



# **ArcaDirect API Specification**

## **Version 4.1**

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NYSE Arca Equities & Options  
NYSE Amex Options

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Date	Revision	Change Made by:	Synopsis of Change
4/25/2012	4.1a	Marc Abend	Initial Document
5/05/2012	4.1b	Marc Abend	Added conditional Liquidity Indicator on small ack message and Verbose Execution Report Message, (Liquidity Indicator (9730) = 1 (Candidate for Liquidity Indicator "S") (Sent on Verbose Order Ack, Cancel pending, Cancelled, C/R Pending, and Replaced)  Added Liquidity Indicator "S" = Set Inside Price and Added Liquidity on ARCA
8/03/2012	4.1c	Marc Abend	Added Differences between 4.1 and prior versions section to specification  Added NASD as an away Market for Options  Updated Liquidity Indicator Field in STP Cancel (Message 4, Variant 2)
8/13/2012	4.1d	Marc Abend	Updated byte size of G3 Fast Cancel/Replace Message for Options from 72 to 80
9/10/2012	4.1e	Marc Abend	Updated Risk Mitigation for Options – Page 76  Added PL Select Order Type for Equities
12/04/2012	4.1f	Marc Abend	Added Session Throttle Information (Page 21)  Added MIAx and ISE2 to Routed Out Values for Arca/Amex Options (Execution Report Message 2.2 Page 62 and Appendix B).
1/03/2013	4.1g	Marc Abend	Updated Order Type Information - Added Market To Limit (MTL) to Order Types Section, Added Proactive If Locked option to MPL/MPL ALO Orders  LU/LD Changes added (Proactive If Locked Field added, new values added – Currently Unavailable). Added Default Proactive if Locked to Logon Variant 2.  Added PNP Blind Indicator Values to conditional Liquidity Indicator on small ack message and Verbose Execution Report Message, (Sent on Verbose Order Ack, Cancel pending, Cancelled, C/R Pending, and Replaced)
4/10/2013	4.1h	Marc Abend	Adjusted Differences between 4.0 and 4.1 on page 6 – Added ArcaExID differences, added UGW ExDestination Field Notes.  Added ExDestination note for UGW for the strict enforcement of the proper value in D.1, D.2, and D.3 Messages.

Date	Revision	Change Made by:	Synopsis of Change
5/20/2013	4.1i	Marc Abend	Added NYSE Arca Equities Retail Order Information (Page 11) Corrected Risk Mitigation Alert Message 7.1 (Page 94) – Removed CompanyGroupID Field (5 Bytes) and added 5 Bytes to the Filler.
7/22/2013	4.1j	Marc Abend	Added NYSE Arca Equities Retail Order Types (Page 104) Updated Complex Order Auction (COA) information in Arca and Amex Options Order Types
9/3/2013	4.1k	Marc Abend	Updated Risk Mitigation Section (Page 93) with Global Risk Reject Notes.
10/1/2013	4.1l	Marc Abend	Updated Equities Tracking Order description and Order type

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# 1 Overview

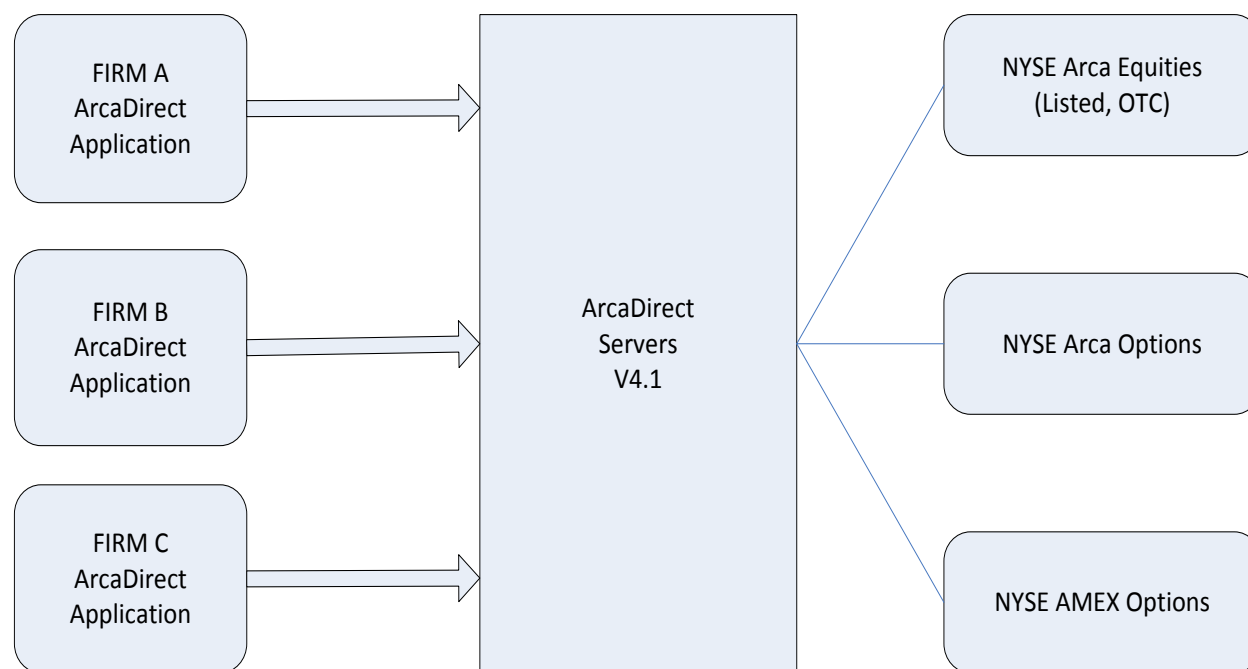
ArcaDirect is a message-based interface to send order flow to the NYSE Arca exchange. The protocol is designed to reduce bandwidth and reduce latency with small messages that are easier to parse. The protocol uses fixed length messages over TCP/IP. The contents of fields are binary and fixed length ASCII values where binary values are in network Endian (Big Endian) format. ArcaDirect Session behavior, Field names, and Field contents were designed to match the standard Fix behavior as closely as possible.

## ArcaDirect API Certification

Testing for ArcaDirect is currently manual. Each firm must certify their applications with NYSE Arca. To schedule a test, please call the Connectivity hotline at 888-689-7739, Option 2 or email [firmtesting@nyx.com](mailto:firmtesting@nyx.com).

## System Architecture

Each client sends messages to their assigned IP and Port. ArcaDirect then routes the messages to the appropriate trading platform.





## 2 Differences between ArcaDirect 4.1 and Prior Versions

### Here's the overview of differences between ArcaDirect 4.0 and 4.1:

- SendingTime Field added (Microsecond granularity) (Messages: a.x,2.x, 4.x, 5.x, 6.x, 8.x, C.x, E.x)
- TransactionTime Field expanded (Microsecond granularity) (Messages: a.x,2.x, 4.x, 5.x, 6.x, 8.x, C.x, E.x)
- Added Price and Price Scale Fields to Small Ack Message (Messages: a.1)
- LastMkt Field added to Verbose execution report (Messages: 2.2)
- Variant 5 of Verbose Execution Report that was in 4.0 has been removed in 4.1 (Fields transitioned to Verbose Execution Report 2.2)
- ArcaExID field added to Variant 1 & 3 Execution Report message (Messages: 2.1, 2.3)
- ArcaExID field expanded to 20 bytes on Variant 2 Execution Report message (Messages: 2.2)
- ExDestination on UGW gateways (AD 4.1 on UGW) is strictly enforced
- Padding adjusted depending on message size change (Messages: a.x,2.x, 4.x, 5.x, 6.x, 8.x, C.x, E.x)
- Risk Management Messages added for Arca Options and Amex Options (Messages: X.1, x.1, 7.1)

### Timestamp Field Difference – SendingTime and TransactTime:

In ArcaDirect 3.2 and 4.0, only the TransactTime field is present on messages from the exchange. TransactTime represents the time the message was sent from the gateway.

This has been changed in ArcaDirect 4.1 and applies to both Equities and Options, here's how:

1. Gateway timestamp moved to new SendingTime Field (Formerly in TransactTime in 3.2 and 4.0)
2. TransactTime Field now passes through the Matching Engine Timestamp

### Arca Equities

<i>Field</i>	<i>TimeStamp Type</i>	<i>Precision</i>
SendingTime	AD Gateway	Microseconds
TransactTime	Matching Engine	Microseconds

### Arca/Amex Options

<i>Field</i>	<i>TimeStamp Type</i>	<i>Precision</i>
SendingTime	Gateway	Milliseconds
TransactTime	Matching Engine	Seconds

## 3 ArcaDirect Overview

### Trading Times

This information is subject to change. For up-to-date information on the hours of operations and trading sessions, please visit <http://www.nyse.com>.

#### Hours of Operation\*

	NYSE Arca Equities (Listed, OTC, ETFs)	ArcaEdge (BBs, Pinks)	NYSE Arca Options	NYSE AMEX Options
<b>Opening Auction</b>	4:00am ET	Not available	9:30am ET	9:30am ET
<b>Session 1, Opening Session</b>	4:00am – 9:30am ET	Not available	4:00am – 9:30am ET	Not available
<b>Market Order Auction</b>	9:30am ET	Not available	Not available	Not available
<b>Session 2, Core Session</b>	9:30am – 4:00pm ET	Not available	9:30am – 4:00pm ET	9:30am – 4:00pm ET
<b>Session 3, Late Session</b>	4:00pm – 8:00pm ET	Not available	Not available	Not available

\* all times listed are Eastern Standard Time (EST)

Applications may send equity and option orders after 4:00am EST.

**ArcaEdge (Bulletin Board (OTCBB), Pinksheets) is currently not available through the ArcaDirect API.**

#### Trading Session IDs

An order's participation in the various auctions and trading sessions is defined in the Trading Session ID and Time In Force fields. Orders can participate in multiple sessions offered for that type of financial instrument. See the [Hours of Operation\\*](#) table for more information.

- Session 1 (Trading Session ID = "1") equity orders participate in:
  - Opening Auction
  - Session 1 (Opening Session)
  - Market Orders Auction
  - Expire at 9:30 AM
- Session 2 (Trading Session ID = "2") equity orders participate in:
  - Market Order Auction
  - Session 2 (Core Session)
  - Expire at 4:00 PM
- Session 2 (Trading Session ID = "2") option orders participate in:
  - Opening Auction

- Session 2 (Core Session)
- Expire based on their TimeInForce field. Day option orders expire at 4:00pm,
- Session 3 (Trading Session ID = “3”) equity orders participate in:
  - Session 3 (Late Session) OTC and Listed only
  - Expire at 8:00 PM

Orders may combine Trading Session ID values. For example, a DAY equity order might have Trading Session ID = “123”, indicating that it participates in all three sessions. This field is left justified and null padded. So an option order that can only participate in the core session would have “2\0\0” as its Trading Session ID.

The NYSE Arca “Day+” order for equities, which spans all trading sessions, must have Time In Force = DAY and Trading Session ID = “123”

## Common Identifiers

### Company Group ID

The company Group ID is assigned by NYSE Arca and identifies the market maker or brokerage firm that sends an order. It is used to identify the customer on Exchange exchanges and must be supplied on all orders. NYSE Arca will reject orders with no Company Group ID or with an invalid ID.

### Option Symbolology

For option orders, ArcaDirect accepts three methods to identify the series for an option order:

- Explicit Symbolology (Consolidated Underlying Symbols)

**Table 1 Fields to Identify a Series**

Field	Description	Explicit
Series Symbol	Explicit = 1-6 character explicit symbol for option issue.	✓
Expiration Date	The year, month and day the series expires	✓
Put or Call	Whether the series is for a put or call	✓
Strike Price	The strike price for the series.	✓

For example, a Microsoft series for October 2012 27.50 Calls would be represented as:

- Explicit = MSFT 20121021 27.50 C (Symbol Consolidated)

### How To Distinguish between Equity and Option orders

On orders sent to the exchange, set the “Strike Price” field to zero to indicate an Equity order otherwise it indicates an Option order.

## Equities Symbolology

NYSE Arca uses the Comstock Symbolology for stock symbols listed on its equity exchanges. You can also find a list of all stock symbols traded on NYSE Arca

at [http://www.nysearca.com/traders/eligible\\_stocks/eligibleStocks\\_ArcaEx.xls](http://www.nysearca.com/traders/eligible_stocks/eligibleStocks_ArcaEx.xls).

The ArcaDirect interface does not allow the symbol suffix field. The full symbol plus suffix must be sent in the Symbol field. The following table describes the class of equity symbols:

**Table 2 Stock Symbols with Suffixes**

Stock Symbol Suffix	NYSE Arca Symbolology	Example
Series (or Class) A (A-Z)	.A, .B, .C. etc...	BRK.A
Series A When Issued (A-Z)	.A#	BRK.A#
EMERGING COMPANY MARKETPLACE	.EC	.EC
Preferred	-	LWN-
Preferred Series A (Also Series B-K & M-Z)	-A, -B, -C, etc...	LWN-A (B-K, M-Z)
Preferred Called	-L	XYZ-L
Preferred series A Called (A-Z)	-AL	XYZ-AL
Preferred Series A When Issued. (A-Z)	-A#, -B#, -C#, etc...	SAI-A#
Preferred When Issued	-#	SAI-#
Indicates Class A of a Second Category of Preferred (Also could be B-K and M-S)	-AA	SAI-AA, SAI-AB
Rights	.R	TFG.R
Exclusive suffix used for intraday quote test message	.TEST	.TEST
When Issued	#	KRB#
Warrants	+	MMP+
Warrants Series A (A-Z)	+A, +B, +C, etc...	FD+A
Warrants When Issued	+#	FD+#

## Order Management

### Equity Order Auctions

NYSE Arca offers both early and late auctions for **NYSE Arca Primary Listings and all non-primary ETFs only**. The schedule for these auctions is listed below.

- **Early Limit Order Auction - 4:00 AM EST**
- **Opening Market & Limit Order Auction - 9:30 AM EST**
- **Closing Market & Limit Order Auction - 4:00 PM EST**

Please note that there will be a freeze one minute before each auction. Orders cannot be cancelled during this time, and new orders that increase the imbalance will be rejected.

### Auction Only Orders

Customers may send market or limit orders for the Opening Auction with a Time in Force of “Opening”, however, any quantity not executed in the opening auction will automatically attempt to participate in the next auction (e.g., un-halt auctions or closing auctions.)

Auction Only Orders	<b><u>Auction Order (Market)</u></b> OrdType = 1 (Market) TimeInForce = 2 TradingSessions = 2 <b><u>Auction Order (Limit)</u></b> OrdType = 2 (Limit) TimeInForce = 2 TradingSessions = 123	Two types of orders that are executable only within an auction.  If these auction orders are placed after the open they go live and participate in the next auction, whether it is a halt, IPO, or at the close. If the order is not executed in the auction that it participates in, the balance is cancelled.	-NYSE Arca Primaries and all Non-Primary ETFs
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### Market on Open (MOO)/Limit On Open (LOO) Orders

On Monday May 28, 2012, NYSE Arca Equities will begin accepting Market-on-Open (“MOO”) and Limit-on-Open (“LOO”) orders. The new MOO/LOO orders will participate in the opening auction only. Any quantity not executed in the opening auction will be immediately cancelled back to the customer.

Market On Open (MOO) Order	OrdType = 1 (Market) TimeInForce = 2	A market order that is to be executed only during the opening auction for the issue. If all or part of the order is not executed during the opening auction, the balance is cancelled. If this order type is sent in after the opening auction it will reject.	-NYSE Arca Primaries and all Non-Primary ETFs
Limit On Open (LOO) Order	OrdType = 2 (Limit) TimeInForce = 2	A limit order that is to be executed only during the opening auction for the issue. If all or part of the order is not executed during the opening auction, the balance is cancelled. If this order type is sent in after the opening auction it will reject.	-NYSE Arca Primaries and all Non-Primary ETFs

## **NYSE Arca Equities Retail Orders**

To qualify for the Retail Order Tier, an ETP Holder is currently required to designate certain of its order entry ports at the Exchange as “Retail Order Ports” and attest, in a form and/or manner prescribed by the Exchange, that all orders submitted to the Exchange via such Retail Order Ports are Retail Orders. An ETP Holder must designate its Retail Order Ports no later than the fifth trading day of the month in which the desired change is to become effective.

The Exchange proposes to provide an additional method for ETP Holders to designate orders as Retail Orders. Specifically, the Exchange proposes to allow ETP Holders to designate orders as “Retail Orders” on an order by order basis by using a tag in the order entry message. An ETP Holder may designate Retail Orders by **entering the value “RET” in ArcaDirect field: SenderSubID**. To be eligible for Retail Pricing Tier an ETP Holder must attest, in a form and/or manner prescribed by the Exchange, that all orders identified within the order entry message are Retail Orders.

New Order Message D.1/2/3	Len	Type	Notes and Values
SenderSubID	5	Alpha Numeric	“RET” – Identifies order for Retail Order Pricing Tier

To qualify as a “Retail Order,” an order:

- Must be an agency order that originates from a natural person,
- Must be submitted by an ETP Holder with no change to the terms of the order with respect to price or side of market, and
- Cannot originate from a trading algorithm or any other computerized methodology.

As noted above, an ETP Holder that wishes to qualify for the Retail Order Tier must attest that all orders submitted to the Exchange through Retail Order Ports or identified within the order entry message, as applicable, are qualified Retail Orders. The Exchange also requires that ETP Holders have certain written policies and procedures in place that are reasonably designed to assure that the Retail Order requirements are met. Retail Orders will be counted towards a firm’s total volume to qualify for pricing tiers. However, only orders sent via the Retail Order Port or designated within the order entry message can qualify for the Retail Order Tier rebate. Orders that qualify for the Retail Order Tier cannot qualify for the Tape B or C Step-up Tier or Tape C Step-up Tier 2 in the same month.

## **NYSE Arca/Amex Options Order Auction Notes**

NYSE Arca/Amex Options Electronic Auction Mechanism (Crossing) Notes:

- 1) For Cross order, TimeInForce, the only valid value is IOC (59=3)
- 2) For OrdType , If it is a PIA order, Market is the only valid value on the CONTRA side. It will guarantee the NBBO market and not compete with more aggressive responses.

## **Short Sell Rule 201**

The SEC has a new rule requiring NYSE Arca to prevent the execution or display of a short sale order at a price that is less than or equal to the current national best bid if the price of that covered security decreases by 10% or more from the security's closing price as determined by the listing market as of the end of regular trading hours on the prior day.

In the event that this scenario occurs NYSE Arca will modify the price of the incoming short sale order to a penny higher than the 10% limit before accepting it. The entering firm can opt for rejection of their orders if Rule 201 is activated by indicating "S" in the Side Field of their New Order message. **Customer will receive Side=5 (Short Sell) on Order Ack, Pending Cancel, Order Killed (Cancelled), Pending Replace, Replaced for orders submitted with Side=S.**

**Notes on Cancel/Replace and Cancel for "S" Side Orders:** If Cancel/Replacing an "S" side order, you must send in "S" for Side in the Cancel/Replace message (The Side cannot be changed to a Sell, Sell Short, or Sell Short Exempt). If Cancelling an "S" side order, you can send either "S" or "5" for Side in the Cancel message.

## **Automatic Order Cancellation on Disconnect**

At the client's discretion, the ArcaDirect client session can be set to automatically cancel all live or pending orders whenever a firm disconnects. This is dependent upon the client setting the proper value to enable or disable Cancel On Disconnect on the session(s) in their Logon Message (See Logon Message).

When you logon to your ArcaDirect session you will need to include the Cancel On Disconnect field in the logon message. If you do not want your live orders canceled upon disconnect, send "0" in this field. If you do want your live orders canceled upon disconnect, send "1" in this field.

Please note that this feature does not guarantee that all outstanding orders will be successfully canceled. Trades may happen near the disconnection time and will not be reported until the firm reconnects. Cancel requests may also fail due to a software or hardware problem, leaving an order live and subject to execution.

Automatic order cancellation is intended to help firms in emergency situations. Firms must not rely upon this feature as a normal business practice or to prevent liability of execution, nor is it a substitute for contacting the applicable trade desks to verify that all orders are indeed canceled and that the firm has received all trades.

## **Bulk Cancel Message**

If you want to bulk cancel your orders without disconnecting we offer a specialized cancel message (F). By setting the Bulk Cancel to 1 this will cancel all live orders that were sent in previously on that day's client session.

When NYSE Arca receives a bulk cancel request, it will deliver a bulk cancel ack message followed by the out messages for each of the orders that are cancelled. If any of the pending orders have been routed to other exchange destinations, they will be acked separately as it may take longer to receive the out messages from the away destinations.

The bulk cancel order is good when there are many open orders booked so that they can all be cancelled in bulk by a single request to the exchange.

**Bulk Cancel by ETPID (Equities only)**

If you want to bulk cancel your orders across an entire ETPID (Equity Trade Permit ID) without disconnecting your ArcaDirect Session(s) we offer this new type bulk cancel message. The bulk cancel by ETPID message is **MsgType = F with Bulk Cancel Flag set to 2 and the Account Field set with the ETPID.**

When NYSE Arca receives a bulk cancel by ETPID it will deliver a bulk cancel ack message followed by out messages for each of the orders that are canceled across all the sessions that trade under the GroupID/ETPID the session is set to. If your orders have been routed to other exchange destinations we will ack them separately as it may take longer to receive the out messages from the away destinations.

This bulk cancel type is good for those of you that have many open orders on our book at the same time across many sessions. This type of bulk cancel message is extremely helpful in gateway outage situations.

**NYSE Arca Equities Self Trade Prevention Information**

Self Trade Prevention (STP) modifiers allow firms to prevent two orders with the same ETPID from executing against each other. ETP Holders may elect to add the STP modifiers to orders at the ETPID level. Below are the STP Options available:

**STP Cancel Newest (STPN)**

An incoming order marked with the STPN modifier will not execute against opposite side resting interest marked with any of the STP modifiers from the same ETPID. The incoming order marked with the STPN modifier will be cancelled back to the originating ETPID. The resting order, which otherwise would have interacted with the incoming order by the same ETPID, will remain on the NYSE Arca Book.

**STP Cancel Oldest (STPO)**

An incoming order marked with the STPO modifier will not execute against opposite side resting interest marked with any of the STP modifiers from the same ETPID. The resting order, which otherwise would have interacted with the incoming order by the same ETPID, will be cancelled back to the originating ETP ID. The incoming order marked with the STPO modifier will remain on the NYSE Arca Book.

**STP Decrement and Cancel (STPD)**

An incoming order marked with the STPD modifier will not execute against opposite side resting interest marked with any of the STP modifiers from the same ETPID. If both orders are equivalent in size, both orders will be cancelled back to the originating ETPIDs. If the orders are not equivalent in size, the equivalent size will be cancelled back to the originating ETPIDs and the larger order will be decremented by the size of the smaller order with the balance remaining on the NYSE Arca Book.

**STP Cancel Both (STPC)**

An incoming order marked with the STPC modifier will not execute against opposite side resting interest marked with any of the STP modifiers from the same ETPID. The entire size of both orders will be cancelled back to originating ETPID.

**General Notes**

- STP modifiers are intended to prevent interaction between the same ETPID.
- STP modifiers must be present on both the buy and the sell order in order to prevent a trade from occurring and to effect a cancel instruction.
- An incoming STP order cannot cancel through resting orders that have price and/or time priority.



