POSIT Alert

FIX guide—individual tag format

Conditional integration for US, Canada, Asia Pacific and European equities

Jan 2022

Version 1.9

Table of Contents

Introduction to POSIT Alert FIX protocol

This document describes the FIX 4.2 implementation used to access POSIT Alert® trading system via conditional orders as indications, including:

- General FIX specification required for each transmission
- User-defined FIX tags

FIX 4.2 support

POSIT Alert is FIX 4.2 compliant. Alert systems use the standard FIX 4.2 protocol published by the FIX Protocol Ltd. To download and view the FIX 4.2 specifications, visit www.fixprotocol.org. Reviewing the FIX 4.2 specifications will help you understand the FIX message format and tags supporting New Orders (35=D), Cancel Requests (35=F), Cancel/Replace (35=G), Rejects (35=3), and Execution Reports (35=8).

Supported orders

This FIX specification supports US, Canadian, APAC and European equities. For the universe of countries supported for Europe, you can refer to the latest POSIT MTF Market parameters at https://www.virtu.com/regulatory-disclosures/

POSIT Alert accepts buy, sell, and sell short conditional and firm orders. Short sell exempts are also accepted for US equities.

POSIT Alert accepts market, limit and mid-price peg orders. POSIT Alert also accepts market peg (buy@offer, sell @bid) for US and APAC (except Australia and New Zealand) stocks.

Trader identification

If the FIX session includes multiple traders, a client/trader identifier must be included in every FIX message sent to POSIT Alert. The firm order and the conditional order it is associated with must have the same client/trader identifier. Trader may be identified by SenderSubID(50), OnBehalfOfCompID(115) or OnBehalfOfSubID(116).

> If there will be only one client/trader on the FIX session, then this is optional.

Clients can also differentiate flow with the use of these tags—for instance, to have different thresholds for matching. This would need to be coordinated with the Alert team.

Conditional order requirements

The FIX new order type message (35=D) with POSIT Alert Msg Flag (8002=0) is used to send a new conditional order. The OrderQty tag (Tag 38) will contain the number of shares that are available to trade.

As the quantity and/or price changes throughout the day, the client should send an order cancel/replace message (35=G) to indicate the new quantity or price.

To cancel, use the cancel request message (35=F). If changing the parameters of the conditional or firm order, do not send cancel request (35=F) followed by new single order (35=D). Send a cancel/replace request (35=G) with the new order quantity, new price, etc.

Only a limited number of fields on the conditional orders may be changed using the order cancel/replace (35=G) message:

- OrderType (40): Use only when changing to or from market, limit or pegged order.

- Price (44): Increase and decrease the value.

  o Price should be sent on the conditional order only if the trader intends to send the firm order with a limit price.

  o Price should not be on the conditional order if the trader intends to send the firm order at market.

- Execution instruction (18): Add or remove the tag 18=P or tag 18 = R or 18=M.

- OrderQty (38): Increase and decrease the quantity.

- MinQty (110): Increase and decrease the minimum quantity to fill. Do not include the tag if there is no minimum.

  Note: All other FIX fields must be retransmitted as sent on the previous conditional order. POSIT Alert rejects the update if a mandatory tag is not sent.

Firm order requirements

Firm orders must have parameters that match with their corresponding conditional orders. However, OrderQty (38) and Price (44) on the firm order may not always match the conditional order; this is only reasonable due to race conditions.

OrderQty (38) on the firm order should match the OrderQty (38) on the conditional order as closely as possible.

Note: All other FIX fields must be retransmitted as sent on the last corresponding conditional order. POSIT Alert will reject the firm order if a mandatory tag is not sent or if it does not match the tag on the conditional.

POSIT Alert workflow

The POSIT Alert two-step process consists of conditional order matching (uncommitted orders) and firm order crossing (committed orders). Refer to Appendix B to view a POSIT Alert diagram.

