BZX Exchange
US Equities
FIX Specification

Version 1.33.5

October 8, 2014

Contents

1 Introduction

1.1 Overview

BATS members use a subset of the FIX 4.2 protocol for order entry and drop copies.

It is assumed that the reader is familiar with the FIX 4.2 protocol as described at http://www.fixprotocol.org. This document describes the differences between the BATS implementation and the FIX 4.2 standard.

1.2 Hours of Operation

All times noted are Eastern Time zone (ET) based.

Refer to the web site for the BATS Holiday schedule.

Prior to 10/31/14, all orders are live upon acceptance by BYX Exchange and BZX Exchange.

BZX Exchange supports an opening and closing auction for BZX Exchange listed securities (refer to the BATS US Equities Auction Process specification for more information).

Effective 10/31/14, orders entered prior to the start of the Pre-Market or Regular Trading Session which are accepted will be queued for trading in the session designated by the order. Once trading begins, queued orders will be released to the respective book and crossing orders will be matched by time priority. Refer to the BATS Equities Opening/Re-Opening Process for more information.

Orders are rejected if they are received outside the hours BATS is available for trading or queuing. All orders remaining after the Post Market Session will be cancelled automatically (Execution Reports will be delivered).

1.2.1 BZX and BYX Exchanges

Session	Start Time	End Time
Effective 10/31/14 Begin Order Acceptance (Pre-Market Orders) Pre-Market orders will be accepted but will not begin trading until 8:00 AM.	6:00 AM	8:00 AM
Effective 10/31/14 Begin Order Acceptance (Regular Session Orders) Regular Session orders will be accepted but will not begin trading until 9:30 AM.	6:00 AM	9:30 AM
Pre-Market Session	8:00 AM	9:30 AM
Regular Trading Session	9:30 AM	4:00 PM
Post Market Session	4:00 PM	5:00 PM

1.3   Data Types

All FIX timestamps are GMT as per the FIX standard. Members are expected to synchronize their clocks with an external time source.

Prices - Members should program their systems to allow execution prices to be returned with up to four decimals.

- Order prices below $1.00 may be priced up to four decimal places.

- Order prices of $1.00 or more may be priced up to two decimal places.

Example:

0.0001 to 0.9999	Accepted
1.0010, 1.0001, 12.3456	Rejected – subpenny not allowed above one dollar.
1.0000, 1.00, 12.3400, 12.34, etc.	Accepted – round penny (extra trailing zeroes are fine).

1.4   Document Format

Blue highlighted sections highlight key differences between the BATS BZX Exchange and BYX Exchange specifications.

2 Protocol

2.1 Message Format

FIX messages are ASCII formatted. The member will be provided with a *SenderCompId* and *SenderSubId* that must be sent on every message. The *TargetCompId* for all messages the member sends will be "BATS". All messages the member receives will have the Sender and Target fields swapped.

2.2 Sequence Numbers

Sequence numbers, both inbound and outbound, will be reset to 1 each night during the down time.

Messages are processed in sequence order. Behind sequence messages (other than Sequence Reset – Reset) cause immediate logout. Ahead of sequence messages (other than a Resend Request) trigger a message recovery via a Resend Request.

2.3 Version Compatibility

BATS uses the FIX 4.2 session protocol.

3 Sessions

The following session messages are supported in both directions:

Message	Type	Comment
Logon	A	Begin session (or resume a broken session).
Heartbeat	0	
Test Request	1	
Resend Request	2	
Reject	3	Malformed message or improper session level handling.
Sequence Reset	4	Both Gap Fill (*GapFillFlag*=Y) and Reset.
Logout	5	Used to gracefully close session.

3.1   Connectivity

IP Address	Address to connect to.	Supplied by BATS.
TCP Port	Port to connect to.	Supplied by BATS.
SenderCompID	Sent in every FIX message to BATS.	Supplied by BATS.
SenderSubID	Sent in every FIX message to BATS.	Supplied by BATS.
TargetCompID	Sent in every FIX message to BATS.	"BATS"
TargetSubID	Sent in every FIX message to BATS.	"TEST" for test system. "PROD" for production.

For information on connectivity options to BATS, refer to the BATS US Equity/Options Connectivity Manual at:

http://www.batstrading.com/resources/membership/BATS_Connectivity_Manual.pdf

3.2   Logon

The logon must be the first message sent by the member after the TCP connection is established. EncryptMethod is ignored (FIX level encryption is not supported).

The IP Address of the member, the *SenderCompId*, *SenderSubId* and *TargetCompId* ("BATS") and *TargetSubId* ("TEST"/"PROD") will be validated. If validation fails the connection will be dropped without a reject (to avoid corrupting the members sequence in the case that the member merely mistakenly connected to the wrong port).

If connection is unexpectedly broken, upon reconnection the member may receive a login reply with a sequence number greater than expected.   This means that in-flight messages were missed (likely important execution reports). The member should issue a Resend Request to retrieve the missed messages.

Similarly BATS will issue a Resend Request to the member for messages that it missed. The member may wish to send gap fill messages in place of new orders to avoid re-submission of potentially stale orders.

HeartbeatInterval must be specified by the member in the logon message. This value will be clamped between 5 and 300 seconds and returned in the logon reply message. We recommend using as low a value as the reliability and latency of your telecommunications channel will allow.

3.3   Heartbeat

A Heartbeat message should be sent if the agreed upon *HeartbeatInterval* has elapsed since the last message sent. If any message has been sent during the preceding *HeartbeatInterval* a Heartbeat message need not be sent.

3.4 Test Request

If a *HearbeatInterval* + 1 seconds have elapsed since the last message received, a Test Request should be issued. If another *HearbeatInterval* + 1 seconds go by without receiving a message the TCP connection should be dropped. This ensures that a broken TCP connection will be detected even if the TCP stack doesn't notice (this has been observed to happen in WAN environments, particularly when a VPN is involved).

3.5 Resend Request

A Resend Request message should be processed even if it is received ahead of sequence. Only after resending the requested range (all marked *PossDup*="Y", including any gap fills) should Resend Request be issued in the opposite direction.

As discussed in the FIX 4.2 specification, it is possible to send an open or closed sequence range in a Resend Request (an open range uses sequence zero as the EndSeqNo). BATS will honor either type of request, but will always issue Resend Requests with a closed sequence range.

3.6 Reject

Session level rejects are used to indicate violations of the session protocol, or missing (or bogus) fields. These are to be expected during development and certification, while the member is being adapted for BATS, but should be extremely rare in production. Application layer rejects (like Order Reject and Cancel Reject) are normal.

3.7 Sequence Reset

Sequence Reset - Gap Fill messages (*GapFillFlag*="Y") must be received in sequence. Any messages (including any Gap Fills) sent in response to a Resend Request should have PossDup="Y".

Sequence Reset - Reset (*GapFillFlag* not "Y") is used only as a last resort, and always by human intervention, to allow an otherwise hopelessly confused session to be resumed. In these cases all chance at automatic message recovery are lost.

3.8 Logout

Either side may issue a logout to gracefully close the session. The side that issues the logout should process messages normally until it sees the logout reply, and then break the TCP connection. BATS will typically only request logout after the scheduled end of FIX session.

4 FIX Messages

4.1 Standard Message Header

Tag	Field Name	Description
8	*BeginString*	FIX.4.2 Must be first field in message.
9	*BodyLength*	Length of message following *BodyLength* field up to and including the delimiter preceding the CheckSum field. Must be second field in message.
35	*MsgType*	Must be third field in message.
49	*SenderCompID*	ID of sender: Assigned by BATS for messages sent to BATS. (*TargetCompID* for messages from BATS)
50	*SenderSubID*	Sub ID of sender: Assigned by BATS for messages sent to BATS. (*TargetSubID* for messages from BATS)
56	*TargetCompID*	ID of destination: "BATS" for messages sent to BATS. (*SenderCompID* for messages from BATS)
57	*TargetSubID*	Sub ID of destination: "TEST" for messages sent to BATS test system. "PROD" for messages sent to BATS production system. (*SenderSubID* for messages from BATS)
34	*MsgSeqNum*	Sequential sequence number for session.
43	*PossDupFlag*	Indicates a message resent from the admin level (has a duplicate sequence number). Default is "N".
52	*SendingTime*	GMT date-time that message was sent.
122	*OrigSendingTime*	For messages with *PossDupFlag*="Y", indicates time that message was first sent.
115	*OnBehalfOfCompId*	Service Bureau must use. Identifies end-client on messages **to** BATS. Must be allowed NSCC MPID. May be used by non-service bureau to specify which clearing arrangement to use if multiple clearing arrangements are configured. Alternatively, non-service bureau may use 439 instead.
116	*OnBehalfOfSubID*	End-client sub identifier. 4 Characters alphanumeric, otherwise not validated. Recorded and returned in *DeliverToSubID*. Available via FIX Drop.
128	*DeliverToCompId*	Service Bureau use. Identifies end-client on messages **from** BATS. Must be allowed NSCC MPID.
129	*DeliverToSubID*	Returns *OnBehalfOfSubID* optionally sent by client.

4.2 Standard Message Trailer

Tag	Field Name	Description
10	*CheckSum*	Modulo 256 checksum of all characters in message up to and including the delimiter preceding the CheckSum field. Three digits with leading zeroes if necessary.

4.3 BATS Specific Fields

The following FIX fields are specific to BATS:

Tag	Field Name	Description
7694	*ContraCapacity*	Refer to definition in the Execution Report Section 4.5.1 for more details.
7928	*PreventMemberMatch*	Refer to definition in the New Order Single Section 4.4.1 for more details.
8020	*DisplayRange*	Refer to definition in the New Order Single Section 4.4.1 for more details.
9303	*RoutingInst*	Refer to definition in the New Order Single Section 4.4.1 for more details.
9479	*DisplayIndicator*	Refer to definition in the New Order Single Section 4.4.1 for more details.
9617	*ModifySequence*	Refer to definition in the Execution Report Section 4.5.1 for more details.
9618	*MaxRemovePct*	Refer to definition in the New Order Single Section 4.4.1 for more details.
9619	*CancelOrigOnReject*	Refer to definition in the Order Cancel/Replace Section 4.4.3 for more details.
9620	*CorrectedPrice*	Refer to definition in the Trade Cancel/Correct Section 4.5.3 for more details.
9621	*ExchangeAccessFee*	Refer to definition in the Execution Report Section 4.5.1 for more details.
9622	*DiscretionAmount*	Refer to definitions in the New Order Single Section 4.4.1 and Execution Report Section 4.5.1 for more details.
9688	*OrigCompID*	Refer to definition in the Execution Report Section 4.5.1 for more details.
9689	*OrigSubID*	Refer to definition in the Execution Report Section 4.5.1 for more details.
9690	*WorkingPrice*	Refer to definition in the Execution Report Section 4.5.1 for more details.
9691	*InitialDisplayPrice*	Refer to definition in the Execution Report Section 4.5.1 for more details.

| 9730 | *TradeLiquidityIndicator* | Refer to definitions in the Execution Report Section 4.5.1 and Trade Cancel/Correct Section 4.5.3 for more details. |
| 9732 | *AttributedQuote* | Refer to definition in the New Order Single Section 4.4.1 for more details. |

