

POSIT FIX Specification

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Information contained in this document is applicable for external subscribers transmitting orders to POSIT. For more information please review the Form ATS-N extract document available at <https://www.virtu.com/about/transparency/> or consult your POSIT relationship manager.

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Introduction to Virtu ITG POSIT FIX Protocol

This document sets forth the information needed to access POSIT, Virtu ITG's registered alternative trading system in the US, using the FIX protocol.

FIX 4.0, 4.2 and 4.4 Support

The standard FIX protocol as published by the FIX trading community forms the basis of the document. Virtu ITG is FIX 4.0, FIX 4.2 and FIX 4.4 compliant. Virtu ITG systems use the standard FIX protocol published by the FIX trading community, unless otherwise specified. To download and view the FIX specifications, visit www.fixtrading.org. This document assumes familiarity with these general FIX specifications.

Supported Interactions

Continuous Crossing

POSIT supports continuous intraday crossing. DAY orders participate in continuous intraday crossing until the order is either filled, expired, or cancelled. IOC orders are crossed immediately and any unexecuted shares are cancelled.

Market On Close

POSIT users may submit, during the agency close crossing session, Market On Close orders to POSIT. Users will receive indicative fills ahead of the close as soon as there is a match. Once the cross is consummated after the close, an execution report with final price will be sent. Please refer to the "POSIT Agency Close Crossing Session Message Interactions" section below for sample interactions of this flow.

POSIT Alert

Following notification of a potential match from Virtu ITG's indications matching system, POSIT Alert, Alert participants can submit firm orders to POSIT's Alert destination.

Default Behavior

POSIT users may request default behaviors for their POSIT orders, including, but not limited to, peg instructions. Instructions sent with individual orders would override applicable user-level default setting(s). Requests for custom default settings need to be coordinated with and approved by Virtu ITG. Any other requested customizations to the processing of FIX messages, if approved, may result in processing latency.

Cancellation and Correction

POSIT users can cancel orders. Limited correction of orders is allowed, as summarized in the “Cancel Replace FIX Message (35=G)” section below.

POSIT “Subscribers”

POSIT users who submit orders directly to POSIT through a FIX connection dedicated exclusively to POSIT are considered POSIT “Subscribers.” Subscribers’ FIX connections to POSIT can be optimized for lower latency. POSIT users who are not Subscribers can contact Virtu ITG to request an optimized session. Subscribers can request that all outstanding orders be automatically cancelled upon a FIX session disconnect.

Virtu ITG encourages you to review POSIT’s Form ATS-N, which is posted on its website at www.virtu.com/about/transparency for further information concerning POSIT’s operations and matching logic.

Single Order FIX message (35=D)

This section describes the FIX OrderSingle (35=D) message as it applies to POSIT. Listed below are required fields as well as those that are optional for POSIT.

Field Name	FIX Tag	Mandatory	Valid Values	Comments
MsgType	35	Yes	D	D = Single Order
ClOrdID	11	Yes		Unique identifier of the order, assigned by the user. Maximum 60 characters long.
HandInst	21	Yes		
ExDestination	100	No	TCT1, TCT7	Controls target destination: TCT1=POSIT TCT7=Alert

				Alternative tags or values may be coordinated with Virtu ITG. Clients sending both Day and IOC orders are expected to send such orders via designated destinations for those time-in-force instructions
Currency	15	No	USD	
Symbol	55	Yes		U.S. Ticker Symbol. Any NMS stock, as that term is defined in Rule 600(b)(47) of Regulation NMS, using the CMS convention. Alternative security identifiers can be requested and must be tested with Virtu ITG; these may incur higher processing latency.
Side	54	Yes	1, 2, 5, 6	1 = Buy 2 = Sell 5 = Sell Short 6 = Sell Short Exempt (available for broker-dealer users only) Sell short as well as sell short exempt are not available with MOC orders
TransactTime	60	Yes (except FIX 4.0)		
Rule80A	47	No	A, P	FIX 4.4 connections should use tag 528. users must indicate ("P") when trading in a principal capacity or ("A") when trading in an agency capacity. Unsupported values will be treated as principal. The absence of a tag in this field will be treated as agency. Clients may request Virtu ITG to use a fixed capacity for all their orders.
Price	44	No		Value must be > 0 if OrdType(40) = Limit (2) Value will be ignored for Market orders (40=1) and Market On Close orders (40=5).
OrderQty	38	Yes		POSIT trades only in round lots. Odd lot orders will be immediately cancelled. After the entire round lot portion of a mixed lot order is executed, the remaining odd lot portion will be cancelled.
OrdType	40	Yes	1, 2, 5, P	1 =Market 2 = Limit 5 = Market On Close P = Pegged (required if providing peg instructions)

