed provides real-time market data in a unified view of events, in sequence, as they appear on the matching engines. The Deep Feed includes depth of book order data, last sale data, opening imbalance data and RFQ data. The Deep Feed also includes status updates (e.g., trade corrections and trading halts) and outright series summary messages.

All message types defined in this document appear only in the main publication channels, except:

- The Options Imbalance and Options Add Order Refresh message types also appear in the Refresh channels.
- The Outright Series Summary message appears only in a dedicated Options Summary channel.

1.1 PUBLICATION TIMES

Please refer to the market open pre-opening, early trading, core trading and late trading session times on:

<https://www.nyse.com/markets/hours-calendars>

2. CONTROL MESSAGE TYPES USED IN THE DATA FEEDS

See the Pillar Common Client Specification for details on all control messages.

MSG TYPE	DESCRIPTION	PUBLISHER CHANNELS	REQUEST CHANNEL	REFRESH CHANNELS
1	Sequence Number Reset	x		x
2	Time Reference	x		x
3	Symbol Index Mapping	x		x
10	Retransmission Request		client	
11	Request Response		server	
12	Heartbeat Response		client	
13	Symbol Index Mapping Request		client	
15	Refresh Request		client	
31	Message Unavailable		server	
32	Symbol Clear	x		
34	Security Status Message	x		x
35	Refresh Header Message			x
50	Outright Series Index Mapping	x		x
51	Options Status Message	x		x

3. DEEP MESSAGES

3.1 Options Add Order Message – Msg Type 300

An Options Add Order message is published when a new visible order has been received and added to the book. The Order ID is assigned by the matching engine and is valid for the current day.

See the Pillar Common Client Specification for details on Time Reference and Symbol/Series Index Mapping messages, and Order ID and Price field formats.

FIELD NAME	OFFSET	SIZE (BYTES)	FORMAT	DESCRIPTION
Msg Size	0	2	Binary	Size of the message: 40 bytes
Msg Type	2	2	Binary	The type of message: 300 – Options Add Order Message
SourceTimeNS	4	4	Binary	The nanosecond offset (UTC Time) from the Time Reference message.
SeriesIndex	8	4	Binary	The unique ID of this series within this market.
SeriesSeqNum	12	4	Binary	The sequence number of this message in the set of all messages for this series
OrderID	16	8	Binary	The unique ID assigned by the matching engine to this order . Can be used to match this order to the gateway Order Report.
Price	24	4	Signed Binary	The order price. Use with the Price Scale from the series index mapping.
Volume	28	4	Binary	The order quantity in contracts
Side	32	1	ASCII	The side of the order (Buy/Sell). Valid values: <ul style="list-style-type: none"> ▪ 'B' – Buy ▪ 'S' – Sell
FirmID	33	5	ASCII	The market participant's firm ID. Blank-filled if a firm ID was not specified and/or if the order is not marked as Attributed.
Reserved	38	1	ASCII	Reserved for future use
CustIndicator	39	1	ASCII	Capacity of the order: <ul style="list-style-type: none"> • C - Customer • N - Non-customer • D - Derived (<i>for future use</i>)

FIELD NAME	OFFSET	SIZE (BYTES)	FORMAT	DESCRIPTION
				For Arca Options, Customer order includes both customer and professional customer orders. For American Options, Customer order does not include professional customer orders

3.2 Options Modify Order Message – Msg Type 301

An Options Modify Order message is sent when the price or volume of an order is changed due to an event other than a cancel-replace, or full or partial execution. The content of the price and volume fields represent the new values after modification.

See the Pillar Common Client Specification for details on Time Reference and Symbol/Series Index Mapping messages, and Order ID and Price field formats.

