



BATS Europe

Chi-X FIX Compatibility Mode Guide

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1 Introduction

BATS Europe offers a special FIX compatibility mode, described in this document, to ease the transition for Participants with existing Chi-X compatible software.

It is strongly recommended that Participants use the native BATS FIX protocol if possible. Some BATS platform features may not be available to Participants using the compatibility mode.

The FIX compatibility mode behaves as close as possible to the existing Chi-X Europe FIX implementation. There are, however, certain aspects which cannot be emulated. These aspects are detailed in this document. Participants using the compatibility mode will be required to certify their systems against the BATS Europe certification environment.

The FIX compatibility mode is implemented in-process; no additional latency will be imposed by its use.

Compatibility mode is available on a per-port basis, on BATS ports giving access to the BATS integrated or dark order books. After migration of Chi-X ports to the new technology, compatibility mode can also be configured on Chi-X ports, giving access to the Chi-X integrated or dark (Chi-Delta) order books.

2 Session Level

- *SenderCompID* (49) and *TargetCompID* (56): BATS Europe will assign a *CompID* for each required FIX port. The BATS Europe *CompID* will be one of BATSPROD, BATSTEST, CHIXPROD or CHIXTEST as applicable.
- *SenderSubID* (50): Participants *not* connecting via a service bureau may use *SenderSubID* (50) to identify different desks or legal entities requiring potentially different clearing arrangements. Appropriate identifiers will be assigned by BATS Europe. Unrecognised values will be returned in *TargetSubID* (57) in any applicable messages, but otherwise ignored.
- *OnBehalfOfCompID* (115): This field is required for service bureaus, to identify the end-client on incoming messages. Appropriate identifiers will be assigned by BATS Europe.
- *PossResend* (97): Chi-X Europe ignores this tag.

Usage of this field differs on the BATS Europe platform. For reasons of performance, the BATS platform does not access secondary storage to enforce unique *ClOrdID* (11) values against orders that are no longer live.

Without full duplicate *ClOrdID* (11) value enforcement, it is not possible to safely implement the full behavior specified in the FIX 4.2 protocol for *PossResend* (97) = Y.

To remain economical, fast, and safe, all New Order messages with *PossResend* (97) = Y will be ignored.

3 Order Entry

3.1 Symbolology

Specifying symbolology is identical through the use of a combination of *Currency* (15), *IDSource* (22), *SecurityID* (48), *Symbol* (55), and *SecurityExchange* (207). *Symbol* (55) need not be provided if *SecurityID* (48) is being used to select the symbol, and in compatibility mode, is ignored rather than validated if supplied. Symbolology may be specified using ISIN, SEDOL, Uniform symbolology or RIC.

Use of BATS Europe RICs (e.g., VOD1.BS), Chi-X Europe RICs (e.g., VOD1.CHI), or the primary RIC (e.g., VOD.L) are allowed on both BATS and Chi-X ports. (Any of these symbolologies may also be used without enabling Chi-X Compatibility Mode.)

Compatibility mode enables the currency Pence Sterling to be specified as either GBP or GBX.

3.2 Client Order Identifiers

A system wide limitation is imposed of 20 characters or less with characters in the ASCII range of 33–126, except for commas, semicolon, and pipe. New orders, cancel requests, or cancel/replace requests with a size greater than 20 characters will be rejected.

3.3 Market Orders

Chi-X Europe treats market orders as market peg orders in the integrated book. On the BATS Europe platform, market orders are treated as immediate or cancel (IOC) limit orders, where the limit is chosen as a certain percentage through the market PBBO. The percentage is defined in the rule book and is subject to change. It is currently the greater of 0.10 in traded currency, or 1%.

3.4 Share Quantities

The system wide limit for share quantities, used in fields such as *OrderQty* (38), is 99,999,999 shares.

3.5 Cancel/Replace Requests

The allowable traits of an order which can be modified with a Cancel/Replace Request is reduced. Only *Price* (44), *OrderQty* (38), and *OrdType* (40) are allowed to be modified. Any change in any other field is ignored. Further, *OrdType* (40) will only be allowed to be modified from Limit to Market (but not from Limit to Peg or Peg to Limit).

3.6 Dark Pool Routing

With the compatibility mode, routing to either the BATS or Chi-X dark pools works in much the same way as with the previous Chi-Delta approach, using *MaxFloor* (111), *ExecInst* (18), and whether the order is Large In Scale (LIS) or not.

<i>MaxFloor</i> (111) = 0 Present?	<i>ExecInst</i> (18) Midpoint?	<i>MinQty</i> (110) Present?	LIS or above?	FIX Compatibility Mode Result
No	Yes	No	No	Chi-X routes to the integrated orderbook. BATS does not support visible midpoint pegged orders, so these orders will be rejected.
No	No	Yes	Yes	Rejected. (BATS does support orders with <i>MinQty</i> on the integrated book, but not in Chi-X Compatibility mode.)
Yes	Yes	No	Yes	Routed as non-displayed to the integrated order book.