				MOC orders should use tag 100=TCT1 unless otherwise coordinated with Virtu ITG
TimeinForce	59	Yes	0, 3	0 = Day 3= Immediate or Cancel MOC orders must be DAY orders (59=0)
Expire Time	126	No		Time/Date of order expiration (always expressed in UTC (Universal Time Coordinated, also known as "GMT")). Time granularity is rounded down to whole seconds.
MinQty	110	No		Minimum execution quantity for a single cross. By default, minimum execution quantity constraint can be met by aggregating multiple contras. Users can request a different default value minimum execution quantity to be met by each contra party. Residual shares smaller than minimum quantity will be allowed to cross in a single execution. Users can also request to return any residual shares smaller than minimum quantity un-executed. Orders are rejected when MinQty>Qty.
LocateReq'd	114	No	N, Y	Tag required from all customers except U.S. broker- dealers for short sell (54=5) and Short Sell Exempt (54=6) orders. N = No (Virtu ITG is not required to locate) Y = Yes
LocateBroker	5700	No	MPID of locate broker (4 characters)	Required from all customers except U.S. broker-dealers when LocateReq'd (114) = No (N).
Execlnst	18	No	R, M, P	Values will be honored only when OrdType(40) = Pegged(P): R = Primary Peg (buy@bid, sell@offer) (not permitted for Immediate-or-Cancel 59=3 orders) M = MidPrice Peg P = Market peg

				Users may request a default user-level peg instruction to be applied to their DAY and/or IOC orders for orders not otherwise providing this tag.
OrderCapacity	528	No		FIX 4.4 only Users must indicate (“P”) when trading in a principal capacity or (“A”) when trading in an agency capacity. Values of “I” or “W” will be treated as agency. Orders with unsupported values will be rejected. The absence of this tag will be treated as agency.

Cancel/Replace FIX message (35=G)

Only a limited number of fields (shown in the below table) can be changed using the FIX Cancel/Replace message. All other FIX fields included in the above Single Order FIX message section must be retransmitted as sent in the original order. Only DAY (59=0) orders may be corrected. Filled orders may not be corrected upward unless requested by the user and certified by Virtu ITG.

Do not use this message to cancel the remaining quantity of an outstanding order. To cancel the remaining quantity of an outstanding order, use the Cancel Request (35=F).

POSIT responds to the Cancel Replace with a standard FIX Replaced report.

Field Name	FIX Tag	Mandatory	Valid Values	Comments
MsgType	35	Yes	G	G = Cancel/Replace
ClOrdID	11	Yes		New Client Order ID
OrigClOrdID	41	Yes		Tag 11 from the last order or Cancel/Replace message
HandlInstr	21	Yes		
TransactTime	60	Yes (Except FIX 4.0)		
Only the following order attributes are correctable:				

Price	44	No		Value must be > 0 if OrdType (40) = Limit (2). Value will be ignored for Market orders (40=1) and MOC orders (40=5).
OrderQty	38	Yes		POSIT trades only in round lots. Odd lot orders will be immediately cancelled. After the entire round lot portion of a mixed lot order is executed, the remaining odd lot portion will be cancelled.
OrdType	40	Yes	1, 2, 5, P	1 =Market 2 = Limit 5 = Market On Close P = Pegged (required if providing peg instructions) Only changes allowed are from 40=1 to 40=2 and from 40=2 to 40=1.
MinQty	110	No		Minimum execution quantity for a single cross. By default, minimum execution quantity constraint can be met by aggregating multiple contras. Users can request a different default value minimum execution quantity to be met by each contra party. Residual shares smaller than minimum quantity will be allowed to cross in a single execution. Users can also request to return any residual shares smaller than minimum quantity un-executed. Orders are rejected when MinQty>Qty.