- When an order with an STP modifier is entered it will first interact with all available interest in accordance with the Order Ranking and Display process pursuant to Exchange Rule 7.36.
- If there is a remaining balance on the order after trading with all orders with higher priority, it may then interact with an opposite side STP order in accordance with the rules established above.
- In situations where there are multiple STP orders resting in the NYSE Arca Book, an incoming STP order will only interact with the first resting STP order that it encounters.
- Incoming STP orders that are priced through the price of a resting STP order may cancel the resting order as long as no other non-STP orders have priority. Additionally, orders marked with one of the STP modifiers will not be prevented from interacting during any Auction process as defined by Rule 7.35.

### **NYSE Arca/Amex Options Self Trade Prevention Information**

Self Trade Prevention for NYSE Arca and NYSE Amex Options functions differently than the Self Trade Prevention features on the Arca Equities platform. When a Market Maker Participant is sending PNP orders via ArcaDirect has a resting PNP offer (bid) order in the book, and also sends a PNP bid (offer) at or thru the resting price, the older of the two orders will be cancelled. The reason text in the cancel message for the old order will state "Self Trade Prevention". Self Trade Prevention for Options is limited to PNP Order Types only and there is no firm opt in/out as it is a global setting and applies to all firms.

#### **Below are the instances where Self Trade Prevention for Options will/will not apply:**

- Self Trade Prevention will apply for PNP orders sent via the ArcaDirect API only and is marked as a Market Maker (CustomerOrFirm = 3).
- Self Trade Prevention will apply to Wait PNP orders with the same OTPID or ATPID are at or through the resting price.
- Self Trade Prevention will apply to a PNP order vs. contra resting GTC PNP orders with the same OTPID or ATPID at the same price.
- Self Trade Prevention will not apply for PNP Market Maker orders sent via FIX.
- Self Trade Prevention will not apply for any tracking order types or any other non-PNP order type.
- Self Trade Prevention will not apply if a CMTA is defined in the ClearingAccount Field on either the old or the new order.
- Self Trade Prevention will not apply to Auction Trading
- Self Trade Prevention will not apply to Incoming Complex Orders vs. Resting Complex Orders.
- Self Trade Prevention will not apply to Activated Complex to Leg/All or None vs. Resting PNP Orders with the same OTPID or ATPID.

## **Equity Crossing Orders**

An equity crossing order is represented as a single order with Side = Cross(8), Cross Short(9). For example, a broker wants to cross 1000 shares of stock at a price of 50. This is sent as a Limit order with Side = Cross. On the Equities trading platforms, crossing orders can also be combined with Time In Force=3 for IOC, Execution Instructions=M for Midpoint Cross, or Execution Instructions=6 for Post no preference (listed only).

For trades or transfers of stock on the Equities trading platforms, NYSE Arca allows the broker to cross the shares. No shares are traded with the Exchange; the broker is allowed to cross the shares internally at the price on the order. Using the previous example, the Execution Report would show a trade with Side = Cross, LastShares = 1000, and LastPx = 50.

If the cross is not able to execute this way, the exchange rejects the order.

When submitting a Cross where the side selling is establishing a short position, send Side = Cross Short(9). When Side = Cross Short, one may expect to see Execution Reports with Side = Cross Short, Buy, and Sell Short.

Due to the dual-sided nature of crossing orders, an extension is being made to Rule80A to indicate differences in capacity between the buying and selling sides of the crossing order, as shown below:

<i>Buy Side</i>	<i>Sell Side</i>	<i>Capacity Indicator</i>
Agency	Agency	A or F
Principal	Principal	P or E
Agency	Principal	J or X
Principal	Agency	K or H

## **Multi Day orders (GTCs and GTDs) - Not Supported**

Multi-Day Timed orders such as GTC and GTD orders are not available.

## **Portfolio Crossing Service (PCS) for Equity Orders**

PCS allows the execution and reporting of crossing entire portfolios (baskets) of stocks on NYSE Arca without interaction with the book or other PCS equity orders.

**Order Entry:** to use PCS, ETPID holders send individual PNP equity crossing orders to ArcaDirect with “PCS” in their DeliverToCompID field. Each PCS crossing order must have a basket identifier in the PCS Link ID field that ties it to the other orders in the basket. Otherwise, the order is treated as a regular PNP crossing order with all fields filled in.

### **Trading for PCS includes:**

- ETPIDs may enter PCS equity orders at any time during the trading day.
- PCS equity crossing orders are held until 8:01p.m. EST, when PCS executes all PCS crossing orders. PCS crossing orders do not interact with any other orders including other PCS crossing orders.
- PCS equity orders may be cancelled at any time before 8:00 p.m. EST. PCS does not support bundled cancel/replace functionality, but ETPs may cancel a PCS crossing order and enter a new order.

### **Guarantee and Directed Equity Orders (Currently Unavailable)**

The directed equity order process enables registered market makers to interact with retail equity order flow directed to them through the Exchange network. This process involves two types of equity orders:

- **Guarantee Orders:** are non-display equity orders from market makers. Guarantee orders fill the directed orders sent from order provider firms that have an arrangement with the market maker.

NYSE Arca handles short sale and short sale exempt guarantee orders differently:

- Short Sale: NYSE Arca permits short sales on a zero minus tick (0-) but will not permit short sales on a regular minus tick.
- **Directed Orders:** are sent by order provider firms to interact with guarantee equity orders for a specific market maker. Directed equity orders specify the ETP ID of the market maker they should be routed to in the DeliverToCompID field. ArcaDirect accepts directed orders during all trading sessions.

### **ISO - Intermarket Sweep Order**

These are available under Reg NMS. Clients may send ARCA an instruction to trade only with the ARCA Book and ignore all away market quotes (including Protected Quotes). This is known as the Inter-market Sweep Order (ISO):

- **ISO IOC:** Sweep the ARCA Book to the price. Cancel any remaining balance, and ignore all external quotes. Immediate or cancel.
- **ISO PNP:** Sweep the ARCA Book to the price. Post any remaining balance, and ignore all external quotes. It will not route out but the balance if any will sit on the book.
- **ISO IOC Cross:** Sweep the ARCA Book to the price. Cross any remaining balance, and ignore all external quotes. Match the buy against the internal sell and match the sell against the internal buy. Then, cancel the balance.
- **ISO IOC Cross and Post:** Sweep the ARCA Book to the price. Cross any remaining balance. Post the take out amount, and ignore all external quotes.

ISO Orders will interact with all resting orders except Tracking Orders. ISO Orders are never routed out.

### **Tracking Orders (Equities)**

The Tracking Limit order executes against orders that are about to route away from ARCA when the leaves quantity is less than or equal to the size of the tracking limit order. If the leaves size of the contra order is greater than the size of the Tracking Limit order then the Tracking limit order will not be executed.

For example, if a tracking order was entered for 1,000 shares and the leaves quantity of a contra order was 1,001, then the order would be routed and not interact with the tracking order.

Tracking Limit orders will execute only if the price of the Tracking Limit order is equal to or better than the price of the away markets that we are about to route to and will execute at the price of the NBBO. Tracking Limit orders are blind so a quote will not be posted. Once a Tracking limit order has been partially filled, the balance of the order will be cancelled.

The Exchange proposes to amend Rule 7.31(f) to add optional functionality so that the ETP Holder that submits the Tracking Order may designate a minimum execution size for a Tracking Order. Using the same example as above, if the ETP Holder that submitted the Tracking Order to buy for 1,000 shares sets a minimum quantity of 200 shares, it will only execute against eligible contra-side interest that is 200 to 1,000 shares in

size at the same price. As proposed, if the Tracking Order with a minimum size requirement is executed but not exhausted and the remaining portion of the Tracking Order is less than the minimum size requirement, the Exchange would cancel the Tracking Order. So if the Tracking Order for 1,000 shares has a minimum quantity of 200 shares, and receives an execution of 900 shares, because the remaining portion (100 shares) is less than the minimum execution quantity, it would be cancelled.

**Example:**

NBBO= \$0.98-\$1.01

Tracking Order to sell 1000 shares @ \$1.00 with a Min. Qty. of 500 shares

Order to buy 600 shares @ \$1.01

Tracking order sells 600 shares @ \$1.01 (NBO) and cancels the balance because the balance of 400 shares is less than its Minimum Quantity of 500 shares.

**Automatic Equity Order Routing for Capacity Flags**

Equity orders sent to NYSE Arca are eligible for routing to the NYSE® for execution via DOT if they contain the following flags in the Capacity field and curbs are not in place.

- D = Program Trade, Index Arbitrage, Member as Principal.
- M = Program Trade, Index Arbitrage, member as Agent for Unaffiliated Member.

Since equity orders that are flagged “D” or “M” are not routed to the NYSE via DOT when curbs are in place, Buy- or Sell+ indicators on these orders are ignored.

When 80(a) curbs are in place on the NYSE, orders with “D” or “M” capacity flags are rejected by the exchange’s DOT service provider. NYSE Arca Equities will continue to process these orders – routing them to NYSE or routing to other markets.

Equity orders with the following capacity flags in the “Rule80A” FIX field are always eligible for routing to the NYSE via any DOT provider:

- C = Program Trade, Non-Index Arbitrage, Member as Agent for Unaffiliated Member.
- N = Program Trade, Non-Index Arbitrage, Member as Agent for Unaffiliated Member.

The D, M, C and N capacity flags should only be used by ETPs that are also NYSE member firms and plan on reporting these transactions on the Daily Program Trade Report.

NYSE Arca Equities does not route orders to the NYSE for execution via DOT if they use the following capacity flags:

- J = Program Trade, Index Arbitrage, Individual Investor.
- U = Program Trade, Index Arbitrage, Other Agency.
- K = Program Trade, Non-Index Arbitrage, Individual Investor.
- Y = Program Trade, Non-Index Arbitrage, Other Agency.

Instead, orders that contain these capacity flags are routed to the NYSE or to other listed markets via ITS or through other appropriate routing linkages.

### OX Local and Away Market Maker Identification (Arca & AMEX Options)

**\*NOTE: This is for OPTIONS Market Makers ONLY\***

If a Market Maker is entering orders with the CustomerOrFirm field set to 3 (Market Maker) they must identify themselves as an “away” market maker on one of the other options exchanges or a “local” market maker on the OX platform. The New Order Single message contains a field called LocalOrAway. Market Makers must send a 1 if they are a “local” OX market maker or a 2 if they are an “away” market maker.

In addition to identifying the type of market maker that is entering an order, a market maker must populate the SenderSubID field with a valid Market Maker ID. This ID will be an OX MMID for OX market makers or an “away” Market Maker ID for firms that make their markets on other exchanges.

\* Please see the SenderSubID and LocalOrAway fields in the New Order Single tables for more detail.

## Binary Prices

Prices are represented as whole integers in binary. **Strike prices for options are fixed at 4 decimal places.**

All other prices may have more or fewer decimal places. The decimal position can be determined by using the Price Scale code in the message. To determine the decimal price, divide the whole integer price by the value that the price scale code represents.

- **Example 1:** Whole integer price is 1350 and the price scale code is 2. To determine the decimal price, divide 1350 by 100 ( $10^2$  or  $10^2$ ). The result is a decimal price of 13.50.
- **Example 2:** Whole integer price is 135 and the price scale code is 1. To determine the decimal price, divide 135 by 10 ( $10^1$  or  $10^1$ ). The result is a decimal price of 13.5 (same as 13.50).
- **Example 3:** Whole integer price is 25 and the price scale code is 0. The price scale code is 0 so no division is necessary. The result is a price of 25 (same 25.00).

**The Price Scale field is a single character.**

### Price Scale Codes

Price Scale Code	Denominator Value	Denominator Value (factor of 10)
“0”	N/A	N/A
“1”	10	$10^1$ ( $10^1$ )
“2”	100	$10^2$ ( $10^2$ )
“3”	1,000	$10^3$ ( $10^3$ )
“4”	10,000	$10^4$ ( $10^4$ )
“5”	100,000	$10^5$ ( $10^5$ ) (Equity V1 Fill and V1 Bust/Correct)

**Note:** Price Scale Code of “0” indicates that the whole integer price in the price field is the actual price and no conversion or division is necessary.

## Message Formatting

The message tables provided later in the document indicate when a particular field is needed (✓) for the particular type of instrument on the order (equity or option). When a field is not needed, that field should be set to null (or zeroes in binary). Note that all message fields must be provided in the exact position indicated even if not used (then null filled to binary zeroes if unused). All of the messages are of a fixed size with positional fields at a preset location.

## Message Type Summary

Message Type		Instrument E= Equities O= Options	Direction	Function	Description
Type Code	Variant		C = Client X = Exchange		*(Grayed/Italic messages are currently not available)
A	1	E O	C X	Logon	C - Initial Logon to ArcaDirect server for order entry. X – Login Response (Accept)
A	2	E O	C X	Logon	C - Initial Logon to ArcaDirect server for order entry. X – Login Response (Accept)
L	1	E O	X	Logon Reject	If Logon is rejected for some reason.
1	1	E O	C X	Test Message	Test and heartbeat.
0	1	E O	C X	Heartbeat Message	Test and heartbeat.
B	1	O	C	Order Cross (Single)	Options Order Cross Single
B	2	O	C	Order Cross (MultiLeg)	Options Order Cross MultiLeg
C	1	E O	X	Bust/Correct	Trade Bust or Trade Correction
D	1	E	C	New Order	Equivalent to V2 API – small message.
D	2	E O	C	New Order	Equivalent to V3 API.
D	3	E O	C	Verbose New Order	Equivalent to V3 Verbose API.
D	4	E O	C	New Order	Supports Options Complex Orders with Legs
E	1	E O	X	Cancel/Replace Ack	Order has pending replacement
F	1	E O	C	Order Cancel	Supports both Equities and Options
G	1	E O	C	Order Cancel/Replace	Supports both Equities and Options

Message Type		Instrument E= Equities O= Options	Direction	Function	Description
G	2	E O	C	Order Cancel/Replace (Verbose Format)	Supports both Equities and Options
G	3	O	C	Cancel/Replace Order	Fast Cancel/Replace Options
G	4	E	C	Cancel/Replace Order	Fast Cancel/Replace Equities
J	1	O	C	Allocation	Allocation Message
P	1	O	X	Allocation Ack	Allocation Acknowledgement Message
a	1	E O	X	Order Ack	Order has been booked
2	1	E O	X	Order Filled	Order has filled – small message
2	2	E O	X	Order Filled	Order has filled - verbose format
2	3	O	X	Order Filled	Order has filled – verbose format (Complex Order)
2	4	O	X	Order Filled	Order has filled – verbose format (Complex Cross Order)
4	1	E O	X	Order Killed	Order killed
4	2	E	X	Order Killed - STP Notification	Order canceled partially or entirely due to Self Trade Prevention
5	1	E O	X	Order Replaced	Order has been replaced successfully
6	1	E O	X	Order Cancel Request Ack	Order has pending cancellation
8	1	E O	X	Order Rejected Message	Order or Cxl or Cxl/Replace has been rejected due to incorrect or unaccepted value or invalid order type

## **4 Session Management**

### **Overview**

Clients initiate a TCP/IP session to the ArcaDirect Server. Session logon is always initiated by the client connection. Application messages may be exchanged between the client and server after logon is successful. A client has five seconds after they connect to send a logon request or the server drops the connection.

Messages have a defined number of fixed-length fields, containing both binary and ASCII data. All binary data is sent in network Endian format (Big Endian). All ASCII data is left justified and null padded. Each message contains a message termination field that must contain an ASCII Line Feed character '\n'

During periods of inactivity, the server and/or client use the Test Request and Heartbeat messages to ensure the connection is up and functioning properly. The client must be able to respond to Test Request messages from the server by sending a Heartbeat message.

### **Disconnects**

TCP/IP connections can experience disconnections for many reasons. To ensure that no order flow messages are lost when disconnections occur, each order message has a sequence number. Clients assign sequence numbers to the messages they send the server and the server tracks these numbers. Similarly, the server assigns its own sequence numbers to the order responses that it sends to the client.

When clients log on after a disconnection, information in the Logon message allows the client and server to exchange the sequence number of the last message that they processed from the other party. Each side can then start sending the next message that has not been processed by the other side.

Clients can also choose to have ArcaDirect cancel all resting orders when a disconnection happens.

### **Session Throttle**

Each ArcaDirect session is configured by default to accept 1000 incoming messages per second. Any messages over 1000 within a 1 second window will be carried over to the next second.

### **Logon Message Variants (and Logon Accepted)**

Clients use the Logon message to establish a connection, identify the symbol protocol they will use for the client session and identify the last response message they have processed. The server may accept or reject the client logon. If logon is successful, ArcaDirect sends a Logon message back to the client indicating the last request message the server has processed.

The Last Sequence Number field is used to recover order messages when disconnections happen. For the initial connection, clients should set the Last Sequence Number field to zero. The Logon response from the server will also show zero for the initial connection.

If an inadvertent disconnect happens, clients should use the Last Sequence Number field to indicate the last order response message received from the server. The server will begin sending order responses from the next sequence number.



Similarly, the server sends back the sequence number for last client order request that the server processed in the Logon response message. Clients should use this to determine if order messages have been dropped and should be sent again.

Clients should not skip sequence numbers. A client can however pass '-1' as the Last Sequence Number to notify the server not to validate the next sequence number. The server will accept the next sequence from the client and then send what it thinks is the next outbound sequence.

**Logon Message – Variant 1**

Logon Message	Length	Type	Equities	Options	Notes and Values	
Message Type	1	Alpha Numeric	✓	✓	‘A’	
Variant	1	Binary	✓	✓	Value = 1	
Length	2	Binary	✓	✓	Binary length of the message	
SeqNum	4	Binary				
Last Sequence Number	4	Binary	✓	✓	Last sequence number processed.	
					Values	Meaning
					0	Replay every message previously sent by the Exchange.
					-1	Do not replay any message but continue from the last known transmitted sequence plus one.
					N > 0	User specifies the last Sequence you successfully processed. The server will rewind to this number plus one and retransmit from that point up to the current sequence number.
UserName	5	Alpha Numeric	✓	✓	ArcaDirect Login ID	
Symbology	1	Binary		✓	Method used to identify an option series.	
					Values	Meaning
					2	OCC/OSI Explicit Symbology
Values 2 and 3 are both be considered OSI Explicit and strict validation no longer applies.						
Message Version Profile	28	BytePair	✓	✓	Provides the desired message versioning profile to use during the session. These consist of an array of up to 9 BytePairs. The first byte of the pair indicates the message type and the second byte is the message version desired. Entries with a null message type or version are ignored.	
Cancel On Disconnect	1	Binary	✓	✓	0 = Do Not Cancel On Disconnect (Cancel on Disconnect will not be activated for the session) 1 = Enable Cancel on Disconnect (Cancel On Disconnect will be activated for the session)	
Message Terminator	1	Alpha	✓	✓	ASCII new line character: “\n”	
Total	48					

**Message Version Profile**

The system provides the following “default” profile if the user fails to supply one with the Logon message. Use the first two columns as the data to send, but modify as desired. For example send the following byte stream on the Message Version Profile field: ‘L’,1,’a’,1,’4’,1, ‘E’,1, ‘5’,1,’8’,1,’6’,1,’C’,1,’2’,2.

MsgType (ASCII)	MsgVersion (Binary)	Description
‘L’	1	Logon Ack
‘a’	1	New Order Ack
‘4’	1	Order Killed Notification
‘E’	1	Cancel/Replace Ack
‘5’	1	Order Replaced Ack
‘8’	1	Order Reject Ack
‘6’	1	Cancel Order Ack
‘C’	1	Bust/Correct Ack
‘2’	2	Order Fill defaults to Verbose

Any profile supplied by the user will override the default profile. If the user fails to supply a particular message type then the corresponding “default” profile will apply for that message.

**Self Trade Prevention Note (Order Killed (4) Variant 2:** When you log in with Variant 1 of the Order Killed Message in your message profile or choose the default profile, you need to expect to receive both Variants 1 and 2 of the Order Killed messages if you intend to use Self Trade prevention.

## Logon Message – Variant 2

Logon Request Variant 2 uses bit map as an indexing technique to indicate which data elements in the session profile are present. The presence of a data element is indicated by a 1 in the assigned position; a zero (0) indicates the absence of a data element. Each session profile element excluding the delimiter is assigned to a specific bit. The bit array can consists up to 32 bits although current implementation only uses from bit 1 to 3, future enhancements may use any of the unused bits. Using this technique allows GCCG to add new configurable profile features without new API changes. Bits that are not set will use the system default values and all unused bits must be set to 0.

Logon Message	Length	Type	Equities	Options	Notes and Values	
Message Type	1	Alpha Numeric	✓	✓	'A'	
Variant	1	Binary	✓	✓	Value = 2	
Length	2	Binary	✓	✓	Binary length of the message	
SeqNum	4	Binary				
Last Sequence Number	4	Binary	✓	✓	Last sequence number processed.	
					Values	Meaning
					0	Replay every message previously sent by the exchange.
					-1	Do not replay any message but continue from the last known transmitted sequence plus one.
					N > 0	User specifies the last Sequence you successfully processed. The server will rewind to this number plus one and retransmit from that point up to the current sequence number.
Session Profile Bit Map	4	Binary	✓	✓	32 Bit Map representation of Session Profile. Each bit denotes the presence or absence of the data element in the session profile string.	
UserName	5	Alpha Numeric	✓	✓	ArcaDirect Login ID	
Session Profile String	Variable	Alpha Numeric	✓	✓	The list of data elements that are set. <u>Must</u> be in the order session profile bit map	
Message Terminator	1	Alpha	✓	✓	ASCII new line character: “\n”	
Total	22 + Session Profile Length					

**Session Profile Bit Map**

Bit #	Description	Type	Default
1	Message Version	Constant	Verbose format
2	CancelOnDisconnect	Constant	0 = Do Not Cancel On Disconnect (Cancel on Disconnect will not be activated for the session)
3	ExtendedExecInst	Constant	No default
4	ProactivelyLocked	Optional	No default
5-32	Unused (0)		

**Type**

- Constant – bitmap is always enabled regardless what the customer sends in their logon request
- Optional – bitmap is enabled only if the customer set the attribute in their logon request.

**Session Profile String**

Bit	Logon Message	Length	Type	Equities	Options	Notes and Values
1	Message Version Profile	28	BytePair	✓	✓	Provides the desired message versioning profile to use during the session. These consist of an array of up to 9 BytePairs. The first byte of the pair indicates the message type and the second byte is the message version desired. Entries with a null message type or version are ignored.
2	Cancel On Disconnect	1	Binary	✓	✓	0 = Do Not Cancel On Disconnect (Cancel on Disconnect will not be activated for the session) 1 = Enable Cancel on Disconnect (Cancel On Disconnect will be activated for the session)
3	Default Extended ExecInst	1	Alpha Numeric	✓		'0' = No interaction with MPL Orders. (Equities) "2" = Opt out of interaction with IOI Dark Pool Quotes (Equities) "A" = Add Liquidity Only (Equities) Null = No Default Instruction
4	Default Proactive If Locked	1	Alpha Numeric	✓		"Y" = Proactive if Locked "1" = Re-price if priced through LULD "2" = Proactive if Locked and re-price if priced through LULD Null = No Default Instruction

**Example 1**

Logon request with Enabled bit 1 (Message Version Profile) and bit 3 (Extended Execution Instruction (Add Liquidity Only)) and Disabled bit 2 (Cancel On Disconnect), Disabled bit 4 (Proactive if Locked)

32 Bitmap Representation – 1010 0000 0000 0000 ( binary value = 5)

A2 Fixed Data Length	Message Version Profile	Cancel On Disconnect	Default Extended Execution Instruction	Default Proactive If Locked
22	28	0	1	0

Total message length = 51

**Example 2**

Logon request with enabled bit 1, bit2 and bit 3.

