

KAZAKHSTAN STOCK EXCHANGE JSC

Approved

by decision of JSC "Kazakhstan Stock
Exchange" Management Board

(meeting minutes No. 14_
dated February 16, 2017)

Effective

as of February 17, 2017

NOTICE

The Regulations have been translated into English by employees of Kazakhstan Stock Exchange solely for information purposes. In case of any discrepancies between the Russian and the English versions of the Regulations the Russian version shall prevail.

REGULATIONS

on terms of commercial dissemination of market data

Almaty

2017

LIST OF AMENDMENTS

1. Changes and additions No. 1:

- approved by a decision of Kazakhstan Stock Exchange (KASE) Management Board (minutes No. 85 of meeting dated August 29, 2017);
- effective as of August 29, 2017.

2. Changes No. 2:

- approved by a decision of Kazakhstan Stock Exchange (KASE) Management Board (minutes No. 93 of meeting dated September 22, 2017);
- effective as of September 22, 2017.

3. Additions No. 3:

- approved by a decision of Kazakhstan Stock Exchange (KASE) Management Board (minutes No. 54 of meeting dated May 31, 2018);
- effective as of October 1, 2018.

4. Change No. 4:

- approved by a decision of Kazakhstan Stock Exchange (KASE) Management Board (minutes No. 57 of meeting dated June 8, 2018);
- effective as of December 1, 2018.

5. Changes and additions No. 5:

- approved by a decision of Kazakhstan Stock Exchange (KASE) Management Board (minutes No. 141 of meeting dated November 19, 2019);
- effective as of December 3, 2019.

6. Change No. 6:

- approved by a decision of Kazakhstan Stock Exchange (KASE) Management Board (minutes No. 73 of meeting dated July 16, 2021);
- effective as of July 16, 2021.

7. Additions No. 7:

- approved by a decision of Kazakhstan Stock Exchange (KASE) Management Board (minutes No.109 of meeting dated October 14, 2021);
- effective as of December 1, 2021.

8. Changes and additions No. 8:

- approved by a decision of Kazakhstan Stock Exchange (KASE) Management Board (minutes No.64 of meeting dated July 01, 2023);
- effective as of September 01, 2023.

These Regulations were developed in accord with the Rules of Market Data Vending, Information Policy, as well as other internal documents of JSC "Kazakhstan Stock Exchange" (hereinafter – the Exchange), and define the Exchange's information products vending terms and procedure.

Chapter 1. GENERAL PROVISIONS

Article 1. Main definitions

1. Terms, used in these Regulations, shall mean the following:
 - 1) **"Vendor"** is a person who receives (including by accessing the information systems) an information product from the Exchange or an Agent Company and intends to distribute (distributes) this information product and/or a part of it; however, the Agent Company is not a Vendor of the Exchange;
 - 2) **"Internal Use"** is the use of an information product or a part of it by any persons exclusively for their own purposes without any right to transfer this information product or a part thereof to another person;
 - 3) **"Index Provider"** is a person who receives the information product of the Exchange or a part thereof, and uses the information only in order to calculate and disseminate the index/indicator. The Index Provider is not the Exchange's Vendor or Sub-Vendor;
 - 4) **"Device"** is any device capable of displaying information in any manner, including but not limited to, any software, hardware or hardware/software tools (e.g., information system terminals, communication devices capable of displaying (feeding to the output devices) the information, sets of details providing the access to the website, etc.);
 - 5) **"Interactive Access"** is the access to any information product or a part thereof and/or the End User using the interactive access;

Whenever the Exchange needs to book and/or calculate the fees for the provision, or provision with the right of distribution, of the information products based on the number of the Interactive Accesses, it may use the number of the End Users and / or Devices as a unit of Interactive Accesses measurement;
 - 6) **"Agent Company"** is a legal entity to be possibly involved by the Exchange in order to assist in the development and / or optimization of the Exchange's activities aimed at the dissemination of the information products, the relations with whom are based on the terms of the agreement signed between it and the Exchange;
 - 7) **"End User"** is an individual authorized by the Subscriber, or having obtained permission from the Subscriber or the Agent Company, to access or use (without the right to handover or demonstrate to any third parties) an information product of the Exchange or a part thereof;
 - 8) **"Best Bid Price"** is the maximum price of the purchase order(s);
 - 9) **"Best Ask Price"** is the minimum price of the sale order(s);
 - 10) **"Mobile Application"** is software for smartphones, tablets and other mobile devices;
 - 11) **"Subscriber"** is a legal entity receiving the Exchange's information product or a part thereof directly from the Exchange, Agent Company or Vendor/Sub-vendor for its Internal use and having signed an appropriate agreement with the Exchange, Agent Company or Vendor/Sub-vendor, respectively, for those purposes; or an individual receiving the Exchange's information product directly from the Exchange;

- 12) **"Derived Information"** is the information (including, but not limited to indices and indicators) calculated using the information product of the Exchange or a part thereof, which differs from the initial information values used for the calculation, so that the Derived Information calculation algorithm makes it impossible to restore the original information;
- 13) **"Sub-vendor"** is a person receiving an information product of the Exchange or a part thereof from a Vendor or another Sub-vendor and intending to distribute (distributing) that information;
- 14) **"Market Data"** is the stock data on deals in financial instruments admitted to circulation (trading) on the Exchange made in the Exchange's trading system, and on submitted orders to make these deals;
- 15) **"First level trading information (Level 1)"** is an information product package containing only the best bid and ask prices for each financial instrument as the information on order prices;
- 16) **"Non-display system"** is a system allowing processing the Trading Information for any purpose, except for viewing the original (originally received) information;
- 17) **"Software IRIS Finance"** – a module software for working with financial data *(this sub-item was included by a decision of the Exchange's Management Board dated August 29, 2017)*;
- 18) **"Alternative system"** – a set of software and hardware, telecommunications and/or other equipment (including intra-broker or inter-broker systems, as well as systems of other organizers of trading in financial instruments), which is not part of the software and hardware complex of the Exchange which ensures delivery of orders or other similar documents containing an expression of will to buy/sell financial instruments traded on the Exchange and close transactions with these instruments by using prices received as part of the information products of the Exchange or by using prices calculated within such system based on prices received as part of the information products of the Exchange.

Internal system of a trading participant on the Exchange used only within final settlement of transactions, transactions for transfer of obligations, as well as other transactions with its clients, shall not be an Alternative System.

(this sub-item was included by a decision of the Exchange's Management Board dated July 01, 2023)

- 19) **"Operator of the Alternative System"** – a person who owns the Alternative System and/or exercises sole or joint control over functioning of the Alternative System and/or determines the rules of use and work in the Alternative System for Users of such systems. Operator of the Alternative System, authorized subject to the applicable laws to perform transactions with financial instruments on its own behalf, can simultaneously be a User of the Alternative System *(this sub-item was included by a decision of the Exchange's Management Board dated July 01, 2023)*;
- 20) **"User of the Alternative System"** – a person who has the ability to perform operations/ actions on terms and conditions specified by the Operator of the Alternative System, related to submission on his own behalf and/or on behalf of his clients of orders or other similar documents containing an expression of will to purchase/ sell financial instruments traded on markets of the Exchange to close transactions with these instruments in the Alternative System *(this sub-item was included by a decision of the Exchange's Management Board dated July 01, 2023)*.