Cancel FIX message (35=F)

Pass only the standard FIX Order Cancel message, as defined in the FIX specifications.

Responses from POSIT

POSIT only responds to inbound FIX messages with either (1) an ExecutionReport (35=8) message or (2) a CancelReject (35=9) message.

ExecutionReport (35=8) message is used for:

- Order acknowledgement
- Order rejection
- Trade information (Partial)
- Trade information (Filled)
- Correction acknowledgement and confirmation
- Cancel acknowledgement and confirmation
- Done for Day
- Trade Bust
- CancelReject (35=9) message is used for:
 - Cancel rejection
 - Correction rejection

FIX Execution Report(35=8)

Field Name	FIX Tag	Always Sent	Comments
Standard Header MsgType = 8			
ExecTransType	20	Y (FIX4.0 & FIX4.2)	Identifies transaction type. Possible Values: 0 = New 1 = Cancel (Trade Bust) 2 = Correct
OrdStatus	39	Y	Describes the current state of a user order Possible Values: 0 = New (Ack on new orders, or on a trade bust with no executed shares) 1 = Partial Fill (on trade report, or on a trade bust with executed shares) 2 = Filled 3 = Done (Done for day) 4 = Cancelled 5 = Replaced (FIX4.0 and FIX4.2) 6 = Pending Cancel 8 = Rejected (order only, will use message 35=9 for rejecting cancels and corrections) E = Pending Replace (FIX4.2 and FIX4.4)
ExecType	150	Y (FIX4.2 and FIX4.4)	Describes the type of execution report. Possible Values: 0 = New 1 = Partial Fill (FIX4.0 and FIX4.2) 2 = Filled (FIX4.0 and FIX4.2) 3 = Done 4 = Cancelled 5 = Replaced 6 = Pending Cancel 8 = Rejected E = Pending Replace (FIX4.2 and FIX4.4) The below values only apply for FIX4.4: F = Trade (formerly 150=1 and 2) H = Trade Cancel (formerly 20=1)
ClOrdID	11	Y	As specified by user
OrigClOrdID	41	Y (FIX4.2 and FIX4.4)	ClOrdID of the previous order (not the initial order of the day) when cancelling or replacing an order.

OrderID	37	Y	OrderID, assigned by Virtu ITG, unique for each user order within a single trading day.
TransactTime	60	Y	Transaction time (expressed in GMT). Trade reports provide millisecond granularity. Users may request receiving milliseconds on other report types.
ExecID	17	Y	Unique report message identifier within a single trading day.
ExecRefID	19	N	Sent for trade bust report
LastShares	32	Y	Quantity of shares bought/sold on this (last) fill.
LastPx	31	Y	Price of this (last) fill.
LeavesQty	151	Y (For FIX 4.2 and 4.4)	Number of shares remaining.
CumQty	14	Y	Total executed shares for the order.
AvgPx	6	Y	Calculated average price of all trades on this order.
ExecBroker	76	N	Available by request and can be configured to user's specifications. For FIX4.4 this is replaced with NoPartyID repeating group with PartyRole='1' (Executing Firm)
Rule80A	47	N (FIX 4.0 and FIX 4.2)	POSIT always trades in an agency capacity and will send back an "A" value. Note: For legacy users sending in a "Y" or "U," the same will be echoed back. A user's provided value can be echoed back upon request. For FIX4.4 this is replaced with OrderCapacity (tag 528).
Text	58	N	Reason string sent on Cancelled/Rejected report.
TimeInForce	59	Y	As specified by user
Symbol	55	Y	As specified by user
Side	54	Y	As specified by user
OrderQty	38	Y	As specified by user
OrderType	40	N	User's provided value can be echoed back upon request.
Limit price	44	N	As specified by user
MinQty	110	N	As specified by user
Liquidity indicator	851	N	Available by request