32 Bit Map Representation – 1110 0000 0000 0000 ( binary value = 7)

A2 Fixed Data Length	Message Version Profile	Cancel On Disconnect	Default Extended Execution Instruction	Default Proactive If Locked
22	28	1	1	0

Total message length = 52

**Example 3**

Logon request with disabled bit 1, bit2 and bit 3.

32 Bitmap Representation – 0000 0000 0000 0000 ( binary value = 0)

A2 Fixed Data Length	Message Version Profile	Cancel On Disconnect	Default Extended Execution Instruction	Default Proactive If Locked
22	28	0	0	0

Total message length = 22

## Logon Accepted Message

ArcaDirect sends a Logon Accept message back to the client with the same structure as described for the Logon Message. Note that the returned Message Version Profile will indicate the actual profile that has been established for that session.

## Logon Reject Message

ArcaDirect sends a Logon Reject message only when logon validation fails and then closes the connection. If logon was successful, ArcaDirect sends a Logon message back to the client. There are times when the client may not receive a response.

The Client Logon Status field indicates the reason for the rejection.

Logon Reject Message	Length	Type	Equities	Options	Notes and Values
Message Type	1	Alpha Numeric	✓	✓	'L'
Variant	1	Binary	✓	✓	Value = 1
Length	2	Binary	✓	✓	Binary length of the message
SeqNum	4	Binary			Should be ignored
Last Sequence Number Server Received	4	Binary	✓	✓	The last sequence number from a client message that ArcaDirect received and processed.
Last Sequence Number Server Sent	4	Binary	✓	✓	The sequence number for the last message ArcaDirect sent to the client.
Reject Type	2	Binary	✓	✓	The rejection code (see reject section later in this document).
Text	40	Alpha	✓	✓	The rejection reason description.
Filler	1		✓	✓	Null Pad
Message Terminator	1	Alpha	✓	✓	ASCII new line character: "\n"
Total	60				

## Test Request Message

The Test Request message is sent by either side of the connection to request the other side to respond with a Heartbeat message, when that side does not receive a message during periods of inactivity. If the other side does not respond to a Test Request message, the application should assume an abnormal situation and terminate the TCP/IP connection.

The server will send a Test Request message only during periods of inactivity after the first heartbeat period (60 seconds). At a minimum, the client must respond to this message with a Heartbeat message. The server will disconnect the client following a subsequent period with no activity.

Test Request Message	Length	Type	Equities	Options	Notes and Values
Message Type	1	Alpha/Numeric	✓	✓	'1'
Variant	1	Binary	✓	✓	Value = 1
Length	2	Binary	✓	✓	Binary length of the message
Sequence	4	Binary	✓	✓	Ignore (future use)
Filler	3				Ignore
Message Terminator	1	Alpha	✓	✓	ASCII new line character: "\n"
Total	12				

## Heartbeat Message

The Heartbeat message is used to respond to Test Request messages. It lets the other side know the connection is still good during periods of inactivity. The server heartbeat interval is 60 seconds.

At a minimum a client must be able to receive Test Request messages and respond with Heartbeat messages. During periods of activity the server will not send Test Request or Heartbeat messages and there is no need for the client to send them.

Heartbeat Message	Length	Type	Equities	Options	Notes and Values
Message Type	1	Alpha/Numeric	✓	✓	'0'
Variant	1	Binary	✓	✓	Value = 1
Length	2	Binary	✓	✓	Binary length of the message
Sequence	4	Binary	✓	✓	Ignore (future use)
Filler	3				Ignore
Message Terminator	1	Alpha	✓	✓	ASCII new line character: "\n"
Total	12				



## 5 Application Messages

This section describes the Application Messages for this interface. Binary data is in Network Endian format (Big Endian). All Filler and Padding fields contain null characters. Non-binary fields should be left justified and null padded.

### D = New Order Message – (Variant 1: Equities Only – Small Message)

New Order Message D.1	Len	Type	Notes and Values
Message Type	1	Alpha Numeric	'D'
Variant	1	Binary	1 - Indicates this type of message
Length	2	Binary	Binary length of the message
Sequence Number	4	Binary	Client-assigned sequence number
Client Order ID	4	Binary	A client-assigned ID for this order. Valid values are 1 to 4,294,967,294 This must be unique per session per day. If duplicate OrderIDs are received, the duplicate order will be rejected.
PCS Link ID	4	Binary	The common basket ID for all orders belonging in a portfolio cross (PCS)
Order Quantity	4	Binary	The number of shares
Price	4	Binary	The price as a long value. Price is scaled based on the Price Scale field.
ExDestination*	2	Binary	Indicates the Exchange code of the execution venue for the order. See Appendix D for the Exchange Codes. <b>*On UGW for Arca Equities, this field requires the proper value. If the value is not populated correctly or null padded out, your order will reject.</b>
Price Scale	1	Alpha Numeric	"0" through "4"
Symbol	8	Alpha	Equity Stock Symbol
CompanyGroupID	5	Alpha Numeric	The company ID for the firm that is entering the orders. If the connecting firm is a service bureau, this must be the company ID of the firm that is entering order through the service bureau.
DeliverToCompID	5	Alpha Numeric	The ID of the market maker to route a Directed order to. (Equities Directed Orders Only- Currently Unavailable) "PCS" for PCS orders Null Pad if the order is not participating in the Directed Order or PCS Processes.

New Order Message D.1	Len	Type	Notes and Values
SenderSubID	5	Alpha Numeric	User-defined information that is not validated. Firms entering orders as market makers must send their MMID in this field if this variant is used.
ExecInst	1	Alpha Numeric	Additional information on how to handle the order.
Side	1	Alpha Numeric	"1" = Buy "2" = Sell "5" = Sell Short "6" = Sell Short Exempt (SSR 201) "S" = Sell Short and Cancel (When SSR 201 is in effect) "8" = Cross "9" = Cross Short
OrderType	1	Alpha Numeric	"1" = Market "2" = Limit "7" = Inside limit "K" = MTL (Market To Limit) "q" = Market Maker
TimeInForce	1	Alpha Numeric	"0" = Day order "2" = Opening auction only (Arca Primaries only) "3" = IOC "4" = FOK "7" = Closing auction only(Arca Primary and PO+ only) "8" = ROT 1 – IOC "9" = ROT 2 – IOC "A" = ROT 2 – Day or Market
Rule80A	1	Alpha/Numeric	A, P, E
TradingSessionID	4	Alpha Numeric	The trading sessions the order may trade in. This field may contain multiple values and should be left justified and null padded. "1" = 4:00am - 9:30am ET (Equities Only) "2" = 9:30am - 4:00am ET "3" = 4:00pm - 8:00pm ET (Equities Only)
Account	10	Alpha Numeric	User-defined information that is not validated. This information will appear in trade records and on monthly bills.
ISO	1	Alpha	'Y' = ISO Sweep 'N' = No ISO flag

New Order Message D.1	Len	Type	Notes and Values
Extended Execution Instructions	1	Alpha Numeric	0x00 NULL not set '0' (ASCII digit zero) No Midpoint Execution '2' IOI Opting Out 'A' Add Liquidity Only (ALO) 'P' Primary Open Order Plus (PO+) 'p' Primary Open Order Plus Shipping Inst. (PO+S) 'R' RPI Order 'S' PL Select Order
ExtendedPNP	1	Alpha-Numeric	0x00 NULL not set 'P' Extended PNP Plus 'B' Extended PNP Blind
NoSelfTrade	1	Alpha	'N' Cancel New 'O' Cancel Old 'C' Cancel Both 'D' Cancel Decrement
ProactiveIfLocked	1	Alpha-Numeric	"\0" = Default, no proactive if locked flag "Y" = Proactive if Locked "1" = Re-price if priced through LULD "2" = Proactive if Locked and re-price if priced through LULD
Filler	1		Null Pad Bytes
Message Terminator	1	Alpha	ASCII new line character: "\n"
Total	76		

**D = New Order Message (Variant 2)**

New Order Message D.2	Length	Type	Equities	Options	Notes and Values
Message Type	1	Alpha Numeric	✓	✓	'D'
Variant	1	Binary	✓	✓	2 – Indicates this type of message
Length	2	Binary	✓	✓	Binary length of the message
Sequence Number	4	Binary	✓	✓	Client-assigned sequence number
Client Order ID	4	Binary	✓	✓	A client-assigned ID for this order. Valid values are 1 to 4,294,967,294 This must be unique per session per day. If duplicate orders IDs are received, the duplicate order will be rejected.
Link ID	4	Binary	✓	✓	Client order link ID
OrderQty	4	Binary	✓	✓	The number of shares (equity orders) or contracts (option orders) for this order.
Strike Price	4	Binary		✓	The strike price for an option, as a long value with a fixed scale of 4. For equity orders this field is set to zero (0).
Price	4	Binary	✓	✓	The price, as a long value. Price is scaled based on the Price Scale field.
Price Scale	1	Alpha Numeric	✓	✓	"0" through "4"
Put or Call	1	Binary		✓	The option class (not applicable to equity orders): 0 = Put 1 = Call
Underlying Quantity	2	Binary		✓	The number of shares per option contract for this series (option orders only)
Corporate Action	1	Alpha Numeric		✓	Flag indicating the series was created because of corporate changes in the underlying stock. '0' = No corporate changes '1' = Created for a corporate action
Open or Close	1	Alpha		✓	Open or Close the position. "O" = Open "C" = Close 0x00 = Null Pad (Equities Only)

New Order Message D.2	Length	Type	Equities	Options	Notes and Values
ExDestination*	2	Binary	✓	✓	Indicates the Exchange code of the execution venue for the order. See Appendix D for the Exchange Codes. <b>*On UGW for Arca Equities, this field requires the proper value. If the value is not populated correctly or null padded out, your order will reject.</b>
Symbol	8	Alpha	✓	✓	Stock symbol, for equity orders, or the Explicit Options symbol the client has chosen to use, for option orders. In options orders, this field is set to the Series Symbol in Explicit naming.
Strike Date	8	Alpha		✓	The option expiration date (not applicable to equity orders) in YYYYMMDD format.
Company GroupID	5	Alpha Numeric	✓	✓	The company ID for the firm that is entering the orders. If the connecting firm is a service bureau, this must be the company ID of the firm that is entering order through the service bureau.
DeliverTo ComplID	5	Alpha Numeric	✓		The ID of the market maker to route a Directed order to. (Equities Directed Orders Only- Currently Unavailable) "PCS" for PCS orders <i>Null Pad this field out if the order is not participating in the Directed Order or PCS Processes.</i>
SenderSubID	5	Alpha Numeric	✓	✓	User-defined information that is not validated. <u>Note: Firms entering orders as market makers must send their MMID in this field if this variant is used.</u>
Execution Instructions	1	Alpha Numeric	✓	✓	Additional information on how to handle the order. See the <i>Order Types sections</i> for more detail.
Side	1	Alpha Numeric	✓	✓	"1"= Buy "2"= Sell "5" = Sell Short "6" = Sell Short Exempt (SSR 201) "S" = Sell Short and Cancel (When SSR 201 is in effect) "8"= Cross "9" = Cross Short
Order Type	1	Alpha Numeric	✓	✓	"1" = Market "2" = Limit

New Order Message D.2	Length	Type	Equities	Options	Notes and Values
					"7" = Inside Limit "K" = MTL (Market To Limit) "q" = Market Maker
Time In Force	1	Alpha Numeric	✓	✓	"0" = Day order "2" = Opening auction only (Arca Primary Equities only) "3" = IOC "4" = FOK "7" = Closing auction only (Arca Primary Equities and PO+ only) "8" = ROT 1 – IOC "9" = ROT 2 – IOC "A" = ROT 2 – Day or Market
Rule80A	1	Alpha Numeric	✓		A, P, E (Equity orders only)
Customer Or Firm	1	Alpha Numeric		✓	"0" = Customer "1" = Firm "2" = Broker "3" = Market Maker "8" = Professional Customer (Amex Options Only)
TradingSessionID	4	Alpha Numeric	✓	✓	The trading sessions the order may trade in. This field may contain multiple values and should be left justified and null padded. "1" = 4:00am - 9:30am ET (Equities only) "2" = 9:30am - 4:00am ET (Equities and Options) "3" = 4:00pm - 8:00pm ET (Equities only)
Account	10	Alpha Numeric	✓	✓	User-defined information that is not validated. Common examples include user or account IDs.. This information will appear in trade records and on monthly bills.
Clearing Firm	5	Alpha		✓	The OCC code for the clearing firm to use for an option order. This is typically the default clearing firm for all orders for this brokerage firm. (Optional Field)
Clearing Account	5	Alpha		✓	The CMTA number that identifies the clearing firm that should be used for an option order instead of the default

New Order Message D.2	Length	Type	Equities	Options	Notes and Values
					clearing firm. This is an optional field for option orders only.
LocalOrAway	1	Binary		✓	1 = Local OX MM 2 = Away MM for another options exchange. 3= Adds Customer Sub-Account Suffix (For use by OX and “away” market makers only)
ISO	1	Alpha	✓	✓	‘Y’ = ISO Sweep ‘N’ = No ISO flag Additional parameters are used to specify the variation of the ISO Order. See Section 5. *On Options, TimeInForce=3 and ExecInst = f along with ISO = Y defines an ISO IOC Order
Extended Execution Instructions	1	Alpha Numeric	✓		0x00 NULL not set ‘0’ (ASCII digit zero) No Midpoint Execution ‘2’ IOI Opting Out ‘A’ Add Liquidity Only (ALO) ‘P’ Primary Open Order Plus (PO+) ‘p’ Primary Open Order Plus Shipping Inst. (PO+S) ‘R’ RPI Order ‘S’ PL Select Order ‘W’ Wait Order (Options Only)
Extended PNP	1	Alpha	✓	✓	0x00 NULL not set ‘P’ Extended PNP Plus ‘B’ Extended PNP Blind ‘L’ Extended PNP Light
NoSelfTrade	1	Alpha	✓		‘N’ Cancel New ‘O’ Cancel Old ‘C’ Cancel Both ‘D’ Cancel Decrement
ProactivelyLocked	1	Alpha/Numeric	✓		“\0” = Default, no proactive if locked flag “Y” = Proactive if Locked “1” = Re-price if priced through LULD

New Order Message D.2	Length	Type	Equities	Options	Notes and Values
					"2" = Proactive if Locked and re-price if priced through LULD
Message Terminator	1	Alpha	✓	✓	ASCII new line character: "\n"
Total	104				



**D = New Order Verbose Format Message (Variant 3)**

New Order Message D.3 [verbose]	Length	Type	Equities	Options	Notes and Values
Message Type	1	Alpha Numeric	✓	✓	'D'
Variant	1	Binary	✓	✓	3 – Use to indicate this type of message
Length	2	Binary	✓	✓	Binary length of the message
Sequence Number	4	Binary	✓	✓	Client-assigned sequence number
Client Order ID	4	Binary	✓	✓	A client-assigned ID for this order. Valid values are 1 to 4,294,967,294 This must be unique per session per day. If duplicate orders IDs are received, the duplicate order will be rejected.
PCS Link ID	4	Binary	✓		The common basket ID for all orders belonging in a portfolio cross (PCS)
Order Quantity	4	Binary	✓	✓	The number of shares (equity orders) or contracts (option orders) for this order.
Strike Price	4	Binary		✓	The strike price for an option, as a long value with a fixed scale of 4. Equity orders in this field are set to zero (0).
MinQty	4	Binary	✓		> = 100 (Cannot be mixed lot or odd lot amount)
Max Floor	4	Binary	✓		> = 100 (Cannot be mixed lot or odd lot amount)
Display Range	4	Binary	✓		0 – 999,999
DiscretionOffset	4	Binary	✓		Price Fixed at Price Scale 2 -9999.99 – 9999.99
Peg Difference	4	Binary	✓		Price Fixed at Price Scale 2 -9999.99 – 9999.99
StopPx	4	Binary		✓	Price Field fixed at Price Scale of 2 .01 to 99,999
Price	4	Binary	✓	✓	The price, as a long value. Price is scaled based on the Price Scale field.
ExDestination*	2	Binary	✓	✓	Indicates the Exchange code of the execution venue for the order. See Appendix D for the Exchange Codes. <b>*On UGW for Arca Equities, this field requires the proper value. If the value is not populated correctly or null padded out, your order will reject.</b>

New Order Message D.3 [verbose]	Length	Type	Equities	Options	Notes and Values
Underlying Quantity	2	Binary		✓	The number of shares per option contract for this series (option orders only)
Put Call	1	Binary		✓	The option class (not applicable to equity orders): 0 = Put 1 = Call
LocalOrAway	1	Binary		✓	1 = Local OX MM 2 = Away MM for another options exchange. 3= Adds Customer Sub-Account Suffix (For use by OX and “away” market makers only)
Price Scale	1	Alpha Numeric	✓	✓	“0” through “4”
Corporate Action	1	Alpha Numeric		✓	Flag indicating the series was created because of corporate changes in the underlying stock. ‘0’ = No corporate changes ‘1’ = Created for a corporate action
Open Close	1	Alpha Numeric		✓	“O” = Open “C” = Close 0x00 = Null Pad (Equities Only)
Symbol	8	Alpha	✓	✓	Stock symbol, for equity orders, or the type of symbol the client has chosen to use, for option orders. In options orders this field is set to the Series Symbol in either OCC or Explicit naming.
Strike Date	8	Alpha		✓	The option expiration date (not applicable to equity orders) in YYYYMMDD format.
Company GroupID	5	Alpha Numeric	✓	✓	The company ID for the firm that is entering the orders. If the connecting firm is a service bureau, this must be the company ID of the firm that is entering order through the service bureau.
DeliverToCompID	5	Alpha Numeric	✓		The ID of the market maker to route a Directed order to. (Equities Directed Orders Only- Currently Unavailable) “PCS” for PCS orders <i>Null Pad this field out if the order is not participating in the Directed Order or PCS Processes.</i>
SenderSubID	5	Alpha Numeric	✓	✓	User-defined information that is not validated.

New Order Message D.3 [verbose]	Length	Type	Equities	Options	Notes and Values
					Note: Firms entering orders as market makers must send their MMID in this field if this variant is used.
ExecInst	1	Alpha Numeric	✓	✓	Additional information on how to handle the order.
Side	1	Alpha Numeric	✓	✓	"1" = Buy "2" = Sell "5" = Sell Short "6" = Sell Short Exempt (SSR 201) "S" = Sell Short and Cancel (When SSR 201 is in effect) "8" = Cross "9" = Cross short
Order Type	1	Alpha Numeric	✓	✓	"1" = Market "2" = Limit "7" = Inside Limit "K" = MTL (Market To Limit) "P" = Peg "q" = Market Maker
Time In Force	1	Alpha Numeric	✓	✓	"0" = Day order "2" = Opening auction only (Arca Primary Equities only) "3" = IOC "4" = FOK "7" = Closing auction only (Arca Primary Equities and PO+ only) "8" = ROT 1 – IOC "9" = ROT 2 – IOC "A" = ROT 2 – Day or Market
Rule80A	1	Alpha Numeric	✓		A, P, E (equity orders only)
Customer Or Firm	1	Alpha Numeric		✓	"0" = Customer "1" = Firm "2" = Broker "3" = Market Maker "8" = Professional Customer (Amex Options Only)
TradingSessionID	4	Alpha Numeric	✓	✓	The trading sessions the order may trade in. This field may

New Order Message D.3 [verbose]	Length	Type	Equities	Options	Notes and Values
					contain multiple values and should be left justified and null padded. "1" = 4:00am-9:30am ET (equities only) "2" = 9:30am-4:00pm ET "3" = 4:00pm-8:00pm ET (equities only)
Account	10	Alpha Numeric	✓	✓	User-defined information that is not validated. Common examples include user or Account IDs. This information will appear in trade records and on monthly bills.
Optional Data	16	Alpha		✓	If not null, then the data should be left justified and it will be passed on to the clearing process as is.
Clearing Firm	5	Alpha Numeric		✓	The OCC code for the clearing firm to use for an option order. This is typically the default clearing firm for all orders for this brokerage firm.  This is an optional field for option orders only.
Clearing Account	5	Alpha Numeric		✓	The CMTA number that identifies the clearing firm that should be used for an option order instead of the default clearing firm. This is an optional field for option orders only.
Expire Time Flag	1	Alpha	✓	✓	"D" – Date "T" – Time (If Time is selected, TradingSessionID field must be null padded out)
ExpireTime	4	Alpha Numeric	✓		"MMDD" or "HHMM" If HHMM (Local Eastern Time applies, 24 Hour Clock) Ex. 1900 (7:00pm ET)
Effective Time	4	Alpha Numeric	✓		"HHMM"
DiscretionInst	1	Alpha Numeric	✓		"\0" = Not Used "0" = DiscretionInst is set
Proactive Discretion Indicator	1	Alpha Numeric	✓		"\0" = Not Used "0" = Passive Discretion Order "1" = Discretion Order
ProactivelyLocked	1	Alpha Numeric	✓		"\0" = Default, no proactive if locked flag "Y" = Proactive if Locked "1" = Re-price if priced through LULD

New Order Message D.3 [verbose]	Length	Type	Equities	Options	Notes and Values
					"2" = Proactive if Locked and re-price if priced through LULD
ExecBroker	5	Alpha	✓		Set to "POO" on Primary Open Order Set to "PSO" on Primary Sweep Order Set to "PSOS" on Primary Sweep Order without DNS instruction to NYSE
ISO	1	Alpha	✓	✓	'Y' = ISO Sweep 'N' = No ISO flag Additional parameters are used to specify the variation of the ISO Order. See Section 5. *On Options, TimeInForce=3 and ExecInst=f along with ISO = Y defines an ISO IOC Order
Symbol Type	1	Alpha Numeric			Null Pad this field out. Reserved for future use.
Extended Execution Instructions	1	Alpha numeric	✓	✓	0x00 NULL not set '0' (ASCII digit zero) No Midpoint Execution '2' IOI Opting Out 'A' Add Liquidity Only (ALO) 'P' Primary Open Order Plus (PO+) 'p' Primary Open Order Plus Shipping Inst. (PO+S) 'R' RPI Order 'S' PL Select Order 'W' Wait Order (Options Only)
Extended PNP	1	Alpha	✓		0x00 NULL not set 'P' Extended PNP Plus 'B' Extended PNP Blind 'L' Extended PNP Light
NoSelfTrade	1	Alpha	✓		'N' Cancel New 'O' Cancel Old 'C' Cancel Both 'D' Cancel Decrement
Filler	3	Alpha Numeric			
Message Terminator	1	Alpha			ASCII new line character: "\n"
Total	164				

**D = New Complex Order Message - Options (Variant 4)**

New Order Message D.4 [Complex]	Length	Type	Options	Notes and Values
Message Type	1	Alpha Numeric	✓	'D'
Variant	1	Binary	✓	Value = 4
Length	2	Binary	✓	Binary length of the message
Sequence Number	4	Binary	✓	Client-assigned sequence number
ClOrdID	4	Binary	✓	A client-assigned ID for this order. Valid values are 1 to 4,294,967,294  This must be unique per session per day. If duplicate ClOrdIDs are received, the duplicate order will be rejected.
Order Quantity	4	Binary	✓	The number of shares (equity orders) or contracts (option orders) for this order.
Price	8	Binary	✓	The price, as a long value. Price is scaled based on the Price Scale field.
ExDestination	2	Binary	✓	Indicates the Exchange code of the execution venue for the order. See Appendix D for the Exchange Codes.
Company Group ID	5	Alpha Numeric	✓	The company ID for the firm that is entering the orders. If the connecting firm is a service bureau, this must be the company ID of the firm that is entering order through the service bureau.
Price Scale	1	Alpha Numeric	✓	"0" through "4"
Order Type	1	Alpha Numeric	✓	"1" = Market "2" = Limit
Time In Force	1	Alpha Numeric	✓	"0" = Day order "3" = IOC "5" = Good Till Crossing (GTX) (Complex Order Auction)
TradingSessionID	4	Alpha Numeric	✓	The trading sessions the order may trade in. This field may contain multiple values and should be left justified and null padded.  "2" = 9:30am-4:00pm ET

New Order Message D.4 [Complex]	Length	Type	Options	Notes and Values
Account	10	Alpha Numeric	✓	User-defined information that is not validated. Common examples include user or account IDs. This information will appear in trade records and on monthly bills.
Clearing Firm	5	Alpha	✓	The OCC code for the clearing firm to use for an option order. This is typically the default clearing firm for all orders for this brokerage firm. This is an optional field for option orders only.
Clearing Account	5	Alpha	✓	The CMTA number that identifies the clearing firm that should be used for an option order instead of the default clearing firm. This is an optional field for option orders only.
Customer Or Firm	1	Alpha Numeric	✓	"0" = Customer "1" = Firm "2" = Broker "3" = MarketMaker "8" = Professional Customer (Amex Options Only)
Execution Instructions	1	Alpha Numeric	✓	Additional information on how to handle the order.
Extended Execution Instructions	1	Char	✓	'W' Wait Order "C" Complex Order Auction
Extended PNP	1	Char	✓	'P' Complex PNP Plus
DeliverToCompID	5	Alpha		This field is not used and should be null padded out
SenderSubID	5	Alpha Numeric	✓	User-defined information that is not validated.  Note: Firms entering orders as market makers must send their MMID in this field if this variant is used.
Number Of Legs	1	Binary	✓	The total number of repeating legs. (Maximum number of legs = 5)

**Complex Order Leg**

New Complex Order Message 'D.4'	Length	Type	Options	Notes and Values
LegRefID	4	Binary	✓	Unique Indicator for a specific leg
Strike Price	4	Binary	✓	The strike price for an option, as a long value with a fixed scale of 4.
LegRatioQty	2	Binary	✓	The ratio of quantity for this individual leg relative to the order quantity
Underlying Quantity	2	Binary	✓	The number of shares per option contract for this series (option orders only)
Symbol	8	Alpha	✓	Stock symbol or the type of symbol the client has chosen to use, for option orders.
Strike Date	8	Alpha Numeric	✓	The option expiry date in YYYYMMDD format.
Security Type	8	Alpha	✓	Indicates type security. Valid security type "OPT" and "CS"
Side	1	Alpha Numeric	✓	'1' = Buy '2' = Sell '5' = Sell Short (Equity Leg Only)
Put Call	1	Binary	✓	0 = Put 1 = Call
Open Close	1	Alpha Numeric	✓	"O" = Open "C" = Close
Padding	1	Binary	✓	

**Note: The Complex Order Leg is only to be used embedded inside the Complex Order Message.**

New Order Message D.4 [Complex]	Length	Type	Options	Notes and Values
Local Away	1	Alpha	✓	
Filler	5	Alpha	✓	
Message Terminator	1	Alpha	✓	ASCII new line character: "\n"
Total	280			



## F = Order Cancel Message (Variant 1)

This message requests that an order booked at the Exchange be canceled. There are several possible responses: Cancel Ack, Reject or Order Killed.