FIELD NAME	OFFSET	SIZE (BYTES)	FORMAT	DESCRIPTION
Msg Size	0	2	Binary	Size of the message: 35 bytes
Msg Type	2	2	Binary	The type of message: 301 – Options Modify Order Message
SourceTimeNS	4	4	Binary	The nanosecond offset (UTC Time) from the Time Reference message.
SeriesIndex	8	4	Binary	The unique ID of this series within this market.
SeriesSeqNum	12	4	Binary	The sequence number of this message in the set of all messages for this series
OrderID	16	8	Binary	The unique ID assigned by the matching engine to the order to be modified
Price	24	4	Signed Binary	The new order price. Use the Price scale from the series index mapping.
Volume	28	4	Binary	The new order quantity in contracts.
PositionChange	32	1	Binary	<ul style="list-style-type: none"> • 0 – Kept position in book • 1 – Lost position in book <p>If the price of the Modify Order didn't change, order always keeps the position in the book.</p> <p>If the price of the Modify Order message changed, the order always loses position.</p>

FIELD NAME	OFFSET	SIZE (BYTES)	FORMAT	DESCRIPTION
Reserved	33	1	Binary	Reserved for future use
Reserved	34	1	Binary	Reserved for future use

3.3 Options Replace Order Message – Msg Type 304

An Options Replace Order message is published when a cancel/replace order is received. The resting order is replaced with a new order containing the same outright or complex series, side and attribution, a new Order ID, and the price and size specified.

See the Pillar Common Client Specification for details on Time Reference and Symbol/Series Index Mapping messages, and Order ID and Price field formats.

FIELD NAME	OFFSET	SIZE (BYTES)	FORMAT	DESCRIPTION
Msg Size	0	2	Binary	Size of the message: 43 bytes
Msg Type	2	2	Binary	The type of message: 304 – Options Replace Order Message
SourceTimeNS	4	4	Binary	The nanosecond offset (UTC Time) from the Time Reference message.
SeriesIndex	8	4	Binary	The unique ID of this series within this market.
SeriesSeqNum	12	4	Binary	The sequence number of this message in the set of all messages for this series
OrderID	16	8	Binary	The unique ID assigned by the matching engine to the existing order to be replaced
NewOrderID	24	8	Binary	The new Order ID of the replacement order
Price	32	4	Signed Binary	The new order price. Use the Price scale from the series mapping index.
Volume	36	4	Binary	The new order quantity in contracts.
Reserved	40	1	Binary	Reserved for future use
PositionChange	41	1	Binary	The new order position change: <ul style="list-style-type: none"> • 0 – Kept position in book • 1 – Lost position in book
CustIndicator	42	1	ASCII	Capacity of the new order: <ul style="list-style-type: none"> • C - Customer

FIELD NAME	OFFSET	SIZE (BYTES)	FORMAT	DESCRIPTION
				<ul style="list-style-type: none"> N - Non-customer D - Derived (<i>for future use</i>) <p>For Arca Options, Customer order includes both customer and professional customer orders. For American Options, Customer order does not include professional customer orders</p>

3.4 Options Delete Order Message – Msg Type 302

An Options Delete Order message is published when an order is taken off of the book for any reason except for full execution, in which case an Options Order Execution message is sent. If the order is replaced, a delete order message will not be published, rather an Options Replace Order message.

Pillar will publish an Options Delete Order message for each displayable resting order that is expired due to the start of a new trading session.

Please note that when trading in an option is closed for the day, a Series Status 'X' is sent and unexecuted orders are cancelled, but explicit Options Delete Order Messages are not sent.

See the Pillar Common Client Specification for details on Time Reference and Symbol/Series Index Mapping messages, and Order ID field format.

FIELD NAME	OFFSET	SIZE (BYTES)	FORMAT	DESCRIPTION
Msg Size	0	2	Binary	Size of the message: 25 bytes
Msg Type	2	2	Binary	The type of message: 302 – Options Delete Order Message
SourceTimeNS	4	4	Binary	The nanosecond offset (UTC Time) from the Time Reference message.
SeriesIndex	8	4	Binary	The unique ID of this series within this market.
SeriesSeqNum	12	4	Binary	The sequence number of this message in the set of all messages for this series
OrderID	16	8	Binary	The unique ID assigned by the matching engine to the existing order to be deleted
Reserved	24	1	Binary	Reserved for future use

3.5 Options Order Execution Message – Msg Type 303

An Options Order Execution message is sent when an order is partially or fully executed. If the Price field is different from the price of the order, any remaining contracts keep their original price. If the Volume field equals the number of contracts previously remaining in the order, then the order has been fully executed. If the order has been partially executed, further Options Order Execution messages for this Order ID may be published.