4.4 Order Protocol – Member to BATS

4.4.1 New Order Single

Tag	Field Name	Description
35	Standard Message Header	*MsgType*="D"
97	*PossResend*	"N" (default) indicates a new order. "Y" indicates an application level resend and is NOT SUPPORTED. For reasons of economy, BATS does not track (in primary storage) the *ClOrdID* values of orders that are no longer live. For reasons of performance, BATS does not access secondary storage to enforce unique *ClOrdID* values against orders that are no longer live. Without full duplicate *ClOrdID* value enforcement, it is not possible to safely implement the full behavior specified in the FIX 4.2 Protocol for *PossResend*="Y". To remain economical, fast *and* safe, all New Order messages with *PossResend*="Y" will be simply ignored.
1	*Account*	**Optional**. Reflected back on execution reports associated with this order. 16 characters or less (ASCII 33-126) Available via Standard FIX Drop on an opt-in basis at the port level. Available by default on Order by Order FIX Drop. Not available via DROP.
11	*ClOrdId*	Day-unique ID chosen by client. 20 characters or less. Characters in ASCII range 33-126 are allowed, except for comma, semicolon, and pipe. For proper OATS handling, *ClOrdId* must comply with OATS 'Routed Order ID' as defined in Appendix A of the 'OATS Reporting Technical Specifications'. If the *ClOrdId* matches a live order it will be rejected as duplicate (unless *PossResend*="Y", see above). **Note: BATS only enforces the uniqueness of *ClOrdID* values among currently live orders. However we *strongly* recommend that you keep your *ClOrdID* values day unique.**

60	*TransactTime*	Time order initiated/released. Required by FIX 4.2 but not used by BATS.
55	*Symbol*	Symbol (upper case) **Entire BATS format symbol** or symbol root if using CQS or CMS format.
65	*SymbolSfx*	SymbolSfx: CQS or CMS suffix if used. **Do not send *SymbolSfx* if using BATS format or if symbol does not have a suffix.** (Refer to Symbology link in the **References** chapter.)
54	*Side*	Buy = "1" Sell = "2" Sell Short = "5" (client affirms ability to borrow) Sell Short Exempt = "6"
114	*LocateReqd*	Optional, only processed for Sell Short and Sell Short Exempt N = client affirms ability to borrow (**Default**) Y = client does not affirm ability to borrow (results in a reject)
38	*OrderQty*	Number of shares for order, 1 to 999,999
111	*MaxFloor*	Portion of *OrderQty* to display. The balance is reserve. 0 displays entire quantity (**Default**). The displayed quantity of each order at a price level is decremented first. When displayed quantity is fully decremented it is reloaded up to *MaxFloor* from reserve. **Ignored** if order is hidden or IOC
8020	*DisplayRange*	Used for random replenishment of Reserve Orders. This is the Random Replenishment amount in shares and must be specified in round lots. The value specified will create a *DisplayRange* around *MaxFloor*. Value must be less than the value specified for *MaxFloor*. **Example** If *MaxFloor* = 2000 and *DisplayRange* = 200, the displayed quantity will be selected randomly from any of the following values: 1800, 1900, 2000, 2100, 2200.

40	*OrdType*	Market = "1" Limit = "2" Stop = "3" Stop Limit = "4" Pegged = "P" On BYX/BZX, Market implies *TimeInForce* of IOC until 11/14/14. **Effective 11/14/14 Market implies *TimeInForce* of DAY. Market DAY orders can post in LULD straddle state or for short sale orders during Reg SHO circuit breakers.**Pegged requires *ExecInst*=L, M, m, P, Q or R. Pegged orders may not be routable. Stop/Stop Limit orders must be set to Tag 59 (*TimeInForce*) = "R" (Regular Hours Only – *available in a future release to be announced*) or "0" (DAY).
44	*Price*	Limit Price. Order rejected if priced finer than the minimum trading increment for the stock.
99	*StopPx*	The trigger price for Stop and Stop Limit orders. Required if Tag 40 (*OrdType*) is equal to 3 or 4. Stop and Stop Limit orders will only be triggered off Last Sale Eligible trades.
9622	*DiscretionAmount*	Discretion is implicitly added to bid prices and subtracted from offer prices. Order will be displayed at *Price* but can execute in discretionary range. A discretionary order will use the minimum amount of discretion necessary to achieve execution. Zero applies no discretion (**Default**). Max discretion to apply to Price (non-negative 0.00 to 99.99). Non-zero *DiscretionAmount* does not mix with IOC, Post-Only (9303 = P or Q).
211	*PegDifference*	**Optional signed** dollar value up to 4 decimal places* is **added** to result of peg calculation. **Default** is zero. Must be >= 0 for Visible Peg Sell orders. Must be <= 0 for Visible Peg Buy orders. May be >= 0 or <= 0 for Hidden Primary Pegs. Must be zero (or not specified) for Midpoint peg or non-pegged orders *PegDifference is rounded (down for Buy, up for Sell) if the resulting price is above $1.00.

110	*MinQty*	**Optional** minimum* fill quantity for <mark>BATS BZX Exchange Only</mark> hidden or IOC orders. **Ignored** unless order is <mark>BATS BZX Exchange Only</mark> hidden or <mark>BATS BZX Exchange Only</mark> IOC **Default** is zero. *When removing liquidity limits the minimum **total** fill size, which may be made up of several **consecutive** smaller fills.
47	*Rule80A (aka OrderCapacity)*	A = Agency P = Principal R = Riskless
59	*TimeInForce*	"0" = DAY (Expires at end of market day.) "1" = GTC (Allowed, but treated same as Day.) <mark>"2" = At the Open</mark> "3" = IOC (Portion not filled immediately is cancelled. Market orders are implicitly IOC.) "4" = FOK (An IOC where the entire size must be filled, else the order will be cancelled back.) "5" = GTX (Expires at end of extended day.) "6" = GTD (Expires at earlier of specified *ExpireTime* or end of extended day.) <mark>"7" = At the Close</mark> "R" = RHO (Regular Hours Only – Applicable to BATS Listed Securities Only until **effective date 10/31/14**.
126	*ExpireTime*	Required for *TimeInForce* ="6" (GTD) orders, specifies the date-time (in GMT) that the order expires. Values may be specified at a millisecond level.

| 18 | *ExecInst* | **Single value only (with no trailing space)**
f = Intermarket Sweep (Directed *or* BATS)
r = Late (For use with Auction Only orders only. Refer to the [BATS US Equities Auction Process specification](#) for more information.)
u = BATS+DRT (access liquidity on the BZX Exchange order book, then route to DRT Dark Liquidity Partners(DLPs), then return to BZX Exchange order book or be canceled depending on user's instruction)
v = Force DRT (to override a port-level opt-out of DRT)
w = Do not DRT (default is to DRT unless overridden at port level)
P = Market Peg (peg Buy to NBBO Offer, peg Sell to NBBO Bid)
Q = Market Maker Peg (see below)
R = Primary Peg (peg Buy to NBBO Bid, peg Sell to NBBO Offer)
U = Supplemental Peg Order - **Available effective 10/17/14.**
M = Midpoint (peg to NBBO Midpoint)
m = Midpoint (peg to NBBO Midpoint, but do not match in event the NBBO locks)
L = Alternate Midpoint (less aggressive of midpoint and 1 tick inside NBBO)
o = Listing Market Opening[*] - **Available effective 11/07/14.**
c = Listing Market Close (For ROOC strategy only.) - **Available effective 11/07/14.**
a = Both Listing Market Open and Close[*] (For ROOC strategy only.) - **Available effective 11/07/14.**
NOTE: value L differs in meaning from standard FIX 4.2
All other values are ignored.

Peg Orders:
Midpoint Pegged orders (M, m and L) will be forced to hidden (*DisplayIndicator* = "I"), regardless of what is sent in the *DisplayIndicator* tag 9479.

Only **Hidden** Market Pegs (*DisplayIndicator*=I) will be accepted at this time. If *DisplayIndicator* = "V", the Primary/Market Peg order will be rejected. If *DisplayIndicator* is not sent, *DisplayIndicator* = "I" will be implied. **Visible** Primary Pegs can be specified by sending *DisplayIndicator* = "v".

Market Maker Pegs will peg at an offset of a defined Reference Price (see [BATS Market Maker Specification](#)). *OrdType* = "P" and *RoutingInst* = "P" are required. If not sent, *DisplayIndicator* |

18 (cont.)	*ExecInst* *(cont.)*	will use the default setting defined on the port; orders with *DisplayIndicator* = "I" will be rejected. **Routable Orders:** BATS+DRT (u) requires 9303 = "R" in the 1st character position. Force DRT (v) requires 9303 ≠ "B" or "P". If the 1st character of 9303 = "R" or ExecInst is not specified, then Force DRT (v) will be implied. *For ROOC orders, also eligible to participate in halt auctions
9416	*ExtendedExecInst*	Optional. N = None P = Retail Order

7928	*PreventMemberMatch*	BATS Match Trade Prevention: 3 characters (not space separated): 1st character – MTP Modifier: N=Cancel Newest O = Cancel Oldest B = Cancel Both S = Cancel Smallest D = Decrement Larger / Cancel Smaller d = Same as (D) above, but only decrement *LeavesQty*. Do not restate *OrdQty*. 2nd character – Unique ID Level: F = Prevent Match at BZX Exchange Member level M = Prevent Match at MPID Level 3rd character – Trading Group ID (optional): Member specified alphanumeric value 0-9, A-Z, or a-z. The Unique ID Level (character 2) of both orders must match to prevent a trade. If specified <u>on both orders</u>, Trading Group ID (character 3) must match to prevent a trade. The MTP Modifier (character 1) of the inbound order will be honored, except that if the inbound order specifies Decrement and the resting order does not, and the resting order is larger, then both orders will be cancelled. This exception is to protect the order-entry software for the resting order from receiving an unexpected restatement message. If order-entry software is prepared to handle unexpected restatement messages, this exception may be overridden at the port level by requesting "Allow MTP Decrement Override" functionality. Users of MTP Modifier D or d AND users of "Allow MTP Decrement Override" functionality must be prepared to receive a FIX Restatement (Execution Report with *ExecType* = D) that decrements *LeavesQty* (and also *OrdQty* for method D).

9303	*RoutingInst (v1)*	This tag currently supports up to 3 characters as follows:

1st character: Specifies the target destination.

1st character: Specifies the target destination.
2nd character: Used to enable/disable re-routing.
3rd character: Specifies the routing strategy.

1st *Character*	*Destination*
A	NYSE ARCA
B	BATS BZX Exchange Only
D	EDGA
G	EDGX
I	BATS BZX Exchange Only ISO *(deprecated in favor of 9303=B and 18=f)*
J	BATS BYX Exchange – B2B
K	NASDAQ BX
L	LavaFlow
M	Chicago
N	NASDAQ
P	BATS BZX Exchange Only Post Only *(will reject rather than remove visible liquidity unless the value of price improvement associated with the execution equals or exceeds the sum of fees charged for the execution plus the value of the rebate that would have been provided if the order posted to the BATS book and provided liquidity)*
Q	BATS BZX Exchange Only Post Only At Limit *(remove shares that improve upon limit price and up to MaxRemovePct of remaining OrdQty at limit price)*
R *(default)*	Smart Route to Away Markets
U	NYSE MKT
X	NASDAQ PSX
Y	NYSE

- Post Only does not mix with *TimeInForce*=IOC.
- BATS BZX Exchange Only Post Only orders do not interact with hidden orders on entry *unless the value of price improvement associated with the execution equals or exceeds the sum of fees*

9303 (cont.)	*RoutingInst (v1)* (cont.)	*charged for the execution plus the value of the rebate that would have been provided if the order posted to the BATS book and provided liquidity.*

- BATS BZX Exchange Only Post Only At Limit orders do not interact with hidden orders on entry at the stated limit price.

2nd and 3rd characters are only applicable when the 1st character is 'R'.