2. Other terms used in these Regulations are identical to terms determined by other internal documents of the Exchange.
3. For the purposes of these Regulations a resident of the Republic of Kazakhstan is a person recognized as a resident (resident of the Republic of Kazakhstan) in accordance with the Currency Regulation and Control Act of the Republic of Kazakhstan.
4. For the purposes of these Regulations the Exchange's markets are:
 - 1) foreign currencies and currency swaps;
 - 2) equities and funds;
 - 3) corporate debt;
 - 4) government securities;
 - 5) repo operations;
 - 6) derivatives.

Article 2. Classification of Vendors

1. Vendors are classified by the Exchange as foreign and local as follows:
 - 1) a foreign vendor is a person who distributes information obtained from the Exchange and who is a resident of a country other than the Republic of Kazakhstan;
 - 2) a local vendor is a vendor who distributes the information obtained from the Exchange and who is a resident of the Republic of Kazakhstan, while not being a subsidiary or a branch of an organization classified by the Exchange as a foreign vendor.
2. Subscribers are classified by the Exchange as foreign and local as follows:
 - 1) a foreign subscriber is a subscriber who is a resident of a country other than the Republic of Kazakhstan;
 - 2) a local subscriber is a subscriber who is a resident of the Republic of Kazakhstan.

**Chapter 2. INFORMATION PRODUCTS OF EXCHANGE.
RECEIPT AND DISTRIBUTION OF THE EXCHANGE'S INFORMATION PRODUCTS**

Article 3. Information Products of the Exchange

1. Exchange distributes the following information products:
 - 1) Real-Time Market Data;
 - 2) Delayed Market Data;
 - 3) End of Day Data;
 - 4) Historic Market Data;
 - 5) Real-Time Web-Quotes;
 - 6) Reference information;
 - 7) Non-Display/Derived information (using Market Data in Non-Display systems);
 - 8) Real-Time Market Data in mobile apps (Market Data vending using mobile apps);

- 9) for the Exchange members (providing the Exchange members with the information on their deals and orders);
 - 10) Software IRIS Finance (*this sub-item was included by a decision of the Exchange's Management Board dated August 29, 2017*);
 - 11) KASE news (*this sub-item was included by a decision of the Exchange's Management Board dated August 29, 2017 and changed by a decision of the Exchange's Management Board dated September 22, 2017*);
 - 12) irregular queries (provision of information on irregular queries from all interested parties) (*this sub-item was included by a decision of the Exchange's Management Board dated August 29, 2017*);
 - 13) Corporate events (*this sub-item was included by a decision of the Exchange's Management Board dated May 31, 2018*).
 - 14) KASEInfoBot is an information bot in the Telegram app located at <https://t.me/KASEInfoBot> (*this sub-item is incorporated by decision of the Exchange Board of Management on October 14, 2021*).
2. Content, format and other characteristics of the Exchange's information products are determined by the Exchange independently.

Standard methods of delivering the information products are indicated in descriptions to the information products. Information products may be delivered through alternative/additional means and in alternative/additional formats, different from those indicated in descriptions and technical specifications to the information products, upon agreement with the Exchange. For provision of an alternative/additional way of delivery the Exchange may charge a technical fee.

(This item was included by a decision of the Exchange's Management Board dated August 29, 2017).
 3. Rules of Market Data Vending establish the types and amounts of fees charged by the Exchange for the receipt, use and / or dissemination of the Exchange's information products.

Article 4. Real-Time Market Data

1. Real-Time Market Data include:
 - 1) information about the progress of trading in financial instruments operated by the Exchange, including (but not limited to): information on prices and volumes (in terms of money and quantity of instruments being traded) of orders¹ for conclusion of transactions in financial instruments accepted by the Exchange, on prices and volumes (in terms of money and quantity of instruments being traded) of concluded deals in financial instruments;
 - 2) information about financial instruments being traded on the Exchange;
 - 3) information about the values of indicators, which the Exchange calculates during and/or upon the results of a trading day, and whose list is determined by internal documents of the Exchange.
2. Real-Time Market Data does not include data on direct deals, orders submitted to the Exchange's trading system for conclusion of direct deals, as well as orders submitted to the Exchange's trading system during a special

¹ With regard to this information product, orders mean only the orders, which are the best in terms of price, at each point of time for each financial instrument.

trading session.

3. Real-Time Market Data is provided by the Exchange as a continuous feed throughout a trading day. Allowed technical delay between the moment the information is generated and then sent to consumers shall not exceed three minutes.
4. Real-Time Market Data is provided by the Exchange using the FIX and FAST protocols. The technical specifications of market data broadcasted via the FIX and FAST protocols are provided in Annex 1 and 1-2 hereof (*this item was changed by a decision of the Exchange's Management Board dated November 19, 2019*).
5. The number of Interactive accesses determines the fees payable for the delivery of Real-Time Market Data with the right to distribute it.
6. Distribution of Trading Information in real time mode in any way without permission of the Exchange shall be prohibited. (this clause was changed by a decision of the Management Board of the Exchange dated November 19, 2019) (*this item was changed by a decisions of the Exchange's Management Board dated November 19, 2019 and dated July 01, 2023*).

Article 5. Delayed Market Data

1. Content of Delayed Market Data is similar to data determined by clauses 1 and 2 of Article 4 hereof.
2. Delayed Market Data is delivered by the Exchange as a continuous feed throughout each trading day. Technical delay between the moment the data is generated and then delivered to consumers makes at least fifteen minutes.
3. Delayed Market Data is provided by the Exchange using the FIX and FAST protocols. The technical specifications of market data broadcasted via the FIX and FAST protocols are provided in Annex 1 and 1-2 hereof (*this item was changed by a decision of the Exchange's Management Board dated November 19, 2019*).

Article 6. End of Day Data

1. End of Day Data represents the information about results (including interim ones) of trading in financial instruments conducted by the Exchange, i.e. information about prices and volumes of orders² for conclusion of deals accepted by the Exchange aggregated for a period with regard to each instrument, about prices and volumes of deals concluded, as well as financial instruments themselves.
2. End of Day Data does not include data on direct deals, orders submitted to the Exchange's trading system for conclusion of direct deals, as well as orders submitted to the Exchange's trading system during a special trading session.
3. End of Day Data is delivered by the Exchange at certain time intervals set by the specification of that particular information product according to Annex 2 hereof and respective agreements for its delivery.
4. The Exchange may deliver End of Day Data:
 - 1) via email;

² With regard to a particular information product, orders mean only the best orders in terms of price on each financial instrument as at the moment of a period's end.

- 2) using FTP.