Conditional order

- Conditional orders to POSIT Alert represent uncommitted quantity and order parameters that the participant is willing to trade. Conditional orders may be used to represent an order in the POSIT Alert system while that same conditional order is resting in other venues simultaneously. POSIT Alert will use conditional orders only to match participants together and it will only execute crossed with firm orders.

Invite

- When Posit Alert finds a contra who has signaled an interest in trading, a request is sent inviting the client to firm up. The invitation will always be for the full conditional order quantity sent to POSIT Alert so that no size information about the contra party will be disclosed.

- The firm-up request comes in the form of an unsolicited cancel of the conditional order with tag 8005=5. The client is expected to send a firm-up order on receipt of the invitation.

- The conditional size must meet certain quantity thresholds to be eligible for an invite. The table below lists the default thresholds for human participants (those who submit conditional orders via the Alert front end) to receive an invitation to trade. All of these thresholds can be customized based on client preference for interacting with electronic flows.

US equities	Lower of 10,000 shares, $200,000 or 2% ADV
European equities	Max of 1 LIS or £100,000
Canadian equities	5,000 shares if ADV <1mm and 10,000 shares if ADV >1mm
APAC equities	Lower of $300,000 or 5% ADV. Must be above 0.5% ADV.

- Electronic participants can specify a different quantity threshold on the conditional order with the MinQty field (tag 110). If this field is not present, the default thresholds will be used.

Response

- The participant responds to the invitation by sending a firm order to POSIT Alert.

- The participant should never send a firm order to the POSIT Alert destination if there is no outstanding invitation. POSIT Alert will reject any firm orders that are not in response to a live invitation.

Result

- By the end of the POSIT Alert window or earlier, the participant will receive an execution report with a fill, partial fill or "done for day" order status. Any unfilled quantity will be canceled back to the user. Orders may not cross (and get done for day) due to constraints placed on the firm order(s) such as limit price and/or min quantity.

- The participant should send a new conditional order after the cross to represent the remaining quantity to the Alert system.

POSIT Alert FIX protocol

Conditional orders to POSIT Alert

POSIT Alert inbound message

Participant sends conditional order to POSIT Alert.

- Conditional orders represent uncommitted order quantity that a participant is willing to trade in POSIT Alert if there is a natural contra party

- All conditionals in the POSIT Alert system expire at the end of the primary market trading hours.

Field Name	FIX Tag	Mandatory	Valid Values	Comments
MsgType	35	Yes	D	D = new order
ClOrdID	11	Yes		Client order ID
IDSource	22	Yes	2, 5	Required for non-US or CAN orders. Valid values are: 2 = SEDOL 5 = RIC
SecurityID	48	Yes	See comments	Required for non-US or CAN orders. The valid value corresponding to the IDSource (Tag 22) value
Currency	15	Yes	See comments	Required for non-US or CAN orders. Currency value must be the industry standard valid value (or native currency)
Symbol	55	Yes	See comments	Ticker symbol. Ignored when tags 48 and 22 are present.
Side	54	Yes	1, 2, 5, 6	1 = buy 2 = sell 5 = sell short 6 = sell short exempt Sell short exempt valid only for US equities
Price	44	See comments		Price per share. Mandatory if OrdType(40) = Limit(2). If present, the value must be greater than zero.
OrderQty	38	Yes		Quantity that users are indicating to POSIT Alert that they are willing to trade.
MinQty	110	No		