2nd *Character*	*Re-Route on Lock/Cross*
L	Super Aggressive. Allow for use of Parallel strategy up to limit or discretion price on entry and allow for re-route via Parallel strategy after the order has booked *only if another market locks or crosses* the limit or discretion price.
C	Aggressive. Allow for use of Parallel strategy up to limit or discretion price on entry and allow for re-route via Parallel strategy after the order has booked *only if another market crosses* the limit or discretion price.
K	Super Aggressive When Odd Lot. Routable order will be automatically assigned Super Aggressive status when it becomes an odd lot.
N *(default)*	Do not lift and re-route after posting.

3rd *Character*	*Routing Strategy*
D *(default)*	Parallel-D
R	TRIM
r	TRIM-*
P	TRIM2
p	TRIM2-*
Q	TRIM3
q	TRIM3-*
S	SLIM
s	SLIM+ (route to BYX Exchange prior to scraping BZX Exchange

9303 (cont.)	*RoutingInst (v1)* (cont.)			book unless price improvement is available)
		T		Parallel-T
		2		Parallel-2D

*Do not scrape BZX Exchange book first unless price improvement is available.

In order to specify values for the 2nd and/or 3rd character, the prior character(s) MUST be populated with a valid value. If tag 9303 is not specified, a default value of RND is implied (All Away Markets/No re-route/Parallel-D). Empty values in the 2nd and/or 3rd character positions will imply the default value from their respective position.

As the default instruction for tag 9303 is subject to change with little or no notice, it is recommended you specify values for all 3 character positions if you wish to maintain maximum control of your routing decisions.

For more information regarding the various routing strategies available on BATS, refer to http://www.batstrading.com/features/.

ExecInst (18) values are supported in combination of 9303 1st character values as follows:

RoutingInst (9303) 1st Char.	Destination	ExecInst (18)						
		Not Present	f	v	u	r	M m L P R (peg)	Q
A	NYSE ARCA	OK	OK	OK	REJ	REJ	REJ	REJ
B	BATS BZX Exchange Only	OK	OK	REJ	REJ	OK	OK	REJ
D	EDGA	OK	OK	OK	REJ	REJ	REJ	REJ
G	EDGX	OK	OK	OK	REJ	REJ	REJ	REJ
I	BATS BZX Exchange Only ISO *(deprecated in favor of 9303=B 18=f)*	OK	OK	REJ	REJ	REJ	REJ	REJ
J	BATS BYX Exchange – B2B	OK	OK	OK	REJ	REJ	REJ	REJ
K	Nasdaq BX	OK	OK	OK	REJ	REJ	REJ	REJ
L	LavaFlow	OK	OK	OK	REJ	REJ	REJ	REJ
M	Chicago	OK	OK	OK	REJ	REJ	REJ	REJ
N	NASDAQ	OK	OK	OK	REJ	REJ	REJ	REJ
P	BATS BZX Exchange Only Post Only	OK	OK	REJ	REJ	REJ	OK	OK
Q	BATS BZX Exchange Only PostOnlyAtLimit	OK	OK	REJ	REJ	REJ	REJ	REJ
R *(default)*	Smart Route to	OK	REJ	OK	OK	REJ	REJ	REJ

		Away Markets							
	U	NYSE MKT	OK	OK	OK	REJ	REJ	REJ	REJ
	X	Nasdaq PSX	OK	OK	OK	REJ	REJ	REJ	REJ
	Y	NYSE	OK	OK	OK	REJ	REJ	REJ	REJ

		If ExecInst(18)=f and the order is directed to a market center, the order is sent to the market center as a directed ISO and does not interact with the BZX Exchange book. If the order is BATS BZX Exchange Only (9303=B) and ExecInst(18)=f, the order is treated as an ISO on the BZX Exchange book.
9303	*RoutingInst (v2)* *Usage requires certification and activation through BATS Trade Desk.*	**1ˢᵗ character** B = Book Only (Not routable but will remove from local book) K = Super Aggressive When Odd Lot. Routable order will be automatically assigned Super Aggressive status when it becomes an odd lot. P = Post Only (Not Routable/Add Liquidity Only) Q = Post Only At Limit (removes shares that improve upon limit price and up to *MaxRemovePct* of remaining *OrdQty* at limit price) R = Routable S = Super Aggressive - Cross or Lock (Order will be removed from book and routed to any quote that is crossing or locking the order) X = Aggressive - Cross only (Order will be removed from book and routed to any quote that is crossing) A = Post to Away – Post remainder to an away venue specified in Tag 100 for applicable routing strategies. See Tag 100 for details. **Available effective 10/17/14.** **2ⁿᵈ character** D = Eligible to route to DRT L = Route to lit markets only (To be used with 9400 = DIRC, TRIM, TRIM-, TRIM2, TRIM2-, TRIM3, TRIM3-, SLIM, SLIM+)

9350	*RouteDeliveryMethod (v2)* *Usage requires certification and activation through BATS Trade Desk.*	RTI = Route to Improve, equivalent to BATS Parallel D (**Default if not specified**) RTF = Route to Fill, equivalent to BATS Parallel 2D *Route to Improve*: Ability to receive price improvement will take priority over speed of execution. *Route to Fill*: Speed of execution will take priority over potential price improvement. Only applicable to Tag 9400 (*RoutStrategy*)=ROUT and ROUX.

9400	*RoutStrategy (v2)* *Usage requires certification and activation through BATS Trade Desk.*	**Please note:** DRT = Dark Routing Technique LCPMC = Low Cost Protected Market Centers **Allowed Field Values** INET = Book + IOC/(Day **effective 10/21/14**) Nasdaq RDOT = Book + DRT + IOC/(Day **effective 10/17/14**) NYSE RDOX = Book + IOC/(Day **effective 10/17/14**) NYSE ROLF = Book + IOC LavaFlow ROOC = Listing Mkt Open + Book + CLC/DRT + Street + Listing Mkt Close[5] – **Available effective 11/07/14** ROUT = Book + DRT + Street (**Default if not specified**) ROUX = Book + Street ROUZ = Book + DRT SWPA[2] = ISO Sweep of All Protected Markets, equivalent to BATS Parallel T SWPB[2] = ISO Sweep of All Protected Markets[1] DIRC[3] = Book + (*DRT*) + Directed IOC or Directed ISO if 18=f **On BZX** TRIM = BZX + BYX + BX + EDGA + (*DRT*) +NYSE TRIM- = BYX[4] + BX + EDGA + (*DRT*) + NYSE TRIM2= BZX + BYX + (*DRT*) + BX + EDGA TRIM2- = BYX[4] + (*DRT*) + BX + EDGA TRIM3 = BZX + BYX + (*DRT*) + BX TRIM3- = BYX[4] + (*DRT*) + BX SLIM = BZX + BYX + LCPMC + (*DRT*) + LCPMC + All other protected markets SLIM+ = BYX[4] + BZX + LCPMC + (*DRT*) + LCPMC + All other protected markets [1] SWPB orders will be canceled immediately if the order quantity is not enough to clear all protected quotes at or better than the limit price on the order. [2] When used with 59=0 (DAY), the order will only ship the quantity required to clear all protected quotes and the remainder will be immediately posted. [3] Tag 100 must be populated for 9400=DIRC. [4] Route to BYX Exchange prior to scraping BZX Exchange book unless price improvement is available. [5] Can be used with 18=a, c, o to specify listing market opening/closing eligibility.

100	*ExDestination (v2)* *Usage requires certification and activation through BATS Trade Desk.*	Used to specify the designated away venue for Tag 9400 (*RoutStrategy*)=DIRC. A = NYSE MKT B = NASDAQ BX J = EDGA K = EDGX M = CHX N = NYSE P = NYSE Arca Q = NASDAQ X = NASDAQ PSX Y = BYX Z = BZX l = Lava Flow

9479	*DisplayIndicator*	V: (**Default**) As determined by port level setting (defaults to S).
		S: Display-Price Sliding (this is to override an opt-out of Display-Price Sliding at the port level).
		L: Display-Price Sliding, but reject if order *crosses* NBBO on entry.
		M: Multiple Display-Price Sliding
		P: Price Adjust – **Effective 10/17/14.**
		m: Multiple Price Adjust – **Effective 10/17/14.**
		R: Reject the order if it cannot be booked and displayed without adjustment.
		r: Hidden. Cancel back the order if it cannot be booked without adjustment. **Effective 10/03/14.**
		I: Invisible (implied on all Peg orders other than Market Maker Pegs).
		N: NoRescrapeAtLimit
		v: Visible Peg (Primary Peg Only)
		Display-Price Sliding:
		If the limit price of the unexecuted remainder of a day order does not lock or cross the NBBO then BATS books it as is. If the limit price does lock or cross the market BATS offers Display-Price Sliding.
		Display-Price Sliding permanently adjusts the booked price on entry to the strongest price that does not **cross** the NBBO. It will temporarily adjust the displayed price to the strongest price that does not **lock** the NBBO. When the NBBO widens, the display price will be readjusted to the booked price. The display price may be temporarily weaker than the booked price.
		Multiple Display-Price Sliding does not permanently adjust the booked price on entry, but allows for Display-Price slid orders to continue to have their display **and** booked prices adjusted towards their original limit price based on changes to the prevailing NBBO.
		NoRescrapeAtLimit:
		Applicable only to Fully Routable IOC orders (9303=R **and** 59=3). After walking the price down to the limit, there will be no final scrape at BATS and the cancel code will state "X: Expired" rather than "N: No Liquidity".

439	*ClearingFirm*	Firm that will clear trade. Must be allowed NSCC MPID. 4 characters upper case alphanumeric. NOTE: Shares storage with *OnBehalfOfCompID*. If both fields are sent they must be equal.
440	*ClearingAccount*	Supplemental identifier (optional) 4 characters alphanumeric, not otherwise validated. Recorded and returned in execution reports. Available via FIX Drop. NOTE: Shares storage with *OnBehalfOfSubID*. If both fields are sent then *OnBehalfOfSubID* takes precedence for Service Bureau connections, and *ClearingAccount* takes precedence for other connections.
9618	*MaxRemovePct*	For PostOnlyAtLimit (9303=Q) what percentage of the order quantity which remains after price improvement may be removed at the limit price. Integer 0-100 0 = Don't remove any shares at limit price. 100 = Remove any amount at limit price.
9732	*AttributedQuote*	Allow for order to be attributed to firm's MPID or optionally "RTAL" (for retail firms) in BATS market data feeds. The order may also be included within attributed summary information displays related to quote/trade information on the BATS web site. Must opt-in to support through BATS Trade Desk. N = Do not attribute firm MPID to this order. Y = Attribute firm MPID to this order. R = Attribute "RTAL" to this order.
58	*Text*	Free format text string. Limit of 64 characters.
	Standard Message Trailer	

4.4.1.1 Auction Only Orders

For more information on the following Auction Only Orders, please refer to the BATS US Equities Auction Process specification.

Order Type	FIX	
Market-On-Open (MOO)	OrdType: 40 = 1 (*Market*)	Time in Force: 59 = 2 (*At the open*)
Market-On-Close (MOC)		Time in Force: 59 = 7 (*At the close*)
Limit-On-Open (LOO)	OrdType: 40 = 2 (*Limit*) Price: 44 = [price]	Time in Force: 59 = 2 (*At the open*)
Limit-On-Close (LOC)		Time in Force: 59 = 7 (*At the close*)
Late-Limit-On-Open (LLOO)		Time in Force: 59 = 2 (*At the open*) ExecInst: 18 = r (*Late*)
Late-Limit-On-Close (LLOC)		Time in Force: 59 = 7 (*At the close*) ExecInst: 18 = r (*Late*)
Regular-Hours-Only (RHO)	Time in Force: 59 = R (*Regular Hours Only*)	

4.4.1.2 Re-Route Orders

The following conventions are used when assigning liquidity add/remove status on fills that involve discretion or Re-Route:

➢ An IOC order is always charged the remove fee. Whatever order it hits always gets the provider rebate.
➢ A non IOC order that hits a discretionary order at other than its display price gets the provider rebate. The resting discretion order is charged the remove fee.
➢ A discretion order that hits a resting discretion order gets the provider rebate. The resting discretion order is charged the remove fee, but uses the minimum necessary amount of reserve.
➢ An inbound "add liquidity only" order may execute against a discretionary order at its displayed price. In this case the "add liquidity only" order gets the provider rebate and the resting discretionary order pays the remove fee.
➢ In event an inbound "add liquidity only" order executes against a resting Super Aggressive order, the "add liquidity only" order will receive the provider rebate and the Super Aggressive order will pay the remove fee.

