

# Oktris Tape FIX Interface

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## Document History

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## Overview

Oktris Tape is a market data service, providing entities (private individuals or otherwise) with access to trade data. The Oktris Tape service consists of five distinct tapes, each covering shares, ETFs, bonds, derivatives, and a miscellaneous tape covering everything else.

Trade data is published by trading venues and APAs across the European Union and United Kingdom under MiFID II and MiFIR transparency regulations. Oktris consolidates and publishes this information in the form of Oktris Tape.

The tape predominantly consists of delayed (15 minutes) trade data, although real time data can be delivered for a fee dependant on the originating data source(s).

Oktris Tape can be accessed interactively either directly on the Oktris company website (Under “Oktris Tape”), or it can be accessed programmatically using the Oktris FIX API. This document is concerned with the latter.

## Document Purpose

Oktris uses the FIX protocol (Financial Information eXchange) protocol to both receive requests from customers, and to provide the data requested. It is beyond the scope of this document to explain either the history of the FIX protocol (which has been around since 1992), or to explain how to use it.

The protocol is in widespread use in the industry, and there is an abundance of online resources for this purpose. For an interested party, Oktris would suggest starting at <https://www.fixtrading.org/>. Should a customer require FIX onboarding assistance, or ongoing FIX support, Oktris can provide this service on a daily billable basis. This onboarding assistance covers the Oktris FIX API used to deliver all Oktris services of which Oktris Tape is one, but does not specifically cover Oktris Tape.

The purpose of this document is to explain to an experienced technical practitioner how the FIX message flows work in the context of Oktris Tape and to describe how the ESMA / FCA data fields for Post Trade data are mapped to those FIX messages.

## Oktris Tape FIX API Functionality

### Trade Feed

The primary purpose of Oktris Tape is to provide a feed of trades as Oktris receives them. To this aim, a user of the tape can connect to any of the five different asset class tapes which Oktris provides and subscribe to receive trade details as they come in.

### Historical Trade Query

A user of the tape can provide an instrument identifier (the ISIN) and a date range whereupon Oktris will return trade details of every trade for that instrument that Oktris has within that date range. Historical trade query functionality is subject to a fair usage policy.

### FIX version

Oktris supports FIX 5.0 SP 2, with MiFID II FIX Extension Packs, and some custom tags.

### FIX Interface Response Limits.

For the querying and returning of a list of trades, the default maximum number of records returned is 50,000. Responses with many records, will be split into smaller messages of 1000 records each. So in the case of 50,000 records being returned, there would be 50 response messages each containing 1000 records.

## Establishing a connection to the Oktris Tape FIX API

Oktris will provide tape users with the necessary details to establish a connection with the Oktris Tape FIX API. It is assumed the reader is familiar with the general details of networking and establishing a FIX session.

Details include IP addresses, ports and FIX credentials unique to that user.

Once a valid connection is established, the message flows defined in this document can be utilised.

## FIX message flows

[How to subscribe to a trade feed](#). Customer provides connects to the relevant Oktris Tape and sends the subscription message below.

User sends a basic TradeCaptureReportRequest (message type 'AD').

FIX Tag	TAG Name	Required?	Notes
568	TradeRequestID	Y	ID of request – Oktris reply will reference this
569	TradeRequestType	Y	Always '0' (All Trades)
263	SubscriptionRequestType	Y	Either 1 (Subscribe), or 2 (unsubscribe)

How to search historic trades. Customer provides connects to the relevant Oktris Tape and sends the request message below.

User sends a populated TradeCaptureReportRequest (message type 'AD').