Article 7. Historic Market Data

1. Historic Market Data is the historic³ information about trading in financial instruments conducted by the Exchange: about prices and volumes of orders for conclusion of deals accepted by the Exchange, about prices and volumes of deals concluded, as well as about financial instruments themselves.

Historic Market Data may include data related to direct deals, as well as deals concluded during special trading sessions⁴.

2. Historic Market Data is delivered by the Exchange upon request in the form of files in a format similar to the format of files containing End of Day Data, in the form of an order register and deal register. Technical specification of Historic Market Data is provided in Annex 3 hereof.
3. The Exchange delivers Historic Market Data:
 - 1) via email;
 - 2) using an FTP-resource (*this sub-item was changed by a decision of the Exchange's Management Board dated November 19, 2019*);
 - 3) using the software IRIS Finance (*this item was included by a decision of the Exchange's Management Board dated November 19, 2019*).

Article 8. Real Time Web-Quotes

1. Real Time Web-Quotes is when the subscribers are provided with access to view information about the progress of trading in financial instruments being conducted by the Exchange in real time on the Exchange's website (www.kase.kz): about prices and volumes of orders⁵ for conclusion of deals accepted by the Exchange as well as about prices and volumes of deals concluded.
2. Information from Real Time Web-Quotes does not include data on direct deals, orders submitted to the Exchange's trading system for conclusion of direct deals, as well as deals concluded during special trading sessions, and orders for conclusion of those deals submitted to the Exchange's trading system.
3. Information from Real Time Web-Quotes is provided/published by the Exchange as a continuous feed throughout each trading day. Technical delay allowed between the moment the information is generated and provided to consumers (published) shall not exceed 10 minutes. Technical specification of Real Time Web-Quotes is provided in Annex 4 hereof.
4. The fees for this product are calculated by the Exchange based on the number of Interactive accesses.

³ The Exchange regards as historic any information which is not relevant at the current moment of time.

⁴ Information about direct deals as well as deals concluded during special trading sessions is provided within this information product only in registers of orders and deals as they are determined by Appendix 4 to these Regulations. Historic Market Data provided in the form of files of a format which is similar to the format of files containing End of Day Data do not contain data related to direct deals, as well as deals concluded during special trading sessions.

⁵ With regard to this information product, orders mean only the orders, which are the best in terms of price, at each point of time for each financial instrument.

Article 9. Reference information

1. Reference information is the information about financial instruments and/or their issuers, as well as other stock information the delivery of which does not contradict internal documents and policies of the Exchange.
2. Reference information may be provided by the Exchange at certain time intervals, upon request or by way of providing access thereto if and when updated.
3. The Exchange maintains the following methods of delivering the reference information:
 - 1) by using the Exchange's website;
 - 2) by using web-services;
 - 3) by using the software IRIS Finance.

(This item was changed by a decision of the Exchange's Management Board dated November 19, 2019)

Article 10. Non-Display/Derived Information

1. This information product implies receipt of Real-time Trading Information or Delayed Trading Information for Internal Use in the Non-Display System and/or either for the purpose of creating or creating and distributing of Derivative Information.

Internal use in the Non-Display system shall mean exclusive use by the Subscriber (or employee(s) of the Subscriber) of information in its own Non-Display system and/or control by the Subscriber (or employee(s) of the Subscriber) of an access to information in its own Non-Display applications without right of transmission (distribution) of Derivative information.

Examples of the use of information in Non-Display systems shall be (including but not limited to) automatic or semi-automatic generation/ fixation of orders or quotes for the purpose of automatically submitting orders to the trading system of the Exchange, use of prices for the purposes of algorithmic trading and/or risk management, use of prices, use of operating activity control programs, use of programs for investment analysis, supervision, compliance control, as well as portfolio assessment, control\verification\confirmation of orders in the trading system of the Exchange using software and hardware, etc.

(This item was changed by a decision of the Exchange's Management Board dated July 01, 2023)

2. Information within the framework of this information product can be delivered directly by the Exchange, Agent-Company or Vendor / Sub-vendor of the Exchange. Persons receiving information from the Agent-Company or Vendor / Sub-vendor of the Exchange are individually liable to the Agent Company or Vendor / Sub-vendor for the payment of any possible fees that the Agent Company or Vendor / Sub-vendor may charge in this regard.

Article 10-1. Non-Display/Derived Information for Alternative Systems

1. This information product shall imply receipt of Trading Information about financial instruments of the equity securities market of the Exchange in real time for algorithmic trading, automatic or semi-automatic generation/ submission/ fixing of orders in the Alternative Systems for the purposes of (including but not limited to):
 - 1) conclusion of transactions by a trading participant with its clients on the floor of a trading organizer other than the Exchange, when the trading

- participant is a formal party to the transaction, in order to reduce two or more differently directed client orders;
- 2) conclusion of transactions between clients of a trading participant on floor of a trading organizer other than the Exchange;
 - 3) conclusion of transactions by comparing prices from several organizers of trading, while the transaction is concluded on floor of a trading organizer other than the Exchange but on conditions and prices of the Exchange.
 - 4) distribution of the Derivative Information to Users of the Alternative System.
2. Delivery of information within this information product can be carried out directly by the Exchange, the Agent Company or the Vendor/Sub-Vendor of the Exchange. Persons receiving information from the Agent Company or the Vendor/Sub-vendor of the Exchange shall be solely responsible to the Agent Company or the Vendor/Sub-vendor for payment of any possible fees that the Agent Company or the Vendor/Sub-vendor may charge in this regard.

(This article was included by a decision of the Exchange's Management Board dated July 01, 2023)

Article 11. Real-Time Market Data in mobile apps

1. Exchange provides an opportunity to vend the Market Data in real time using mobile applications.
2. The number of the Interactive Accesses is used by the Exchange to calculate the fees for the Market Data vending in real time via mobile applications.

Article 12. For members of the Exchange

1. This information product means providing the Exchange members with the information about the orders they submit when participating in the Exchange trading for the conclusion of transactions in financial instruments, including (but not limited to) the information on prices and volumes (in monetary terms and by traded instrument quantity), and also about the transactions they concluded in financial instruments.

Exchange may provide the Exchange member at their request with the information about the orders and transactions submitted and concluded in the Exchange's trading system solely by this Exchange member.

2. In order to receive the information specified in clause 1 of this Article, the Exchange member must provide the Exchange with a corresponding written request specifying the period during which the Exchange member wants to receive the information, and also pay the relevant fee (fees) in favor of the Exchange.
3. Exchange provides the Exchange members with the information on their requests within ten working days following the day of the receipt of money in accordance with clause 2 of this Article. The technical specification for this product is given in Annex 6 to these Regulations.
4. For free the Exchange honors one request of the Exchange member to provide the information under this product within one calendar year.
5. The Exchange uses the following ways to deliver the information to the Exchange members:
 - 1) via e-mail;
 - 2) by recording it onto the information carriers provided to the Exchange member.

Article 12-1. Software IRIS Finance

1. IRIS Finance is a module software for working with information. Base modules include reference books about issuers and securities, indices and indicators and other information.
2. The software IRIS Finance can be used in various operating systems such as Windows, Linux etc. It can be updated through an Internet-connection.