Order Cancel Message F.1	Length	Type	Equities	Options	Notes and Values
Message Type	1	Alpha Numeric	✓	✓	'F'
Variant	1	Binary	✓	✓	Value = 1
Length	2	Binary	✓	✓	Binary length of the message
Sequence Number	4	Binary	✓	✓	Client-assigned sequence number
OrderID	8	Binary	✓	✓	NYSE Arca assigned OrderID.
OriginalCLOrdID	4	Binary	✓	✓	Client order ID of the order to be canceled. If the order to be canceled is an order that has been replaced, this should be the ID of the replacement order.
Strike Price	4	Binary		✓	The strike price for an option, as a long value with a fixed scale of 4. <i>(Null Pad this field on Equity Order Cancel Requests)</i>
Under Qty	2	Binary		✓	The number of shares per option contract for this series (option orders only) <i>(Null Pad this field on Equity Order Cancel Requests)</i>
ExDestination	2	Binary	✓	✓	Indicates the Exchange code of the execution venue for the order. See Appendix D for the Exchange Codes. <i>Must be the same Exchange Code from the New Order Message.</i>
Corporate Action	1	Alpha Numeric		✓	Flag indicating the series was created because of corporate changes in the underlying stock.  0 = No corporate changes 1 = Created for a corporate action <i>(Null Pad this field on Equity Order Cancel Requests)</i>
Put or Call	1	Binary		✓	The option class (not applicable to equity orders):

Order Cancel Message F.1	Length	Type	Equities	Options	Notes and Values
					0 = Put 1 = Call (Null Pad this field on Equity Order Cancel Requests)
Bulk Cancel	1	Binary	✓	✓	0 = not set 1 = Perform Bulk Cancel 2 = Bulk Cancel by ETPID
Open or Close	1	Alpha		✓	"O" = Open "C" = Close (Null Pad this field on Equity Order Cancel Requests)
Symbol	8	Alpha	✓	✓	Stock symbol, for equity orders, or the type of symbol the client has chosen to use, for option orders.
Strike Date	8	Alpha		✓	The option expiry date (not applicable to equity orders) in YYYYMMDD format. (Null Pad this field on Equity Order Cancel Requests)
Side	1	Alpha Numeric	✓	✓	"1" = Buy "2" = Sell "5" = Sell Short "6" = Sell Short Exempt (SSR 201) "S" = Sell Short and Cancel (When SSR 201 is in effect) "8" = Cross "9" = Cross Short
DeliverToCompID	5	Alpha	✓	✓	Use only if Cancelling a Directed Order
Account	10	Alpha	✓	✓	Used in Bulk Cancel by ETPID when Bulk Cancel is enabled
Filler	7	Alpha	✓	✓	
Message Terminator	1	Alpha	✓	✓	ASCII new line character: "\n"
Total	72				

## G = Order Cancel/Replace (Variant 1)

This message requests that an order booked at the Exchange be modified. Clients can change the quantity, price, or type of order.

Order Cancel/Replace Message G.1	Length	Type	Equities	Options	Notes and Values
Message Type	1	Alpha Numeric	✓	✓	'G'
Variant	1	Binary	✓	✓	Value = 1
Length	2	Binary	✓	✓	Binary length of the message
Sequence Number	4	Binary	✓	✓	Client-assigned sequence number
OrderID	8	Binary	✓	✓	Exchange assigned OrderID.
ClOrdID	4	Binary	✓	✓	Client Order ID for the new order that is replacing an existing order. This must be a unique value.
Original ClOrdID	4	Binary	✓	✓	Client Order ID of the order being replaced
Order Quantity	4	Binary	✓	✓	Shares or contracts for this order.
Strike Price	4	Binary	✓		The strike price for an option, as a long value with a fixed scale of 4. Equity orders in this field are set to zero (0).
Price	4	Binary	✓	✓	Price for the order, as a long value.
ExDestination	2	Binary	✓	✓	Indicates the Exchange code of the execution venue for the order. See Appendix D for the Exchange Codes. <i>Must be the same Exchange Code from the New Order Message.</i>
Under Qty	2	Binary		✓	The number of shares per option contract for this series.
Price Scale	1	Alpha Numeric	✓	✓	"0" through "4"
Put or Call	1	Binary		✓	The option class (not applicable to equity orders): 0 = Put 1 = Call
Corporate Action	1	Alpha Numeric		✓	Flag indicating the series was created because of corporate

Order Cancel/Replace Message G.1	Length	Type	Equities	Options	Notes and Values
					changes in the underlying stock.  0 = No corporate changes  1 = Created for a corporate action
Open or Close	1	Alpha		✓	"O" = Open "C" = Close
Symbol	8	Alpha	✓	✓	Stock symbol or Options Symbol
Strike Date	8	Alpha		✓	The option expiry date (not applicable to equity orders) in YYYYMMDD format.
Execution Instructions	1	Alpha Numeric	✓	✓	Must be the same as the existing order
Side	1	Alpha Numeric	✓	✓	"1" = Buy "2" = Sell "5" = Sell Short "6" = Sell Short Exempt (SSR 201) "S" = Sell Short and Cancel (When SSR 201 is in effect) "8" = Cross "9" = Cross Short
Order Type	1	Alpha Numeric	✓	✓	"1" = Market "2" = Limit "7" = Inside Limit
Time In force	1	Alpha Numeric	✓	✓	"0" = Day order "2" = Early auction only (Equities only) "7" = Late auction only (Equities only)
Rule80A	1	Alpha Numeric	✓		A, P, E (equity orders only)
Trading Session ID	4	Alpha Numeric	✓	✓	The trading sessions the order may trade in. This field may contain multiple values and should be left justified and null padded.

Order Cancel/Replace Message G.1	Length	Type	Equities	Options	Notes and Values
					"1" = 4:00am – 9:30am ET "2" = 9:30am – 4:00pm ET "3" = 4:00pm – 8:00pm ET
Deliver To Comp ID	5	Alpha	✓	✓	Use only if Cancel/Replacing a Directed or DOP Order
Account	10	Alpha Numeric	✓	✓	User-defined information that is not validated. Common examples include user or account IDs
Filler	3	Alpha	✓	✓	
Message Terminator	1	Alpha	✓	✓	ASCII new line character: "\n"
Total	88				

## G = Order Cancel/Replace Verbose (Variant 2)

This message requests that an order previously booked on the Exchange be modified. Clients can change the quantity, price, or type of order.

Order Cancel/Replace Message Verbose	Length	Type	Equities	Options	Notes and Values
Message Type	1	Alpha Numeric	✓	✓	'G'
Variant	1	Binary	✓	✓	Value = 2
Length	2	Binary	✓	✓	Binary length of the message
Sequence Number	4	Binary	✓	✓	Client-assigned sequence number
OrderID	8	Binary	✓	✓	Exchange assigned OrderID
ClOrdID	4	Binary	✓	✓	Client Order ID for the new order that is replacing an existing order. This must be a unique value.
Original ClOrdID	4	Binary	✓	✓	Client Order ID of the order being replaced
Order Quantity	4	Binary	✓	✓	Shares or contracts for this order.
Strike Price	4	Binary		✓	The strike price for an option, as a long value with a fixed scale of 4. Equity orders in this field are set to zero (0).
MinQty	4	Binary	✓		> = 100 (Cannot be mixed lot or odd lot amount)
Max Floor	4	Binary	✓		> = 100 (Cannot be mixed lot or odd lot amount)
Display Range	4	Binary	✓		0 – 999,999
DiscretionOffset	4	Binary	✓		Price Fixed at Price Scale 2 -9999.99 – 9999.99
Peg Difference	4	Binary	✓		Price Fixed at Price Scale 2 -9999.99 – 9999.99
StopPx	4	Binary		✓	Price Field fixed at Price Scale of 2 .01 to 99,999
Price	4	Binary	✓	✓	Price for the order, as a long value.
Underlying Quantity	2	Binary		✓	The number of shares per option contract for this series (option orders only)
ExDestination	2	Binary	✓	✓	Indicates the Exchange code of the execution venue for the order. See Appendix D for the Exchange Codes.

Order Cancel/Replace Message Verbose	Length	Type	Equities	Options	Notes and Values
					<i>Must be the same Exchange Code from the New Order Message.</i>
Put Call	1	Binary		✓	The option class (not applicable to equity orders): 0 = Put 1 = Call
Price Scale	1	Alpha Numeric	✓	✓	"0" through "4"
Corporate Action	1	Alpha Numeric		✓	Flag indicating the series was created because of corporate changes in the underlying stock.  0 = No corporate changes 1 = Created for a corporate action
Open Close	1	Alpha Numeric		✓	"O" = Open "C" = Close
Symbol	8	Alpha	✓	✓	Stock symbol, for equity orders, or the type of symbol the client has chosen to use, for option orders.
Strike Date	8	Alpha		✓	The option expiry date (not applicable to equity orders) in YYYYMMDD format.
ExecInst	1	Alpha Numeric	✓	✓	Must be the same as the existing order
Side	1	Alpha Numeric	✓	✓	"1" = Buy "2" = Sell "5" = Sell Short "6" = Sell Short Exempt (SSR 201) "S" = Sell Short and Cancel (When SSR 201 is in effect) "8" = Cross "9" = Cross Short
Order Type	1	Alpha Numeric	✓	✓	"1" = Market "2" = Limit "7" = Inside Limit
TimeInForce	1	Alpha Numeric	✓	✓	"0" = Day order

Order Cancel/Replace Message Verbose	Length	Type	Equities	Options	Notes and Values
					"2" = Early auction only (Equities only) "7" = Late auction only (Equities only)
Rule80A	1	Alpha Numeric	✓		A, P, E (equity orders only)
CustomerOrFirm	1	Alpha Numeric		✓	"0" = Customer "1" = Firm "2" = Broker "3" = Market Maker "8" = Professional Customer (Amex Options Only)
TradingSessionID	4	Alpha Numeric	✓	✓	The trading sessions the order may trade in. This field may contain multiple values and should be left justified and null padded. "1" = 4:00am – 9:30am ET (Equities only) "2" = 9:30am – 4:00pm ET "3" = 4:00pm – 8:00pm ET (Equities only)
ExpireTime Flag	1	Alpha		✓	"D" – Date "T" – Time
ExpireTime	4	Alpha Numeric		✓	"MMDD" or "HHMM"
Effective Time	4	Alpha Numeric	✓	✓	"HHMM"
DiscretionInst	1	Alpha Numeric	✓	✓	"\0" = Not Used "0" = DiscretionInst is set
Proactive Discretion Indicator	1	Alpha Numeric	✓		"\0" = Not Used "0" = Passive Discretion Order "1" = Discretion Order
DeliverToCompID	5	Alpha	✓		
Clearing Account	5	Alpha Numeric		✓	The CMTA number that identifies the clearing firm that should be used for an option order instead of the default clearing firm. This is an optional field for option orders only.
Account	10	Alpha Numeric	✓	✓	User-defined information that is not validated. Common



Order Cancel/Replace Message Verbose	Length	Type	Equities	Options	Notes and Values
					examples include user or account IDs
Filler	2				
Message Terminator	1	Alpha	✓	✓	ASCII new line character: “\n”
Total	128				

## G = Fast Cancel/Replace Message Options (Variant 3)

**Fast cancel replace functionality is available on Option PNP orders only.** One can change the volume and/or price only. All other fields will be ignored. Unlike standard cancel replace messages on our platform you will receive one execution report (MsgType=5) indicating that the order is replaced. You can suppress the pending cancel replace message (MsgType=E) with the field “Suppress Ack” set to “Y”.

Unlike traditional cancel replaces where the ClOrdID changes each time you modify an order, the fast cancel replace maintains the ClOrdID of the first order that was entered, therefore you must send the ClOrdID of the first order in the order chain in the OriginalClOrdID. The OrderID of the original order must also be included.

A reject of this message will be message type ‘8’ with the ClOrdID and OrigClOrdID Fields set the same as the client order id of the original order and the Type field set to ‘3’. On success, a Message type of “5” will be returned. A message Type “E” will be returned as an Ack of this message.

Fast Cancel/Replace Message	Length	Type	Options	Notes and Values
Message Type	1	Alpha Numeric	✓	‘G’
Variant	1	Binary	✓	Value = 3
Length	2	Binary	✓	Binary length of the message
Sequence Number	4	Binary	✓	ArcaEx-assigned sequence number
OrderID	8	Binary	✓	Exchange assigned order ID. This value is required and can be found returned to you on the Order Ack of the original order.
Original ClOrderID	4	Binary	✓	Client order ID
Order Quantity	4	Binary	✓	The number of shares
Strike Price	4	Price	✓	The strike price for an option, as a long value with a fixed scale of 4. Equity orders in this field are set to zero (0).
Price	4	Binary	✓	The price as a long value. Price is scaled based on the Price Scale field.
ExDestination	2	Binary	✓	Indicates the Exchange code of the execution venue for the order. See Appendix D for the Exchange Codes. <i>Must be the same Exchange Code from the New Order Message.</i>
Underlying Quantity	2	Binary	✓	The number of shares per option contract for this series (option orders only)

Fast Cancel/Replace Message	Length	Type	Options	Notes and Values
Price Scale	1	Alpha Numeric	✓	"0" through "4"
Put Call	1	Binary	✓	The option class (not applicable to equity orders): 0 = Put 1 = Call
Corporate Action	1	Alpha Numeric	✓	Flag indicating the series was created because of corporate changes in the underlying stock.  0 = No corporate changes 1 = Created for a corporate action
Symbol	8	Alpha	✓	Stock symbol, for equity orders, or the type of symbol the client has chosen to use, for option orders.
Strike Date	8	Alpha Numeric	✓	The option expiry date (not applicable to equity orders) in YYYYMMDD format.
Suppress Ack	1	Alpha	✓	"Y" Ack will be suppressed All other values, Acks will be sent
DeliverToCompID	5	Alpha		
Account	10	Alpha Numeric	✓	User-defined information that is not validated. Common examples include user or account IDs
Filler	8		✓	
Message Terminator	1	Alpha	✓	ASCII new line character: "\n"
Total	80			

## G = Fast Cancel/Replace Message Equities (Variant 4)

**Fast Cancel replace –For Equity PNP Orders Only.** One can change the volume and/or price, or side (If Sell to Sell Short) only. All other fields will be ignored. Unlike standard cancel replace messages on our platform you will receive one execution report (MsgType=5) indicating that the order is replaced. You can suppress the pending cancel replace message (MsgType=E) with the field “Suppress Ack” set to “Y”.

Unlike traditional cancel replaces where the ClOrdID changes each time you modify an order, the fast cancel replace maintains the ClOrdID of the first order that was entered, therefore you must send the ClOrdID of the first order in the order chain in the OriginalClOrdID. The OrderID of the original order must also be included.

A reject of this message will be message type ‘8’ with the ClOrdID and OrigClOrdID Fields set the same as the client order id of the original order and the Type field set to ‘3’. On success, a Message type of “5” will be returned. A message Type “E” will be returned as an Ack of this message.

Equities Fast Cancel/Replace Message	Length	Type	Equities	Notes and Values
Message Type	1	Alpha Numeric	✓	‘G’
Variant	1	Binary	✓	Value = 4
Length	2	Binary	✓	Binary length of the message
Sequence Number	4	Binary	✓	Exchange assigned sequence number
OrderID	8	Binary	✓	Exchange assigned order ID. This value is required and can be found returned to you on the Order Ack of the original order.
Original ClOrdID	4	Binary	✓	Client Order ID of Initial Order
Order Quantity	4	Binary	✓	The number of shares
Price	4	Binary	✓	The price as a long value. Price is scaled based on the Price Scale field.
ExDestination	2	Binary	✓	Indicates the Exchange code of the execution venue for the order. 102 – NYSE Arca Equities
Price Scale	1	Alpha Numeric	✓	“0” through “4”
Symbol	8	Alpha	✓	Equity Stock Symbol
Side	1	Alpha Numeric	✓	Optional. If not changing a Sell to a Sell Short, null pad this field out.
Suppress Ack	1	Alpha	✓	“Y” Ack will be suppressed (Note: All other values, Acks will be

Equities Fast Cancel/Replace Message	Length	Type	Equities	Notes and Values
				sent)
Deliver to Comp ID	5	Alpha	✓	
Account	10	Alpha Numeric	✓	User-defined information that is not validated. Common examples include user or account IDs
Filler	7		✓	
Message Terminator	1	Alpha	✓	ASCII new line character: “\n”
Total	64			

## 6 = Cancel Request Ack Message (Variant 1)

This message informs clients when a Cancel Order message has been received but is not yet applied because the order is not available, for example if it has been routed to an away market. Once the order is available, clients may receive an Order Fill message and/or an Order Killed message.

Cancel Request Ack Message 6.1	Length	Type	Equities	Options	Notes and Values
Message Type	1	Alpha Numeric	✓	✓	'6'
Variant	1	Binary	✓	✓	Value = 1
Length	2	Binary	✓	✓	Binary length of the message
Sequence Number	4	Binary	✓	✓	Exchange-assigned sequence number
Sending Time	8	Binary	✓	✓	UTC Time the message was sent in microseconds since Midnight
Transaction Time	8	Binary	✓	✓	UTC Time the message was sent in microseconds since Midnight
ClOrdID	4	Binary	✓	✓	The client order ID of the canceled order
OrderID	8	Binary	✓	✓	Exchange assigned Order ID
Filler	3	Alpha			
Message Terminator	1	Alpha	✓	✓	ASCII new line character: "\n"
Total	40				

## 4 = Order Killed Message (Variant 1)

This message informs clients that an order has been canceled. It is sent in response to Order Cancel messages, cancellations at the end of sessions and administrative cancellations.

Order Killed Message	Length	Type	Equities	Options	Notes and Values
Message Type	1	Alpha Numeric	✓	✓	'4'
Variant	1	Binary	✓	✓	Value = 1
Length	2	Binary	✓	✓	Binary length of the message
Sequence Number	4	Binary	✓	✓	Exchange-assigned sequence number
Sending Time	8	Binary	✓	✓	UTC Time the message was sent in microseconds since Midnight
Transaction Time	8	Binary	✓	✓	UTC Time the message was sent in microseconds since Midnight
ClOrdID	4	Binary	✓	✓	Client Order ID of the canceled order
Order ID	8	Binary	✓	✓	Exchange assigned Order ID
Information Text	1	Binary	✓	✓	Indicates whether the kill was initiated by the user or by exchange rules.  "0" = user-initiated kill "1" = exchange-initiated for PNP crossed market
Filler	2	Alpha			
Message Terminator	1	Alpha	✓	✓	ASCII new line character: "\n"
Total	40				

## 4 = Order Killed Message – STP (Variant 2)

This message informs clients that an order would have traded against another order under the same ETPID. It is sent in response to Self Trade Prevention situations when clients define NoSelfTrade values on their orders.

STP Order Killed Message	Length	Type	Equities	Notes and Values
Message Type	1	Alpha Numeric	✓	'4'
Variant	1	Binary	✓	Value = 2
Length	2	Binary	✓	Binary length of the message
Sequence Number	4	Binary	✓	Exchange-assigned sequence number
Sending Time	8	Binary	✓	UTC Time the message was sent in microseconds since Midnight
Transaction Time	8	Binary	✓	UTC Time the message was sent in microseconds since Midnight
CIOrdID	4	Binary	✓	Client Order ID of the canceled order
OrderID	8	Binary	✓	Exchange assigned Order ID
Last Shares	4	Binary	✓	Number of equity shares filled
Information Text	1	Binary	✓	2 = STP (Self trade Prevention) activated kill
Text	40	Alpha Numeric	✓	Will contain text of Self + CIOrdID of the order would have potentially traded against.
Liquidity Indicator	1	Alpha Numeric	✓	Please refer to Appendix A for Values  <u>Note:</u> We will populate this field only on "Cancel Both I" and "Cancel Decrement (D)" STP Cancels. This field will be null on "Cancel New (N)" and "Cancel Old (O) STP Cancels.
Padding	5		✓	
Message Terminator	1	Alpha	✓	ASCII new line character: "\n"
Total	88			

**Self Trade Prevention Note (Order Killed (4) Variant 2:** When NoSelfTrade is used on your orders you need to expect to receive both Variants 1 and 2 of the Order Killed messages.