4.4.1.3 Peg Orders

Midpoint Pegs (ExecInst=M, m and L):

➢ Implicitly hidden.
➢ May execute at a half-penny price increment above $1.00.
➢ Will not execute during crossed NBBO.
➢ May not use *PegDifference*.

Primary and Market pegs (ExecInst=R and P)

➢ Market pegs must be hidden (Visible will be rejected).
➢ Primary Pegs may be hidden or visible.
➢ Will be temporarily clipped to the less aggressive side of the NBBO during crossed NBBO.
➢ May use a non-aggressive *PegDifference* for displayed Primary Pegs or hidden Market Pegs.
➢ Hidden Primary Pegs may use an aggressive *PegDifference.*

Market Maker Pegs (ExecInst=Q):

➢ Must be visible.
➢ Must be Post Only.
➢ May not use *PegDifference*.
➢ Will only function with securities in which firm is a Registered Market Maker.

Peg orders are prioritized behind non-pegged orders at each price and display level. With regard to hidden peg orders, regular peg orders (ExecInst R and P) have a higher priority than Midpoint peg orders ranked at the same price.

When discretion is used on a pegged order, the *DiscretionAmount* always is applied to the current Pegged price.

A resting peg order may remove liquidity when re-priced by an NBBO movement.

4.4.2 Order Cancel Request

Tag	Field Name	Description
35	Standard Message Header	*MsgType*="F"
97	*PossResend*	"Y" Indicates an application level unsolicited resend. If *ClOrdID* has not yet been seen, the cancel is treated as normal. If *ClOrdID* already exists, the resent cancel is ignored. "N" (default) indicates a new cancel.
11	*ClOrdID*	Day-unique cancel ID chosen by member. 20 characters or less. Characters in ASCII range 33-126 are allowed, except for comma, semicolon, and pipe. Duplicate order *ClOrdID*s will be rejected (or ignored if *PossResend*="Y").
41	*OrigClOrdID*	*ClOrdID* of the order to cancel.
37	*OrderId*	*OrderID* supplied by BATS on the order acknowledgement. (Optional but recommended for performance).
60	*TransactTime*	Time cancel initiated/released. Required by FIX 4.2 but not used by BATS.
55	*Symbol*	**Ignored**
65	*SymbolSfx*	**Ignored**
54	*Side*	**Ignored**
38	*OrderQty*	**Ignored**
	Standard Message Trailer	

4.4.3   Order Cancel/Replace Request

Only *Price, Side*, *OrderQty, OrdType, MaxFloor and StopPx* may be adjusted. Any change in *Price* or any increase in *OrderQty* will result in the order losing its time priority. *OrdType* may be adjusted from Limit to Market (but not from Limit to Peg or Peg to Limit). *Side* may only be used to change an order from a short sell to a long sell or vice versa. Modification of *Side* will only result in loss of priority if *Side* is changing to/from a short sell **AND** the *Symbol* is in a Regulation SHO Short Sale Circuit Breaker.

Other fields (including *ExecInst*) **will be ignored**, and the value from the original order will be re-used. In particular note that when a Day-ISO is modified the ISO designation is applied to the new order.

Changes in *OrderQty* result in an adjustment of the current order's *OrderQty*. The new *OrderQty* does **not** directly replace the current order's *LeavesQty*. Rather a delta is computed from the current *OrderQty* and the replacement *OrderQty*. This delta is then applied to the current *LeavesQty*. If the resulting *LeavesQty* is less than or equal to zero the order is cancelled. This results in safer behavior when the replace request overlaps partial fills for the current order, leaving the member in total control of the share exposure of the order.

MaxFloor (if not specified) and *DiscretionAmount* are preserved from the original order and applied to the new size and price.

A Cancel/Replace should not be issued until the ack for the previous Cancel/Replace has been received for that order (or the New Order Ack for the first Cancel/Replace). The FIX handler will reject a new Cancel/Replace if it has not seen the prior Cancel/Replace from the Matching Engine.

Cancel/Replace requests that merely reduce *OrderQty* may be overlapped if the existing ClOrdID is re-used. This is the only case (due to OATS restrictions) where re-use of the existing ClOrdID is allowed.

Tag	Field Name	Description
35	Standard Message Header	*MsgType*="G"
97	*PossResend*	"Y" Indicates an application level resend. If the *ClOrdID* does not indicate an already pending Cancel/Replace, the Cancel is treated as normal. If *ClOrdID* does indicate an already pending Cancel/Replace then the resent Cancel/Replace is ignored. "N" (default) indicates a new Cancel.
1	*Account*	**Ignored** – Value preserved from original order.
11	*ClOrdId*	Day-unique ID chosen by member. 20 characters or less. Characters in ASCII range 33-126 are allowed, except for comma, semicolon, and pipe.

		Duplicate order *ClOrdId*s will be rejected (or ignored if *PossResend*="Y").
41	*OrigClOrdID*	*ClOrdID* of the order to replace. In the case of multiple changes to a single order, this will be the *ClOrdID* of the **most recent** accepted change.
37	*OrderId*	*OrderId* supplied by BATS on the order acknowledgement. In the case of multiple changes to a single order, this will be the *OrderId* from the most recent acknowledgement.
60	*TransactTime*	Time Cancel/Replace initiated/released.
55	*Symbol*	**Ignored** – value preserved from original order
65	*SymbolSfx*	**Ignored** – value preserved from original order
54	*Side*	Buy = "1" Sell = "2" Sell Short = "5" (client affirmed ability to borrow) Sell Short Exempt = "6" **Optional**: (defaults to original order if not sent). Side may only be used to modify a Short Sell to a Long Sell or vice versa.
38	*OrderQty*	Number of shares for order. This will modify the *OrderQty* of the current order; it does **not** directly set the remaining quantity.
40	*OrdType*	Market="1", Limit="2", Stop="3", Stop Limit="4", Peg="P" **Optional**: (defaults to original order if not sent). May replace Limit with Market OR Stop with Stop Limit and vice versa, but otherwise must match original order (or not sent).
44	*Price*	Limit Price. Order rejected if priced finer than the minimum trading increment for the stock.
18	*ExecInst*	**Ignored** – value preserved from original order
111	*MaxFloor*	If specified, the displayed quantity of a Reserve Order may be changed on the next reload.
99	*StopPx*	**Optional**: (defaults to original order if not sent)
9619	*CancelOrigOnReject*	N = Leave original order alone. Y = Cancel original order if replacement fails (an unsolicited Cancel report will be sent for original order in this case). Default is configurable per port (N if not configured).
	Standard Message Trailer	

4.5 Order Protocol – BATS to Member

4.5.1 Execution Report

Tag	Field Name	Description
35	Standard Message Header	*MsgType*="8"
52	*SendingTime*	GMT date-time that execution report was sent by BATS.
20	*ExecTransType*	"0" = New "1" = Cancel "2" = Correct "3" = Status
17	*ExecID*	Day-unique id of execution message. Will be zero for *ExecTransType* of Status (3).
18	*ExecInst*	*ExecInst* from order (if any)
19	*ExecRefID*	Only present when *ExecTransType* = Cancel (1) or Correct (2). Refers to the *ExecID* of the message being cancelled or corrected.
150	*ExecType*	Reason for this execution report: "0" = New (acknowledgement of new order) "1" = Partial Fill "2" = Fill "3" = DoneForDay "4" = Canceled "5" = Replaced "8" = Rejected "D" = Restated For Standard FIX Drop, only "1" or "2" will be sent and will always equal OrdStatus (tag 39). For Order by Order FIX Drop, all execution information will be sent. Refer to section 6.2.
378	*ExecRestatementReason*	Only present when 150=D 3 = Repricing of Peg Order 4 = State Change 5 = Reduction of OrdQty
11	*ClOrdID*	*ClOrdID* of the order being accepted, executed or rejected. -or- *ClOrdID* of the cancel or replace **request**. -or- *ClOrdID* of the order subject to unsolicited cancel (*OrigClOrdID* will not be present).

41	*OrigClOrdID*	*ClOrdID* of the order being cancelled or replaced (for a solicited cancel or Cancel/Replace, otherwise not present).
37	*OrderId*	*OrderId* (supplied by BATS).
382	*NoContraBrokers*	Only present on trades. Always 1.
375	*ContraBroker*	Only present on trades. BATS = Internally matched (BATS BZX Exchange) BYXX = BATS BYX Exchange INET = Routed to Nasdaq ARCA = Routed to NYSE Arca AMEX = Routed to NYSE MKT BEX = Routed to Nasdaq BX CHX = Routed to Chicago EDGA = Routed to Direct Edge (EDGA) EDGX = Routed to Direct Edge (EDGX) FLOW = Routed to LavaFlow NYSE = Routed to New York PSX = Routed to Nasdaq PSX DRT = Routed to DRT Pool
39	*OrdStatus*	State of order. "0" = New "1" = Partially Filled "2" = Filled "3" = DoneForDay "4" = Canceled "5" = Replaced "6" = Pending Cancel "8" = Rejected "A" = Pending Ack "E" = Pending Replace For FIX Drop, only "1" or "2" will be sent and will always equal ExecType (tag 150). For Order by Order FIX Drop, all execution information will be sent. Refer to section 6.2.
99	*StopPx*	Copied from order.

103	*OrdRejReason*	Optional when *ExecType* is Rejected (8). "0" = Broker option "1" = Unknown symbol "2" = Exchange closed "3" = Order exceeds limit "5" = Unknown order "6" = Duplicate order "8" = Stale order
1	*Account*	Copied from order (available in FIX Drop, not available in DROP). For Order by Order FIX Drop, all execution information will be sent. Refer to section 6.2 and section 6.3.
55	*Symbol*	Copied from order (available in FIX Drop, always BATS format in DROP).
65	*SymbolSfx*	Copied from order (available in FIX Drop, not available in DROP).
54	*Side*	Copied from order.
38	*OrderQty*	Copied from order.
111	*MaxFloor*	Copied from order.
44	*Price*	Copied from order.
8020	*DisplayRange*	Copied from order.
9622	*DiscretionAmount*	Copied from order.
59	*TimeInForce*	Copied from order.
126	*ExpireTime*	Copied from order if *TimeInForce* is GTD (6).
439	*ClearingFirm*	Copied from order if present.
440	*ClearingAccount*	Copied from order if present.
32	*LastShares*	Quantity of shares traded on this fill (zero for non-fills). **Must request opt-in at firm or port level for "Report MTP Fields" to receive this field on a MTP triggered cancel/restatement where both sides were either reduced or cancelled (i.e. inbound Cancel Both or Decrement).** With MTP, the number of shares that would have matched.
31	*LastPx*	Price of this fill (zero for non-fills). **Must request opt-in at firm or port level for "Report MTP Fields" to receive this field on a MTP triggered cancel/restatement where both sides were either reduced or cancelled (i.e. inbound Cancel Both or Decrement).** With MTP, the price at which LastShares would have matched.