FIX Tag	TAG Name	Required?	Notes
568	TradeRequestID	Y	ID of request – Oktris reply will reference this
569	TradeRequestType	Y	Always '0' (All Trades)
263	SubscriptionRequestType	Y	Set to 0 – will not interfere with any established subscription
22	SecurityIDSource	Y	Always set to 4 – ISIN only.
48	SecurityID	Y	The ISIN of the instrument
580	NoDates	Y	Always set to 2. Starts repeating group containing a start date and end date (end date can be in the future).
	Start repeating date grp		
75	TradeDate	Y	Will appear twice – once for the start date and once for the end date in format YYYYMMDD. Note, although the protocol specifies local market date for this field, Oktris expects a UTC date.
	End repeating date grp		

### How Oktris replies

Oktris replies with messages of type TradeCaptureReport (message type 'AE'). If the request was a subscription request, starts with last trade from the tape connected to, then with new trades as they enter the tape. If a historic trade request, replies with a series of trades matching the criteria – this request type is subject to a “fair use” policy and may be subject to arbitrary throttling or caps by Oktris as system loads dictate.

FIX Tag	FIX TAG Name	MiFID/R Reference	Notes
568	TradeRequestID	N/A	References the ID provided in the TradeCaptureReportRequest
60	TransactTime	RTS 2, Table 2, “Trade date and time”	Date and Time when the transaction was executed
48	SecurityID	RTS 2, Table 2, “Instrument identification code”	The ISIN of the instrument

22	SecurityIDSource	RTS 2, Table 2, "Instrument identification code type"	Always 4 (ISIN)
31	LastPx	RTS 2, Table 2, "Price"	Optional. If this field is omitted from the message, price is pending (MiFID/R status PNDG), otherwise, this field is expected.
423	PriceType	RTS 2, Table 2, "Price Notation"	1 = "PERC", 2 = "MONE", 9 = "YIEL", 22 = "BAPO"
15	Currency	RTS 2, Table 2, "Price Currency"	Three-character currency code. E.g. "EUR".
996	UnitOfMeasure	RTS 2, Table 2, "Notation of the quantity in measurement unit"	Optional. For commodity derivs, emission allowance derivs and emission allowances. FIX value of "tnCO2" for MiFID/R value of "TOCD". Otherwise, any free text up to 25 chars in length.
1147	UnitOfMeasureQty	RTS 2, Table 2, "Quantity in measurement unit"	Optional – see fix tag 996.
32	LastQty	RTS 2, Table 2, "Quantity"	
31	LastMkt	RTS 2, Table 2, "Venue of execution"	MIC code or "SINT" for Systematic Internaliser or "XOFF".
1003	TradeID	RTS 2, Table 2, "Transaction Identification Code"	
1924	ClearingIntention	RTS 2, Table 2, "Transaction to be cleared"	Optional, only set if to be cleared. 1 = to be cleared.
40049	NoStreams	RTS 2, Table 2, "Notional Amount" and "Notional Currency"	We use a single swap stream repeating group to relay the notional amount and currency. This will always be 1.
	Start NoStreams		
40054	StreamNotional	RTS 2, Table 2, "Notional Amount"	
40055	StreamCurrency	RTS 2, Table 2, "Notional Currency"	
	End NoStreams		
768	NoTrdRegTimestamps	RTS 2, Table 2, "Publication Date and Time"	Starts repeating group block for publication timestamp. Execution time is in "TransactTime" and is not part of this group. This is expected to be "1" – publication time only

	Start NoTrdRegTimestamps		
769	TrdRegTimestamp		The timestamp
770	TrdRegTimestampType		11 = publication time
	End NoTrdRegTimestamps		
1116	NoRootPartyIDs	RTS 2, Table 2, "Venue of Publication"	Starts repeating group block for the various entities involved with this trade report. This is expected to be "1" – for the publication venue (Venue of Execution is under tag LastMkt)
	Start RootParty Group		
1117	RootPartyID		The MIC code of the venue – may also be "SINT" for a systematic internaliser or "XOFF".
1118	RootPartyIDSource		Refers to the RootPartyID. 'G' = MIC
1119	RootPartyRole		72 = Publication Venue, 73 = Execution Venue
	End RootParty group		

In addition to the above values which cover the primary attributes of post trade data for both equity and non-equity, the Oktris reply detailed above may include trade flags to indicate such things as why something had a pre-trade waiver applied or a post trade deferral applied. These flags are covered in RTS 1 annex table 4 and RTS 2 annex table 3. These will be included in the Trade Capture Report FIX message in addition to the above fields where a given flag has been set in the original data source.