## E = Cancel Replace Ack Message (Variant 1)

This message informs clients that a Cancel/Replace message has been received but is not yet applied because an order cannot be immediately replaced (for example, the order is linked to another exchange). See also the Replaced Message for other responses to Cancel/Replace messages.

Cancel Replace Ack Message E.1	Length	Type	Equities	Options	Notes and Values
Message Type	1	Alpha Numeric	✓	✓	'E'
Variant	1	Binary	✓	✓	Value = 1
Length	2	Binary	✓	✓	Binary length of the message
Sequence Number	4	Binary	✓	✓	Exchange-assigned sequence number
Sending Time	8	Binary	✓	✓	UTC Time the message was sent in microseconds since Midnight
Transaction Time	8	Binary	✓	✓	UTC Time the message was sent in microseconds since Midnight
Client Order Id	4	Binary	✓	✓	Client order ID of the original order
Order ID	8	Binary	✓	✓	Exchange assigned Order ID
Filler	3	Alpha			
Message Terminator	1	Alpha	✓	✓	ASCII new line character: "\n"
Total	40				

## 5 = Order Replaced Message (Variant 1)

This message indicates that an order has been successfully replaced. It is sent only when the replacement order is not immediately executable (it is booked). The Client Order ID from the new order becomes the client order ID in the replaced message.

Replaced Message 5.1	Length	Type	Equities	Options	Notes and Values
Message Type	1	Alpha Numeric	✓	✓	'5'
Variant	1	Binary	✓	✓	Value = 1
Length	2	Binary	✓	✓	Binary length of the message
Sequence Number	4	Binary	✓	✓	Exchange-assigned sequence number
Sending Time	8	Binary	✓	✓	UTC Time the message was sent in microseconds since Midnight
Transaction Time	8	Binary	✓	✓	UTC Time the message was sent in microseconds since Midnight
Client Order ID	4	Binary	✓	✓	Client order ID of the new order
Order ID	8	Binary	✓	✓	Exchange assigned Order ID
Filler	3	Alpha			
Message Terminator	1	Alpha	✓	✓	ASCII new line character: "\n"
Total	40				

## 8 = Order Cancel/Replace Reject Message (Variant 1)

This message informs clients that an order, cancel, or cancel/replace message has been rejected. The Text field contains an explanation of the problem.

Order Cancel/Replace Reject Message 8.1	Length	Type	Equities	Options	Notes and Values
Message Type	1	Alpha Numeric	✓	✓	'8'
Variant	1	Binary	✓	✓	Value = 1
Length	2	Binary	✓	✓	Binary length of the message
Sequence Number	4	Binary	✓	✓	Exchange-assigned sequence number
Sending Time	8	Binary	✓	✓	UTC Time the message was sent in microseconds since Midnight
Transaction Time	8	Binary	✓	✓	UTC Time the message was sent in microseconds since Midnight
CIOrdID	4	Binary	✓	✓	Client Order ID of the order, cancel, or cancel replace that was sent
Original CIOrdID	4	Binary	✓	✓	ID of original order
Rejected Message Type	1	Numeric	✓	✓	"1"=order reject "2"=cancel reject "3"=cancel replace reject
Text	40	Alpha	✓	✓	Reason for the rejection
Reject Reason	1	Alpha	✓	✓	0 = Too late to cancel 1 = Unknown order
Filler	5	Alpha			
Message Terminator	1	Alpha	✓	✓	ASCII new line character: "\n"
Total	80				

## C = Bust/Correct Message (Variant 1)

This message is sent when an order execution has been busted or corrected. In all cases, the Trade Desk will discuss the bust or correction with the customer that entered the order prior to busting or correcting it.

Bust or Correct Message C.1	Length	Type	Equities	Options	Notes and Values
Message Type	1	Alpha Numeric	✓	✓	'C'
Variant	1	Binary	✓	✓	Value = 1
Length	2	Binary	✓	✓	Binary length of the message
Sequence Number	4	Binary	✓	✓	Exchange-assigned sequence number
SendingTime	8	Binary	✓	✓	UTC Time the message was sent in microseconds since Midnight
Transaction Time	8	Binary	✓	✓	UTC Time the message was sent in microseconds since Midnight
ClOrdID	4	Binary	✓	✓	Client Order ID of the order that is being busted or corrected.
Execution ID	8	Binary	✓	✓	Exchange assigned Execution ID from the order fill message (64 bit binary)
Order Quantity	4	Binary	✓	✓	Shares or contracts executed
Price	4	Binary	✓	✓	Corrected price in a correct message
Price Scale	1	Alpha Numeric	✓	✓	"0" through "5"
Type	1	Binary	✓	✓	"1"=Bust "2"=Correct
Filler	1				
Message Terminator	1	Alpha	✓	✓	ASCII new line character: "\n"
Total	48				

## a = Order Ack Message (Variant 1)

This message informs clients that an order has been received and booked.

Order Ack Message a.1	Length	Type	Equities	Options	Notes and Values
Message Type	1	Alpha/ Numeric	✓	✓	'a'
Variant	1	Binary	✓	✓	Value = 1
Length	2	Binary	✓	✓	Binary length of the message
Sequence Number	4	Binary	✓	✓	Arca-assigned sequence number
SendingTime	8	Binary	✓	✓	UTC Time the message was sent in microseconds since Midnight
TransactionTime	8	Binary	✓	✓	UTC Time the message was sent in microseconds since Midnight
Client Order ID	4	Binary	✓	✓	Client order ID
OrderID	8	Binary	✓	✓	Exchange assigned Order ID
Price	4	Binary	✓	✓	Price at which the order was acked
Price Scale	1	Alpha Numeric	✓	✓	"0" through "5"
Liquidity Indicator	1	Alpha Numeric	✓		Conditionally sent with value, otherwise null: 1 = Candidate for Liquidity Indicator "S" 2 = Blind 3 = Not Blind
Filler	5	Alpha			
Message Terminator	1	Alpha	✓	✓	ASCII new line character: "\n"
Total	48				

## 2 = Order Fill Message (Variant 1)

This message informs clients when an order has been partially or entirely filled.

Order Fill Message 2.1	Length	Type	Equities	Options	Notes and Values
Message Type	1	Alpha Numeric	✓	✓	'2'
Variant	1	Binary	✓	✓	Value = 1
Length	2	Binary	✓	✓	Binary length of the message
Sequence Number	4	Binary	✓	✓	Arca-assigned sequence number
SendingTime	8	Binary	✓	✓	UTC Time the message was sent in microseconds since Midnight
TransactionTime	8	Binary	✓	✓	UTC Time the message was sent in microseconds since Midnight
Client Order ID	4	Binary	✓	✓	Client order ID
OrderID	8	Binary	✓	✓	Exchange assigned Order ID
Execution ID	8	Binary	✓	✓	Exchange assigned Execution ID
ArcaExID	20	Alpha Numeric	✓	✓	Trade record
Last Shares or Contracts	4	Binary	✓	✓	Number of equity shares or option contracts filled
Last Price	4	Binary	✓	✓	Price at which the shares or contracts were filled
Price Scale	1	Alpha Numeric	✓	✓	"0" through "5"
Liquidity Indicator	1	Alpha Numeric	✓	✓	See Appendix A for Values and Definitions (Equities) See Appendix B for Values and Definitions (Options)
Side	1	Alpha Numeric	✓	✓	"1" = Buy "2" = Sell "5" = Sell Short "6" = Sell Short Exempt (SSR 201) "9" = Cross Short
LastMkt	2	Alpha	✓		See Appendix A for Values and Definitions (Equities) See Appendix B for Values and Definitions (Options)

Order Fill Message 2.1	Length	Type	Equities	Options	Notes and Values
Filler	10	Alpha			
Message Terminator	1	Alpha	✓	✓	ASCII new line character: “\n”
Total	88				

## 2 = Execution Report Verbose Format (Variant 2)

This message is transmitted from the exchange to the client to notify the result of an order previously requested by the client. This message has the same function (superset) of any of the following messages types: Order Fill (z), Bust or Correct I, Order Ack(a), Cancel Ack(6), Order Killed(4), Replace Ack(E), Replace (5). Client request to be send verbose execution reports by setting a flag in the initial Logon message to the Exchange. This will supersede all messages variant defined above.

Execution Report Verbose Format 2.2	Length	Type	Equities	Options	Notes and Values
Message Type	1	Alpha Numeric	✓	✓	'2'
Variant	1	Binary	✓	✓	Value = 2
Length	2	Binary	✓	✓	Binary length of the message
Sequence Number	4	Binary	✓	✓	Exchange assigned sequence number
SendingTime	8	Binary	✓	✓	UTP Time the message was sent in microseconds since Midnight
TransactionTime	8	Binary	✓	✓	UTP Time the message was sent in microseconds since Midnight
ClOrdID	4	Binary	✓	✓	Client Order ID of the original order
OrderID	8	Binary	✓	✓	Exchange assigned Order ID
ExecID	8	Binary	✓	✓	Exchange assigned Execution ID. Unique identifier of execution message.
ExecRefID	8	Binary	✓	✓	Exchange assigned Execution ID
ArcaExID	20	Alpha Numeric	✓	✓	Trade record
Order Qty	4	Binary			Number of shares or contracts in the initial order
Price	4	Binary	✓	✓	Fixed at Price Scale 4
Leaves	4	Binary	✓	✓	Volume remaining
CumQty	4	Binary	✓	✓	Total Volume filled
AvgPx	4	Binary	✓	✓	Average Price – Fixed Price Scale 4
StopPrice	4	Binary	✓	✓	Fixed at Price Scale 4
Discretion OffSet	4	Binary	✓		Fixed at Price Scale 4
Peg Difference	4	Binary	✓		Fixed at Price Scale 4
Last Shares	4	Binary	✓	✓	Number of equity shares or option contracts filled
Last Price	4	Binary	✓	✓	Price at which the shares or contracts were filled, Fixed Price scale at 4
Strike Price	4	Binary		✓	The strike price for an option, as a long value with a fixed scale of 4. Equity orders in this field are set to zero (0).



Execution Report Verbose Format 2.2	Length	Type	Equities	Options	Notes and Values
Put Call	1	Binary		✓	The option class (not applicable to equity orders): 0 = Put 1 = Call
Open Or Close	1	Alpha Numeric		✓	"O"-Open, "C"-Close
Symbol	8	Alpha Numeric	✓	✓	Stock symbol for equity order acked, executed, in a pending state canceled, replaced, or rejected. Series Symbol in either OCC or Explicit naming for option order acked, executed, in a pending state canceled, replaced, or rejected.
Strike Date	8	Alpha Numeric		✓	The option expiry date (not applicable to equity orders) in YYYYMMDD format.
ExecTransType	1	Alpha Numeric	✓	✓	Valid values: '0' = New '1' = Cancel '2' = Correct '3' = Status
Order Reject Reason	1	Alpha Numeric	✓	✓	Only relevant if OrderStatus=Rejected Valid values: '1' = See Text field for reason '3' = See Text field for reason
Order Status	1	Alpha Numeric	✓	✓	Identifies the current status of an order. Valid values: '0' = New/Open '1' = Partially Filled '2' = Filled '3' = Expired '4' = Canceled '5' = Replaced '6' = Cancel pending '8' = Rejected 'C' = Self Trade Prevention Cancel 'E' = Pending Replace
Execution Type	1	Alpha Numeric	✓	✓	Describes the specific Execution Report (i.e. Pending Cancel)

Execution Report Verbose Format 2.2	Length	Type	Equities	Options	Notes and Values
					<p>while OrdStatus will always identify the current order status (i.e. Partially Filled)</p> <p>Valid values:</p> <p>'0' = New</p> <p>'1' = Partial fill</p> <p>'2' = Fill</p> <p>'3' = Done for day</p> <p>'4' = Canceled</p> <p>'5' = Replaced</p> <p>'6' = Pending Cancel (e.g. result of Order Cancel Request)</p> <p>'8' = Rejected</p> <p>'9' = Suspended</p> <p>'C' = Self Trade Prevention Cancel</p>
Side	1	Alpha Numeric	✓	✓	<p>"1" = Buy</p> <p>"2" = Sell</p> <p>"5" = Sell Short</p> <p>"6" = Sell Short Exempt (SSR 201)</p> <p>"8" = Cross</p> <p>"9" = Cross Short</p>
Order Type	1	Alpha Numeric	✓	✓	Return from the Original order.
TimeInForce	1	Alpha Numeric	✓	✓	<p>"0" = Day Order</p> <p>"2" = Early Auction Only (equities only)</p> <p>"3" = IOC</p> <p>"7" = Late Auction Only (equities only)</p>
Account	10	Alpha Numeric	✓	✓	This is returned to the user from the new order message.
Text	40	Alpha Numeric	✓	✓	<p>Please note that ARCA sometimes sends a value in the Text (58) field echoing the state of the order. This value is not to be taken as verbatim and should not be coded against.</p> <p>Please refer to the OrdStatus/ExecType values to determine the status of the order. Furthermore, NYSE Arca reserves the right to change the values populated in the Text field at anytime.</p>

Execution Report Verbose Format 2.2	Length	Type	Equities	Options	Notes and Values
Discretion Instruction	1	Alpha Numeric	✓		Returned to user from New Order message.
Liquidity Indicator	1	Alpha Numeric	✓	✓	<p>1 = Candidate for Liquidity Indicator "S"</p> <p>2 = Blind</p> <p>3 = Not Blind</p> <p>(Sent on Order Ack, Cancel pending, Cancelled, C/R Pending, and Replaced Acks conditionally) (Arca Equities).</p> <p>For Partial Fills and Fills: See Appendix A for Values and Definitions (Equities) See Appendix B for Values and Definitions (Options)</p>
ExecBroker	5	Alpha Numeric	✓	✓	<p>ETPID of Sending Firm (Equities)</p> <p>Route Destination (Options):</p> <p>Boston Options Exchange = BOX</p> <p>Chicago Board Options Exchange = CBO</p> <p>International Securities Exchange = ISX</p> <p>NASDAQ OMX Options = NDQ</p> <p>NASDAQ PHLX Options = PHO</p> <p>NYSE Arca Options = NYO</p> <p>NYSE Amex Options = ASE</p> <p>BATS Options = BATS</p> <p>Chicago Board Options Exchange = CB2</p> <p>Nasdaq BX Options = NASD</p> <p>MIAX Options Exchange = MIAX</p> <p>International Securities Exchange (Topaz) = ISE2</p>
LastMkt	2	Alpha	✓		<p>See Appendix A for Values and Definitions (Equities)</p> <p>See Appendix B for Values and Definitions (Options)</p>
Filler	7	Alpha			
Message Terminator	1		✓	✓	ASCII new line character: "\n"
Total	208				

### **How to interpret the Verbose Execution Report (Variant 2)**

Since the Verbose Execution Report encompasses the data of a number of the other messages, the table below summarizes the equivalency of the fields to indicate the different scenarios.

ExecType	ExecTranType	Meaning	Equivalent Short Message	Relevant Fields
0	0	Order Ack	a	ClientOrderID, OrderID, SendingTime, TransactTime, Price, LiquidityIndicator (If candidate for Indicator S)
1 or 2	0	Order Fill	2	ClientOrderID, OrderID, SendingTime, TransactTime, ExecID, LastShares, LastPx, LiquidityIndicator, Side, LastMkt
6		Cancel Request Ack	6	ClientOrderID, OrderID, SendingTime, TransactTime
3 or 4	0	Order Kill	4	ClientOrderID, OrderID, SendingTime, TransactTime
E		Replace Request Ack	E	ClientOrderID, OrderID, SendingTime, TransactTime, LiquidityIndicator (If candidate for Indicator S)
5	0	Order Replaced	5	ClientOrderID, OrderID, SendingTime, TransactTime, LiquidityIndicator (If candidate for Indicator S)
8	0	Order Reject	8	ClientOrderID, SendingTime, TransactTime
2	1 – bust 2 – correct	Trade Bust/Correct	C	ClientOrderID, ExecID, SendingTime, TransactTime, Volume, LastPx, Price
C	C	Order Kill – STP	s	ClientOrderID, OrderID, SendingTime, TransactTime, LastShares, Reason, Text, LiquidityIndicator
Verbose Execution Report Equivalence				

## 2 = Complex Execution Report Format (Variant 3)

This message is transmitted from the exchange to the client to notify the result of a complex order previously requested by the client. This message will be use for all complex related reports – Order Fill, Bust or Correct, Order Ack, Cancel Ack, and Order Killed regardless of logon verbose message flag setting.

Execution Report Verbose Format 2.3	Length	Type	Options	Notes and Values
Message Type	1	Alpha Numeric	✓	'2'
Variant	1	Binary	✓	Value = 3
Length	2	Binary	✓	Binary length of the message
Sequence Number	4	Binary	✓	Exchange-assigned sequence number
SendingTime	8	Binary	✓	UTC Time the message was sent in microseconds since Midnight
TransactionTime	8	Binary	✓	UTC Time the message was sent in microseconds since Midnight
Client Order ID	4	Binary	✓	Client order ID of the original order
Order ID	8	Binary	✓	OrderID assigned by NYSE Arca
Execution ID	8	Binary	✓	NYSE Arca assigned Execution ID. Unique identifier of execution message (64 bit binary).
ExecRefID	8	Binary	✓	NYSE Arca assigned Execution ID
ArcaExID	20	Alpha Numeric	✓	Trade record
LegRefID	4	Binary	✓	Complex order Leg Reference ID
Last Shares or Contracts	4	Binary	✓	Number of equity shares or option contracts filled
Last Price	4	Binary	✓	Price at which the shares or contracts were filled, Fixed Price scale at 4
ExecTransType	1	Alpha Numeric	✓	Valid values: '0' = New '1' = Cancel '2' = Correct '3' = Status '4' = Status
Order Reject Reason	1	Alpha Numeric	✓	Valid values: '1' = See Text field for reason

Execution Report Verbose Format 2.3	Length	Type	Options	Notes and Values
				'3' = See Text field for reason
Execution Type	1	Alpha Numeric	✓	Describes the specific Execution Report (i.e. Pending Cancel) while OrdStatus will always identify the current order status (i.e. Partially Filled) Valid values: '0' = New '1' = Partial fill '2' = Fill '3' = Done for day '4' = Canceled '5' = Replaced '6' = Pending Cancel (e.g. result of Order Cancel Request) '8' = Rejected '9' = Suspended
Side	1	Alpha Numeric	✓	"1" = Buy "2" = Sell "5" = Sell Short "8" = Cross "9" = Cross Short
Text	40	Alpha Numeric	✓	Please note that ARCA sometimes sends a value in the Text(58) field echoing the state of the order. This value is not to be taken as verbatim and should not be coded against. Please refer to the ExecType values to determine the status of the order. Furthermore, ARCA reserves the right to change the values populated in the Text field at anytime.
Liquidity Indicator	1	Alpha Numeric	✓	See Appendix B for Values and Definitions (Options)
Filler	6			
Message Terminator	1		✓	ASCII new line character: "\n"
Total	136			

**How to interpret the Complex Execution Report (Variant 3)**

Since the Complex Execution Report encompasses the data of a number of the other messages, the table below summarizes the equivalency of the fields to indicate the different scenarios.

ExecType	ExecTranType	Meaning	Equivalent Short Message	Relevant Fields
0		Complex Order Ack		ClientOrderID, OrderID, SendingTime, TransactTime
1 or 2	0	Complex Order Fill		ClientOrderID, OrderID, SendingTime, TransactTime, ExecID, LastShares, LastPx, LiquidityIndicator, Side
6		Cancel Request Ack		ClientOrderID, OrderID, SendingTime, TransactTime
3 or 4		Order Kill		ClientOrderID, OrderID, SendingTime, TransactTime
8		Order Reject		ClientOrderID, SendingTime, TransactTime
2	1 – bust 2 – correct	Trade Bust/Correct		ClientOrderID, ExecID, SendingTime, TransactTime, Volume, LastPx, Price

## 2 = Options Cross Execution Report (Variant 4)

This message is transmitted from the exchange to the client to notify the result of a options cross order previously requested by the client. This message will be used for all options cross related reports – Order Fill, Bust or Correct, Order Ack, Cancel Ack, and Order Killed regardless of logon verbose message flag setting.

Options Cross Execution Report 2.4	Length	Type	Options	Notes and Values
Message Type	1	Alpha Numeric	✓	'2'
Variant	1	Binary	✓	Value = 4
Length	2	Binary	✓	Binary length of the message
Sequence Number	4	Binary	✓	Exchange-assigned sequence number
SendingTime	8	Binary	✓	UTC Time the message was sent in microseconds since Midnight
TransactionTime	8	Binary	✓	UTC Time the message was sent in microseconds since Midnight
Client Order ID	4	Binary	✓	Client order ID of the original order
Order ID	8	Binary	✓	OrderID assigned by NYSE Arca
Execution ID	8	Binary	✓	NYSE Arca assigned Execution ID. Unique identifier of execution message (64 bit binary).
ExecRefID	8	Binary	✓	NYSE Arca assigned Execution ID
ArcaExID	20	Alpha Numeric	✓	Trade record
LegRefID	4	Binary	✓	Complex order Leg Reference ID
Last Shares or Contracts	4	Binary	✓	Number of equity shares or option contracts filled
Last Price	4	Binary	✓	Price at which the shares or contracts were filled, Fixed Price scale at 4
CrossID	4	Binary	✓	Identifier for a cross order. Must be unique during a given trading day.
ExecTransType	1	Alpha Numeric	✓	Valid values: '0' = New '1' = Cancel '2' = Correct '3' = Status



Options Cross Execution Report 2.4	Length	Type	Options	Notes and Values
				'4' = Status
Order Reject Reason	1	Alpha Numeric	✓	Valid values: '1' = See Text field for reason '3' = See Text field for reason
Execution Type	1	Alpha Numeric	✓	Describes the specific Execution Report (i.e. Pending Cancel) while OrdStatus will always identify the current order status (i.e. Partially Filled) Valid values: '0' = New '1' = Partial fill '2' = Fill '3' = Done for day '4' = Canceled '5' = Replaced '6' = Pending Cancel (e.g. result of Order Cancel Request) '8' = Rejected '9' = Suspended
Side	1	Alpha Numeric	✓	"1" = Buy "2" = Sell
Text	40	Alpha Numeric	✓	Please note that ARCA sometimes sends a value in the Text(58) field echoing the state of the order. This value is not to be taken as verbatim and should not be coded against. Please refer to the ExecType values to determine the status of the order. Furthermore, ARCA reserves the right to change the values populated in the Text field at anytime.
Liquidity Indicator	1	Alpha Numeric	✓	See Appendix B for Values and Definitions (Options)
Filler	2			
Message Terminator	1		✓	ASCII new line character: "\n"
Total	136			

**B = Order Cross (Options) – Single (Variant 1)**

New Order Cross B.1	Length	Type	Options	Notes and Values
Message Type	1	Alpha Numeric	✓	'B'
Variant	1	Binary	✓	1
Length	2	Binary	✓	Binary Length of Message
Sequence Number	4	Binary	✓	Client assigned sequence number
Symbol	8	Alpha	✓	Options Explicit Symbol
Strike Date	8	Alpha	✓	YYYYMMDD
Put or Call	1	Binary	✓	0 = Put 1= Call
StrikePrice	4	Binary	✓	The strike price for an option, as a long value with a fixed scale of 4.
Company GroupID	5	Alpha Numeric	✓	The Company ID for the firm that is entering the orders. If the connecting firm is a service bureau, this must be the company ID of the firm that is entering order through the service bureau.
DeliverToCompID	5	Alpha Numeric	✓	The ID of the market maker to route a Directed order to.
SpecialOrderType	1	Alpha Numeric	✓	C = Customer F = Facilitation P = Pia S = Solicitation Q = Qualified Contingent Cross (QCC)
PriceScale	1	Alpha Numeric	✓	"0" through "4"
ExDestination	2	Binary	✓	Indicates the Exchange code of the execution venue for the order. See Appendix D for the Exchange Codes.
CrossID	4	Binary	✓	Identifier for a cross order. Must be unique during a given trading day.