151	*LeavesQty*	Quantity of shares still open for further execution. Will be zero if order is dead, otherwise will be *OrderQty-CumQty*. **Note:** It is possible for *LeavesQty* to be zero when *ExecType* = 5 indicating that the order is dead.
14	*CumQty*	Cumulative quantity of shares executed for this order.
6	*AvgPx*	Average price of executions for this order weighted by trade size. Zero if *CumQty* is zero.
198	*SecondaryOrderID*	Present on a MTP triggered cancel/restatement, on a reserve reload restatement, and on a Cancel/Replace acknowledgement that increases the size of a reserve order. BATS OrderId of contra side of prevented match (MTP), or BATS PITCH OrderId for displayed portion of reserve order after reload, or BATS PITCH OrderId for the displayed portion of a reserve order after a Cancel/Replace increased the size of the reserve order. **Must request opt-in at firm or port level for "Report MTP Fields" or "Restate on Reload" to receive this field.**
9730	*TradeLiquidityIndicator*	Present for acknowledgements and fills (150=0, 150=1 or 150=2): **1st Character** A = Trade Added Liquidity R = Trade Removed Liquidity C = BZX Auction Trade X = Routed **2nd Character** E = RPI Add Trade H = Hidden Liquidity Add Trade I = Hidden Liquidity Add Trade that was Price Improved J = Execution from Order that Joined the NBBO S = Execution from Order that Set the NBBO V = Visible Liquidity Add Trade that was Price Improved Must request opt-in at firm or port level to receive the 2nd characters in this field. To allow for future expansion of this field, please ignore values with an unknown character in the 2nd position.

		MTP For members that opt-in to Report MTP Fields functionality (at firm or port level), the A / R values may be presented on an MTP triggered cancel/restatement. **State Change Tracking** For members that opt-in to State Change Tracking at the port level, modify acks (150=5) and restatements (150=D with 378=4) will carry 9730 messages defined as follows: A=Zero or more immediate partial remove fills followed by posting. R=Zero or more immediate partial remove fills followed by a cancel (or full fill). X=Zero or more immediate partial remove fills followed by routing.
9621	*ExchangeAccessFee*	Only present for fills. Access fee for this fill (up to 5 decimal places, negative for rebate). *Note: Accuracy of field value may be subject to timely receipt of fee schedule updates from away markets. This value is populated on a best efforts basis. In cases where tiered benefits may apply and the specific fee/rebate is unknown, the most conservative value will be specified.*
9690	*WorkingPrice*	Optional. Must be enabled at the firm or port level. Only present on Accepted, Replaced, or Restated and only when order is fully or partially booked. If *Price* had to be adjusted to a less aggressive value to avoid crossing the NBBO, the adjusted price will be reported here, otherwise equals *Price*.
9691	*InitialDisplayPrice*	Optional. Must be enabled at the firm or port level. Only present on Accepted, Replaced, or Restated and only when order is fully or partially booked. If order had to be temporarily displayed at a less aggressive value to avoid locking the NBBO, the initial displayed price will be reported here, otherwise equals *WorkingPrice*.
9617	*ModifySequence*	FIX Drop only. Base 36 number of times order has been replaced.
9688	*OrigCompID*	FIX Drop only. TargetCompID of original FIX exec report FIX Drop port must be configured to send this optional field.

9689	*OrigSubID*	FIX Drop only. TargetSubID of original FIX exec report. FIX Drop port must be configured to send this optional field.
60	*TransactTime*	GMT date-time that transaction occurred.
58	*Text*	If present, indicates reason for reject or cancel. Format is one letter reason code followed by colon and space followed by free form text message. (e.g. "N: No Liquidity at price") Reason codes are one of the following: A = Admin C = Capacity Undefined D = Duplicate ClOrdId E = Size reduction due to SWP restatement F = Could not reflect to consolidated quote (SIP/SIAC) H = Halted K = Order Rate Threshold Exceeded L = Order would lock or cross NBBO M = Liquidity Available Exceeds Order Size N = Ran out of liquidity to execute against O = ClOrdId doesn't match a known order P = Can't modify an order that is pending fill Q = Waiting for first trade R = Routing unavailable S = Short-sale price violation T = Fill would trade-through NBBO U = User requested V = Would Wash W = AddLiquidityOnly order would remove X = Order expired Y = Symbol not supported Z = Unforeseen reason m = Market Access Risk Limit Exceeded o = Max Open Orders Count Exceeded r = Reserve reload restatement u = Order would cross LULD Price Bands w = Would remove on unslide x = Crossed Market
	Standard Message Trailer	

4.5.1.1 State Change Tracking

For members that wish to track the state of their routable orders, they may **opt-in** to the following functionality at the port level by contacting the BATS Trade Desk.

Order acks (150=0), modify acks (150=5) and restatements (150=D with 378=4) will carry 9730 (liquidity) as follows:

- A = Zero or more immediate partial remove fills followed by posting.

- R = Zero or more immediate partial remove fills followed by a cancel (or full fill).

- X = Zero or more immediate partial remove fills followed by routing.

When an order returns from the router, a restatement will be generated with:

- 150 = D (Restated)

- 378 = 4 (State Change)

- 58 = A (Admin)

- 9730 = A, X or R (as defined in 4.5.1)

- Order details to match the order (OrdQty, Price, etc.)

- Cumulative execution details to match the current status (CumQty, LeavesQty, etc.)

- Current execution details zeroed (LastPx, LastShares, etc.)

4.5.2 Cancel Reject

Rejects a Cancel or Cancel/Replace request.

When a Cancel/Replace is rejected, by default the original order is left alive. A Cancel Reject should not be used as a sign that the original order has been cancelled. Even if the *CancelOrigOnReject = Y* option is being used a separate "unsolicited" cancel will be sent to close out the original order.

Tag	Field Name	Description
35	Standard Message Header	*MsgType*="9"
11	*ClOrdID*	*ClOrdID* from the Cancel or Cancel/Replace request.
41	*OrigClOrdID*	*ClOrdID* of the order that failed to be cancelled or replaced.
37	*OrderId*	*OrderId* of order that failed to be cancelled or replaced. "NONE" if CxlRejReason is Unknown (1).
39	*OrdStatus*	OrdStatus of order that failed to be cancelled or replaced.
1	*Account*	Copied from Cancel or Cancel/Replace request.
434	*CxlRejResponseTo*	"1" = Cancel "2" = Cancel/Replace
102	*CxlRejReason*	"0" = Too late to cancel. "1" = Unknown order. "3" = Already pending cancel or pending replace.
58	*Text*	Free form text message.
	Standard Message Trailer	

4.5.3   Trade Cancel/Correct

Sends a Trade Cancel/Correct message for a trade break.

Trade Cancel/Correct (UCC) is an optional message that must be enabled at the port level. It may be enabled for current-day only or for all cancels and corrections. Only the price of a trade may be corrected, all other details remain the same. Trade cancels and corrections do not alter live order state.

Tag	Field Name	Description
35	Standard Message Header	*MsgType*="UCC"
20	*ExecTransType*	"1" = Trade Cancel "2" = Trade Correct
17	*ExecID*	Day-unique id of execution message.
19	*ExecRefID*	Refers to the *ExecID* of the message being cancelled or corrected.
37	*OrderId*	*OrderId* of the original trade being cancelled/corrected.
11	*ClOrdID*	*ClOrdID* of the original trade being cancelled/corrected.
55	*Symbol*	Copied from original trade being cancelled/corrected (Available in FIX Drop).
65	*SymbolSfx*	Copied from original trade being cancelled/corrected (Available in FIX Drop).
54	*Side*	Copied from original trade being cancelled/corrected.
9730	*TradeLiquidityIndicator*	Copied from original trade being cancelled/corrected.
439	*ClearingFirm*	Copied from original trade being cancelled/corrected (if present).
440	*ClearingAccount*	Copied from original trade being cancelled/corrected (if present).
9620	*CorrectedPrice*	Only for Trade Corrects. Corrected price.
32	*LastShares*	Quantity of shares on the original trade being cancelled/corrected.
31	*LastPx*	Price on the original trade being cancelled/corrected.
42	*OrigTime*	GMT date-time of original trade.
60	*TransactTime*	GMT date-time of cancel/correct.
	Standard Msg Trailer	

5 Implementation Notes

5.1 Automatic Cancel on Disconnect or Malfunction

All open orders for a member will be cancelled automatically if no messages have been received from the member for two heartbeat intervals. This is done to prevent orders from being stuck in an unknown state in the event of telecommunications failure. Members should choose their heartbeat interval carefully based on the latency and reliability of their telecommunications channel. The minimum supported interval is 5 seconds, and this is also the recommended interval if the latency and reliability of your telecommunications channel support it. Execution reports for the automatically cancelled orders are available upon reconnection. Members are responsible for rerouting orders to other market centers based on their business needs. This should be rare, but all open orders may also be cancelled in the event of a complete or partial system malfunction.

5.2 Access Fees Returned on Execution Reports

The access fee associated with each fill is calculated to 5 decimals and returned on each execution report. Negative numbers indicate liquidity rebates. Members should program their systems to read, validate, and pass along this field in order to avoid making software changes to their systems when the BATS fee schedule changes. The sum of the access fees received during a month should equal the access fee charged or rebated on a member's monthly bill, rounded to the nearest penny.

5.3 Service Bureau Configuration

Service Bureaus require special configuration. *OnBehalfOfCompId* should be set for Order, Cancel and Cancel/Replace messages sent to BATS. Orders with an unknown *OnBehalfOfCompId* will be rejected. *ClOrdId* values are required to be unique only within a given *OnBehalfOfCompId*. Execution Report and Cancel Reject messages sent by BATS will have the *DeliverToCompId* set. **Orders must be cancelled or replaced using the same *OnBehalfOfCompId* as was sent on the Order**.

5.4 Common Session Level Issues

BATS uses FIX 4.2 as specified by the FPL document **Version 4.2 (with Errata 20010501)** with business level extensions described in our own FIX spec. The session level of the FPL spec is followed as closely as possible.

The version with errata cleared up **many** ambiguities with session level present in the earlier Version 4.2 (March 1, 2000).

Important notes direct from the public FPL spec (**blue lines are anchor locations in the FPL document**, **bold emphasis is from original spec**, **purple emphasis added by BATS**, **green notes added by BATS**) :

5.4.1 FINANCIAL INFORMATION EXCHANGE PROTOCOL / FIX MESSAGE FORMAT AND DELIVERY / Ordered Message Processing

The FIX protocol assumes complete ordered delivery of messages between parties. Implementers should consider this when designing message gap fill processes. Two options exist for dealing with gaps, **either request all messages subsequent to the last message received or ask for the specific message missed while maintaining an ordered list of all newer messages**. For example, if the receiver misses the second of five messages, the application **could ignore messages 3 through 5 and generate a resend request for messages 2 through 5**, **or**, preferably **2 through 0 (where 0 represents infinity).** Another option would involve saving messages 3 through 5 and resending only message 2. **In both cases, messages 3 through 5 should not be processed before message 2**.

5.4.2 FINANCIAL INFORMATION EXCHANGE PROTOCOL / SESSION PROTOCOL / Logon

After the initiator has been authenticated, the acceptor will respond **immediately** with a confirming *Logon* message.