(This article was included by a decision of the Exchange's Management Board dated August 29, 2017).

Article 12-2. KASE news

(This heading was changed by a decision of the Exchange's Management Board dated September 22, 2017).

1. This information product represents a newsfeed the Exchange receives from issuers and members of the Exchange as operator of trade, as well as news it prepares itself as a result of processing exchange information.
2. The Exchange uses the following way of the "KASE news" product delivery *(this paragraph was changed by a decision of the Exchange's Management Board dated September 22, 2017)*:
 - 1) by sending via e-mail;
 - 2) by using the software IRIS Finance.

(This article was included following a decision of the Exchange's Management Board dated August 29, 2017).

Article 12-3. Irregular queries

1. This information product means satisfaction by the Exchange of one-off or irregular information queries.

Under this product the Exchange provides the following types of information:

- a reference about securities' market value;
- the list of securities and issuers;
- information about prices of deals in financial instruments;
- information about yield of financial instruments;
- information about coupon rates of financial instruments;
- information about the redemption date of financial instruments;
- information about the market capitalization of issuers.

(This item was changed by a decision of the Exchange's Management Board dated November 19, 2019).

2. To receive information indicated in item 1 of this article, the client must provide to the Exchange a respective written query with indication of the required information, and period of time, within which the client wishes to receive the information, as well as pay the respective amount of fee(s) in favor of the Exchange.
3. The Exchange provides information within ten working days from the date of money receipt in accordance with item 2 of this article by sending via e-mail.

(This article was included following a decision of the Exchange's Management Board dated August 29, 2017).

Article 12-4. Corporate events

1. Corporate events is an information product including information on the following events having substantial impact on issuers being joint-stock companies, affecting interests of shareholders and investors of a particular joint-stock company: notice of the upcoming general meeting of shareholders, payout of coupon interest, payout of dividends, redemption of bonds, repurchase of securities, securities offering, additional offering of securities, (reverse) split of shares, IPO, listing, delisting, change in terms of securities issuance, change of the face value, change of the company name, change of the company rating, default, company reorganization, release of the company's financial statements, changes in the company shareholder structure.

The technical specification of the information product "Corporate events" is provided in appendix 7 hereto.

(This item was changed by a decision of the Exchange's Management Board dated November 19, 2019).

2. Information under this information product is provided upon its receipt by the Exchange. Incases, when the notice of a particular corporate event is provided by more than two days before the onset of that event, the Exchange repeatedly sends information on that corporate event no later than 1 business day before the event onset.
3. The Exchange uses the following ways to deliver the information about corporate events:
 - 1) by sending via e-mail;
 - 2) by using an FTP-resource.

(This article was included by a decision of the Exchange's Management Board dated May 31, 2018).

Article 12.5. KASEInfoBot

1. KASEInfoBot is an information bot containing real-time information about the latest and weighted average price, trading volumes on the currency and stock markets, information about indicator values, dividends, cross-rates of the National Bank of Kazakhstan, it also has functions to send notifications on time, on schedule, on the occurrence of a given price, as well as on upcoming specialized trades and their results
2. KASEInfoBot provides the following types of packages:

The "Free" package:

up to 5 enquiries per day

The "Standard" package:

up to 20 enquiries per day;

sign up for a notification when the price is reached;

sign up for a time-based notification;

The "Premium Package":

unlimited number of requests per day;

sign up for a notification when the price is reached;

sign up for a time-based notification;

sign up for price change notification.

(This article has been incorporated by decision of the Exchange Board of Management on October 14, 2021)

Article 13. Fees for the delivery, or delivery with the right to vend, the Exchange's information products

1. The Exchange charges the persons, receiving and / or vending the Exchange's information products or parts of the Exchange's information products, as well as the information based on the Exchange's information products, including the Derived Information, the relevant fees approved by the Exchange's Board of Directors.

Fees for the delivery, or delivery with the right to vend, the Exchange's information products, are transferred to the Exchange's bank account. All costs associated with such transfers are borne by the payers of these fees.

2. Any person who intends to receive (who receives) only a part of any of the Exchange's information products (for example, only transaction registers based on the historical information or the information about the results of trading in only one market) is required to pay the corresponding fees in full.
3. Exchange may allow some person to receive (or receive with the right to vend) any information product free of charge for a period not exceeding three months, if such receipt (or receipt with the right to vend) is needed by this person to assess the possibility to conclude a relevant data vending agreement with the Exchange.

Article 14. Obtaining and vending the Exchange's information products

1. Persons wishing to vend the Exchange's information products or parts thereof may only do so on the basis of a relevant agreement with the Exchange or Agent-Company.
2. Persons wishing to generate and / or vend the Derived Information may do so only on the basis of a relevant agreement with the Exchange or Agent-Company, or with the written consent of the Exchange.
3. Terms and conditions of delivery, use and distribution, formats and other properties of information products of the Exchange, established by appendices 1-6 to these Regulations, shall be the same for all Vendors/Sub-Vendors. At the same time, Vendors/Sub-Vendors shall be responsible for notifying Subscribers and End Users about the terms of use of the information products *(this item was changed by a decision of the Exchange's Management Board and dated July 01, 2023)*.
4. The Exchange shall have the right to conduct an information audit in relation to Vendors/Sub-Vendors, as well as interview their Subscribers and End Users in terms of use of exchange information according to the terms and conditions of these Regulations and/or agreements. In case of detection of violations of the terms of use of exchange information, the Exchange shall have the right to apply penalties, determined by internal documents of the Exchange *(this item was included by a decision of the Exchange's Management Board and dated July 01, 2023)*.

Annex 1

to Regulations on Terms of
Commercial Dissemination of
Market Data

*(This appendix was changed by a decision of the Exchange's Management Board dated
June 8, 2018)*

TECHNICAL SPECIFICATION
of market data broadcasted by means of
FIX data transmission protocol

1. Product guide

Product code	KASE_FIX
Periodicity	In the form of an uninterrupted flow throughout the trading day
Historic	None
Format	FIX protocol

1. Standard messages.

1.1. Logon (Message type=A)

No.	Field name	Type	Valid values	Comments
98	EncryptMethod	int	0 – No.	Encryption method.
108	HeartBtInt	int	–	Heartbeat interval (seconds).
141	ResetSeqNumFlag	Boolean	'Y' – Yes, reset of sequence numbers.	Indicates the need to reset sequence numbers by both parties.
553	Username	String	–	Username.
554	Password	String	–	Password.
1137	DefaultAppVerID	String	9 – FIX50SP2.	Indicates, which version of the protocol is applied, by default, to messages during the session.

1.2. Heartbeat (Message type=0)

1.3. TestRequest (Message type =1)

No.	Field name	Type	Valid values	Comments
112	TestReqID	String	–	Identifier, included in the test request message, is also present in the Heartbeat reply message.