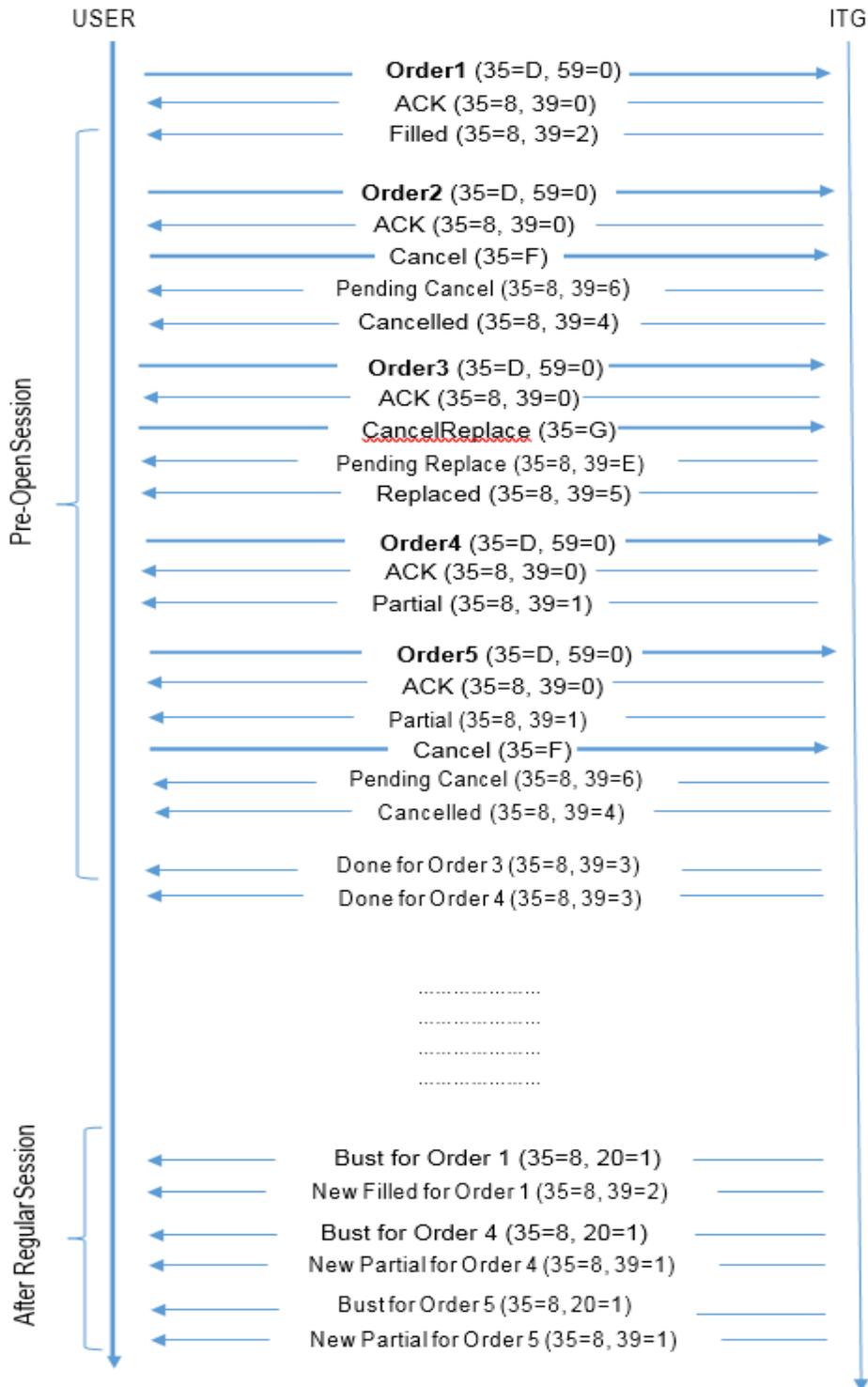
			Value can be passed in alternative tags upon request	
LastMkt	30	N	Available by request and can be configured to user's specifications.	
Account	1	N	As specified by user	
ExecInst	18	N	As specified by user	
ExpireTime	126	N	As specified by user	
OrderCapacity	528	N (FIX4.4)	Replacement of Rule80A for FIX4.4. Will echo back user's original input.	
NoPartyIDs	453	N (FIX4.4)	Party's repeating groups. Sent on trade reports.	
=>	PartyID	448	C	Same content as ExecBroker (tag 76) in prior FIX versions.
=>	PartyRole	452	C	1 = ExecBroker
Standard Trailer				