Rather than specify these in table form as the core of the above fix message has been detailed, each flag is covered in turn as it appears in each RTS document, showing which fields will be set should that flag be present. As more than one flag may be set for a report, it is possible some of these messages are embedded in repeating groups – a concept defined by the FIX Protocol.

Oktris uses the Market Model Typology (MMT) FIX mappings as the basis to transmit trade flags over FIX as detailed below.

### Non-Equity Trade Flags

#### *Flag: "BENC"*

Flag name: Benchmark transaction flag.

Flag Category: Benchmark of Reference Price Indicator

Fields that are set:

855, SecondaryTrdType = 64 (Benchmark)

#### *Flag: "ACTX"*

Flag name: Agency cross transaction flag

Flag Category: Agency Cross Trade Indicator

Fields that are set:

829, TrdSubType = 37 (Crossed Trade)

#### *Flag: "NPFT"*

Flag name: Non-price forming transaction flag

Flag Category: Ordinary/Standard shares or trades outside price formation/discovery process

Fields that are set:

1839, TradePriceCondition = 15 (Non-price forming trade)

#### *Flag: "LRGS"*

Flag name: Post-Trade LIS transaction flag

Flag Category: Publication mode / Post-Trade deferral: Reason

Fields that are set:

1390, TradePublishIndicator = 2 (deferred publication)

2669 (rep group), TrdRegPublicationType = 1 (post trade deferral)

2670 (rep group), TrdRegPublicationReason = 6 (deferral due to large in scale)

#### *Flag: "ILQD"*

Flag name: Illiquid instrument transaction flag

Flag Category: Publication mode / Post-Trade deferral: Reason

Fields that are set:

1390, TradePublishIndicator = 2 (deferred publication)

2669 (rep group), TrdRegPublicationType = 1 (post trade deferral)

2670 (rep group), TrdRegPublicationReason = 7 (deferral due to illiquid instrument)

*Flag: "SIZE"*

Flag name: Post-Trade SSTI transaction flag

Flag Category: Publication mode / Post-Trade deferral: Reason

Fields that are set:

1390, TradePublishIndicator = 2 (deferred publication)

2669 (rep group), TrdRegPublicationType = 1 (post trade deferral)

2670 (rep group), TrdRegPublicationReason = 8 (deferral due to size)

*Flag: "TPAC"*

Flag name: Package transaction Flag

Flag Category: Transaction Type: Transaction Category

Fields that are set:

828, TrdType = 65 (package trade)

*Flag: "XFPH"*

Flag name: Exchange for physicals transaction flag

Flag Category: Transaction Type: Transaction Category

Fields that are set:

828, TrdType = 2 (exchange for physical)

*Flag: "CANC"*

Flag name: Cancellation flag

Flag Category: Transaction Type: Modification Indicator

Fields that are set:

487, TradeReportTransType = 1 (cancel)

*Flag: "AMND"*

Flag name: Amendment flag

Flag Category: Transaction Type: Modification Indicator

Fields that are set:

487, TradeReportTransType = 2 (replace)

*Flag: "LMTF"*

Flag name: Limited details flag

Flag Category: Post-Trade Deferral or Enrichment: Type

Fields that are set:

1934, RegulatoryReportType = 11 (limited details trade)

*Flag: "FULF"*

Flag name: Full details flag

Flag Category: Post-Trade Deferral or Enrichment: Type

Fields that are set:

1934, RegulatoryReportType = 17 (full details of previous LMTF trade)

*Flag: "DATF"*

Flag name: Daily aggregated transaction flag

Flag Category: Post-Trade Deferral or Enrichment: Type

Fields that are set:

1934, RegulatoryReportType = 12 (daily aggregated trade)

*Flag: "FULA"*

Flag name: Full details flag

Flag Category: Post-Trade Deferral or Enrichment: Type

Fields that are set:

1934, RegulatoryReportType = 18 (full details of earlier DATF trade)

*Flag: "VOLO"*

Flag name: Volume omission flag

Flag Category: Post-Trade Deferral or Enrichment: Type

Fields that are set:

1934, RegulatoryReportType = 13 (volume omission trade)

*Flag: "FULV"*

Flag name: Full details flag

Flag Category: Post-Trade Deferral or Enrichment: Type

Fields that are set:

1934, RegulatoryReportType = 19 (full details of earlier VOLO trade)

*Flag: "FWAF"*

Flag name: Four weeks aggregation flag

Flag Category: Post-Trade Deferral or Enrichment: Type

Fields that are set:

1934, RegulatoryReportType = 14 (four weeks aggregation trade)

*Flag: "FULJ"*

Flag name: Full details flag

Flag Category: Post-Trade Deferral or Enrichment: Type

Fields that are set:

1934, RegulatoryReportType = 20 (full details of earlier FWAF trade)

*Flag: "IDAF"*

Flag name: Indefinite aggregation flag

Flag Category: Post-Trade Deferral or Enrichment: Type

Fields that are set:

1934, RegulatoryReportType = 15 (indefinite aggregation trade)

*Flag: "VOLW"*

Flag name: Volume omission flag

Flag Category: Post-Trade Deferral or Enrichment: Type

Fields that are set:

1934, RegulatoryReportType = 16 (volume omission trade, eligible for subsequent enrichment in aggregated form)

*Flag: "COAF"*

Flag name: Consecutive aggregation flag (post volume omission for sovereign debt instruments)

Flag Category: Post-Trade Deferral or Enrichment: Type

Fields that are set:

1934, RegulatoryReportType = 21 (full details of earlier VOLW trade)

## Equity Trade Flags

*Flag: "BENC"*

Flag name: Benchmark transaction flag.  
 Flag Category: Benchmark of Reference Price Indicator  
 Fields that are set:  
 855, SecondaryTrdType = 64 (Benchmark)

*Flag: "ACTX"*

Flag name: Agency cross transaction flag  
 Flag Category: Agency Cross Trade Indicator  
 Fields that are set:  
 829, TrdSubType = 37 (Crossed Trade)

*Flag: "NPFT"*

Flag name: Non-price forming transaction flag  
 Flag Category: Ordinary/Standard shares or trades outside price formation/discovery process  
 Fields that are set:  
 1839, TradePriceCondition = 15 (Non-price forming trade)

*Flag: "TNCP"*

Flag name: Transactions not contributing to the price discovery process  
 Flag Category: Ordinary/Standard shares or trades outside price formation/discovery process  
 Fields that are set:  
 1839, TradePriceCondition = 16 (Trade exempt from trading obligation)

*Flag: "SDIV"*

Flag name: Special dividend transaction flag  
 Flag Category: Transaction type: special dividend indicator  
 Fields that are set:  
 1839, TradePriceCondition = 13 (special dividend)

*Flag: "LRGS"*

Flag name: Post-Trade LIS transaction flag  
 Flag Category: Publication mode / Post-Trade deferral: Reason  
 Fields that are set:  
 1390, TradePublishIndicator = 2 (deferred publication)  
     2669 (rep group), TrdRegPublicationType = 1 (post trade deferral)  
     2670 (rep group), TrdRegPublicationReason = 6 (deferral due to large in scale)

*Flag: "RFPT"*

Flag name: Reference price transaction flag  
 Flag Category: Benchmark of Reference Price Indicator  
 Fields that are set:  
     2669 (rep group), TrdRegPublicationType = 0 (pre-trade transparency waiver)  
     2670 (rep group), TrdRegPublicationReason = 3 (No public price for preceding order as public reference price was used for matching orders)