1.4. ResendRequest (Message type=2)

No.	Field name	Type	Valid values	Comments
7	BeginSeqNo	SeqNum	–	Number of the first message in case of re-sending.
16	EndSeqNo	SeqNum	–	Number of the last message when resent. If the request for one message BeginSeqNo (7) = EndSeqNo. If the request for all messages after a particular message, EndSeqNo = "0" (means the endlessness).

1.5. Reject (Message type=3)

No.	Field name	Type	Valid values	Comments
45	RefSeqNum	SeqNum	–	Reject message No.
58	Text	Text		Error description.

8=FIXT.1.19=12735=334=849=TESTMD52=20180118-04:59:54.13856=BLM45=558=Value is incorrect (out of range) for this tag371=559372=x373=510=227

1.6. Sequence reset (Message type=4)

No.	Field name	Type	Valid values	Comments
36	NewSeqNo	SeqNum	–	New sequence number.

1.7. Logout (Message type=5)

No.	Field name	Type	Valid values	Comments
58	Text	String	950 – Error in the system; 951 – Wrong information for connection; 952 – This user is connected.	Reason for disconnection.

1.8. StandardHeader

No.	Field name	Type	Valid values	Comments
8	BeginString	String	–	Determines the beginning of the message and protocol version. ALWAYS THE FIRST FIELD IN THE MESSAGE. (Always unencrypted).
9	BodyLength	Length	–	Length of the message, in bytes, in the field CheckSum. ALWAYS THE SECODN FIELD IN THE MESSAGE. (Always unencrypted).
35	MsgType	String	A, x, e, V, AD – incoming; (y, f, W, X, Y, AE) – outgoing.	Determines the message type. ALWAYS THE THIRD FIELD IN THE MESSAGE. (Always unencrypted).
49	SenderCompID	String	–	Identifier of the message sender.
56	TargetCompID	String	–	Identifier of the message receiver.

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34	MsgSeqNum	SeqNum	–	Sequence number of the message.
52	SendingTime	UTCTimestam p	yyyyMMdd-HH:mm:ss.sss	Message sending time (displayed in UTC format, also known as "GMT").

1.9. StandardTrailer

No.	Field name	Type	Valid values	Comments
10	Checksum	String	–	Message size, three bytes (see the calculation methodology, described in Appendix 2 to
				specification FIX, https://www.onixs.biz/fix-dictionary/4.2/app_b.html). ALWAYS THE LAST MESSAGE; i.e. with ending <SOH>, as a separator of the end of the message. Always consists of three symbols. (Always unencrypted).

2. Instruments

2.1. SecurityListRequest (Message type=x)

No.	Field name	Type	Valid values	Comments
320	SecurityReqID	String	–	Unique request identifier.
559	SecurityListRequestType	int	4 – All instruments.	Determines the type/criteria of the request.

2.2. SecurityList (Message type=y)

No.	Field name	Type	Valid values	Comments
320	SecurityReqID	String	–	Unique request identifier.
322	SecurityResponseID	String	–	Unique response identifier.

Regulations on terms of commercial dissemination of market data

393	TotNoRelatedSym	int	–	Total number of instruments.
893	LastFragment	Boolean	N – Not last message; Y – Last message.	Indicates, whether this message is the last one in the sequence of messages.
55	Symbol	String	–	Instrument code.
48	SecurityID	String	–	Instrument type identifier SecurityIDSource (22) (e.g. CUSIP, SEDOL, ISIN, etc.). Requires the field SecurityIDSource.
22	SecurityIDSource	String	4 – ISIN.	Determines the class or source for the field SecurityID(48).

No.	Field name	Type	Valid values	Comments
				In case of absence of ISIN, the ISIN Reg S is sent over.
454	NoSecurityAltID	NumInGroup	–	Number of entries of message group SecurityAltID (455).
455	SecurityAltID	String	–	Alternative identifier of the instrument type SecurityAltIDSource (456) (e.g., CUSIP, SEDOL, ISIN, etc.).
456	SecurityAltIDSource	String	M – Identifier, assigned by the Trading system; N – NIN; 144 – ISIN 144.	Determines the class or source for the field SecurityAltID (455).
460	Product	int	1 – agent; 3 – corporate bonds; 4 – currencies; 5 – equity securities; 6 – government securities;	Determines the instrument type.

Regulations on terms of commercial dissemination of market data

			<p>9 – money market instruments;</p> <p>11 – municipal bonds;</p> <p>12 – other;</p> <p>14 – derivatives.</p>	
461	CFICode	String	In compliance with ISO 10962.	Determines the instrument type in compliance with ISO 10962, Classification of financial instruments (CFI code).
167	SecurityType	String	<p>SUPRA –</p> <p>IFI bonds; FUT –</p> <p>futures; OPT –</p> <p>option;</p> <p>CS – ordinary share;</p> <p>PS –</p>	Determines the instrument type. Instrument types are listed and grouped according to instrument types, indicated in field Product (460).

No.	Field name	Type	Valid values	Comments
			<p>Preferred share;</p> <p>CORP – corporate;</p> <p>ISL – Islamic security;</p> <p>REPO – repo;</p> <p>GO – bonds; MF – unit;</p> <p>GS – government securities;</p> <p>NONE – no type.</p>	
541	MaturityDate (KZT)	LocalMktDate	YYYYMMDD	Redemption date.

Regulations on terms of commercial dissemination of market data

225	IssueDate	LocalMktDate	YYYYMMDD	Date of issue of the share or bond. The date may differ from the date of coming into effect ("Dated Date"), or the date of beginning of accrual of coupon interest ("Interest Accrual Date").
223	CouponRate	Percentage	–	Interest rate.
106	Issuer	String	–	Issuer name.
15	Currency	Currency	In compliance with ISO 4217.	Determines the quotation currency code. Absence of this field is interpreted as the value by default for the instrument.
236	Yield	Percentage	–	Yield, percent per annum.

2.3. SecurityStatusRequest (Message type=e)

No.	Field name	Type	Valid values	Comments
324	SecurityStatusReqID	String	–	Unique request identifier or mass requests message unique identifier.
55	Symbol	String	–	Instrument code. ALL – for all instruments.
263	SubscriptionRequestType	char	0 – Snapshot; 1 – Snapshot + Updates (Subscribe); 2 – turn off previous Snapshot + Updates (Unsubscribe).	Subscription type.

2.4. SecurityStatus (Message type=f)

No.	Field name	Type	Valid values	Comments
324	SecurityStatusReqID	String	–	Unique request identifier or mass requests message unique identifier.
55	Symbol	String	–	Instrument code.
48	SecurityID	String		Instrument type identifier SecurityIDSource (22) (e.g. CUSIP, SEDOL, ISIN, etc.). Requires the field SecurityIDSource.
22	SecurityIDSource	String	4 – ISIN.	Determines the class or source for the field SecurityID(48). In absence of ISIN, the ISIN Reg S is sent over.
454	NoSecurityAltID	NumInGroup	–	Number of entries of message group SecurityAltID (455).
455	SecurityAltID	String	–	Alternative security type identifier SecurityAltIDSource (456) (e.g., CUSIP, SEDOL, ISIN, etc.).
456	SecurityAltIDSource	String	M – Identifier, assigned by the trading system; N – NIN; 144 – ISIN 144.	Determines the class or source for the field SecurityAltID (455).
461	CFICode	String	In compliance with ISO 10962.	Determines the instrument type in compliance with ISO 10962, Classification

No.	Field name	Type	Valid values	Comments
				of financial instruments (CFI code).
336	TradingSessionID	String	1 – Afternoon session; 3 – Morning session;	Trading session identifier.