See the Pillar Common Client Specification for details on Time Reference and Symbol/Series Index Mapping messages, and Order ID, Trade ID and Price field formats.

Field Name	Offset	Size (Bytes)	Format	Description
Msg Size	0	2	Binary	Size of the message: 42 bytes
Msg Type	2	2	Binary	The type of message: 303 – Options Order Execution Message
SourceTimeNS	4	4	Binary	The nanosecond offset (UTC Time) from the Time Reference message.
SeriesIndex	8	4	Binary	The unique ID of this series within this market.
SeriesSeqNum	12	4	Binary	The sequence number of this message in the set of all messages for this series
OrderID	16	8	Binary	The unique ID assigned by the matching engine to the partially or fully executed order .
TradeID	24	4	Binary	Unique ID assigned by the matching engine to this execution. Used by any subsequent Trade Cancel message to identify this execution. Can be matched to the Deal ID field in the gateway Execution Report.
Price	28	4	Signed Binary	The execution price of this trade. Use the Price Scale from the series index mapping.
Volume	32	4	Binary	The executed quantity in contracts.
PrintableFlag	36	1	Binary	<ul style="list-style-type: none"> 0 = Trade not included in total volume 1 = Trade included in total volume <p>When resting displayable live order participates in any of the auction trades, the flag shall be set to 0. The total auction volume is included in Cross Trade message, Order Execution messages for orders executed in the auction, will have this flag set to 0.</p>

Field Name	Offset	Size (Bytes)	Format	Description
Reserved	37	1	Binary	Reserved for future use
TradeCond1	38	1	ASCII	<p>Valid values:</p> <ul style="list-style-type: none"> • “a” – outright series order/quote trading electronically with a outright series CUBE Exposed order or outright series CUBE Exposed order trading electronically with outright series • “c” – trading of a outright series QCC order • “e” – outright series floor trade • “l” – all outright series electronic trades (excluding away market executions) that were not part of the following transactions: <ul style="list-style-type: none"> ○ Outright series CUBE ○ Outright series QCC ○ Complex order trading electronically with the outright series orders/quotes ○ ISO trade • “S” – all outright series trades that are generated as part of an Intermarket Sweep order • “D” = any of the above published after 90 seconds of occurring • “f” = complex order trades that were not part of the following transactions <ul style="list-style-type: none"> ○ Complex CUBE ○ Complex QCC ○ Complex order trading electronically with the outright series orders/quotes • “g” = complex order trading electronically with a complex CUBE Exposed order or complex CUBE Exposed order trading electronically with Complex CUBE Covered order • “h” = trading of a complex QCC order • “i” = complex order to complex order floor trade • “j” = complex order trading electronically with the outright series orders/quotes • “m” = complex order to outright series order floor trade • “p” = complex order with stock to complex order with stock floor trade • “s” (lowercase) = complex order with stock to outright series order floor trade

Field Name	Offset	Size (Bytes)	Format	Description
Reserved	39	3	Binary	Reserved for future use

3.6 Options Non-Displayed Trade Message – Msg Type 310

An Options Non Displayed Trade message is published as a result of a match between two non-displayed orders.

Customers who are only interested in building a book of displayed orders may safely ignore Options Non-Displayed Trade messages. Customers who are creating statistics or displays requiring the full record of trades in this market will need to process Options Non-Displayed Trade messages.