Field Name	FIX Tag	Mandatory	Valid Values	Comments
OrdType	40	Yes	1, 2, P	1 = market 2 = limit P = pegged
ExecInst	18	See comments	R, P, M	Willingness to trade across the best bid and offer. R = primary peg (buy at bid/sell at offer) P = market peg (buy at offer/sell at bid) M = mid-price peg Note: Market peg supported only in US and APAC (excluding NZ and AU) Values other than "M". "P", or "R" are ignored and default to "P"
TimeInForce	59	No	0	Only day orders. 0 = day
HandlInst	21	Yes	1, 2, 3	Typically, it is 1—automated execution order, private, no broker intervention.
Rule80A	47	No	A, P	A = agency P = principal
LocateReq'd	114	See comments	N, Y	Required on US short sell firm orders. Not required in Canada and Europe N = no (broker is not required to locate) Y = yes
LocateBroker	5700	See comments	MPID of locate broker. Must be no more than four characters.	Required when LocateReq'd (Tag 114) = N. Required only for US equities, not in Canada and Europe.
POSIT Alert Msg Flag	8002	Yes	0	POSIT Alert Msg Flag signifies whether the order is conditional or firm. 0 = conditional order message
InteractionType	8003	No	0 = interact with all 1 = electronic only	If not specified, default is interact with all Valid for US and Europe

Cancel/replace conditional order

POSIT Alert inbound message

Participant sends a cancel/replace message to POSIT Alert to change parameters on an outstanding conditional order. The following modifications are allowed:

- Increase and decrease OrderQty (38).

- Increase decrease in price (44)

- Change in OrderType (40) such as from MKT to LMT and vice versa.

POSIT Alert responds to the cancel/replace with a standard FIX replaced report.

Field Name	FIX Tag	Mandatory	Valid Values	Comments
MsgType	35	Yes	G	G = order cancel/replace request
ClOrdID	11	Yes		Client order ID
OrigClOrdID	41	Yes		Original client order ID.
IDSource	22	Yes	2, 5	Valid values are: 2 = SEDOL 5 = RIC
SecurityID	48	Yes	See comments	The valid value corresponding to the IDSource (Tag 22) value
Currency	15	Yes	See comments	Currency value must be the industry standard valid value (or native currency)
Symbol	55	Yes	See comments	Ticker symbol. Ignored when tags 48 and 22 are present.
Side	54	Yes	1, 2, 5, 6	1 = buy 2 = sell 5 = sell short 6 = sell short exempt Sell short exempt valid only for US equities
Price	44	See comments		Price per share. Mandatory if OrdType(40) = Limit(2). If present, the value must be greater than zero.
OrderQty	38	Yes		Order quantity that users are indicating to POSIT Alert that they are willing to trade.
MinQty	110	No		

Field Name	FIX Tag	Mandatory	Valid Values	Comments
OrdType	40	Yes	1, 2, P	1 = market 2 = limit P = pegged
ExecInst	18	See comments	R, P, M	Willingness to trade across the best bid and offer. R = primary peg (buy at bid/sell at offer) P = market peg (buy at offer/sell at bid) M = mid-price peg Note: Market peg supported only in US and APAC (excluding NZ and AU) Values other than "M". "P", or "R" are ignored and default to "P"
TimeinForce	59	No	0	Only day orders. 0 = day
HandlInst	21	Yes	1, 2, 3	Typically, it is 1 (automated execution order, private, no broker intervention).
Rule80A	47	N	A, P	A = agency P = principal
LocateReq'd	114	See comments	N, Y	Required on US short sell firm orders. Not required in Canada and Europe. N = no (broker is not required to locate) Y = yes
LocateBroker	5700	See comments	MPID of locate broker. Must be no more than four characters.	Required when LocateReq'd (Tag 114) = N. Required only for US equities, not in Canada and Europe.
POSIT Alert Msg Flag	8002	Yes	0	POSIT Alert Msg Flag signifies whether the order is conditional or firm. 0 = conditional order message

Cancel request for conditional in POSIT Alert

POSIT Alert inbound message

Participant sends cancel request message to POSIT Alert to cancel an outstanding conditional order.

- Conditional orders should be canceled when there is no longer interest in trading the order.

- If participant is updating parameters of the order, do not update in form of cancel request and new order messages. Instead, send the cancel replace request (35=G).