Regulations on terms of commercial dissemination of market data

			5 – Evening session.	
625	TradingSessionSubID	String	1 – Preliminary trades; 3 – Uninterrupted counter auction; 8 – Auction; 14 – Fixing; 15 – Frankfurt auction.	Optional market identifier of trades as part of the trading session.
326	SecurityTradingStatus	int	2 – Suspension; 17 – Readiness for trades (beginning of the session); 18 – Unavailable for trades (end of the session); 21 – Preliminary opening of the session.	Determines the status of trades.

3. Market Data.

3.1. MarketDataRequest (Message type=V)

No.	Field name	Type	Valid values	Comments
262	MDReqID	String	–	Unique identifier of the market data request.
31337	LastMDPointID	String	–	Identifier of the last message. From this moment the server will repeatedly send missing messages, if the identifier on the server is more than that indicated in the request. Indicate "0" in case of the primary request.

Regulations on terms of commercial dissemination of market data

No.	Field name	Type	Valid values	Comments
263	SubscriptionRequestType	char	0 – Snapshot; 1 – Snapshot + Updates (Subscribe); 2 – Turn off the previous request Snapshot+ Updates (Unsubscribe).	Subscription type.
264	MarketDepth	int	0 – Full order book; 1 – Best quotations.	Depth of book for Snapshot / Incremental updates.
265	MDUpdateType	int	0 – Snapshot; 1 – Updates.	Determines the type of market data update.
267	NoMDEntryTypes	NumInGroup	–	Number of requested fields MDEntryType (269).
269	MDEntryType	char	0 – Bid price; 1 – Ask price; 2 – Transaction; 3 – Index value (applicable only to indexes and indicators); 4 – Opening price; 5 – Closing price; 7 – Maximum price during the trading session; 8 – Minimum price during the trading session; 9 – Weighted average price; B – Trading volume, in units of securities (total).	Market data entry type.
146	NoRelatedSym	NumInGroup	–	Indicates the number of repeating symbols.
55	Symbol	String	–	Instrument code. ALL – for all instruments.

3.2. **MarketDataSnapshotFullRefresh (Message type=W)**

No.	Field name	Type	Valid values	Comments
264	MarketDepth	int	0 – Full order book; 1 – Best quotations.	Depth of book for Snapshot / Incremental updates.
75	TradeDate	LocalMktDate	YYYYMMDD	Determines the trading day date. Absence of this field means the current day.
262	MDReqID	String	–	Unique identifier of market data request.
31337	LastMDPointID	String	–	Identifier of the last message. From this moment the server will repeatedly send missing messages, if the identifier on the server is more than that indicated in the request. Indicate "0" in case of the primary request.
55	Symbol	String	–	Instrument code.
48	SecurityID	String		Instrument type identifier SecurityIDSource (22) (e.g. CUSIP, SEDOL, ISIN, etc.). Requires the field SecurityIDSource.
22	SecurityIDSource	String	4 – ISIN.	Determines the class or source for the field SecurityID(48). In case of absence of ISIN, the ISIN Reg S is sent over.
454	NoSecurityAltID	NumInGroup	–	Number of entries of message group SecurityAltID (455).
455	SecurityAltID	String	–	Alternative identifier of the instrument type SecurityAltIDSource (456) (e.g., CUSIP, SEDOL, ISIN, etc.).

Regulations on terms of commercial dissemination of market data

456	SecurityAltIDSource	String	M – Identifier assigned by the Trading system; N – NIN; 144 – ISIN 144.	Determines the class or source for the field SecurityAltID (455).
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No.	Field name	Type	Valid values	Comments
461	CFICode	String	In accordance with ISO 10962.	Determines the instrument type in accordance with ISO 10962, the Classification of financial instruments (CFI code).
451	NetChgPrevDay	PriceOffset	–	Change in the closing price of the previous day compared with the last price.
268	NoMDEntries	NumInGroup	–	Number of entries in the market data message.
269	MDEntryType	char	0 – Bid price; 1 – Ask price; 2 – Transaction; 3 – Index value (applicable only for indexes and indicators); 4 – Opening price; 5 – Closing price; 7 – Maximum price during the trading session; 8 – Minimum price during the trading session; 9 – Weighted average price; B – Trading volume, in units of securities (total).	Market data entry type.
278	MDEntryID	String	–	Unique identifier of market data.
270	MDEntryPx	Price	–	Price of market data entry.

Regulations on terms of commercial dissemination of market data

423	PriceType	int	1 – Net price, in percent of the face value; 2 – In money per unit; 4 – Discount, in percent lower than the face value; 5 – Dirty price, in percent of the face value; 6 – Spread (spread in	Price type code.
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No.	Field name	Type	Valid values	Comments
			basis points); 9 – Yield; 22 – Basis points.	
15	Currency	Currency	In compliance with ISO 4217.	Determines the quotation currency code. Absence of this field is interpreted as the value by default for the instrument.
271	MDEntrySize	Qty	–	Quantity or amount of market data entry.
272	MDEntryDate	UTCDateOnly	YYYYMMDD	Market data entry date.
273	MDEntryTime	UTCTimeOnly	HH:MM:SS.sss	Market data entry time.
336	TradingSessionID	String	1 – Afternoon session; 3 – Morning session; 5 – Evening session.	Trading session identifier.
625	TradingSessionSubID	String	1 – Preliminary trading; 3 – Continuous counter auction; 8 – Auction; 14 – Fixing; 15 – Frankfurt auction.	Optional market identifier of trading under the trading session.

Regulations on terms of commercial dissemination of market data

326	SecurityTradingStatus	int	2 – Suspension; 17 – Readiness for trading (session beginning); 18 – Unavailable for trading (session end); 21 – Preliminary opening of session.	Determines the trading status.
290	MDEntryPosition No	int	–	Displays the position of the purchase/sales order numbered from the most competitive to the least competitive, from the market view, beginning from 1.
1020	TradeVolume	Qty	–	Used for transmitting the trading amount (in monetary terms).

3.3. MarketDataIncrementalRefresh (Message type=X)

No.	Field name	Type	Valid values	Comments
4422	MDFeedType	String	–	Sent and the "RESEND" is indicated, if the message was omitted.
31337	LastMDPointID	String	–	Identifier of the last message. From this moment the server will repeatedly send missing messages, if the identifier on the server is more than that indicated in the request. Indicate "0" in case of the primary request.
75	TradeDate	LocalMktDate	YYYYMMDD	Determines the trading day date. Absence of this field means the current day.
262	MDReqID	String	–	Unique identifier of market data request.
268	NoMDEntries	NumInGroup	–	Number of entries in the market data message.