New Order Cross B.1	Length	Type	Options	Notes and Values
OrderQty	4	Binary	✓	The number of contracts for this order.
ExecInst	1	Alpha Numeric	✓	G = AON (All or None)
Time In Force	1	Alpha Numeric	✓	"0" = Day order "3" = IOC "4" = FOK

**Side Details (Must have 2)**

New Order Cross B.1	Length	Type	Options	Notes and Values
ClOrdID	4	Binary	✓	A client-assigned ID for this order. Valid values are 1 to 4,294,967,294. This must be unique per session per day. If duplicate orders IDs are received, the duplicate order will be rejected.
Price	4	Binary	✓	The price, as a long value. Price is scaled based on the Price Scale field.
Side	1	Alpha Numeric	✓	'1' = Buy, '2' = Sell
Covered or UnCovered	1	Alpha Numeric	✓	'E' – Exposed 'C' – Covered
Order Type	1	Alpha Numeric	✓	1 = Market 2 = Limit
CustomerOrFirm	1	Alpha Numeric	✓	"0"= Customer "1"= Firm "2"= Broker "3"= Market Maker "R" = Satisfaction

New Order Cross B.1	Length	Type	Options	Notes and Values
OpenClose	1	Alpha Numeric	✓	'O' = Open 'C' = Close
LocalOrAway	1	Binary	✓	1= Local OX MM 2= Away MM for another options exchange 3= Adds Customer Sub-Account Suffix (For use by OX and "away" market makers only)
Account	10	Alpha Numeric	✓	User-defined information that is not validated. This information will appear in trade records and on monthly bills.
Clearing Firm	5	Alpha	✓	The OCC code for the clearing firm to use for an option order. This is typically the default clearing firm for all orders for this brokerage firm.
ClearingAccount	5	Alpha	✓	The CMTA number that identifies the clearing firm that should be used for an option order instead of the default clearing firm.
SenderSubID	5	Alpha Numeric	✓	User-defined information that is not validated. Note: Firms entering orders as market makers must send their MMID in this field if this variant is used.
Optional Data	16	Alpha	✓	If not null, then the data should be left justified and it will be passed on to the clearing process as is.
Message Terminator	1	Alpha	✓	ASCII new line character: "\n"
Total	164			

**B = Order Cross (Options) – Complex (Variant 2)**

Order Cross (Complex) B.2	Length	Type	Options	Notes and Values
Message Type	1	Alpha Numeric	✓	'B'
Variant	1	Binary	✓	2
Length	2	Binary	✓	Binary Length of Message
Sequence Number	4	Binary	✓	Client assigned sequence number
Company GroupID	5	Alpha Numeric	✓	The Company ID for the firm that is entering the orders. If the connecting firm is a service bureau, this must be the company ID of the firm that is entering order through the service bureau.
DeliverToCompID	5	Alpha Numeric	✓	The ID of the market maker to route a Directed order to.
SpecialOrderType	1	Alpha Numeric	✓	C = Customer F = Facilitation P = Pia S = Solicitation Q = Qualified Contingent Cross (QCC)
PriceScale	1	Alpha Numeric	✓	"0" through "4"
ExDestination	2	Binary	✓	Indicates the Exchange code of the execution venue for the order. See Appendix D for the Exchange Codes.
CrossID	4	Binary	✓	Identifier for a cross order. Must be unique during a given trading day.
OrderQty	4	Binary	✓	The number of contracts for this order.
ExecInst	1	Alpha Numeric	✓	'G' – AON
Time In Force	1	Alpha Numeric	✓	"0" = Day order "3" = IOC "4" = FOK

**Side Details (Must have 2)**

Order Cross (Complex) B.2	Length	Type	Options	Notes and Values
ClOrdID	4	Binary	✓	A client-assigned ID for this order. Valid values are 1 to 4,294,967,294. This must be unique per session per day. If duplicate orders IDs are received, the duplicate order will be rejected.
Price	8	Binary	✓	The price, as a long value. Price is scaled based on the Price Scale field.
Covered or UnCovered	1	Alpha Numeric	✓	'E' Exposed, 'C' – Covered
Order Type	1	Alpha Numeric	✓	'1'-Market , '2'-Limit
CustomerOrFirm	1	Alpha Numeric	✓	"0"= Customer "1"= Firm "2"= Broker "3"= Market Maker "R" = Satisfaction
LocalOrAway	1	Binary	✓	1= Local OX MM 2= Away MM for another options exchange 3= Adds Customer Sub-Account Suffix (For use by OX and "away" market makers only)
Clearing Firm	5	Alpha	✓	The OCC code for the clearing firm to use for an option order. This is typically the default clearing firm for all orders for this brokerage firm.
ClearingAccount	5	Alpha	✓	The CMTA number that identifies the clearing firm that should be used for an option order instead of the default clearing firm.
SenderSubID	5	Alpha Numeric	✓	User-defined information that is not validated. Note: Firms entering orders as market makers must send their MMID in this field if this variant is used.
StockLegGiveup	5	Alpha Numeric	✓	

Account	10	Alpha Numeric	✓	User-defined information that is not validated. This information will appear in trade records and on monthly bills.
Optional Data	16	Alpha	✓	If not null, then the data should be left justified and it will be passed on to the clearing process as is.
NumberOfLegs	1	Binary	✓	Up to 5 Legs (including 1 Equity Leg)

Leg Details (Must have 5 per Side )

Order Cross (Complex) B.2	Length	Type	Options	Notes and Values
LegRefID	4	Binary	✓	Unique Indicator for a specific Leg
Strike Price	4	Binary	✓	The strike price for an option, as a long value with a fixed scale of 4.
LegRatioQty	2	Binary	✓	The ratio of quantity for this individual leg relative to the order quantity
Symbol	8	Alpha	✓	Options Explicit Symbol
Strike Date	8	Alpha	✓	YYYYMMDD
SecurityType	8	Alpha	✓	Indicates type security. Valid security type "OPT"
Side	1	Alpha Numeric	✓	'1' = Buy, '2' = Sell
PutOrCall	1	Binary	✓	'0' = Put, '1' = Call
OpenClose	1	Alpha Numeric	✓	'O' = Open 'C' = Close

Order Cross (Complex) B.2	Length	Type	Options	Notes and Values
Filler	7			
Message Terminator	1	Alpha	✓	ASCII new line character: "\n"
Total	536			

**J = Allocation (Options) - Variant 1**

Allocation J.1	Length	Type	Options	Notes and Values
Message Type	1	Alpha Numeric	✓	'J'
Variant	1	Binary	✓	1
Length	2	Binary	✓	Binary Length of Message
Sequence Number	4	Binary	✓	Client assigned sequence number
Symbol	8	Alpha	✓	Options Explicit Symbol
Strike Date	8	Alpha	✓	YYYYMMDD
StrikePrice	4	Binary	✓	The strike price for an option, as a long value with a fixed scale of 4.
AllocID	4	Binary	✓	Unique Identifier for Allocation Message
ExecID	8	Binary	✓	Exchange Assigned Execution ID
ClOrdID	4	Binary	✓	A client-assigned ID for this order. Valid values are 1 to 4,294,967,294. This must be unique per session per day. If duplicate orders IDs are received, the duplicate order will be rejected.
OrderQty	4	Binary	✓	The number of contracts for this order.
GroupID	5	Alpha Numeric	✓	The Company ID for the firm that is entering the orders.
DeliverToCompID	5	Alpha Numeric	✓	The ID of the market maker to route a Directed order to.
ExDestination	2	Binary	✓	Indicates the Exchange code of the execution venue for the order. See Appendix D for the Exchange Codes.
Put or Call	1	Binary	✓	0 = Put 1= Call
Side	1	Alpha Numeric	✓	'1' = Buy '2' = Sell
MultiLegIndicator	1	Alpha Numeric	✓	'2' – Multi-leg Cross Allocation
NumAllocs	1	Binary	✓	Up to 10



**Allocation Detail(Must have 10)**

Allocation J.1	Length	Type	Options	Notes and Values
AllocQty	4	Binary	✓	Number of contracts to allocate
CustomerOrFirm	1	Alpha Numeric	✓	"0"= Customer "1"= Firm "2"= Broker "3"= Market Maker "8" = Professional Customer
OpenClose	1	Alpha Numeric	✓	'O' = Open, 'C' = Close
LocalOrAwayMM	1	Binary	✓	1 = Local OX MM 2 = Away MM for another options exchange. 3= Adds Customer Sub-Account Suffix (For use by OX and "away" market makers only.
SenderSubID	5	Alpha Numeric	✓	User-defined information that is not validated. Note: Firms entering orders as market makers must send their MMID in this field if this variant is used.
Clearing Firm	5	Alpha	✓	The OCC code for the clearing firm to use for an option order. This is typically the default clearing firm for all orders for this brokerage firm.
ClearingAccount	5	Alpha	✓	The CMTA number that identifies the clearing firm that should be used for an option order instead of the default clearing firm.
Optional Data	16	Alpha	✓	If not null, then the data should be left justified and it will be passed on to the clearing process as is.
Filler	2		✓	

Allocation J.1	Length	Type	Options	Notes and Values
Filler	7		✓	
Message Terminator	1	Alpha	✓	ASCII new line character: "\n"
Total	472			

**P = Allocation Ack (Options) - Variant 1**

Allocation P.1	Length	Type	Options	Notes and Values
Message Type	1	Alpha Numeric	✓	'P'
Variant	1	Binary	✓	1
Length	2	Binary	✓	Binary Length of Message
Sequence Number	4	Binary	✓	Client assigned sequence number
SendingTime	8	Binary	✓	UTC Time the message was sent in microseconds since Midnight
TransactionTime	8	Binary	✓	UTC Time the message was sent in microseconds since Midnight
AllocID	4	Binary	✓	Unique Identifier for Allocation Message
AccountID	5	Alpha Numeric	✓	
AllocStatus	1	Alpha	✓	
Text	40	Alpha Numeric	✓	Information about the Allocation
Filler	5		✓	
Message Terminator	1	Alpha	✓	ASCII new line character: "\n"
Total	80			

## Risk Mitigation (Options)

OX has the ability to protect firms actively quoting from excessive executions due to unusually rapid trading activity. OX can immediately pull an OTP/ATP firms orders from the market after certain user-defined thresholds of trade activity are reached.

Risk Mitigation for US Options will have three different mechanisms:

1. **Transaction Based** will count the number of transactions over a 100 millisecond rolling time period. This is currently in production for Market Maker quotes and now will be available for orders as well. The minimum setting will be 3 trades per 100 millisecond rolling time period and the maximum will be 20 trades per 100 millisecond rolling time period.
2. **Volume Based** will count the number of contracts over a 100 millisecond rolling time period with minimum number of 20 contracts.
3. **Percentage Based** will count the number of contracts as a percent of the quote or order over a 100 millisecond rolling time period with a minimum value of 100% of quote or order up to a maximum value of 2000% of quotes or orders.

Example of Percentage Based: If a Market Maker is quoting at the National Best bid or Offer (NBBO) in four series of an appointed class and specifies its percentage at 100%, a trade counter would calculate such percentage as follows:

Series	Quote Size	# of Contracts Executed	Series Percentage
Series 1	100	40	40%
Series 2	50	20	40%
Series 3	200	20	10%
Series 4	150	15	10%
Total	500	95	100%

The aggregate number of contracts executed among all series during the 100 millisecond rolling timer period that equals the specified percentage of 100% is 95 contracts, at which point the Percentage Based RM would be triggered and the market maker's remaining quotes in the appointed class would be cancelled.

Market Makers will be required, for each class in their appointment, to select one of the three mechanisms to be applied for that class before being enabled to quote. Market Makers can only choose one RM mechanism per class. For example, they can choose Volume Based for AAPL, Percentage Based for IBM and Transaction Based for SPY. Risk Mitigation is class specific and does not aggregate over multiple classes. Transaction Based is the default for quoting and is set to 5 transactions over 100 milliseconds rolling time period. Market Makers will still be held to the full size of their quote or order against the trade that triggers risk mitigation.

Order Sending Firms will not be required to have any RM mechanism in force. Be advised that Risk Mitigation on Market Maker quotes and Risk Mitigation for orders are separate mechanisms so trades, contracts or percentages will not be aggregated between the two.

Order Risk Mitigation is limited to **Single Leg PNP orders Only**.

## Risk Mitigation Notes (Options)

### Start of Day:

User must subscribe to Risk Mitigation on daily basis using 'X' message, or no Risk Mitigation will be set.

Risk settings must be entered per underlying basis. Risk settings updates can be sent on just one session even if orders for the same stock will be sent from different sessions.

To set Risk Limits (example is for Volume Based Risk Mitigation), send

- Type = V
- Action = E (enables Underlying for trading)
- User Limit = 1000

### Core Trading:

Risk mitigation will apply during opening and post-halt auctions as well as core trading sessions. OTP/ATP order sending firms will be able to adjust their risk limits for each assigned underlying symbol at any time.

They may also query the status of their Risk settings at any given time. Pending SEC confirmation, the following will be the acceptable minimum and maximum threshold settings;

- For Volume based risk mitigation, the setting will have a minimum threshold of 20 and a maximum of 5000 per second.
- For Percentage based risk mitigation, the setting will have a minimum of 100% and a maximum of 2000% per second.
- For Transaction based risk mitigation, the setting will have a minimum of 3 and a maximum of 20 per second.

To query current risk setting status send :

- Type = N
- Action = N
- To reset risk limits for Volume Based Risk Mitigation, send
- Type = V
- Action = N [Retain current trading status, Or send 'E' if you want to re-enable]
- User limit = 1000

Risk Mitigation and Trading Status can be disabled anytime (panic situation) by sending the field values below. This field combination will disable Risk Mitigation for the Underlying and will cancel all orders from all sessions for that underlying. A Risk Alert message will be sent out to all session that had live orders in that Underlying. No unsolicited OUTs or cancel messages will be sent out.

- Type = X
- Action = D
- If Action = D and the Type = T, V, or P, the Underlying will be disabled for trading but the risk setting will not be removed. Orders for the Underlying will still be cancelled.

### Threshold Breached:

- Order risk mitigation will be accomplished by tracking the number of contracts or transactions executed within a second for a certain underlying by an OTP/ATP Order Sending firm.

- Percentage of Quote Risk Mitigation will be accomplished by tracking the number of contracts executed within a second for certain underlying by an OTP/ATP Sending firm versus total size of the order.
- Once the threshold for an underlying has been breached, all eligible orders for that underlying will be cancelled. No unsolicited OUTs or cancel messages will be sent out.
- Orders will be cancelled once the threshold has been breached on a post-trade evaluation basis. An execution that would breach the threshold will not be prevented on a pre-trade basis.
- When the limit is breached, the firm will receive a Risk Alert message (message type = 7) indicating that the mechanism was triggered and they are out of all orders in the indicated underlying (e.g. IBM). The Risk alert (message type =7) will be sent to all sessions that had live orders in that symbol.

To re-enter the market, the Order Sending Firm (OSF) will be required to re-enable the Stock by sending (for example, Volume based Risk Mitigation);

- Type = V
- Action = E (enables Underlying for trading)
- User limit = 1000

OX will then begin accepting orders in the affected instrument.

#### Disconnects:

Orders in the session that disconnected will be cancelled if the session has the 'Cancel on Disconnect' property on. Risk Mitigation will not be disabled.

#### Global Risk Reject Notes:

NYSE Arca Options will be introducing Global Risk Mitigation (Global RM) functionality for participants. Global RM will count number of symbol-level risk breaches over a 100 millisecond time frame.

- Exchange will establish a min/max threshold range, clients can select tolerances within that range
- Not dependent on the type of symbol risk mitigation selected by client
  - Transaction, Volume, or % of quote/order
- Aggregated at OTP/ATP ID for orders
- Multiple triggers can occur within a single symbol or across multiple symbols
- Global RM event will require [an email](#) to Trade Desk (no API re-enable allowed)
- Once globally re-enabled, clients will be able to re-enable on a symbol level via the API
  - For an Order Sending Firm, Global RM will apply to any issue(s) for which the OSF has selected symbol level RM

New PNP orders will be rejected with "**Firm GRPM breached**" when firm is globally breached, new risk mitigation request will be also rejected.

## X = Risk Management Request Message (Options) - Variant 1

This message is used to enable/disable or update risk mitigation parameters by underlying.

Risk Management Request X.1	Length	Type	Options	Notes and Values
Message Type	1	Alpha Numeric	✓	'X'
Variant	1	Binary	✓	Value = 1
Length	2	Binary	✓	Binary length of the message
Sequence Number	4	Binary	✓	Exchange-assigned sequence number
Company GroupID	5	Alpha Numeric	✓	The Company ID for the firm that is entering the Risk Management Request.
Symbol	8	Alpha	✓	Options Explicit Symbol
RiskMgmtID	4	Binary	✓	Customer defined ID Value, similar to ClOrdID, but will not validate for uniqueness.
UserLimit	4	Binary	✓	Value depends on what Type is selected
ExDestination	2	Binary	✓	Indicates the Exchange code of the execution venue for the order. See Appendix D for the Exchange Codes.
Type	1	Alpha Numeric	✓	T – Trade based risk mitigation V – Volume based risk mitigation P – Percentage of quote risk mitigation X – Disable Risk Mitigation N – No Risk Mitigation
Action	1	Alpha Numeric	✓	E – Update and Enable D – Disable N – Retain Current Status
Filler	2		✓	
Message Terminator	1	Alpha	✓	ASCII new line character: “\n”
Total	36			

**x = Risk Management Request Ack (Options) - Variant 1**

Risk Management Ack x.1	Length	Type	Options	Notes and Values
Message Type	1	Alpha Numeric	✓	'x'
Variant	1	Binary	✓	Value = 1
Length	2	Binary	✓	Binary length of the message
Sequence Number	4	Binary	✓	Exchange-assigned sequence number
SendingTime	8	Binary	✓	UTC Time the message was sent in microseconds since Midnight
Symbol	8	Alpha	✓	Options Explicit Symbol
RiskMgmtID	4	Binary	✓	Customer defined ID Value returned from Risk Management Request
UserLimit	4	Binary	✓	Value depends on what Type is selected
Type	1	Alpha Numeric	✓	T – Trade based risk mitigation V – Volume based risk mitigation P – Percentage of orders risk mitigation X – Unsubscribe to RM N – Retain existing RM setting
ActionStatus	1	Alpha Numeric	✓	E – Enabled D – Disabled B – Breached
RequestStatus	1	Alpha Numeric	✓	'0' – Success '1' – Error
Text	40	Alpha Numeric	✓	Information about the Risk Management Request
Filler	4		✓	
Message Terminator	1	Alpha	✓	ASCII new line character: "\n"
Total	80			



## 7 = Risk Management Alert Message (Options) - Variant 1

Risk Management Alert 7.1	Length	Type	Options	Notes and Values
Message Type	1	Alpha Numeric	✓	'7'
Variant	1	Binary	✓	Value = 1
Length	2	Binary	✓	Binary length of the message
Sequence Number	4	Binary	✓	Exchange-assigned sequence number
SendingTime	8	Binary	✓	UTC Time the message was sent in microseconds since Midnight
Symbol	8	Alpha	✓	Options Explicit Symbol
UserLimit	4	Binary	✓	Value depends on what Type is selected
ExDestination	2	Binary	✓	Indicates the Exchange code of the execution venue for the order. See Appendix D for the Exchange Codes.
Type	1	Alpha Numeric	✓	T – Trade based risk mitigation V – Volume based risk mitigation P – Percentage of quote risk mitigation
Status	1	Alpha Numeric	✓	D - Disable
Filler	7		✓	
Message Terminator	1	Alpha	✓	ASCII new line character: “\n”
Total	40			

## 6 NYSE Arca Equities Order Types

Order Type	Fields and Values	Description	Available Sessions
Market Order	OrdType = 1	An order to buy or sell that is to be executed at the best price obtainable. Bound by the NBBO.	Market Auction Core
Limit Order	OrdType = 2	An order to buy or sell at a specified price or better. A marketable limit order is a limit order to buy (sell) at or above (below) the protected best offer (bid) for the security.	All sessions
PNP (post no preference)	OrdType = 2 ExecInst = 6	A limit order to buy or sell that is to be executed in whole or in part on NYSE Arca. The portion not executed is posted in the Book without routing any portion of the order to another market center. PNP Orders that lock or cross the market will be rejected.	All sessions
IOC (Immediate Or Cancel)	OrdType = 2 TimeInForce = 3	A market or limit order that is to be executed in whole or in part on NYSE Arca as soon as the order is received. Any residual balance is cancelled. IOC orders may not trade through protected quotes.	All sessions
Inside Limit	OrdType = 7	Marketable inside limit orders will be matched within the Book at the best obtainable price or routed to the market participants at the NBBO. Any residual volume will not be routed to the next price level until all quotes at the current best bid or offer are exhausted. Non-marketable inside limit orders will be posted in the Book at the limit price.	All sessions
Reserve Order *Must use New Order Variant 3 (Verbose)	OrdType = 2 MaxFloor = (show size)	A limit order that replenishes the displayed order size as executions are received, up to the total order quantity; away markets are routed at their quoted size or larger (if applicable) when hitting the bid or taking the offer. Reserve orders look only at protected quotes.	All sessions
Reserve and Random *Must use New Order Variant 3 (Verbose)	OrdType = 2 MaxFloor = display qty ProactiveDiscretionIndicator = 1	User defines the original display quantity and a random reserve value which will be used to determine the show quantity within a defined range each time it is replenished. (For example, a display quantity of 2000 shares and a random reserve of value of 200 will randomly display orders at 1800, 1900, 2000, 2100 or 2200 shares.)  Setting the random reserve value to zero will send random orders within 20% of the original display quantity. Market Participants are preferenced for the quoted size when hitting the bid or taking the offer. Orders preferenced to ARCA, at sizes greater than the displayed size, will be matched against the entire reserve quantity.	All sessions