5.4.3 FINANCIAL INFORMATION EXCHANGE PROTOCOL / SESSION PROTOCOL / Message Recovery

When the incoming sequence number does not match the expected number corrective processing is required. Note that the SeqReset-**Reset** message (**[BATS: this refers only to GapFillFlag=No 123=N]** to be used only to recover from a disaster scenario vs. normal resend request processing) is an exception to this rule as it should be processed without regards to its MsgSeqNum. **If the incoming message has a sequence number less than expected and the PossDupFlag is not set, it indicates a serious error. It is strongly recommended that the session be terminated and manual intervention be initiated.** If the **incoming sequence number is greater than expected, it indicates that messages were missed and retransmission of the messages is requested via the *Resend Request*** (see the earlier section, *Ordered Message Processing).*

…

If there are consecutive administrative messages to be resent, **it is suggested that only one *SeqReset-GapFill* message be sent in their place**. The sequence number of the *SeqReset-GapFill* message is the next expected outbound sequence number. **The *NewSeqNo* field of the GapFill message contains the sequence number of the highest administrative message in this group plus 1.** For example, during a Resend operation there are 7 sequential administrative messages waiting to be resent. They start with sequence number 9 and end with sequence number 15. Instead of transmitting 7 Gap Fill messages (which is perfectly legal, but not network friendly), a *SeqReset-GapFill* message may be sent. **The sequence number of the Gap Fill message is set to 9 because the remote side is expecting that as the next sequence number.** The *NewSeqNo* field of the GapFill message contains the number 16, because that will be the sequence number of the next message to be transmitted.

Sequence number checking is a vital part of FIX session management. However, a discrepancy in the sequence number stream is **handled differently for certain classes of FIX messages**.

The table below lists the actions to be taken when the incoming sequence number is greater than the expected incoming sequence number.

NOTE: In *ALL* cases except the Sequence Reset - Reset message, the FIX session should be terminated if the incoming sequence number is less than expected and the PossDupFlag is not set. A *Logout* message with some descriptive text should be sent to the other side before closing the session.

Response by Message Type

Message Type	Action to Be Taken on Sequence # Mismatch
Logon	Must always be the first message transmitted. Authenticate and accept the connection. **After sending a *Logon* confirmation back, send a *ResendRequest*** if a message gap was detected in the *Logon* sequence number.

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5.4.4 FINANCIAL INFORMATION EXCHANGE PROTOCOL / ADMINISTRATIVE MESSAGES / Resend Request

Note: the **sending application may wish to consider the message type when resending messages**; e.g. if a new order is in the resend series and a significant time period has elapsed since its original inception, the sender may not wish to retransmit the order given the potential for changed market conditions. (The Sequence Reset-GapFill message is used to skip messages that a sender does not wish to resend.)

5.4.5 FINANCIAL INFORMATION EXCHANGE PROTOCOL / ADMINISTRATIVE MESSAGES / Sequence Reset (Gap Fill)

The sequence reset message is used by the sending application to reset the incoming sequence number on the opposing side. **This message has two modes**: **"Sequence Reset-Gap Fill" when GapFillFlag is 'Y'** and "Sequence Reset-Reset" when GapFillFlag is N or not present. The "Sequence Reset-Reset" mode should **ONLY** be used to recover from a disaster situation which cannot be otherwise recovered via "Gap Fill" mode. The sequence reset message can be used in the following situations:

- During normal resend processing, the sending application may choose not to send a message (e.g. an aged order). The Sequence Reset – Gap Fill is used to mark the place of that message.
- During normal resend processing, a number of **administrative messages are not resent, the Sequence Reset – Gap Fill message is used to fill the sequence gap** created.
  ...

The sending application will initiate the sequence reset. **The message in all situations specifies NewSeqNo to reset as the value of the next sequence number immediately following the messages and/or sequence numbers being skipped.**

...

If the GapFillFlag field is present (and equal to Y), the MsgSeqNum should conform to standard message sequencing rules (i.e. the MsgSeqNum of the Sequence Reset-GapFill message **should represent the beginning MsgSeqNum in the GapFill range** because the remote side is expecting that next message).

The sequence reset can only increase the sequence number. If a sequence reset is received attempting to decrease the next expected sequence number the message should be rejected and treated as a serious error. It is possible to have multiple ResendRequests issued in a row (i.e. 5 to 10 followed by 5 to 11). **If sequence number 8, 10, and 11 represent application messages while the 5-7 and 9 represent administrative messages**, the series of messages as result of the Resend Request may appear as **SeqReset-GapFill with NewSeqNo of 8, message 8, SeqReset-GapFill with NewSeqNo of 10, and message 10**. This could then followed by SeqReset-GapFill with NewSeqNo of 8, message 8, SeqReset-GapFill with NewSeqNo of 10, message 10, and message 11. One must be careful to ignore the duplicate SeqReset-GapFill which is attempting to lower the next expected sequence number. This can be detected by checking to see if its MsgSeqNum is less than expected. If so, the SeqReset-GapFill is a duplicate and should be discarded.

5.5 OATS Connection ID

The OATS technical spec as of 5/3/2011 for implementation on 10/3/2011 allows for an optional 'connectionId' field to be included in your OATS feeds for the purposes of improving your order ID uniqueness. When creating OATS rows related to your FIX transmissions to BATS, BATS recommends populating the OATS 'connectionId' field with the *senderSubId* – FIX field 50. Please note that this field is optional on your OATS rows, and BATS is not recommending a perspective that you do or do not populate the field. Also note that the while not enforced internally, the BATS spec does require that your client order ID be day-unique; BATS continues to recommend this as the best way to meet OATS' day-unique order ID requirements.

5.6 OATS Exchange Participant ID (EPID)

While most Members should use *ClearingFirm* (FIX Tag 439) for their OATS EPID, Service Bureaus should use *OnBehalfOfCompId* (FIX Tag 115).

6 FIX Drop

BATS offers two types of FIX Drop ports (Standard FIX Drop and Order by Order FIX Drop). Both port types do not accept orders. Their purpose is to provide real time information about order flow. They may be configured to send order flow based on various combinations of information relating to specific member firms, clearing MPIDS and/or sessions. With proper authorization (e.g. clearing or sponsored relationships), a single FIX Drop session can be used to obtain information about multiple members.

6.1 Standard FIX Drop

Standard FIX Drop ports only send execution information (i.e. execution reports where ExecType (tag 150) is Partially Filled (1) or Filled (2)).

6.2 Order by Order FIX Drop

Order by Order FIX Drop ports are designed to send more than execution information.

All order message types are supported including, but not limited to Acknowledgements (tag 150=0), Partially Filled (tag 150=1), Filled (tag 150=2), Cancelled (tag 150=4), Replaced (tag 150=5), Rejected (tag 150=8), Order Cancel Rejects (tag 35=9) and optionally (if configured at the port level) Trade Breaks (tag 35=UCC). If the Rejects/Cancels are due to incomplete clearing information, they may be unavailable on Order by Order FIX Drop ports.

Users of Order by Order FIX Drop must always be prepared to receive new/unknown FIX tag and FIX tag values for BOE/FIX ports being monitored. BATS reserves the right to add new FIX tags and to update values distributed on Order by Order FIX Drop with no notice.

6.3 FIX Drop Port Attributes

Unless specified, both types of FIX Drop ports can be configured with the following features:

Attribute	Default	Description
Symbology	BATS	Support for BATS, CMS or CQS.
Send Trade Breaks	No	Enables Trade Break Messages (35=UCC). Please note that enabling trade breaks on Order by Order FIX Drop port will be dependent on enabling trade breaks on corresponding BOE and/or FIX order entry ports.
Unique Wash Execution Ids	No	Reports unique values for ExecId (FIX Tag 17) for wash trades.
Concatenate CompId and SubId	No	Requires all FIX traffic to contain concatenated (combined) Comp and Sub Id's.
Send OrigCompID/OrigSubID	No	Send OrigCompID (FIX Tag 9688) and OrigSubID (FIX Tag 9689).
Send Account	No	Send Account (FIX Tag 1).
Copy ClearingFirm to Account	No	Set Account (FIX Tag 1) equal to ClearingFirm (FIX Tag 439).
Send 2nd Liquidity Character	No	Sends the second character in TradeLiquidityIndicator (FIX Tag 9730).
Send OrdType	No	Send OrdType (FIX Tag 40). **Standard FIX Drop only**. Order by Order FIX Drop will receive FIX Tag 40 based on FIX order entry port attribute "Echo Tag 40 on Ack".
Send Capacity	No	Send OrderCapacity (FIX Tag 47). **Standard FIX Drop only.** Order by Order FIX Drop receives this field by default.
Send RoutingInst	No	**Order by Order FIX Drop only.** Routing V1 Send RoutingInst (FIX Tag 9303). Routing V2 Send Tag 9303 (*RoutingInst*), Tag 9350 (*RoutDeliverMethod*) and Tag 9400 (*RoutStrategy*).

7 FIX Port Attributes

The table below lists FIX port attributes that are configurable on the port or firm level. Changes to these attributes can be made by sending a written request to tradedesk@batstrading.com.

Attribute	Default	Description
BATS Legacy Routing Mode	Yes	Use Routing v1 instructions defined within the 3 characters of FIX Tag 9303 (*RoutingInst*) as defined in the BATS FIX specification for the former NJ2 platform. When set to no, Routing v2 instructions *RoutingInst* (9303), *RoutStrategy* (9400), *RouteDeliveryMethod* (9350) and *ExDestination* (100) are utilized.
Allowed Clearing MPID(s)*	All MPIDs	Clearing MPID(s) allowed for trading on port.
Default Clearing MPID	None	Default MPID to use if none is sent on New Order.
Allow Pre-market*	Yes	Allows for orders to be entered prior to regular market open.
Allow Post-market*	Yes	Allows for orders to be entered after the regular market close.
Allow Short Sales*	Yes	Allows or disallows short sales.
Allow ISO*	Yes	Allows or disallows ISO orders.
Allow Directed ISO*	Yes	Allows or disallows ISO orders directed to other market centers.
Default Routing Instruction†	"RND"	Specifies a default value for Tag 9303 (RoutingInst).
Default Exec. Instruction†	None	Specifies a default value for Tag 18 (ExecInst).
Maximum Order Size*	25,000	Maximum number of shares allowed per order.
Maximum Order Dollar Value*	Unlimited	Maximum order dollar value per order.
Default Price Sliding†	"S"	Default price sliding behavior. See Tag 9479 (DisplayIndicator).
Default Pricing Sliding (Hidden Order Override)†	"S"	When a different default price sliding behavior is desired for hidden orders, this port attribute may be used.
Cancel on Disconnect	*Option #1*	BATS will offer Members 3 options for cancelling orders as a result of a session disconnect: 1. Cancel Continuous Book Orders Only (default) 2. Cancel All Open Orders (continuous books and On-Open, On-Close and Late orders)* 3. Do Not Cancel Any Open Orders *If disconnect occurs during the cut-off period for an auction, On-Open, On-Close and Late orders that are to participate in the auction will not be cancelled.*
Send Trade Breaks^	No	Enables Trade Break Messages (35=UCC).
Default MTP Value*^†	None	Specifies Default value for Tag 7928 (PreventMemberMatch).