Regulations on terms of commercial dissemination of market data

279	MDUpdateAction	char	0 – New; 1 – Changed; 2 – Removed; 6 – Outside the order book.	Type of data update.
269	MDEntryType	char	0 – Bid price; 1 – Ask price; 2 – Transaction; 3 – Index value (applicable only to indexes and indicators);	Type of market data entry.

No.	Field name	Type	Valid values	Comments
			4 – Opening price; 5 – Closing price; 7 – Maximum price during the trading session; 8 – Minimum price during the trading session; 9 – Weighted average price; B – Trading volume, in units of securities (total).	
278	MDEntryID	String	–	Unique identifier of market data.
280	MDEntryRefID	String	–	Relates to the previous message of the field MDEntryID (278).
55	Symbol	String	–	Instrument code.
48	SecurityID	String		Instrument type identifier SecurityIDSource (22) (e.g. CUSIP, SEDOL, ISIN, etc.). Requires the field SecurityIDSource.
22	SecurityIDSource	String	4 – ISIN.	Determines the class or source for the field SecurityID(48). In case of absence of ISIN, the ISIN Reg S is sent over.

Regulations on terms of commercial dissemination of market data

454	NoSecurityAltID	NumInGroup	–	Number of entries of message group SecurityAltID (455).
455	SecurityAltID	String	–	Alternative identifier of the instrument type SecurityAltIDSource (456) (e.g., CUSIP, SEDOL, ISIN, etc.).
456	SecurityAltIDSource	String	M – Identifier, assigned by the Trading system; N – NIN; 144 – ISIN 144.	Determines the class or source for the field SecurityAltID (455).
461	CFIcode	String	In accordance with ISO 10962.	Determines the instrument type in accordance with ISO

No.	Field name	Type	Valid values	Comments
				10962, Classification of financial instruments (CFI code).
270	MDEntryPx	Price	–	Price of market data entry.
423	PriceType	int	1 – Net price, in percent of the face value; 2 – In money per unit; 4 – Discount, in percent lower than the face value; 5 – Dirty price, in percent of the face value; 6 – Spread (spread in basis points); 9 – Yield; 22 – basis points.	Price type code.
15	Currency	Currency	In compliance with ISO 4217.	Determines the quotation currency code. Absence of this field is interpreted as the value by default for the instrument.
271	MDEntrySize	Qty	–	Quantity or amount of market data entry.

Regulations on terms of commercial dissemination of market data

272	MDEntryDate	UTCDateOnly	YYYYMMDD	Market data entry date.
273	MDEntryTime	UTCTimeOnly	HH:MM:SS.sss	Market data entry time.
336	TradingSessionID	String	1 – Afternoon session; 3 – Morning session; 5 – Evening session.	Trading session identifier.
625	TradingSessionSubID	String	1 – Preliminary trades; 3 – Uninterrupted counter auction; 8 – Auction; 14 – Fixing; 15 – Frankfurt auction.	Optional market identifier of trades as part of the trading session.

No.	Field name	Type	Valid values	Comments
326	SecurityTradingStatus	int	2 – Suspension; 17 – Readiness for trades (beginning of the session); 18 – Unavailable for trades (end of the session); 21 – Preliminary opening of the session.	Determines the status of trades.
290	MDEntryPositionNo	int	–	Displays the position of the purchase/sales order numbered from the most competitive to the least competitive, from the market view, beginning from 1.
451	NetChgPrevDay	PriceOffset	–	Change in the last price compared with the last transaction's price.
1020	TradeVolume	Qty	–	Used for transmitting the trading amount (in monetary terms).

3.4. MarketDataRequestReject (Message type=Y)

No.	Field name	Type	Valid values	Comments
262	MDReqID	String	–	Unique identifier of market data request.
281	MDReqRejReason	char	0 – Unknown symbol; 1 – Duplicated number MDReqID; 3 – No access; 5 – Not maintained value of the field MarketDepth; 8 – Not maintained value of the field MDEntryType.	Reason for rejecting the market data request.

4. Trades.

4.1. TradeCaptureReportRequest (Message type=AD)

No.	Field name	Type	Valid values	Comments
568	TradeRequestID	String	–	Unique request identifier.
569	TradeRequestType	int	0 – All deals.	Message type.
263	SubscriptionRequestType	char	0 – Snapshot; 1 – Snapshot + Updates (Subscribe); 2 – turn off previous Snapshot + Updates (Unsubscribe)	Subscription type.
55	Symbol	String	–	Instrument code. ALL – for all instruments. Request is sent upon either instrument code (field 55), or by its ISIN (fields 22 and 48).

Regulations on terms of commercial dissemination of market data

22	SecurityIDSource	String	4 – ISIN.	<p>Determines the class or source for the field SecurityID(48).</p> <p>In case of absence of ISIN, the ISIN Reg S is sent over.</p> <p>Request is sent upon either instrument code (field 55), or by its ISIN (fields 22 and 48).</p>
48	SecurityID	String		<p>Instrument type identifier SecurityIDSource (22) (e.g. CUSIP, SEDOL, ISIN, etc.). Requires the field SecurityIDSource.</p> <p>Request is sent upon either instrument code (field 55), or by its ISIN (fields 22 and 48).</p>
828	TrdType	int	0 – Exchange trading.	Type of trades.
580	NoDates	NumInGroup	0 – All deals in a day;	Number of date fields, indicated in the date range.

No.	Field name	Type	Valid values	Comments
			1 – C; 2 – C – before.	
75	TradeDate	LocalMktDate	YYYYMMDD	Determines the current trading day date.

Regulations on terms of commercial dissemination of market data

60	TransactTime	UTCTimestamp	<p>If 580 = 1, this field contains mark "C".</p> <p>If 580 = 2, the first entry of this field contains time "C", the second entry of this field contains "Time".</p> <p>In this case the time value "C" must be less or equal to the value "Time".</p> <p>If indicated, this time field must belong to the same day, indicated in the field TradeDate.</p>	<p>Time mark, when the business transaction represented by the message, took place. Required, if 580 = 1 or 580 = 2.</p>
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4.2. TradeCaptureReport (Message type=AE)

No.	Field name	Type	Valid values	Comments
571	TradeReportID	String	–	Unique request identifier.
568	TradeRequestID	String	–	Unique request identifier.
828	TrdType	int	0 – Exchange trading.	Trades type.
55	Symbol	String	–	Instrument code.
22	SecurityIDSource	String	4 – ISIN.	<p>Determines the class or source for the field SecurityID(48).</p> <p>In case of absence of ISIN, the ISIN Reg S is sent over.</p>
48	SecurityID	String		Instrument type identifier SecurityIDSource (22) (e.g. CUSIP, SEDOL, ISIN, etc.). Requires the field SecurityIDSource
461	CFICode	String	In compliance with ISO 10962.	Determines the instrument type in accordance with ISO 10962, the Classification of financial instruments (CFI code).