Events Generating a series non-display trade message:

- An incoming order, displayable or non-displayable, trades with the resting non-displayed order
- Two resting non-displayed orders trade with each other when market condition changes (upon re-pricing)
- Two resting live non-displayed orders trade against each other (MKT order vs. MKT order, MKT order vs. reserve portion of live reserve order)
- Resting live non-displayed order (MKT order, reserve portion of live reserve order) trades with any non-live order (regardless of whether non-live order is displayable or not).
- Any non-live order trades with any non-live order (regardless of whether these non-live orders are displayable or not).
- For American Options, two orders trade against each other in CUBE auction
- For American Options, an incoming order, displayed or non-displayed, trades with BOLD orders.
- **NOTE:** Opening Auction trade(s) results in a CROSS Trade message (Msg 311).

See the Pillar Common Client Specification for details on Time Reference and Symbol/Series Index Mapping messages, and Order ID, Trade ID and Price field formats.

FIELD NAME	OFFSET	SIZE (BYTES)	FORMAT	DESCRIPTION
Msg Size	0	2	Binary	Size of the message: 34 bytes
Msg Type	2	2	Binary	The type of message: 310 – Options Non-Displayed Trade Message
SourceTimeNS	4	4	Binary	The nanosecond offset (UTC Time) from the Time Reference message.
SeriesIndex	8	4	Binary	The unique ID of this series for all products within this market.
SeriesSeqNum	12	4	Binary	The sequence number of this message in the set of all messages for this series

FIELD NAME	OFFSET	SIZE (BYTES)	FORMAT	DESCRIPTION
TradeID	16	4	Binary	Unique ID assigned by the matching engine to this trade event. Used by any subsequent Trade Cancel message to identify this execution. Can be matched to the Deal ID field in the gateway Execution Report.
Price	20	4	Signed Binary	The execution price of the trade. Use the Price scale from the series index mapping.
Volume	24	4	Binary	Volume of the trade in contracts
PrintableFlag	28	1	Binary	<ul style="list-style-type: none"> 0 = Trade not included in total volume 1 = Trade included in total volume <p>When resting displayable live order participates in any of the auction trades, the flag shall be set to 0.</p>
TradeCond1	29	1	ASCII	<p>Valid values:</p> <ul style="list-style-type: none"> "a" – outright series order/quote trading electronically with a outright series CUBE Exposed order or outright series CUBE Exposed order trading electronically with outright series "c" – trading of a outright series QCC order "e" – outright series floor trade "l" – all outright series electronic trades (excluding away market executions) that were not part of the following transactions: <ul style="list-style-type: none"> Outright series CUBE Outright series QCC Complex order trading electronically with the outright series orders/quotes ISO trade "S" – all outright series trades that are generated as part of an Intermarket Sweep order "D" = any of the above published after 90 seconds of occurring "f" = complex order trades that were not part of the following transactions <ul style="list-style-type: none"> Complex CUBE Complex QCC Complex order trading electronically with the outright series orders/quotes "g" = complex order trading electronically with a complex CUBE Exposed order or complex CUBE Exposed order trading electronically with Complex CUBE Covered order "h" = trading of a complex QCC order

FIELD NAME	OFFSET	SIZE (BYTES)	FORMAT	DESCRIPTION
				<ul style="list-style-type: none"> “i” = complex order to complex order floor trade “j” = complex order trading electronically with the outright series orders/quotes “m” = complex order to outright series order floor trade “p” = complex order with stock to complex order with stock floor trade “s” (lowercase) = complex order with stock to outright series order floor trade
Reserved	30	3	Binary	<ul style="list-style-type: none"> Reserved for future use
PriceType	33	1	Binary	<ul style="list-style-type: none"> 0 = Strike price is \$ amount 1 = Strike price is % amount

3.7 Options Trade Cancel Message – Msg Type 312

In the event that an earlier trade has been reported in error, an Options Trade Cancel message is published. This occurs whether the initial report was an Options Order Execution or an Options Non-Displayed Trade message.

Options Trade Cancel messages only affect trades that occurred in the past. Customers who are only interested in building a book may safely ignore them.