*Flag: "NLIQ"*

Flag name: Negotiated transaction in liquid financial instruments flag

Flag Category: Negotiation indicator or pre-trade transparency waiver

Fields that are set:

1115, OrderCategory = 3 (privately negotiated trade)

2669 (rep group), TrdRegPublicationType = 0 (pre-trade transparency waiver)

2670 (rep group), TrdRegPublicationReason = 0 (No preceding order in book as transaction price set within average spread of a liquid instrument)

*Flag: "OILQ"*

Flag name: Negotiated transaction in illiquid financial instruments flag

Flag Category: Negotiation indicator or pre-trade transparency waiver

Fields that are set:

1115, OrderCategory = 3 (privately negotiated trade)

2669 (rep group), TrdRegPublicationType = 0 (pre-trade transparency waiver)

2670 (rep group), TrdRegPublicationReason = 1 (No preceding order in book as transaction price depends on system-set reference price for an illiquid instrument)

*Flag: "PRIC"*

Flag name: Negotiated transaction subject to conditions other than the current market price flag

Flag Category: Negotiation indicator or pre-trade transparency waiver

Fields that are set:

1115, OrderCategory = 3 (privately negotiated trade)

2669 (rep group), TrdRegPublicationType = 0 (pre-trade transparency waiver)

2670 (rep group), TrdRegPublicationReason = 2 (No preceding order in book as transaction price is subject to conditions other than current market price)

*Flag: "ALGO"*

Flag name: Algorithmic transaction flag

Flag Category: Transaction type: Algorithmic indicator

Fields that are set:

2667, AlgorithmicTradeIndicator = 1 (algorithmic trade)

*Flag: "SIZE"*

Flag name: Transaction above the standard market size flag

Flag Category: Negotiation indicator or pre-trade transparency waiver

Fields that are set:

2669 (rep group), TrdRegPublicationType = 0 (pre-trade transparency waiver)

2670 (rep group), TrdRegPublicationReason = 5 (No public price quoted due to size)

*Flag: "ILQD"*

Flag name: Illiquid instrument transaction flag

Flag Category: Negotiation indicator or pre-trade transparency waiver

Fields that are set:

2669 (rep group), TrdRegPublicationType = 0 (pre-trade transparency waiver)

2670 (rep group), TrdRegPublicationReason = 4 (No public price quoted as instrument is illiquid)

*Flag: "RPRI"*

Flag name: Transactions which have received price improvement flag

Flag Category: Transaction Type: Transaction Category

Fields that are set:

1839, TradePriceCondition = 14 (price improvement)

*Flag: "CANC"*

Flag name: Cancellation flag

Flag Category: Transaction Type: Modification Indicator

Fields that are set:

487, TradeReportTransType = 1 (cancel)

*Flag: "AMND"*

Flag name: Amendment flag

Flag Category: Transaction Type: Modification Indicator

Fields that are set:

487, TradeReportTransType = 2 (replace)

## Glossary:

RTS 1: COMMISSION DELEGATED REGULATION (EU) 2017/587 of 14 July 2016 supplementing Regulation (EU) No 600/2014 of the European Parliament and of the Council on markets in financial instruments with regard to regulatory technical standards on transparency requirements for trading venues and investment firms in respect of shares, depositary receipts, exchange-traded funds, certificates and other similar financial instruments and on transaction execution obligations in respect of certain shares on a trading venue or by a systematic internaliser

RTS 2: COMMISSION DELEGATED REGULATION (EU) 2017/583 of 14 July 2016 supplementing Regulation (EU) No 600/2014 of the European Parliament and of the Council on markets in financial instruments with regard to regulatory technical standards on transparency requirements for trading venues and investment firms in respect of bonds, structured finance products, emission allowances and derivatives

FIX Protocol: <https://www.fixtrading.org/what-is-fix/>