Order Type	Fields and Values	Description	Available Sessions
Passive Liquidity (PL)	OrdType = 7 ExecInst = 5	An undisplayed limit order that resides in the NYSE Arca limit order book. All displayed orders at the same price as a PL order will have priority over a PL order unless the PL order is priced more aggressively. The PL order will not trade through a protected quote.	All sessions
Midpoint Passive Liquidity (MPL) Order	<p><b><u>MPL Order</u></b> OrdType = 2 ExecInst = M MinQty = the minimum qty desired on each fill. (Optional) ProactivelyLocked (Optional)= Y</p> <p><b><u>MPL ALO Order</u></b> OrdType = 2 ExecInst = M ExtendedExecInst = A ProactivelyLocked (Optional)= Y</p> <p><b><u>MPL IOC Order</u></b> OrdType = 2 ExecInst = M TimeInForce = 3 Qty = (Minimum of 100)</p>	<p>The MPL order is an undisplayed limit order that is priced at the midpoint of the Protected Best Bid and Offer (PBBO). MPL orders will generally interact with all order types including contra MPLs excluding: cross or directed orders. MPL orders will be entered as a limit order but are executable only at the midpoint of the NBBO. MPLs will not execute if the market is locked/crossed.</p> <p>MPL Orders may also be entered with a Minimum Execution Size condition, though this is not required. MPL orders always execute at the midpoint and do not receive price improvement.</p> <p>MPL IOC orders will execute only at the midpoint of the protected best bid or offer (PBBO), Any portion of the MPL IOC that is not executed will be immediately cancelled back to the customer. MPL IOCs require a minimum order entry size of 100 shares, but may be executed in odd-lot volumes. Unlike an MPL order, customers may not specify a minimum executable size for an MPL IOC. If the market is locked or crossed, the MPL IOC will cancel.</p> <p>If you do not want your orders to interact with MidPoint Passive Liquidity orders send ExtendedExecInst = 0 on your new order message (only available for non-MPL).</p>	All sessions
Market To Limit (MTL) Order	OrdType = K	An MTL Order is an un-priced order that, upon receipt, is immediately assigned a limit price equal to the contra NBBO price. Once assigned a limit price, the MTL Order will be treated as a Limit Order for further processing pursuant to the NYSE Arca Equities Rules. The order will be rejected if, at the time of entry there is no contra NBBO, the market and/or symbol is closed or halted, or the MTL is received outside of the Core Trading Session.	Core
Passive Liquidity Select (PL Select) Order	OrdType = 7 ExecInst = 5 ExtendedExecInst = S	<p>An undisplayed limit order that resides in the NYSE Arca limit order book. All displayed orders at the same price as a PL order will have priority over a PL order unless the PL order is priced more aggressively. The PL order will not trade through a protected quote.</p> <p>Orders tagged for this execution instruction will apply the following stipulations:</p> <ul style="list-style-type: none"> <li>Do not trade against incoming ISO orders</li> <li>Do not trade against incoming IOC orders</li> </ul>	All sessions

Order Type	Fields and Values	Description	Available Sessions
		Inbound "PL Select" orders that are immediately marketable will be processed as a normal PL order, while any balance will begin working with the selected restrictions enforced.	
NOW order	OrdType = 2 TimeInForce = 3 ExecInst = 1	A limited price order that is executed in whole or in part that will be routed to one or more NOW recipients (those venues that respond immediately with a fill or a cancel) that are protected quotes for immediate execution if the order cannot be executed on NYSE Arca. Orders are immediately canceled if not executed at the quoted price or better. Customers may use the NOW Order for accessing IOI undisplayed liquidity venues.	All sessions
ISO Intermarket Sweep Order (available under RegNMS)	<b>ISO Flag = 'Y'</b>  Plus additional parameters on the next column.	<u>ISO Modifier</u> –Under Reg NMS, clients may send ARCA an instruction to trade only with the ARCA book and ignore all away market quotes (including Protected Quotes). This is known as the Intermarket Sweep Order (ISO) <ul style="list-style-type: none"> <li>ISO PNP IOC (TimeInForce = 3, ExecInst = 6) – Sweep the ARCA Book to the price, cancel any remaining balance, and ignore all external quotes.</li> <li>ISO PNP (ExecInst = 6) - Sweep the ARCA Book to the price, <i>Post</i> any remaining balance, and ignore all external quotes.</li> <li>ISO PNP IOC Cross (TimeInForce = 3, ExecInst = 6, Side = 8 or 9) - Sweep the ARCA Book to the price, <i>Cross</i> any remaining balance, and ignore all external quotes</li> <li>ISO PNP Cross and Post (TimeInForce = 3, ExecInst = 6, Side = 8 or 9) - Sweep the ARCA Book to the price, <i>Cross</i> any remaining balance, <i>Post the take out amount</i>, and ignore all external quotes</li> </ul> <b>ISO Orders will interact with all resting orders except Tracking Orders. ISO Orders are never routed out.</b>	All sessions
NYSE Arca Primary Sweep Order  *Must use New Order Variant 3 (Verbose)	<b><u>Non-Routable PSO</u></b>  ExecBroker = PSO  TimeInForce = 0 (day) TradingSessionID = 2  <b><u>Routable PSO Order</u></b>  ExecBroker = PSOS  TimeInForce = 0 (day) TradingSessionID = 2	The 'Primary Sweep Order' sweeps the NYSE Arca Book and routes any remaining balance to the primary listing market (NYSE, NASDAQ or AMEX). <ul style="list-style-type: none"> <li>Can be Market or Limit order</li> <li>Should be marketable. Non-marketable orders will function as limit orders. Orders can be entered beginning at 3:30 a.m. ET until the end of core trading.</li> <li>When orders are routed to an away market, the order will retain its qualifier</li> <li>When routed, the PSO is designated as non-</li> </ul>	Core

Order Type	Fields and Values	Description	Available Sessions
		routable and IOC by the primary market or Do Not Ship (DNS)	
Discretion Limit *Must use New Order Variant 3 (Verbose)	OrdType = 2 DiscretionInst = 0 ProactiveDiscretionIndicator = 1 DiscretionOffset = offset from displayed price. Positive for buy, negative for sell. MinQty = share qty accepted to fill order	An order that is displayed at your specified price, not your discretionary price, along with a share quantity minimum requirement for routing discretionary prices outside the Book. When a protected bid or offer appears on an away market at or above your share quantity minimum, your order will be routed to protected Quotes.	All sessions
Discretionary Order *Must use New Order Variant 3 (Verbose)	OrdType = 2 DiscretionInst = 0 ProactiveDiscretionIndicator = 1 DiscretionOffset = offset from displayed price. Positive for buy, negative for sell.	An order with two price components — a display price and a discretionary price — that is displayed at your specified price, not your discretionary price. When a bid or offer appears at or within your discretionary price range, your order will be matched on NYSE Arca or proactively routed externally to protected quotes.	All sessions
Passive Discretion *Must use New Order Variant 3 (Verbose)	OrdType = 2 DiscretionInst = 0 ProactiveDiscretionIndicator = 0 DiscretionOffset = offset from displayed price. Positive for buy, negative for sell	The order is displayed at your specified price (not your discretionary price) and is not eligible to route. When a bid or offer appears in the Book at or within your discretionary price range, it will be executed against the Book as long as it does not trade through a Protected Quote. A discretionary price can be used in combination with a reserve order.	All sessions
Market Peg *Must use New Order Variant 3 (Verbose)	OrdType = P ExecInst = P (market peg) PegDifference = offset to market (required)	An order with a price that will track the national best bid or offer. Pegged orders may also make use of offsets from the same side bid/offer or offsets from the contra side (peg buy offset from offer). The order is displayed in the ArcaEx Book	Core
Primary Peg *Must use New Order Variant 3 (Verbose)	OrdType = P ExecInst = R (primary peg) PegDifference = offset to market (not required)	An order with a price that will track the national best bid or offer. Pegged orders may also make use of offsets from the same side bid/offer or offsets from the contra side (peg buy offset from offer). The order is displayed in the ArcaEx Book	Core
Tracking Order	OrdType = 2 ExecInst = d *Optional - MinQty = share qty accepted to fill order  * Must use New Order Variant 3 (Verbose) if using the MinQty option.	A tracking limit order is an undisplayed, priced round lot that is eligible for execution in the tracking order process against orders equal to or less than the aggregate size of the order if interest is available at that price. Orders may be entered at any price. Orders will only execute at the NBBO. Incoming ISO orders will not interact with tracking orders.	Core
Primary On Open order (POO order) *Must use New Order Variant 3 (Verbose)	OrdType = 1 (Market) ExecBroker = POO	A market order sent before the open that does not interact with the Arca Book. This order is sent to the primary exchange that the security is traded on.	Core

Order Type	Fields and Values	Description	Available Sessions
Primary Open + Order (PO+ order)	<p><b>PO+</b> OrdType = 1 or 2 ExtendedExecInst = P</p> <p><b>PO+ MOC</b> OrdType = 1 TimeInForce = 7 ExtendedExecInst = P</p> <p><b>PO+ LOC</b> OrdType = 2 TimeInForce = 7 ExtendedExecInst = P</p>	<p>A market or limit order that is different from the original Primary On Open (POO) order type in that it will route to the primary market all day.</p> <p>The primary markets are identified as NYSE (N), Amex (A,) and NASDAQ (Q).</p> <p>PO+ MOC/LOC will be routed to the primary exchange as an on close order.</p> <p><b>Note:</b> All NASDAQ (Q) PO+ Orders will be routed to NASDAQ as Immediate Or Cancel (IOC).</p>	Core
Primary Open + Ship Order (PO+S order)	OrdType = 1 or 2 ExtendedExecInst = p	A limit order that will route to the primary market all day (Same as PO+), but will not be sent with the DNS (Do Not Ship) Instruction on NYSE Listed Symbols. The order will be eligible for routing away at the NYSE. This order type is only for NYSE and NYSE Amex Listed symbols.	Core
Add Liquidity Only (ALO) (Equities)	<p><b>PNP ALO Order</b> OrdType = 2 ExecInst = 6 ExtendedExecInst = A</p> <p><b>PNP ISO ALO Order*</b> OrdType = 2 ExecInst = 6 ISO Flag = "Y" ExtendedExecInst = A</p>	<p>The ALO Order is a limit order that is posted to the NYSE Arca book in order to add liquidity. The ALO Order is designed to assist traders in controlling their trading costs. By providing rather than removing liquidity, traders can limit or reduce take fees. The ALO order will be Day only, and may not be designated as IOC (Immediate or Cancel), Good Till Cancel (GTC) or Good Till Date (GTD).</p> <p>ALO Orders will be rejected where, at the time of entry:</p> <ul style="list-style-type: none"> <li>• The ALO is marketable</li> <li>• The ALO will lock or cross the market</li> <li>• The ALO order would interact with un-displayed orders on NYSE Arca</li> </ul> <p><b>PNP ISO ALO Order Note:</b> If this combination is used, the order will post to the Arca book if its marketable against away markets and will reject if the order is marketable against order(s) resting on the Arca book.</p>	All sessions
9:45am/3:55pm Order Types	OrdType = 2 (Limit) TimeInForce = 0 (Day) ExecInst = 7, 8, or 9	<p><b>9:45am ET Designation</b>—An indicator on a Day Limit order only instructing that upon receipt the order be sent directly to the primary until 9:45am.</p> <p>If the order is received after 9:45am, the designator is ignored and the order stays on NYSE Arca. Any unexecuted orders entered with the 9:45am designator are cancelled on the primary at 9:45am ET and returned to NYSE Arca for the remainder of the day.</p> <p><b>3:55 pm ET Designation</b> - An indicator on a Day Limit</p>	Core

Order Type	Fields and Values	Description	Available Sessions
		<p>order instructing that the order be cancelled on NYSE Arca at 3:45pm and placed as a day order on the Primary market.</p> <p>ExecInst = 7 – Primary until 9:45am ET then move to NYSE Arca</p> <p>ExecInst = 8 – NYSE Arca until 3:55pm ET then move to primary</p> <p>ExecInst = 9 – Primary until 9:45am ET, then move to NYSE Arca And NYSE Arca until 3:55pm ET, then move to the primary.</p> <p><b>Orders other than straight Day/Limit with ExecInst of 7, 8, or 9 will be rejected.</b></p>	
PCS	<p>Side = 8 (cross), 9 (cross short)</p> <p>CIOrdLinkID = a client assigned id that will uniquely identify each order as being part of a basket.</p> <p>DeliverToCompID = PCS</p> <p>ExecInst = 6 (PNP)</p>	<p>Execution and reporting of entire portfolios (baskets) of stock with the Arca trading system without interaction with the book or with other PCS orders. When the PCS Process receives a PCS Cross Order it will hold the order. At 8:01 PM EST, PCS will execute all PCS Crosses. PCS Crosses do not interact with any other orders including other PCS Crosses. PCS orders may be cancelled at any time before 8:00 PM ET. PCS will not support the bundled cancel replace functionality but a new order may be entered by the ETP.</p>	All sessions
Fill Or Kill	TimeInForce = 4 (FOK)	A limit order that is to be executed in full as soon as the order is received. If execution is not possible, the entire order will be immediately cancelled. FOK orders will not route away from NYSE Arca to other market centers.	All sessions
Post No Preference Blind (PNP B) Order	<p><b><u>PNP Blind Order</u></b></p> <p>Order Type = 2</p> <p>ExecInst = 6</p> <p>ExtendedPNP = B</p> <p><b><u>PNP Blind ALO Order</u></b></p> <p>Order Type = 2</p> <p>ExecInst = 6</p> <p>ExtendedExecInst = A</p> <p>ExtendedPNP = B</p>	<p>Marketable Contra Orders will first execute against the PNP B Orders, then the rest of the book. PNP B Orders will be ranked in time priority regardless of the price of the order when they are blind. When the PBBO moves away from the price of the PNP B but the prices continue to overlap; the PNP B will remain blind but adjust its price to the PBBO. When the PBBO moves away from the price of the PNP B and there is no longer price overlap, the PNP lights up and becomes a regular limit order including standing its ground.</p>	All sessions

<b><u>NYSE Arca Equities Auction Order Types</u></b>			
<b>The below order types are for NYSE Arca Primary Listed Symbols and all Non-Primary ETF Symbols only.</b>			
<b>Order Type</b>	<b>Fields and Values</b>	<b>Description</b>	<b>Available Sessions</b>
Auction Only Orders	<b><u>Auction Order (Market)</u></b> OrdType = 1 (Market) TimeInForce = 2 TradingSessions = 2  <b><u>Auction Order (Limit)</u></b> OrdType = 2 (Limit) TimeInForce = 2 TradingSessions = 123	Two types of orders that are executable only within an auction. If these auction orders are placed after the open they go live and participate in the next auction, whether it is a halt, IPO, or at the close. If the order is not executed in the auction that it participates in, the balance is cancelled.  <b><u>For NYSE Arca Primaries and all Non-Primary ETFs only</u></b>	Auction
Market On Open (MOO) Order	OrdType = 1 (Market) TimeInForce = 2	A market order that is to be executed only during the opening auction for the issue. If all or part of the order is not executed during the opening auction, the balance is cancelled. If this order type is sent in after the opening auction it will reject.  <b><u>For NYSE Arca Primaries and all Non-Primary ETFs only</u></b>	Opening Auction
Limit On Open (LOO) Order	OrdType = 2 (Limit) TimeInForce = 2	A limit order that is to be executed only during the opening auction for the issue. If all or part of the order is not executed during the opening auction, the balance is cancelled. If this order type is sent in after the opening auction it will reject.  <b><u>For NYSE Arca Primaries and all Non-Primary ETFs only</u></b>	Opening Auction
Market On Close (MOC)	OrdType = 1 TimeInForce = 7	A market order that is to be executed only during the closing auction.  <b><u>For NYSE Arca Primaries and all Non-Primary ETFs only</u></b>	Late Auction
Limit on Close (LOC)	OrdType = 2 TimeInForce = 7	A limit price order that is to be executed only during the closing auction.  <b><u>For NYSE Arca Primaries and all Non-Primary ETFs only</u></b>	Late Auction



<b><u>NYSE Arca Equities Market Maker Order Types</u></b>			
The below order types are only for registered Market makers or firms that have agreements with market makers. If the below order types are entered by non-market makers or firms that don't have an agreement with a market maker they will be rejected.			
<b>Order Type</b>	<b>Fields and Values</b>	<b>Description</b>	<b>Available Sessions</b>
"q" order market maker quote order	OrdType = q	NYSE Arca rules require registered market makers to maintain two – sided quotes in all symbols that they are registered to make markets in. The q order is used to enter the two sided market. A buy and sell order must be entered.	Core
carry over q orders	ArcaEx system generated	In order for Market Makers to maintain their two sided quotes NYSE Arca can submit q orders on behalf of the MarketMakers	Core
"g" order market maker guarantee order (Currently Unavailable)	OrdType = 2 or P DeliverToCompID = DOP  *cancel replace messages are not accepted on g orders	"g" orders are non-displayed orders that entered into the NYSE Arca directed order process. These orders will fill against incoming directed orders sent by order sending firms that have an arrangement with the market maker	Core
Directed Order (Currently Unavailable)	OrdType = 1, 2, or 7 ExecInst = 6 DeliverToCompID = ETPID of market maker	These orders are designed to interact only with guarantee orders that are entered by Market makers. Firms that enter directed orders can specify the ETP ID of the market maker that they would like to deliver their directed order to in the DeliverToCompID field. If an order sending firm chooses not to send the ID of the market maker in the DeliverToCompID field they will require a dedicated directed order FIX session for their directed orders.	Core

<b><u>NYSE Arca Equities Retail Order Types</u></b>			
<b>Order Type</b>	<b>Fields and Values</b>	<b>Description</b>	<b>Available Sessions</b>
Retail Order Type 1 (IOC)	OrdType = 2 TimelnForce = 8	A limit order eligible to trade against Retail Price Improvement ("RPI") orders and non-displayed orders at prices superior to the PBBO. Any unfilled shares will be canceled back to the submitting party.	Core
Retail Order Type 2 (IOC)	OrdType = 2 TimelnForce = 9	A limit order eligible to trade against RPI orders, non-displayed orders priced better than the PBBO, and other trading orders on the NYSE ArcaBook priced at or better than the PBBO. Any unfilled shares will be canceled back to the submitting party.	Core
Retail Order Type 2 (DAY)	OrdType = 2 TimelnForce = A	A limit order eligible to trade against RPI orders, non-displayed orders priced better than the PBBO, and other trading orders on the NYSE ArcaBook priced at or better than the PBBO. After it interacts with RPI interest and non-displayed interest, it will interact with the NYSE ARCA book and/or will route to NMS Protected Quotations with any unfilled balance posting on the NYSE ARCA book.	Core
Retail Order Type 2 (MKT)	OrdType = 1 TimelnForce = A	A market order eligible to trade against RPI orders, non-displayed orders priced better than the PBBO, and other orders on the NYSE ArcaBook priced at or better than the PBBO. Any remaining portion of the Retail Order will function as a Market Order and will route to NMS Protected Quotations.	Core
Passive Liquidity RPI	OrdType = 7 ExecInst = 5 ExtendedExecInst = R	A non-displayed order of any size, priced better than the PBBO when entered. A PL RPI entered at or worse than the PBBO will be canceled back to the submitting party.	Core
MidPoint Passive Liquidity RPI	OrdType = 2 ExecInst = M MinQty = 100 or greater (Optional) ExtendedExecInst = R	An RPI order that pegs to the midpoint of the PBBO, and trades at the midpoint exclusively with Retail Orders. Minimum order size for the MPL RPI order is 100 shares.	Core

## 7 NYSE Arca Options Order Types

Order Type	Fields and Values	Description	Available Sessions
Market Order	OrdType = 1	An order to buy or sell that is to be executed at the best price obtainable.	Market Auction Core
Limit Order	OrdType = 2	An order to buy or sell at a specified price or better. A marketable limit order is a limit order to buy/sell at or above/below the consolidated best offer/bid for the security.	Core
PNP (post no preference)	OrdType = 2 ExecInst = 6	A limit order to buy or sell that is to be executed in whole or in part on Arca Options. The portion not executed is posted in the ArcaEx Book without routing any portion of the order to another market center. PNP orders in both listed and OTC stocks that would lock or cross the NBBO are cancelled.	Core
Stop Order *Must use New Order Variant 3 (Verbose)	OrdType (40) = 3 (Stop) StopPx (99) = Stop Price	A Stop Order becomes an active Market Order when the stop price is reached. A Stop Order to buy is triggered when the option is bid on NYSE Arca Options or trades on NYSE Arca Options (or any exchange) at or above the specified stop price. A Stop Order to sell is activated when the option is offered on NYSE Arca Options or trades on NYSE Arca Options (or any exchange) at or below the specified stop price. Order execution is fully automated.	Core
Stop Limit Order *Must use New Order Variant 3 (Verbose)	OrdType (40) = 3 (Stop) Price (44) = Limit Price StopPx (99) = Stop Limit Price	A Stop Limit Order becomes an active Limit Order when the stop price is reached. A Stop Limit Order to buy is triggered when the option is bid or trades on NYSE Arca Options (or any exchange) at or above the specific stop price. A Stop Limit Order to sell becomes a Limit Order when the option is offered or trades on NYSE Arca Options (or any exchange) at or below the specified stop price. Order execution is fully automated. If the active limit order is not marketable it will post in the NYSE Arca Options Book.	Core
Reserve Order *Must use New Order Variant 3 (Verbose)	OrdType = 2 MaxFloor = (show size)	A reserve replenishes the displayed order size as executions are received, up to the total order quantity; away markets are routed at their quoted size or larger (if applicable) when hitting the bid or taking liquidity.	Core
IOC (immediate Or Cancel)	OrdType = 2 TimeInForce = 3	A limit order that is to be executed in whole or in part as soon as such order is received. The portion not so executed is to be treated as cancelled. IOC's only execute on ArcaEx and do not route.	Core
Market On Open (MOO)	OrdType = 1 (Market) TimeInForce = 2 TradingSessions = 2	Market On Open orders are orders that are executable only within an auction.  If the order is not executed in the auction, the balance is cancelled.	Early Auction

Order Type	Fields and Values	Description	Available Sessions
Limit On Open (LOO)	OrdType = 2 (Limit) TimeInForce = 2 TradingSessions = 123	Limit On Open orders are orders that are executable only within an auction  The Limit On Open Order is executable only during the <u>next</u> Auction following order entry (including Halt and IPO). If the order is not executed in the auction, the balance is cancelled.	Early Auction
Reserve and Random  *Must use New Order Variant 3 (Verbose)	OrdType = 2 MaxFloor = display qty ProactiveDiscretion Indicator = 1	User defines the original display quantity and a random reserve value which will be used to determine the show quantity within a defined range each time it is replenished. (For example, a display quantity of 2000 shares and a random reserve of value of 200 will randomly display orders at 1800, 1900, 2000, 2100 or 2200 shares.) Setting the random reserve value to zero will send random orders within 20% of the original display quantity. Market Participants are preferenced for the quoted size when hitting the bid or taking the offer. Orders preferenced to ARCA, at sizes greater than the displayed size, will be matched against the entire reserve quantity.	Core
NOW order	OrdType = 2 TimeInForce = 3 ExecInst = 1	A limited price order that is executed in whole or in part that will be routed to one or more NOW recipients (those venues that respond immediately with a fill or a cancel) for immediate execution if the order cannot be executed on ArcaEx. Orders are immediately canceled if not executed at the quoted price or better.	Core
ISO Intermarket Sweep Order (Options)	ExecInst = f (Lower Case F) ISO Flag = Y TimeInForce = 3 (IOC)	These orders execute against the fully displayed size of any Protected Bid or Offer (each exchange's best bid and best offer, or "BBO"). ISOs allow a large trade to fill against quotes priced worse than the NBBO while simultaneously meeting the requirement to sweep the top of the book at all eligible protected markets. A broker can sweep and then fill the remainder of an order, so long as simultaneous "ISO Orders" are sent out to trade against the protected quotes on away markets.  <b>ISO Orders will interact with all resting orders except Tracking Orders. ISO Orders are never routed out.</b>	Core
Tracking Order	OrdType = 2 ExecInst = d	Tracking Orders are undisplayed limit orders that are eligible for execution after the Display Order Process against orders equal to or less than the aggregate size of the order if interest is available at that price. The Tracking Order will only execute against orders that are about to route out and only against such orders when the routable quantity is less than or equal to the size of the Tracking Order. If the routable size of the contra order is greater than the size of the Tracking Order then the Tracking Order will not be executed. A Tracking Order shall not	Core