Yes	No	No	No	Routed to the dark orderbook, but the order will be implicitly set to midpoint peg.
Yes	No	Yes	Yes	Routed to the dark orderbook, but the order will be implicitly set to midpoint peg.
Yes	No	Yes	No	Routed to the dark orderbook, but the order will be implicitly set to midpoint peg.
Yes	Yes	Yes	Yes	Routed to the dark orderbook.
Yes	Yes	Yes	No	Routed to the dark orderbook.
Yes	Yes	No	No	Routed to the dark orderbook.
Yes	No	No	Yes	Chi-X Europe routes IOC/FOK orders to Chi-Delta and non-IOC/FOK orders to the integrated book. On the BATS Europe platform, these are always routed to the dark orderbook, with the order being implicitly set to midpoint peg.

3.7 Chi-Vision Routing

Chi-X Europe FIX uses *TargetSubID* (57) = CXEP to indicate a Chi-Vision order. Participants using Chi-X Compatibility Mode can achieve equivalent functionality using *TargetSubID* (57) = CXEP to trigger BATS Smart Order Routing facilities. Participants may nominate the liquidity providers they wish to access with this facility.

Chi-X compatibility mode also uses *MaxFloor* (111) to determine where to rest a routed order after routing. The same applies with Compatibility Mode: zero rests the order in the dark orderbook, non-zero rests the order in the integrated book.

3.8 Peg Difference

The *PegDifference* (211) tag may only be used to peg a price in the passive direction. The difference will be a signed value and

- must be ≥ 0 for sell orders;
- must be ≤ 0 for buy orders; and,
- may not be used with midpoint peg orders.

3.9 Clearing Account

Unless *Account* (1) is specified with an appropriate value, Chi-X Europe assumes the house account is to be used at the CCP. On the BATS Europe platform, if *Account* (1) is not prefixed with H: or C:, the *OrderCapacity* (47) shall determine the CCP account.

4 Execution Reports

4.1 Order Identifiers

The format of order identifiers used in *OrderID* (37) differs from the Chi-X implementation. Order identifiers are 12 alphanumeric characters on the BATS Europe platform (except for order rejects which are 20 alphanumeric characters). Values in the *OrderID* (37) will directly match order identifiers on the TCP PITCH and Multicast PITCH feeds.

4.2 Execution Identifiers

The format of execution identifiers used in *ExecID* (17) differs from the Chi-X implementation. Execution identifiers are ten characters, alphanumeric. By default, a firm which engaged in a self matched trade would see the same execution identifier twice (once for the buy leg, once for the sell leg). A port or firm level option may be enabled which ensures that duplicates are not seen. If required, please indicate this during the onboarding process.

4.3 Contra Broker Identification

The field *ContraBroker* (375) differs in meaning between the standard BATS FIX protocol and the Chi-X Europe FIX protocol. In BATS FIX, it indicates whether the trade executed on the BATS Integrated or Dark Pool, on an external liquidity provider, or was routed to another market. Chi-X Europe sends **SELF** for self matched trades, or a BIC representing the CCP for all other trades.

Chi-X Compatibility mode ensures the Chi-X Europe use of *ContraBroker* (375) is retained. However, in compatibility mode such executions will also contain the field *LastMkt* (30), with values of BATS, LP or an appropriate MIC, as used by *ContraBroker* (375) in the standard BATS Europe FIX specification.

4.4 Last Capacity

The *LastCapacity* (29) field will only be populated with the following two values:

1 = Agent

4 = Principal

4.5 Liquidity Reporting

The values reported in *TradeLiquidityIndicator* (9730) are reduced to the following compatible set:

A = Added Liquidity

R = Removed Liquidity

X = Routed to Another Market

D = Dark Trade

T = IOC Dark

The following value is not sent by Chi-X Compatibility Mode:

L = Non-IOC LIS in Lit Book

5 Reference Data

The BATS Europe static reference data is also available in a Chi-X Europe compatible format. The reference data files will only be available over HTTP (not FTP). Access will be provided via internet connectivity only.

6 Revision History

29 June 2011	Initial draft version.
13 January 2012	Sections on Symbology and Contra Broker Identification clarified. Reworded dark order book terminology for clarity, and clarified availability on both BATS and Chi-X ports, including an extended set of applicable <i>CompIDs</i> .
17 April 2012	The range of allowed characters for a <i>ClOrdID</i> (11) does <i>not</i> include ASCII 32 (space).