Customers who are building a complete record of today’s trades should remove the cancelled trade from their records and subtract its volume from any statistics.

See the Pillar Common Client Specification for details on Time Reference and Symbol/Series Index Mapping messages.

FIELD NAME	OFFSET	SIZE (BYTES)	FORMAT	DESCRIPTION
Msg Size	0	2	Binary	Size of the message: 20 bytes
Msg Type	2	2	Binary	The type of message: 312 – Options Trade Cancel Message
SourceTimeNS	4	4	Binary	The nanosecond offset (UTC Time) from the Time Reference message.
SeriesIndex	8	4	Binary	The unique ID of this series for all products within this market.

FIELD NAME	OFFSET	SIZE (BYTES)	FORMAT	DESCRIPTION
SeriesSeqNum	12	4	Binary	The sequence number of this message in the set of all messages for this series
TradeID	16	4	Binary	The TradeID of the original Trade or Execution message to be cancelled.

3.8 Options Cross Trade Message – Msg Type 311

An Options Cross Trade message is published on completion of a crossing from the opening and re-opening auction, and shows the bulk volume that traded in the auction. The Cross Type field indicates the auction type. Additionally, a non-printable Order Execution or Non-Displayed Trade message will be published for each order that traded.

See the Pillar Common Client Specification for details on Time Reference and Symbol/Series Index Mapping messages, and Order ID and Price field formats.

FIELD NAME	OFFSET	SIZE (BYTES)	FORMAT	DESCRIPTION
Msg Size	0	2	Binary	Size of the message: 29 bytes
Msg Type	2	2	Binary	The type of message: 311 – Options Cross Trade Message
SourceTimeNS	4	4	Binary	The nanosecond offset (UTC Time) from the Time Reference message.
SeriesIndex	8	4	Binary	The unique ID of this series within this market.
SeriesSeqNum	12	4	Binary	The sequence number of this message in the set of all messages for this series
CrossID	16	4	Binary	Unique identifier for this Cross Trade. Used in Cross Correction message to identify the Cross Trade to correct.
Price	20	4	Signed Binary	The execution price. Use the Price scale from the series index mapping.
Volume	24	4	Binary	Volume executed in contracts
CrossType	28	1	ASCII	Reason for the crossing from the opening and re-opening auction. Valid values: <ul style="list-style-type: none"> • 0 – Market Center Opening Auction • 5 – Market Center Reopening Auction

FIELD NAME	OFFSET	SIZE (BYTES)	FORMAT	DESCRIPTION

3.9 Options Imbalance Message – Msg Type 305

Options Imbalance messages are published once a second during opening and re-opening auctions to update price and volume information. If there is no change to the calculated fields, no message will be generated.

See the Pillar Common Client Specification for details on Symbol/Series Index Mapping messages and Price field format.

FIELD NAME	OFFSET	SIZE	FORMAT	DESCRIPTION
Msg Size	0	2	Binary	Size of the message: 65 bytes
Msg Type	2	2	Binary	This field identifies the type of message. 305 – Options Imbalance Message
SourceTime	4	4	Binary	The time when this msg was generated in the order book, in seconds since Jan 1, 1970 00:00:00 UTC.
SourceTimeNS	8	4	Binary	The nanosecond offset (UTC Time) from the Time Reference message.
SeriesIndex	12	4	Binary	The unique ID of this series for all products within this market.
SeriesSeqNum	16	4	Binary	The sequence number of this message in the set of all messages for this series
Reserved	20	4	Binary	Reserved for future use
PairedQty	24	4	Binary	The number of contracts paired off at the Indicative Match Price.
TotalImbalanceQty	28	4	Binary	The total imbalance quantity at the Indicative Match Price.
MarketImbalanceQty	32	4	Binary	The total market order imbalance quantity at the Indicative Match Price.
Reserved	36	2	Binary	Reserved for Future use
AuctionType	38	1	ASCII	<ul style="list-style-type: none"> • M – Core Opening Auction • H – Reopening Auction (Halt resume)
ImbalanceSide	39	1	ASCII	The side of the TotalImbalanceQty <ul style="list-style-type: none"> • B – Buy side • S – Sell side • Space – No imbalance
ContinuousBook ClearingPrice	40	4	Signed Binary	The price at which all interest on the book can trade, including auction and imbalance offset interest, and disregarding auction collars.