Order Type	Fields and Values	Description	Available Sessions
		trade through the NBBO.	
Add Liquidity Only (ALO) (Options)	OrdType = 2 ExecInst = 6 ExtendedExecInst = A	<p>The ALO Order is a limit order that is posted to the NYSE Arca book in order to add liquidity.</p> <p>The ALO Order is designed to assist traders in controlling their trading costs. By providing rather than removing liquidity, traders can limit or reduce take fees.</p> <p>The ALO order will be Day only, and may not be designated as IOC (Immediate or Cancel), Good Till Cancel (GTC) or Good Till Date (GTD).</p> <p>ALO Orders will be rejected where, at the time of entry:</p> <ul style="list-style-type: none"> <li>- The ALO is marketable</li> <li>- The ALO will lock or cross the market</li> <li>- The ALO order would interact with un-displayed orders on NYSE Arca</li> </ul>	Core
Fill Or Kill	TimeInForce = 4 (FOK)	Order that will only fill if the entire order quantity can be matched immediately. If not the order will be cancelled back to the client.	Core
All or None	ExecInst = G	Order that will only fill if the entire order quantity can be matched.	Core
Post No Preference Blind (PNP B) Order	Order Type = 2 ExecInst = 6 ExtendedPNP = B	Marketable Contra Orders will first execute against the PNP B Orders, then the rest of the book. PNP B Orders will be ranked in time priority regardless of the price of the order when they are blind. When the PBBO moves away from the price of the PNP B but the prices continue to overlap; the PNP B will remain blind but adjust its price to the PBBO. When the PBBO moves away from the price of the PNP B and there is no longer price overlap, the PNP lights up and becomes a regular limit order including standing its ground.	Core
Wait Order	OrdType = 2 ExecInst = 6 ExtendedExecInst = W	A "WAIT" order is a limit options order that is held for one second before being processed for potential display/execution/routing per any other execution instructions or qualifiers as indicated by the order sending firm. Once released for processing, the WAIT order will behave according to the parameters indicated by the order sending firm.	Core
PNP+ Complex Order	OrdType = 2 ExecInst = M	PNP+ Complex orders are designed to provide the sender price improvement over the leg markets at the time of execution. Upon receipt, our matching engine will validate the price of a PNP+ Complex order against the leg markets and if the order is marketable against these leg markets or would post to the book at a price less than one MPV (minimum price variation) away from all of the leg markets, the order will price back one MPV from the derived (net price) BBO and post to the complex	-core

Order Type	Fields and Values	Description	Available Sessions
		<p>order book.</p> <p>PNP+ Complex orders will track the screen markets to both better and worse prices, always maintaining a one MPV buffer.</p> <ul style="list-style-type: none"> <li>• If leg markets improve so a resting PNP+ Complex order is marketable against the legs, the PNP+ Complex order will price back one MPV and repost.</li> <li>• If the leg markets worsen, the PNP+ Complex order will repost at the more aggressive price, up/down to the net debit or credit price of the order, always remaining one MVP distance from the leg markets.</li> <li>• If an incoming marketable contra side PNP+Complex order is received, it will immediately trade against the posted order, as long as the execution price is at least 1 MPV away from either side of the complex BBO.</li> </ul>	
PNP Light Only Order	OrdType = 2 ExecInst = 6 ExtendedPNP = L	<p>PNP LO orders are limit orders that do not route to away markets. Marketable incoming PNP LO orders will trade against any displayed interest and post remaining shares to the NYSE Arca book. PNP LO orders that lock or cross the National Best Bid and Offer (NBBO) will cancel back to the order sending firm. Incoming PNP LO orders will also cancel back to the order sending firm under the following conditions:</p> <p>If incoming PNP LO order is marketable against any non-displayed interest present in the NYSE Arca book, including resting PNP Blind (PNP B) orders and hidden portions of reserve orders. Once posted and disseminated, the PNP LO order will stand its ground, i.e. it will not route or cancel if locked/crossed by an away BBO.</p>	-core
Complex Order Auction (COA)	<u>New Order - Variant 4 Only</u> ExtendedExecInst = C	Any Complex Order marked for Complex Order Auction (COA) that meets COA parameters will generate an RFR (Request for Response) over ArcaBook.	-core
Complex Order RFQ response	TimeInForce = 5 (GTX)	<p>A Complex order to be used in response to a COA RFQ.</p> <p>The Complex Order marked for auction will trade with contra orders after the RFR ends in a pro rata auction. Contra orders sent in response to RFR can be marked with TimeInForce = 5 which will expire at the conclusion of the auction.</p> <p>Amex Options will begin displaying the side of the initiating complex order in the COA RFQ message on July 29th, 2013. Arca Options will begin this behavior the following week. GTX orders that are entered on the same side as the initiating COA will be rejected.</p>	-core

<b><u>NYSE Arca Options Auction Order Types</u></b>			
<b>Order Type</b>	<b>Fields and Values</b>	<b>Description</b>	<b>Available Sessions</b>
Market On Open (MOO)	OrdType = 1 (Market) TimeInForce = 2 TradingSessions = 2	Market On Open orders are orders that are executable only within an auction.  If the order is not executed in the auction, the balance is cancelled.	Early Auction
Limit On Open (LOO)	OrdType = 2 (Limit) TimeInForce = 2 TradingSessions = 123	Limit On Open orders are orders that are executable only within an auction  The Limit On Open Order is executable only during the <u>next</u> Auction following order entry (including Halt and IPO). If the order is not executed in the auction, the balance is cancelled.	Early Auction

## 8 NYSE AMEX Options Order Types

Order Type	Fields and Values	Description	Available Sessions
Market Order	OrdType = 1 (market)	An order to buy or sell that is to be executed at the best price obtainable.	Core
Limit Order	OrdType = 2 (limit)	An order to buy or sell at a specified price or better. A marketable limit order is a limit order to buy/sell at or above/below the consolidated best offer/bid for the security.	Core
PNP (post no preference)	OrdType = 2 ExecInst = 6	A limit order to buy or sell that is to be executed in whole or in part on NYSE Amex Options. The portion not executed is posted in the NYSE Amex Options Book without routing any portion of the order to another market center. PNP orders in both listed and OTC options that would lock or cross the NBBO are cancelled. PNP orders in ETF Options are cancelled if they are priced more than 3 cents through the NBBO. Otherwise they are accepted but will not be displayed if they lock or cross the NBBO	Core
Stop Order *Must use New Order Variant 3 (Verbose)	OrdType (40) = 3 (Stop) StopPx (99) = Stop Price	A Stop Order becomes an active Market Order when the stop price is reached. A Stop Order to buy is triggered when the option is bid on NYSE Amex or trades on NYSE Amex (or any exchange) at or above the specified stop price. A Stop Order to sell is activated when the option is offered on NYSE Amex or trades on NYSE Amex (or any exchange) at or below the specified stop price. Order execution is fully automated.	Core
Stop Limit Order *Must use New Order Variant 3 (Verbose)	OrdType (40) = 3 (Stop) Price (44) = Limit Price StopPx (99) = Stop Limit Price	A Stop Limit Order becomes an active Limit Order when the stop price is reached. A Stop Limit Order to buy is triggered when the option is bid or trades on NYSE Amex (or any exchange) at or above the specific stop price. A Stop Limit Order to sell becomes a Limit Order when the option is offered or trades on NYSE Amex (or any exchange) at or below the specified stop price. Order execution is fully automated. If the active limit order is not marketable it will post in the NYSE Amex Book.	Core
IOC (immediate Or Cancel)	OrdType = 2 TimeInForce = 3	A limit order that is to be executed inwhole or in part as soon as such order is received. The portion not so executed is to be treated as cancelled. IOC's only execute on NYSE Amex Options and do not route.	Core
Reserve Order *Must use New Order Variant 3 (Verbose)	OrdType = 2 (limit) MaxFloor = (show size)	A reserve replenishes the displayed order size as executions are received, up to the total order quantity; away markets are routed at their quoted size or larger (if applicable) when hitting the bid or taking liquidity.	Core
Reserve and Random *Must use New	OrdType = 2 MaxFloor = display qty ProactiveDiscretion Indicator = 1	<ul style="list-style-type: none"> <li>User defines the original display quantity and a random reserve value which will be used to determine the show quantity within a defined range each time it is replenished. (For example, a display</li> </ul>	Core



Order Type	Fields and Values	Description	Available Sessions
Order Variant 3 (Verbose)		<p>quantity of 2000 shares and a random reserve of value of 200 will randomly display orders at 1800, 1900, 2000, 2100 or 2200 shares.)</p> <ul style="list-style-type: none"> <li>Setting the random reserve value to zero will send random orders within 20% of the original display quantity.</li> <li>Market Participants are preferenced for the quoted size when hitting the bid or taking the offer.</li> <li>Orders preferenced to Amex Options, at sizes greater than the displayed size, will be matched against the entire reserve quantity.</li> </ul>	
NOW order	OrdType = 2 TimeInForce = 3 ExecInst = 1	A limited price order that is executed in whole or in part that will be routed to one or more NOW recipients (those venues that respond immediately with a fill or a cancel) for immediate execution if the order cannot be executed on NYSE Amex Options. Orders are immediately canceled if not executed at the quoted price or better.	Core
Fill Or Kill	TimeInForce = 4 (FOK)	Order that will only fill if the entire order quantity can be matched immediately. If not the order will be cancelled back to the client.	Core
All or None	ExecInst = G	Order that will only fill if the entire order quantity can be matched.	Core
Wait Order	OrdType = 2 ExecInst = 6 ExtendedExecInst = W	A "WAIT" order is a limit options order that is held for one second before being processed for potential display/execution/routing per any other execution instructions or qualifiers as indicated by the order sending firm. Once released for processing, the WAIT order will behave according to the parameters indicated by the order sending firm.	Core
ISO Intermarket Sweep Order (Options)	ExecInst = f (Lower Case F) ISO Flag = Y TimeInForce = 3 (IOC)	<p>These orders execute against the fully displayed size of any Protected Bid or Offer (each exchange's best bid and best offer, or "BBO"). ISOs allow a large trade to fill against quotes priced worse than the NBBO while simultaneously meeting the requirement to sweep the top of the book at all eligible protected markets. A broker can sweep and then fill the remainder of an order, so long as simultaneous "ISO Orders" are sent out to trade against the protected quotes on away markets.</p> <p><b>ISO Orders will interact with all resting orders except Tracking Orders. ISO Orders are never routed out.</b></p>	Core
Tracking Order	OrdType = 2 ExecInst = d	Tracking Orders are undisplayed limit orders that are eligible for execution after the Display Order Process against orders equal to or less than the aggregate size of the order if interest is available at that price. The Tracking Order will only execute against orders that are about to route out and only against such orders when the routable quantity is less than or equal	Core

Order Type	Fields and Values	Description	Available Sessions
		to the size of the Tracking Order. If the routable size of the contra order is greater than the size of the Tracking Order then the Tracking Order will not be executed. A Tracking Order shall not trade through the NBBO.	
PNP+ Complex Order	OrdType = 2 ExecInst = M	<p>PNP+ Complex orders are designed to provide the sender price improvement over the leg markets at the time of execution. Upon receipt, our matching engine will validate the price of a PNP+ Complex order against the leg markets and if the order is marketable against these leg markets or would post to the book at a price less than one MPV (minimum price variation) away from all of the leg markets, the order will price back one MPV from the derived (net price) BBO and post to the complex order book.</p> <p>PNP+ Complex orders will track the screen markets to both better and worse prices, always maintaining a one MPV buffer.</p> <ul style="list-style-type: none"> <li>• If leg markets improve so a resting PNP+ Complex order is marketable against the legs, the PNP+ Complex order will price back one MPV and repost.</li> <li>• If the leg markets worsen, the PNP+ Complex order will repost at the more aggressive price, up/down to the net debit or credit price of the order, always remaining one MVP distance from the leg markets.</li> <li>• If an incoming marketable contra side PNP+Complex order is received, it will immediately trade against the posted order, as long as the execution price is at least 1 MPV away from either side of the complex BBO.</li> </ul>	Core
Post No Preference Blind (PNP B) Order	OrdType = 2 ExecInst = 6 ExtendedExecInst = B	Marketable Contra Orders will first execute against the PNP B Orders, then the rest of the book. PNP B Orders will be ranked in time priority regardless of the price of the order when they are blind. When the PBBO moves away from the price of the PNP B but the prices continue to overlap; the PNP B will remain blind but adjust its price to the PBBO. When the PBBO moves away from the price of the PNP B and there is no longer price overlap, the PNP lights up and becomes a regular limit order including standing its ground.	Core
Complex Order Auction (COA)	<u>New Order - Variant 4 Only</u> ExtendedExecInst = C	<b>Any Complex Order marked for Complex Order Auction (COA) that meets COA parameters will generate an RFR (Request for Response) over ArcaBook.</b>	-core

Order Type	Fields and Values	Description	Available Sessions
Complex Order RFQ response	TimeInForce = 5 (GTX)	<p>A Complex order to be used in response to a COA RFQ.</p> <p>The Complex Order marked for auction will trade with contra orders after the RFR ends in a pro rata auction. Contra orders sent in response to RFR can be marked with TimeInForce = 5 which will expire at the conclusion of the auction.</p> <p>Amex Options will begin displaying the side of the initiating complex order in the COA RFQ message on July 29th, 2013. Arca Options will begin this behavior the following week. GTX orders that are entered on the same side as the initiating COA will be rejected.</p>	-core
Directed Order	OrdType = 2 DeliverToCompID = MMID or ATPID of the MarketMaker	Directed orders are orders sent by Order Sending firms. These orders are designed to interact with quotes and orders that are entered by Market Makers. Firms that enter directed orders can specify the MMID or ATPID of the market maker that they would like to deliver their directed order to in the DeliverToCompID field.	Core

<u>NYSE Amex Options Auction Order Types</u>			
Order Type	Fields and Values	Description	Available Sessions
Market On Open (MOO)	OrdType = 1 (Market) TimeInForce = 2 TradingSessions = 2	Market On Open orders are orders that are executable only within an auction.  If the order is not executed in the auction, the balance is cancelled.	Early Auction
Limit On Open (LOO)	OrdType = 2 (Limit) TimeInForce = 2 TradingSessions = 123	Limit On Open orders are orders that are executable only within an auction  The Limit On Open Order is executable only during the <u>next</u> Auction following order entry (including Halt and IPO). If the order is not executed in the auction, the balance is cancelled.	Early Auction

## Appendix A: Liquidity Indicator Values and Definitions (Equities)

Description	LiquidityIndicator Field	LastMkt Field
Add on Tape A	A	PA
Add on Tape B	A	PB
Add on Tape C	A	PC
Add Blind on Tape A	B	PA
Add Blind on Tape B	B	PB
Add Blind on Tape C	B	PC
Tape A Execution -Routed to NYSE or AMEX where the order participated in the opening or re-opening	C	PA
Tape B Execution -Routed to NYSE or AMEX where the order participated in the opening or re-opening	C	PB
Tape C Execution -Routed to NYSE or AMEX where the order participated in the opening or re-opening	C	PC
Add on Tape A- Sub Dollar	D	PA
Add on Tape B- Sub Dollar	D	PB
Add on Tape C- Sub Dollar	D	PC
Removing on Tape A - Sub Dollar	E	PA
Removing on Tape B - Sub Dollar	E	PB
Removing on Tape C - Sub Dollar	E	PC
Tape A Execution -Routed to NYSE or AMEX where the order was liquidity adding at NYSE or AMEX.	F	PA
Tape B Execution -Routed to NYSE or AMEX where the order was liquidity adding at NYSE or AMEX	F	PB
Tape C Execution -Routed to NYSE or AMEX where the order was liquidity adding at NYSE or AMEX	F	PC
Tape A Execution -Limit - Auction Only (LAO) - Executed in Opening, Market or Halt Auction on ARCA	G	PA
Tape B Execution -Limit - Auction Only (LAO) - Executed in Opening, Market or Halt Auction on ARCA	G	PB
Tape C Execution -Limit - Auction Only (LAO) - Executed in Opening, Market or Halt Auction on ARCA	G	PC
Tape A Execution -Market - Auction Only (MAO) - Executed in Opening, Market or Halt Auction on ARCA	G	PA
Tape B Execution -Market - Auction Only (MAO) - Executed in Opening, Market or Halt Auction on ARCA	G	PB
Tape C Execution -Market - Auction Only (MAO) - Executed in Opening, Market or Halt Auction on ARCA	G	PC
Routed on Tape A - Sub Dollar	H	PA
Routed on Tape B - Sub Dollar	H	PB
Routed on Tape C - Sub Dollar	H	PC
Add on Tape A- Retail	I	PA

Description	LiquidityIndicator Field	LastMkt Field
Add on Tape B- Retail	I	PB
Add on Tape C- Retail	I	PC
Tape A Execution – Tracking Order	J	PA
Tape B Execution - Tracking Order	J	PB
Tape C Execution - Tracking Order	J	PC
Removing on Tape A - Retail	K	PA
Removing on Tape B - Retail	K	PB
Removing on Tape C - Retail	K	PC
Removing on Tape A - MPL Order	L	PA
Removing on Tape B - MPL Order	L	PB
Removing on Tape C - MPL Order	L	PC
Add on Tape A -MPL Order	M	PA
Add on Tape B -MPL Order	M	PB
Add on Tape C -MPL Order	M	PC
Tape A Execution - Routed to NYSE or AMEX where the order was liquidity taking at NYSE or AMEX or 3:45 Order Routed to NYSE or AMEX-Regardless of Adding, Taking, Re-Routing or Auction	N	PA
Tape B Execution - Routed to NYSE or AMEX where the order was liquidity taking at NYSE or AMEX or 3:45 Order Routed to NYSE or AMEX-Regardless of Adding, Taking, Re-Routing or Auction	N	PB
Tape C Execution - Routed to NYSE or AMEX where the order was liquidity taking at NYSE or AMEX or 3:45 Order Routed to NYSE or AMEX-Regardless of Adding, Taking, Re-Routing or Auction	N	PC
Neutral on Tape A	O	PA
Neutral on Tape B	O	PB
Neutral on Tape C	O	PC
Removing on Tape A	R	PA
Removing on Tape B	R	PB
Removing on Tape C	R	PC
Tape A Execution - Set new Arca BBO and Adding Liquidity - ARCA	S	PA
Tape B Execution - Set new Arca BBO and Adding Liquidity - ARCA	S	PB
Tape C Execution - Set new Arca BBO and Adding Liquidity - ARCA	S	PC
Tape A Execution - MOC/LOC - On NYSE	U	PA
Tape B Execution - MOC/LOC - On NYSE	U	PB
Tape C Execution - MOC/LOC - On NYSE	U	PC
Tape A Execution - Routed to NYSE or AMEX where the order was re-routed to an external market and filled	W	PA
Tape B Execution - Routed to NYSE or AMEX where the order was re-routed to an external market and filled	W	PB
Tape C Execution - Routed to NYSE or AMEX where the order was re-routed to an external market and filled	W	PC
Tape A - Execution - Routed	X	PA

Description	LiquidityIndicator Field	LastMkt Field
Tape B - Execution - Routed	X	PB
Tape C - Execution - Routed	X	PC
Tape A Execution - MOC/LOC - On AMEX	Y	PA
Tape B Execution - MOC/LOC - On AMEX	Y	PB
Tape C Execution - MOC/LOC - On AMEX	Y	PC
Tape A Execution - MOC/LOC - On ARCA	Z	PA
Tape B Execution - MOC/LOC - On ARCA	Z	PB
Tape C Execution - MOC/LOC - On ARCA	Z	PC
Tape A Execution -Limit - Auction Only (LAO) - Executed in Closing Auction on ARCA	Z	PA
Tape B Execution -Limit - Auction Only (LAO) - Executed in Closing Auction on ARCA	Z	PB
Tape C Execution -Limit - Auction Only (LAO) - Executed in Closing Auction on ARCA	Z	PC
Tape A Execution -Market - Auction Only (MAO) - Executed in Closing Auction on ARCA	Z	PA
Tape B Execution -Market - Auction Only (MAO) - Executed in Closing Auction on ARCA	Z	PB
Tape C Execution -Market - Auction Only (MAO) - Executed in Closing Auction on ARCA	Z	PC

## Appendix B: Liquidity Indicator Values and Definitions (Arca & Amex Options)

Description	LiquidityIndicator Field	LastMkt Field
Execution - Added Liquidity (Arca Options)	A	PO
Execution - Removed Liquidity (Arca Options)	R	PO
Execution - Opening Auction – Neutral (Arca Options)	O	PO
Execution - Routed Away (Arca Options)	X	PO
Execution - Added Liquidity (AMEX Options)	A	AO
Execution - Removed Liquidity (AMEX Options)	R	AO
Execution - Opening Auction – Neutral (AMEX Options)	O	AO
Execution - Routed Away (AMEX Options)	X	AO

### Arca & Amex Options - Routed Away Market Definitions (Verbose Indicators) (Message 2, Variant 2)

Description	LiquidityIndicator Field	ExecBroker Field	Away Market
Execution - Routed Away (Arca Options)	X	BOX	Boston OE
Execution - Routed Away (Arca Options)	X	CBO	CBOE
Execution - Routed Away (Arca Options)	X	ISX	ISE
Execution - Routed Away (Arca Options)	X	NDQ	Nasdaq
Execution - Routed Away (Arca Options)	X	PHO	Nasdaq PSX
Execution - Routed Away (Arca Options)	X	ASE	NYSE Amex
Execution - Routed Away (Arca Options)	X	BATS	BATS Options
Execution - Routed Away (Arca Options)	X	CB2	CBOE (C2)
Execution - Routed Away (Arca Options)	X	NASD	Nasdaq BX
Execution - Routed Away (Arca Options)	X	MIAX	MIAX Options
Execution - Routed Away (Arca Options)	X	ISE2	ISE Gemini

Description	LiquidityIndicator Field	ExecBroker Field	Away Market
Execution - Routed Away (AMEX Options)	X	BOX	Boston OE
Execution - Routed Away (AMEX Options)	X	CBO	CBOE
Execution - Routed Away (AMEX Options)	X	ISX	ISE
Execution - Routed Away (AMEX Options)	X	NDQ	Nasdaq
Execution - Routed Away (AMEX Options)	X	PHO	Nasdaq PSX
Execution - Routed Away (AMEX Options)	X	NYO	NYSE Arca
Execution - Routed Away (AMEX Options)	X	BATS	BATS Options
Execution - Routed Away (AMEX Options)	X	CB2	CBOE (C2)
Execution - Routed Away (AMEX Options)	X	NASD	Nasdaq BX
Execution - Routed Away (AMEX Options)	X	MIAX	MIAX Options
Execution - Routed Away (AMEX Options)	X	ISE2	ISE Gemini



## ***Appendix C: Reject Codes***

Reject Number	Name	Description
0	Success	No Reject
1	System unavailable	The Trading System is not available.
2	Invalid Sequence Number	The Last Sequence Number in a Logon message is larger than ArcaDirect expected.
3	Client Session Already Exists	A user attempted to login more than once and the existing client session is still active. Only one client session is supported per user.
4	Client Session Disabled	The user attempted to reconnect to a client session that has been disabled.
5	Connection Type	The configured connection type of a session does not match the port the client connects to.
10	Invalid IP Address	User is attempting to logon from a Source IP that is not permitted

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## ***Appendix D: Exchange Destinations (ExDestination)***

ExDestination	Description
102	NYSE Arca Equities
103	NYSE Arca Options
104	NYSE Amex Options