Report MTP Fields*^	No	Enables Tag 31 (LastPx), 32 (LeavesQty) and 198 (SecondaryOrderId) on Execution Reports caused by MTP.
Allow MTP Decrement Override*^	No	Overrides the exception that requires both the resting and inbound order to be marked as "Decrement".
Allow Sponsored Participant MTP Control*^	No	Allows Sponsored Participant to override port default for MTP by using Tag 7928 (PreventMemberMatch) on order-level.
Concatenate CompId and SubId	No	Requires all FIX traffic to contain concatenated (combined) Comp and Sub Id's.
Cancel on Reject†	No	Cancels an order upon a cancel or modify reject for that order.
Cancel on Halt	No	**Available effective 10/31/14.** Cancel open orders for a symbol upon a halt.
Report Working Price	No	Reports Tags 9690 (WorkingPrice) and 9691 (InitialDisplayPrice).
Unique Wash Execution Ids	No	Reports unique values for Tag 17 (ExecId) for wash trades.
Opt-out of PITCH Obfuscation	No	Opt-out all orders from PITCH Order Id obfuscation for hidden and reserve orders.
Enable State Change Tracking^	No	Allows for tracking of the state of routable orders. See Section 4.5.1.1 (State Change Tracking) for more information.
Send 2nd Liquidity Character	No	Sends the second character in Tag 9730 (TradeLiquidityIndicator).
Decrement Remainder Only^	No	Enables "d" option for MTP. See Tag 7928 (PreventMemberMatch) for details.
Restate on Reload^	No	Generates FIX Restatement on reserve order reload with new PITCH Order Id in Tag 198, and populates the new PITCH Order ID in Tag 198 of a Cancel/Replace acknowledgement that increases the size of a reserve order.
Echo Tag 40 on Ack	No	Return Tag 40 (OrdType) value on FIX Ack. Note that this value will also be returned on Order by Order FIX DROP.
Echo Tag 47 on Ack	No	Return Tag 47 (Rule80A/OrderCapacity) value on FIX Ack. Note that this value will also be returned on Order by Order FIX DROP.
Microsecond Timestamp Granularity	No	Display microsecond level timestamp granularity for Tags 60 (TransactTime), 42 (OrigTime) and 52 (SendingTime). These tags default to millisecond granularity.

Fat Finger Protection*	None	Specifies a percentage based limit price tolerance where any orders entered with a limit price that is through the NBBO by an amount greater than or equal to the defined percentage will be rejected. Maximum 20%.
Reject Orders on DROP Port Disconnect*	No	Allows Member/Sponsoring Firms to associate a DROP port(s) to an order entry port(s). Once the association has been established, if no DROP ports associated with an order entry port are connected, reject orders on the order entry port until at least one of the DROP port session connections have been established.
Reject Orders on DROP Port Timeout (s)*	30	Only applicable for sessions where "Reject Orders on DROP Port Disconnect" has been enabled. When the last associated DROP port for the order entry session has disconnected, the reject/cancel actions will be taken on the order entry session if an associated DROP port has not reestablished its connection in the defined time. Minimum value allowed is 20.
Cancel Open Orders on DROP Port Disconnect*	No	Only applicable for sessions where "Reject Orders on DROP Port Disconnect" has been enabled. If all DROP ports associated with an order entry port become disconnected, cancel all open orders on the order entry port.
Notional Cutoff Aggregation Methods*		Gross exposure = CBB + CBO + CEB + CEO. Net exposure = ABSOLUTE VALUE of [(CEO + CBO) – (CEB+CBB)] On a given port BATS will calculate and track four values as follows: ➢ **Cumulative Notional Booked Bid Value (CBB)** – The sum of limit price * size for all buy limit orders on the book. ➢ **Cumulative Notional Booked Offer Value (CBO)** – The sum of limit price * size for all sell limit orders on the book. ➢ **Cumulative Notional Executed Bid Value (CEB)** – The sum of size * trade price on all executed buy orders. ➢ **Cumulative Notional Executed Offer Value (CEO)** – The sum of size * trade price on all executed sell orders.

Gross Daily Risk Limit Order Notional Cutoff*	None	Optional parameter that if specified will result in rejects for **limit** orders when **gross** exposure of limit orders exceeds this value. Whole dollar value not to exceed $1B/port.
Gross Daily Risk Market Order Notional Cutoff*	None	Optional parameter that if specified will result in rejects for **market** orders when **gross** exposure of limit orders exceeds this value. Whole dollar value not to exceed $1B/port.
Net Daily Risk Limit Order Notional Cutoff*	None	Optional parameter that if specified will result in rejects for **limit** orders when **net** exposure of limit orders exceeds this value. Whole dollar value not to exceed $1B/port.
Net Daily Risk Market Order Notional Cutoff*	None	Optional parameter that if specified will result in rejects for **market** orders when **net** exposure of limit orders exceeds this value. Whole dollar value not to exceed $1B/port.
Send Routing Instruction	No	Include Tag 9303 (RoutingInst) on Order by Order FIX Drop execution reports.
Default Attributed Quote*†	Never	Specifies a default value for Tag 9732 (AttributedQuote). May only override at order to level after executing Attribution Addendum to Exchange User Agreement. Once Addendum has been executed, may default to Yes or No through BATS Trade Desk.
Crossed Market Reject/Cancel	No	Reject new orders upon receipt when the NBBO in the subject security is crossed. Routable orders will have any remaining quantity cancelled back if the NBBO is crossed when the order returns to the BATS Book. Order modifications which cause a loss of priority (e.g. due to a price change or increase in size) will result in a cancel of the original order if the NBBO is crossed upon receipt of the modify instruction.
Send Peg Restatements	*Option #1*	Send order restatements for Peg order moves. 1. No Peg restatements (default) 2. Market Maker Peg orders only 3. All Peg orders except Market Maker Peg orders 4. All Peg orders

| Session Close Handling | *Option #1* | Customize message that would normally be sent at the regular market (4PM ET) and session close. Also functional during early close situations.

Options supported are as follows:

1. **Send Cancels** (Default) - A Cancel message will be sent for all expired orders.
2. **Suppress Cancels** - No message will be sent and it is the Member's responsibility to close all expired orders in their system.
3. **Send DoneForDay** - A DoneForDay message will be sent in place of the Cancel message for each order that has expired and is no longer eligible for execution. DoneForDay messages are sent via Tag 39 (*OrdStatus*) = "3" **and** Tag 150 (*ExecType*) = "3". |

* Sponsored Participants require written approval from Sponsors to update these settings on ports associated to a Sponsor's MPID.
† Port attribute can be overridden via FIX on an order by order basis.
^ Requires certification.

8   References

For more information on BATS Symbology, please refer to the BATS Symbology Reference document at http://www.batstrading.com/resources/membership/BATS_Symbology.pdf.

9   Support

Please e-mail questions or comments regarding this specification to tradedesk@batstrading.com.

Revision History

Document Version	Date	Description
1.1.0	04/20/07	Added Pegging support.
1.1.1	05/02/07	Disallowed Visible pegs.
1.1.2	05/05/07	Made Note on hidden peg priority.
1.2.0	06/01/07	Added support for CMS and CQS symbology with tag 65 (not available in DROP).
1.3.0	08/28/07	Added BATS+NYSE support.
1.3.1	09/21/07	Added support for Limit-to-Market Cancel/Replace.
1.3.2	10/09/07	Added documentation for Drop copy *OrigCompID* and *OrigSubID* fields. Added note in overview regarding sponsored access Drop copies. Added documentation for BATS+ISE and ISE+BATS (9303=E and 9303=S).
1.3.3	11/05/07	Added documentation for Active Price Sliding options on *DisplayIndicator*.
1.3.4	01/04/08	Added documentation for Directed+BATS ISO (18=s).
1.4.0	02/05/08	Restored *MinQty* and added *BypassHiddenPeg*.
1.5.0	02/27/08	Added *ExecInst*=z for DarkScan.
1.5.1	03/12/08	Updated *RoutinstInst* / *ExecInst* combination table.
1.5.2	03/13/08	Added *ExecInst*=x for ImproveOnly.
1.5.3	04/03/08	Document *Side*=ShortExempt as being obsolete. Clarify behavior of 9303=S or Z when combined with 18=f.
1.5.4	04/14/08	Fix Typos in "BATS Specific Fields" table for tags 9619 and 9687.
1.5.5	04/16/08	Updated *ContraBroker* (375) to include "DARK". Added rounding note for PegDifference. *ExecInst*=s now also works with ARCA *RoutingInst* (9303) = A.
1.5.6	04/30/08	Change "Business Level Reject" wording to "Application Layer Reject". *MinQty* now allowed for any BATS-Only hidden (not just peg). Tag 9687 renamed to *BypassHidden*.
1.5.7	06/13/08	Added (optional) AH an RH values to *TradeLiquidityIndicator* (tag 9730).
1.5.8	06/20/08	Removed (optional) AH an RH values from *TradeLiquidityIndicator* (tag 9730).
1.5.9	06/26/08	Fixed typos (leading caps) in CQS column of Symbology table.
1.5.10	07/01/08	Clarified Sender/Target roles in Standard Header table.

1.5.11	09/08/08	Clarified that OrdRejReason is optional on Rejects and removed nonstandard value 99. Documented optional *Text* tag (58) for fills to distinguish ECN from Exchange.
1.6.0	10/06/08	Revised wording to reflect transition to BATS Exchange.
1.6.1	10/15/08	Removed ISE+BATS, NSX+BATS and ExecInst=s.
1.6.2	10/20/08	Removed ImproveOnly (18=x). Documented that 18=z requires 9303=R.
1.6.3	12/03/08	Moved Symbology reference to a separate document.
1.7.0	12/10/08	Document DART (18=w and v).
1.7.1	01/16/09	Boston Directed Orders Supported via 9303=K.
1.7.2	01/21/09	Allow prices down to 0.0001.
1.8.0	02/03/09	Added details for new `Trade Cancel/Correct (UCC)` message type.
1.9.0	02/23/09	Document PostOnlyAtLimit (9303=Q) and *MaxRemovePct* (9618).
1.9.1	02/27/09	Remove unused Display Price Sliding (9479=D,E).
1.9.2	04/08/09	Fix Typo in *BeginString*.
1.10.0	05/08/09	*TimeInForce*=GTX (59=5) for post-market trading.
1.11.0	05/18/09	Added RECYCLE (9303=RC or RL).
1.11.1	05/20/09	Added 9479=N (*DisplayIndicator*=NoRescrapeAtLimit).
1.12.0	05/26/09	Added BOLT (9479=B BATS Only opt-in, 9479=S Display Price Sliding).
1.12.1	05/29/09	Added 9479=C and revised 9479=B.
1.12.2	06/03/09	Added (optional) AB value to *TradeLiquidityIndicator* (tag 9730).
1.12.3	06/04/09	Added Cancel Reason "B = Bolt Expiry".
1.12.4	06/23/09	Documented (existing) restrictions of Cancel/Replace. Added support for overlapped reduce-only Cancel/Replace.
1.12.5	06/25/09	Added limited Side modification capability to Cancel/Replace.
1.12.6	07/02/09	Added (optional) AC value to *TradeLiquidityIndicator* (tag 9730).
1.13.0	07/10/09	MMTP documentation.
1.13.1	07/15/09	Add *LastPx* as optional field to MMTP.
1.14.0	08/11/09	Removed BOLT references.
1.14.1	09/29/09	New MMTP method 'd' to avoid *OrdQty* restatement. *RouteOddLotToSlowExchange* (tag 7771).
1.15.0	11/12/09	Converted FIX specification to new document template. Added FIX Drop section and updated DROP/FIX Drop references.
1.15.1	11/17/09	Update *ExecType* (tag 150) and *OrdStatus* (tag 39) documentation to reflect Order by Order FIX Drop behavior.
1.15.2	12/02/09	Added (optional) AH values from TradeLiquidityIndicator (tag 9730).
1.15.3	12/10/09	Removed "default" reference from *OrderCapacity* (tag 47).