AuctionInterest ClearingPrice	44	4	Signed Binary	The price at which all eligible auction-only interest would trade, subject to auction collars.
Reserved	48	4	Binary	<i>Reserved for Future use.</i>
IndicativeMatchPrice	52	4	Signed Binary	The price at which the highest number of contracts would trade, subject to auction collars. It includes the non-displayed quantity of Reserve Orders. See Information on Auctions for details.
Upper Collar	56	4	Signed Binary	Legal width bid for option
Lower Collar	60	4	Signed Binary	Legal width offer for option
AuctionStatus	64	1	Binary	Indicates whether the auction will run <ul style="list-style-type: none"> • 0 - Will run as usual • 4 - Auction will not run because legal width quote does not exist • 5 - Auction will not run because market maker quote is not received

3.10 Options Add Order Refresh Message – Msg Type 306

The Options Add Order Refresh message can be sent in either of two contexts:

- 1) If a client sends a Refresh Request to the Request Server, an Options Add Order Refresh message is sent over the Refresh channels as part of the refresh response for every order currently resting on the book.
- 2) If NYSE Operations refreshes a series, a Symbol Clear message is published, followed by a full refresh. The refresh includes an Options Add Order Refresh message for every order currently resting on the book of the series.

See the Pillar Common Client Specification for details on Time Reference and Symbol/Series Index Mapping messages, and Order ID and Price field formats.

FIELD NAME	OFFSET	SIZE (BYTES)	FORMAT	DESCRIPTION
Msg Size	0	2	Binary	Size of the message: 44 bytes

FIELD NAME	OFFSET	SIZE (BYTES)	FORMAT	DESCRIPTION
Msg Type	2	2	Binary	The type of message: 306 – Series Add Order Refresh Message
SourceTime	4	4	Binary	The time when this msg was generated in the order book, in seconds since Jan 1, 1970 00:00:00 UTC.
SourceTimeNS	8	4	Binary	The nanosecond offset (UTC Time) from the Time Reference message.
SeriesIndex	12	4	Binary	The unique ID of this series within this market.
SeriesSeqNum	16	4	Binary	The sequence number of this message in the set of all messages for this series
OrderID	20	8	Binary	The unique ID assigned by the matching engine to this order
Price	28	4	Signed Binary	The order price. Use the Price scale from the series index mapping.
Volume	32	4	Binary	The order quantity in contracts.
Side	36	1	ASCII	The side of the order (Buy/sell). Valid values: <ul style="list-style-type: none"> • 'B' – Buy • 'S' – Sell
FirmID	37	5	ASCII	The participant's firm ID, or blanks if firm ID was not specified OR if the order is not marked as attributed.
Reserved	42	1	Binary	Reserved for future use
CustIndicator	43	1	Binary	Capacity of the order: <ul style="list-style-type: none"> • C – Customer • N – Non-customer • D - Derived (<i>for future use</i>) <p>For Arca Options, Customer order includes both customer and professional customer orders. For American Options, Customer order does not include professional customer orders</p>

3.11 Series RFQ Message - Msg 307

The Request for outright series RFQ data is published for outright series. It is generated by the matching engine to solicit interest in an auction or order.

See the Pillar Common Client Specification for details on Symbol/Series Index Mapping messages and Price field format.