- POSIT Alert responds to the cancel request with a standard FIX canceled report. It will not have POSIT Alert Status Flag (8005) = firm order request (5)

Field Name	FIX Tag	Mandatory	Valid Values	Comments
MsgType	35	Yes	F	F = cancel request
ClOrdID	11	Yes		Client order ID
OrigClOrdID	41	Yes		Original client order ID
IDSource	22	See comments	2, 5	Valid values are: 2 = SEDOL 5 = RIC
SecurityID	48	See comments	See comments	The valid value corresponding to the IDSource (Tag 22) value
Symbol	55	Yes	See comments	Ticker symbol. Ignored when tags 48 and 22 are present.
Side	54	Yes	1, 2, 5, 6	1 = buy 2 = sell 5 = sell short 6 = sell short exempt Sell short exempt valid only for US equities
OrderQty	38	Yes		Order quantity that users are indicating to POSIT Alert that they are willing to trade
POSIT Alert Msg Flag	8002	Yes	0	POSIT Alert Msg Flag signifies whether the order is conditional or firm. 0 = conditional order message

Firm-up request

POSIT Alert outbound message

When POSIT Alert finds a marketable contra for a conditional order, the participants are informed of the opportunity to trade.

POSIT Alert invites the participant to send a firm order.

- The request is an unsolicited cancel message on the execution report, with POSIT Alert Msg flag 8002=0 and POSIT Alert Status flag 8005=5

Field Name	FIX Tag	Mandatory	Valid Values	Comments
MsgType	35	Yes	8	8 = execution report
ClOrdID	11	Yes		Same as ClOrdID on the conditional order
IDSource	22	Yes	2, 5	Valid values are: 2 = SEDOL 5 = RIC
SecurityID	48	Yes	See comments	The valid value corresponding to the IDSource (Tag 22) value
Currency	15	Yes	See comments	Currency value must be the industry standard valid value (or native currency)
Symbol	55	Yes	See comments	Ticker symbol. Ignored when tags 48 and 22 are present.
OrdStatus	39	Yes	4	4 = canceled
ExecType	150	Yes	4	4 = canceled
CumQty	14	Yes	0	0
LastPx	31	Yes	0	0
LastShares	32	Yes	0	0
Side	54	Yes	1, 2, 5, 6	1 = buy 2 = sell 5 = sell short 6 = sell short exempt Sell short exempt valid only for US equities
ExecTransType	20	Yes	0	0 = New
Price	44	See comments		Same as price on the conditional order
OrderQty	38		See comments	Same as OrderQty on the conditional order
OrdType	40	Yes	1, 2, P	1 = market 2 = limit P = pegged

Field Name	FIX Tag	Mandatory	Valid Values	Comments
ExecInst	18	See comments	R, P, M	Willingness to trade across the best bid and offer. R = primary peg (buy at bid/sell at offer) P = market peg (buy at offer/sell at bid) M = mid-price peg Note: Market peg supported only in US and APAC (excluding NZ and AU) Values other than "M". "P", or "R" are ignored and default to "P"
POSIT Alert Msg Flag	8002	See comments	0	POSIT Alert Msg Flag signifies whether the order is conditional or firm. 0 = conditional order message
POSIT Alert Status Flag	8005	See comments	5	Describes the current status of the order 5 = firm order request message

Submit firm order to POSIT Alert

POSIT Alert inbound message

Participant sends firm order to POSIT Alert.

- Firm order sent in response to a firm-up request from POSIT Alert
- POSIT Alert will respond to the firm-up order with a standard FIX acknowledgment report

  Note that the POSIT Alert Msg flag should be set to say this is a firm order (tag 8002 = 1). Also the firm order should set IOIid tag 23 to the ClOrdID (11) of the invited conditional order.