FIX CancelReject (35=9)

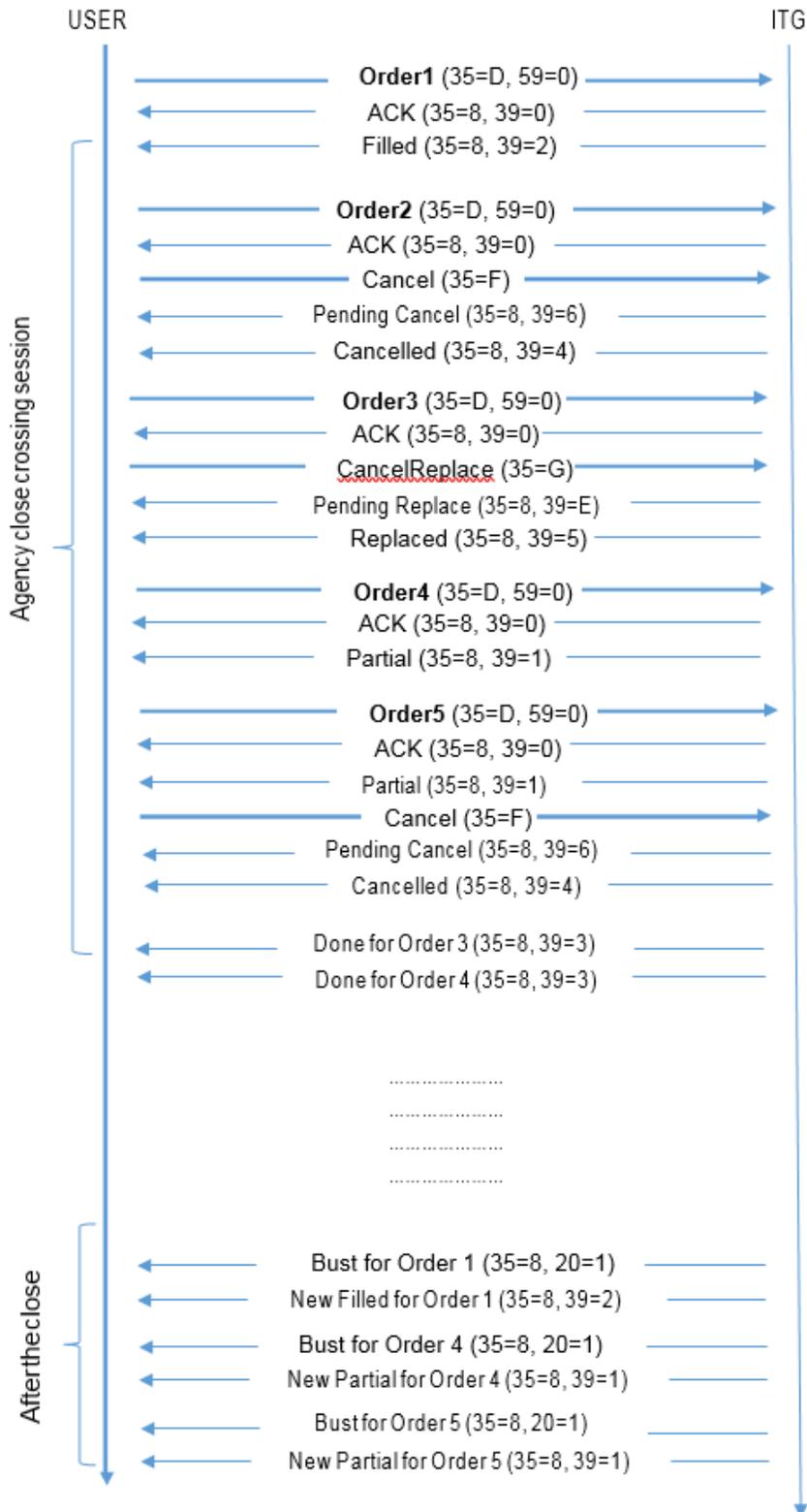
Will include only the standard FIX CancelReject message as defined in the FIX specifications.

Appendix

POSIT VWAP message interactions



Agency close crossing session message interactions





To learn more, contact your sales representative or call our desk at

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