1.15.4	01/27/10	Added State Change Tracking.
1.15.5	02/04/10	Added Common Session Level Issues.
1.15.6	02/09/10	Changed *ContraBroker* (tag 375) for PHLX to PSX.
1.16.0	03/31/10	Added BATS+DART.
1.16.1	04/15/10	Added explicit references to BZX.
1.16.2	05/14/10	Opt-in support added for MMTP Decrement method to work with other method types. Opt-in support added to allow Sponsored Participants to override port level MMTP settings on an order by order basis with approval of Sponsor. Added Contra for BATS Y-Exchange.
1.16.3	05/26/10	DarkScan (18=z) now defaults to DarkScan+DART. 18=t becomes DarkScan w/ DART opt-out.
1.16.4	06/01/10	Clarification added regarding Post Only behavior.
1.16.5	07/21/10	Removed references to ISE.
1.16.6	07/28/10	Removed RouteOddLotToSlowExchange (tag 7771).
1.17.0	08/20/10	Renamed DART to DRT.
1.17.1	08/25/10	9479=I Implied for all Peg Orders.
1.18.0	08/31/10	Updated 9303 definitions to include support for new Smart Order Routing strategies. BATS Specific Fields section converted into a reference table. Now accepting FIX 4.2 compatible values for Rule80A (tag 47). RECYCLE references renamed to Re-Route.
1.18.1	09/03/10	Updated tag 54 for Short Exempt (Reg SHO).
1.18.2	09/10/10	Added BATS Y-Exchange (BYX) destination (9303=J).
1.18.3	09/22/10	Default routing strategy changing effective 10/01/10 to Parallel-D. Clarification added regarding Post Only behavior with respect to interaction with hidden orders.
1.19.0	10/12/10	Added Max Number of Hits section to Order by Order FIX Drop section. Added 9303 strategy definitions to include support for SLIM and TRIM order types. B2B support for DRT defined.
1.19.1	11/03/10	Defined reserve reload restatements.
1.19.2	11/04/10	Parallel T and Parallel 2D effective date noted.
1.19.3	11/05/10	Updated Short Exempt effective date for tag 54.
1.19.4	11/17/10	Max Number of Hits applicable to both Standard and Order by Order FIX DROP.
1.20.0	12/07/10	DarkScan to be removed effective 01/03/11. Added 18=m, Midpoint Peg that will not match when NBBO locked.
1.20.1	12/20/10	Update tag 47 definition (*Rule80A*).

1.20.2	12/23/10	Added 9730=AI (trade added hidden liquidity and was price improved).
1.21.0	12/28/10	Added Port Attributes section. Renamed MMTP to MTP.
1.21.1	01/14/11	Added port attribute to allow for default hidden order price sliding behavior to be different than that of displayed orders.
1.22.0	02/15/11	Removed DarkScan references. Converted "BZX" references to "BZX Exchange" and "BYX" to "BYX Exchange". Highlighted differences with BYX Exchange FIX spec. Added SLIM+ (9303=s) order type (effective 02/25/11).
1.22.1	03/09/11	*BypassHidden* (tag 9687) to be removed effective 03/18/11.
1.22.2	03/25/11	Allow for opt-in of echoing Tag 47 (*Rule80A*) on FIX Ack effective 04/01/11.
1.23.0	05/09/11	Added Auction Order Type references and added definition for Tag 59=2 (At the open), 59=7 (At the close), 59=R (Regular Hours Only) and 18=r (Late). All Auction Orders references and accompanying tags to be implemented at an effective date TBD.
1.23.1	05/20/11	Remove LMOO/LMOC order type references.
1.23.2	05/24/11	Added Microsecond Timestamp Granularity port attribute to allow for microsecond level timestamps for certain tags.
1.23.3	06/22/11	Added 9730=S in 2nd character position (optional feature). Clarification to Cancel/Replace prioritization language related to modify of *side*.
1.23.4	06/27/11	Added 9730=C (BZX Auction Transaction) in 1st character position for future support of BATS Listings Auctions.
1.23.5	07/12/11	Added Fat Finger Protection port attribute definition.
1.23.6	07/22/11	Added Echo Tag 40 on Ack and Reject Orders on DROP Port Disconnect port attribute definition.
1.23.7	08/24/11	Updated definition for Reject Orders on DROP Port Disconnect port attribute. Added definitions for Reject Orders on DROP Port Timeout and Cancel Open Orders on DROP Port Disconnect port attributes.
1.23.8	08/31/11	Added OATS Connection ID section.
1.23.9	09/14/11	Added 9730=AV (trade added visible liquidity and was price improved). Added in support of Display-Price Sliding Enhancement effective 9/23/11.
1.23.10	09/21/11	Added tag 58 value for Market Access Risk Limit cancel or reject.
1.23.11	10/25/11	Removed Default Auction Only To Late port attribute. Enforce Rule 80A/Capacity (tag 47) marking on new order messages (effective date 11/11/11). Added tag 58 value "C = Capacity Undefined" as a reject reason code.

1.23.12	11/07/11	Added Notional Cutoff Aggregation Method, Limit Order Notional Cutoff, and Market Order Notional Cutoff to **Port Attributes** section.
1.23.13	12/08/11	Added Send Routing Instruction to **Port Attributes** section.
1.24.0	12/16/11	Updated **FIX Drop Port Attributes** section and renamed Port Attributes section FIX Port Attributes. Add tag 58 value "o = Max Open Orders Count Exceeded" as a reject reason code.
1.24.1	12/21/11	Noted that BATS reserves the right to add new FIX tags and to update values distributed on Order by Order FIX Drop with no notice.
1.24.2	01/05/12	Added Multiple Display-Price Sliding (9479=M).
1.24.3	01/18/12	Updated Multiple Display-Price Sliding effective date to effective pending SEC Approval.
1.24.4	01/30/12	Added TRIM2, TRIM2-, TRIM3, TRIM3- Routing Strategies, 3rd character of 9303 = 'P', 'p', 'Q', and 'q' respectively.
1.25.0	02/01/12	Added option to allow for cancel of all open orders including auction only orders to Cancel On Disconnect in the **Port Attributes** section. Added support for using either Net, Gross, or a combination of both Notional Cutoff Aggregation Methods to the **Port Attributes** section. Effective 02/03/12. Removed Notional Cutoff Aggregation Method attribute and added specific attributes for both Gross and Net Daily Risk Limit/Market Cutoffs. Effective 02/03/12.
1.25.1	02/17/12	Clarified *ExecInst* (tag 18) defaults for Routeable Orders and other minor spec updates.
1.26.0	03/07/12	Added *AttributedQuote* (9732). Effective 05/07/12.
1.26.1	04/04/12	Removed Support for RHO orders in Non-BATS Listed Securities.
1.26.2	05/17/12	Updated *PreventMemberMatch* tag 7928 to include a 3rd character for Trading Group ID. Effective 05/25/12. Changed NYSE AMEX references to NYSE MKT.
1.27.0	05/25/12	Post Only Orders will execute against resting orders if the value of price improvement associated with the execution equals or exceeds the sum of fees charged for the execution plus the value of the rebate that would have been provided if the order posted to the BATS book and subsequently provided liquidity. Effective 06/08/12.
1.27.1	06/14/12	Clarified the cases in which Tag 198 *SecondaryOrderID* is sent.

1.27.2	06/19/12	Added reason code of 'x = Crossed Market' to *OrderRejectReason*, *ModifyRejectReason* and *CancelReason*. Added Crossed Market Reject/Cancel to **Port Attributes** section.
1.27.3	07/12/12	Removed References to TRAC and DATA as those ECNs have ceased operations. Updated fields in `Order Cancel Request`.
1.27.4	08/07/12	Updated Multiple Display-Price Sliding effective date to be effective pending SEC Approval.
1.27.5	01/31/13	Added 'u = Order would cross LULD Price Bands' to *Text* (58) field.
1.27.6	02/08/13	Clarified *DiscretionAmount* (9622) based on ability to use *DiscretionAmount* (9622) with directed orders.
1.28.0	02/11/13	Added Market Maker Peg order type *ExecInst (FIX Tag 18)* = Q, *OrdType (FIX Tag 40)* = P. Effective 03/15/13.
1.29.0	04/04/13	Added new *RestatementReason* (378) = 3 and added Peg Restatements to **Port Attributes** section. Effective 05/17/13 Include *TradeLiquidityIndicator* (9730) by default on order acknowledgements. Effective 06/07/13 Updated *ExchangeAccessFee* (9621) definition.
1.30.0	07/10/13	CYCLE routing strategy, where 3rd character of *RoutingInst* (Tag 9303) = "C" to be deprecated in favor of Parallel routing strategies. Effective 09/03/13.
1.30.1	08/05/13	Market Maker Pegs orders sent with a *TimeInForce* (tag 59) = 5 or 6 (GTX or GTD) will be rejected.
1.30.2	09/16/13	Added *TradeLiquidityIndicator* (9730) = AJ for execution that joined the NBBO.
1.30.3	12/10/13	Updated to remove references to deprecated Market Maker Quoter. Updated CYCLE routing strategy where 3rd character of *RoutingInst* (Tag 9303) = "C" will be rejected. Effective 01/02/14.

1.31.0	06/05/14	Added maximum of 20% for Fat Finger Percentage in **Port Attributes** section.
		CYCLE routing strategy removed.
		Updated table of supported *ExecInst* (18) values in *RoutingInst* (9303) field.
		Removed references to CBSX and NSX.
		Added OATS EPID section.
		Added support for Random Replenishment, *DisplayRange* (8020). Effective 07/11/14.
		Added support for modification of displayed quantity, *MaxFloor* (111), on the next reload. Effective 07/11/14.
		Added support for *TimeInForce* (59) = "4", FOK. Effective 07/11/14.
		Added support for *OrdType* (40) = "3" (Stop) and *OrdType* (40) = "4" (Stop Limit) orders as well as *StopPx* (99). Effective 07/11/14.
1.32.0	07/09/14	Added support for Routing V2 in support of FIX tags *RoutingInst* (9303), *RoutStrategy* (9400), *RouteDeliveryMethod* (9350) and *ExDestination* (100). Effective 08/15/14.
		Added Routing V2 support for SWPA and SWPB strategies. Effective 08/15/14.
1.33.0	07/31/14	Added "Session Close Handling" Port Attribute. Effective 08/22/14.
		Added MTP Modifier of Cancel Smallest, *PreventMemberMatch* (7928) = "S". Effective 08/22/14.
		Added reject code *Text* (Tag 58) = "M: Liquidity Available Exceeds Order Size" in support of SWPB.
1.33.1	08/06/14	Added *Text* (Tag 58) = "E" to indicate a reduction in *OrdQty* due to SWP restatement as a result of an IOC SWP order having size greater than the displayed quantity of all protected market centers. Used in conjunction with *ExecRestatementReason* (Tag 378) = "5" and *ExecType* (Tag 150) = "D".
1.33.2	08/28/14	Changed description of "R" *RoutingInst* (Tag 9303).
		Defined "w" cancel reason in *Text* (FIX Tag 58) field.
		Added support on Aggressive/Super Aggressive re-route orders as well as an option to default routable odd lot orders to Super Aggressive. Effective 09/12/14.
		Added support for Visible Peg Orders *DisplayIndicator* (Tag 9479) = "v". Effective 09/12/14.

1.33.3	09/23/14	Added support for Supplemental Peg Order *ExecInst* (Tag 18) = "u". **Effective 10/17/14.** Added support for Price Adjust and Multiple Price Adjust, *DisplayIndicator* (9479) = "P" and "m" respectively. **Effective 10/17/14.** Added support for Post to Away, *RoutingInst(v2)* ="A". **Effective 10/17/14.** Added support for Hidden Cancel Back, *DisplayIndicator* (9479) ="r". **Effective 10/03/14.** Added support for input of *Text* (58) free format text string to New Order Single.
1.33.4	09/29/14	Updated **Hours of Operation** section. **Effective 10/31/14.** Added Cancel on Halt option to **Port Attributes** section due to new default queuing behavior being implemented for halts. **Effective 10/31/14.**
1.33.5	10/08/14	*TimeInForce* (59) = "R" Regular Hours Only will be available **effective 10/31/14**. Added support to *RoutStrategy(v2)* for ROOC. Requires 18 = "o", "c", or "a". **Effective 11/07/14.** *OrdType* (40) = "1" Market implies *TimeInForce* of DAY, **effective 11/14/14.**