Field Name	FIX Tag	Mandatory	Valid Values	Comments
MsgType	35	Yes	D	D = New Order
ClOrdID	11	Yes		Client Order ID
IOIid	23	Yes		Same as the Client Order ID (11) of the invited conditional order. This is used as a reference for the firm order.
IDSource	22	Yes	2, 5	Valid values are: 2 = SEDOL 5 = RIC
SecurityID	48	Yes	See Comments	The valid value corresponding to the IDSource (Tag 22) value
Currency	15	Yes	See Comments	Currency value must be the industry standard valid value (or native currency)

Field Name	FIX Tag	Mandatory	Valid Values	Comments
Symbol	55	Yes	See Comments	Ticker Symbol. Ignored when tags 48 and 22 are present.
OrderQty	38	Yes		Order quantity that is intended to be traded. Value should be as close as possible to the order quantity on the corresponding conditional order.
OrdType	40	Yes	1, 2, P	1 = Market 2 = Limit P = Pegged
Price	44	See Comments		Price per share. Mandatory if OrdType(40) = Limit(2). If present, the value must be greater than zero.
Side	54		1, 2, 5, 6	1 = Buy 2 = Sell 5 = Sell Short 6 = Sell Short Exempt Sell Short Exempt valid only for US equities
ExecInst	18	See Comments	R, P, M	Willingness to trade across the best bid and offer. R = primary peg (buy at bid/sell at offer) P = market peg (buy at offer/sell at bid) M = mid-price peg Note: Market peg supported only in US and APAC (excluding NZ and AU) Values other than "M". "P", or "R" are ignored and default to "P"
TimeInForce	59	No	0	Only Day orders. 0 = Day
MinQty	110	No		Minimum quantity to be executed on an order. Must be less than or equal to value in OrderQty(38).
LocateReq'd	114	See Comments	N, Y	Required on U.S. short sell firm orders. Not required in Canada and Europe. N = No (broker is not required to locate) Y = Yes

Field Name	FIX Tag	Mandatory	Valid Values	Comments
LocateBroker	5700	See Comments	MPID of locate broker. Must be no more than 4 characters.	Required when LocateReq'd (Tag 114) = N. Required only for U.S. equities. Not in Canada and Europe.
POSIT Alert Msg Flag	8002	Yes	1	POSIT Alert Msg Flag signifies whether the order is conditional or firm. 1 = Firm order message

Appendix A: Summary of individual tags

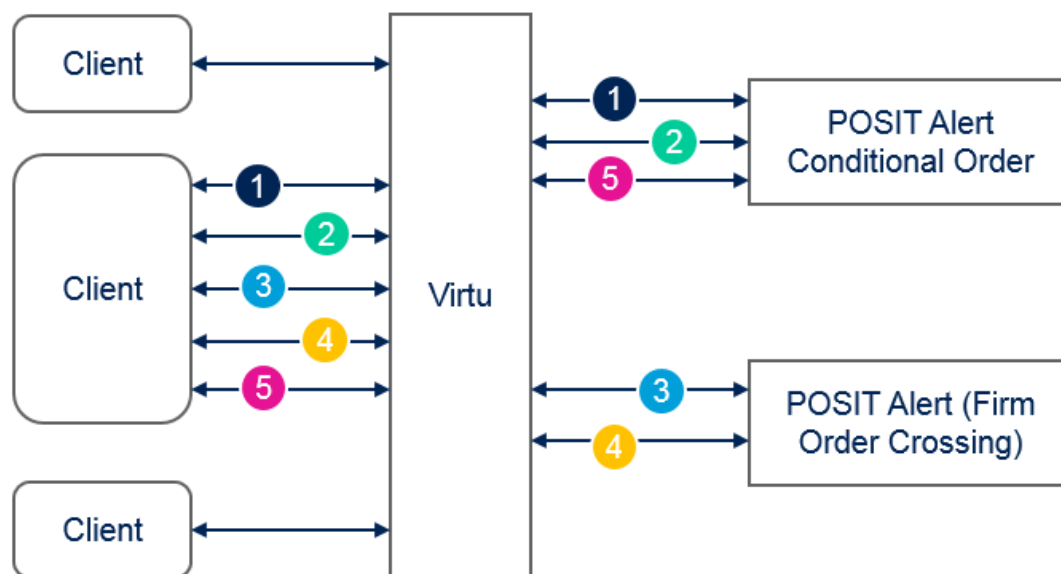| FIX Tag	Field Name	Mandatory	Valid Values	Comments
11	ClOrdID			
15	Currency	Yes	See comments	Currency value must be the industry standard valid value (or native currency)
18	ExecInst	See comments	R, P, M	Willingness to trade across the best bid and offer. R = primary peg (buy at bid/sell at offer) P = market peg (buy at offer/sell at bid) M = mid-price peg Note: Market peg supported only in US and APAC (excluding NZ and AU) Values other than "M". "P", or "R" are ignored and default to "P"
22	IDSource	Yes	2, 5	Valid values are: 2 = SEDOL 5 = RIC
23	IOIid	Yes		Required on firm order. Should be same as the client order ID (11) of the invited conditional order. This is used as a reference for the firm order.
35	MsgType	Yes	D, F, G, 8, 9	D = new order F = cancel request G = cancel/replace request 8 = execution report 9 = order cancel reject
38	OrderQty	Yes	See comments	Order quantity. The value must be greater than zero.
39	OrdStatus	Yes	0, 1, 2, 3, 4, 5, 8	0 = new 1 = partial 2 = filled 3 = done for day 4 = canceled 5 = replaced 8 = rejected
40	OrdType	See comments	1, 2, P	1 = market 2 = limit P = pegged