FIELD NAME	SIZE	FORMAT	DESCRIPTION
Msg Size	2	Binary	Size of the message: 44 bytes
Msg Type	2	Binary	The type of message 307 - Series RFQ Msg
SourceTime	4	Binary	The time when this msg was generated in the order book, in seconds since Jan 1, 1970 00:00:00 UTC.
SourceTimeNS	4	Binary	The nanosecond offset (UTC Time) from the Time Reference message.
SeriesIndex	4	Binary	The unique ID of this series for all products within this market.
SeriesSeqNum	4	Binary	The sequence number of this message in the set of all messages for this series
Side	1	ASCII	Side of the RFQ B = Buy S = Sell For complex series, when a complex instrument is traded, the seller Sells the legs with Side = B and Buys the legs with Side = S The buyer Buys the legs with Side = B and Sells the legs with Side = S
Type	1	ASCII	Order Type of CUBE/Bold/COA P = Price Improvement F = Facilitation S = Solicitation B = Bold (Outright only) C = COA (Complex only)

Capacity	1	ASCII	Customer or Firm capacity specified with the order. Values include: " -- N/A (space or 0x20) 0 = Customer 1 = Firm 2 = Broker Dealer 3 = Market Maker 8 = Professional Customer Note: This field is used for BOLD only
Total quantity	4	Binary	Total quantity
Working Price	4	Signed Binary	RFQ Price
Participant	4	Binary	OCC Number for the Clearing firm specified with the order Blank = No OCC Number was specified Note: This field is only used for BOLD only
AuctionID	8	Binary	Auction ID for CUBE/COA
RFQ Status	1	ASCII	O - Start of RFQ Auction Q - End of RFQ Auction Note: This field is used for CUBE/COA

4. OUTRIGHT SERIES SUMMARY MESSAGE – MSG TYPE 323

The outright series summary message is sent every 60 seconds, on a separate multicast channel from the main feed. The message is sent regardless of whether there has been a change to the series in the last 60 seconds or not. If no trades are published for a series during a given day, no Outright Series Summary message is generated.

Only outright series will publish the Outright Series Summary message. Outright Series Summary Message (with the exception of the Opening trade) will not include any cancelled trades and routed trades which were not published.

The Outright Series Summary message must provide the following trade statistics per series: high, low, open, close and total volume

- a) High shall correspond to the highest trade price of the day
- b) Low shall correspond to the lowest trade price of the day
- c) Open shall correspond to the first trade price of the day
- d) Close shall correspond to the last trade price of the day
- e) Total number of contracts traded for the day

If a trade has been corrected, only the corrected value will be taken into account for the Series summary.

The Opening or First trade shall always be considered as the First trade even if it is cancelled later in the session.. Furthermore, the Opening trade price published will be used as the First price in the Series summary message.

4.1 Message Structure for Outright Series Summary Message

FIELD NAME	OFFSET	SIZE (BYTES)	FORMAT	DESCRIPTION
Msg Size	0	2	Binary	Size of the message: 36 bytes
Msg Type	2	2	Binary	The type of message: <ul style="list-style-type: none">▪ 323 – Outright Series Summary Message
SourceTime	4	4	Binary	The time when this msg was generated in the order book, in seconds since Jan 1, 1970 00:00:00 UTC.
SourceTimeNS	8	4	Binary	The nanosecond offset (UTC Time) from the Time Reference message.
SeriesIndex	12	4	Binary	The unique ID of this series within this market.
HighPrice	16	4	Signed Binary	The Highest price of the series for the day. Use the Price scale from the series index mapping.

FIELD NAME	OFFSET	SIZE (BYTES)	FORMAT	DESCRIPTION
LowPrice	20	4	Signed Binary	The Lowest price of the series for the day. Use the Price scale from the series index mapping.
Open	24	4	Signed Binary	The First price of the series for the day. Use the Price scale from the series index mapping.
Close	28	4	Signed Binary	The Last price of the series for the day. Use the Price scale from the series index mapping.
TotalVolume	32	4	Binary	The cumulative volume for the series throughout the day.

5. PRODUCT ID

EXCHANGE	PRODUCT ID	DESCRIPTION
NYSE ARCA Options	161	NYSE ARCA DEEP