FIX Tag	Field Name	Mandatory	Valid Values	Comments
41	OrigClOrdID	See comments		Original client order ID of the previous order (not the initial order of the day), used to identify the previous order in cancel and cancel/replace requests.
44	Price	See comments		Price per share. Mandatory if OrdType(40) = Limit(2). If present, the value must be greater than zero.
Rule80A	47	N	A,P	A = agency P = principal
48	SecurityID	Yes	See comments	The valid value corresponding to the IDSource (Tag 22) value
54	Side	Yes	1, 2, 5, 6	1 = buy 2 = sell 5 = sell short 6 = sell short exempt Sell short exempt valid only for US equities
55	Symbol	Yes	See comments	Ticker symbol.
59	TimeinForce	No	0	Only day orders. 0 = day
110	MinQty	No		For conditional orders, it is minimum contra size to send a firm-up request. For firm order, it is minimum size to be executed. Must be less than or equal to value in OrderQty(38).
114	LocateReq'd	See comments	N, Y	Required on US short sell firm orders. Not required in Canada and Europe. N = no (broker is not required to locate) Y = yes
150	ExecType	Yes	0, 1, 2, 3, 4, 5, 8	0 = new 1 = partial 2 = filled 3 = done for day 4 = canceled 5 = replaced 8 = rejected

FIX Tag	Field Name	Mandatory	Valid Values	Comments
5700	LocateBroker	See comments	MPID of locate broker. Must be no more than four characters.	Required when LocateReq'd (Tag 114) = N. Required only for US equities, not in Canada and Europe.
8002	POSIT Alert Msg Flag	Yes	0, 1	POSIT Alert Msg Flag signifies whether the order is conditional or firm. 0 = conditional order 1 = firm order
8005	POSIT Alert Status Flag	See comments	5	Describes the current status of the order, to signify whether the cancel is actually a firm order request. 5 = firm order request message

Appendix B: POSIT Alert workflow diagram

1. Conditional order to POSIT Alert with quantity available for trading
2. Alert sends request for firm order
   a. Acknowledgment of conditional order
   b. Request for firm order cancels the conditional order
3. Sending firm order for execution
4. Alert sends execution reports acknowledging the firm order, and the results of the cross.
5. Send new conditional order with updated quantity and price if have residual