Regulations on terms of commercial dissemination of market data

32	LastQty	Qty	–	Last purchased /sold amount (in units of securities).
31	LastPx	Price	–	Last price.
1020	TradeVolume	Qty	–	Used for transmitting the trading amount (in monetary terms).
15	Currency	Currency	In compliance with ISO 4217.	Determines the quotation currency code. Absence of this field is interpreted as the value by default for the instrument.
75	TradeDate	LocalMktDate	YYYYMMDD	Determines the trading day date. Absence of this field means the current day.
63	SettlType	String	1 – T+0; 2 – T+1; 3 – T+2; 4 – T+3.	Indicates the settlement scheme.
423	PriceType	int	1 – Net price, in percent of the face value; 2 – In money per unit; 4 – Discount, in percent less than face value; 5 – Dirty price, in percent of the face value; 6 – Spread (spread in basis points); 9 – Yield; 22 – Basis points.	Price type code.

Appendix 1-2

to the Regulations on Terms of
Commercial Dissemination of
Market Data

*(This appendix was included following a decision of the Exchange's Management Board dated
November 19, 2010)*

TECHNICAL SPECIFICATION **of market data broadcasted based on the FAST protocol**

Product code	KASE_FAST
Periodicity	Continuous flow throughout the trading day
Historical	No
Format	FAST protocol

1. GENERAL DESCRIPTION OF THE DATA TRANSMISSION PROTOCOL FAST

1.1. About Market Data Multicast FIX/FAST platform

The system Market Data Multicast FIX/FAST Platform provides the new highly efficient mechanism for delivering Market Data to market data consumers. The mechanism utilizes the FIX protocol for messages structure and syntax, FAST protocol for optimization of data streaming, and UDP protocol for delivering data to multiple users efficiently. The Market Data Multicast FIX/FAST Platform includes the following aspects: streaming data, incremental messaging, FIX format, FAST compression, multicast delivery, and recovery. 1.2. Streaming Data.

Streaming data is the model, which allows one to compose a continuous sequence of information of determinate length into one message. It is promoted to decrease latency and provide very high volume data routing.

1.2. Incremental Messaging

Incremental data model clearly provides less wasteful on resources. Minimum numbers of instructions are needed to update the book: add, change, delete. An incremental approach sends only necessary data of market events and is intended to significantly reduce data content.

1.3. FIX format

The system Market Data Multicast FIX/FAST Platform uses FIX message format for messages structure and syntax. Message fields are delimited using the ASCII 01 <SOH> character. To obtain a more detailed idea of the FIX protocol, you can see section Public FIX-interface. FAST is a binary compression algorithm used to purpose of the optimization of FIX messages. FAST reduces the amount of data without delays, which allows increasing the amount of data being sent and reducing the delivery time.

1.4. Encoding in FAST format

FAST (FIX Adapted for Streaming) is a binary compression algorithm used to purpose of the optimization of FIX messages. FAST benefits include reduced bandwidth and reduced latency. They are achieved at the expense of increased processing time and more complex processing algorithms.

The FAST Protocol uses the following approaches to compact data messages:

- implicit tagging;
- field encoding;
- presence map;
- stop bit;
- binary encoding.

These approaches assume that the structures of the transferred messages as well as encoding rules are agreed between the counter parties. This is usually done via the exchange of machine readable XML-based FAST templates.

2. DATA DELIVERY USING MULTICAST

Messages are disseminated over the UDP protocol, which allows the Platform to transfer a single packet to multiple destinations. One UDP-packet can include several FIX-messages, encoded in FAST, but currently MOEX Market Data Multicast FIX/FAST Platform does not send more than one FAST encoded FIX message in a UDP packet. FAST-message is generated in such a way that the UDP packet size wouldn't exceed the Ethernet-friendly MTU parameter of 1500 bytes. To minimize confusion MOEX Market Data Multicast FIX/FAST Platform sends messages from different tables to different multicast groups.

Recovery processes are very useful for recipients to minimize the probability of a data loss. MOEX Market Data Multicast FIX/FAST Platform

provides data recovery in two ways:

- recovery of a large amount of data by sending snapshots to the client;
- TCP Replay of the sent messages – suitable for the recovery of a small-scale data loss.

3. OPERATING THE MARKET DATA FIX/FAST MULTICAST PLATFORM

3.1. Connect before the Trade Day Started

Clients should start listening to MOEX Market Data Multicast FIX/FAST Platform some time before the trading day starts. This ensures that client will start receiving actual market data without performing any recovery process. This scenario is the main. The procedure is the following:

- download the actual multicast IP addresses configuration file from ftp. Configuration file is the XML-file describing the connectivity parameters (feeds multicast addresses, ports, etc.);
- download the FAST template from ftp. See section 3.2.5 for the description of the FAST template;
- start listening Incremental Feed(s) and sequentially apply received data.

3.2. Connect after the Trade Day Started

When connecting to the system sometime after the trading day started, the client should keep the following procedure to obtain the full market data:

- download the configuration file from ftp. Configuration file is the XML-file describing the connectivity parameters (feeds multicast addresses, ports, etc.);
- Download the FAST template from ftp. For additional information see item FAST-template with template description;
- 2. Start listening Instrument Definitions feed. Besides delivery of instrument descriptions, this channel acts as a snapshot channel for the Instrument Status channel;
- 3. Start listening required Orders, Statistics, Trades, Instrument Status feeds (the client may only listen to feeds he is interested in) and accumulate messages received;
- start listening feeds Orders Recovery and/or Statistics Recovery, Trades Recovery. For each instrument, receive snapshot where values of fields 369 and 83 for a given instrument are greater than minimal values of corresponding fields 34 and 83 in the queued updates for that instrument;
- apply all updates where tags 34 and 83 are greater than in snapshot for selected instrument. The process can be conducted in

two stages for all instruments (first receive snapshots with greater values of fields 369 for all instruments, then process accumulated updates), as well as parallel (upon receipt of snapshots for instruments process accumulated updates for the received instrument);

- Stop listening Recovery Feeds;
- continue normal processing of incremental update feeds.

3.3 Incremental Feeds A and B Arbitration

Data in all UDP Feeds are disseminated in two identical feeds (A and B) on two different multicast IPs. It is strongly recommended that client receive and process both feeds because of possible UDP packet loss. Processing two identical feeds allows one to statistically decrease the probability of packet loss. It is not specified in what particular feed (A or B) the message appears for the first time. To arbitrate these feeds one should use the message sequence number found in Preamble or in tag 34-MsgSeqNum. Utilization of the Preamble allows one to determine message sequence number without decoding of FAST message.

Processing messages from feeds A and B should be performed using the following algorithm:

- Listen feeds A and B;
- Process messages according to their sequence numbers;
- Ignore a message if one with the same sequence number was already processed before;
- If the gap in sequence number appears, this indicates packet loss in both feeds (A and B). Client should initiate one of the Recovery process. But first of all client should wait a reasonable time, perhaps the lost packet will come a bit later due to packet reordering. UDP protocol can't guarantee the delivery of packets in a sequence.

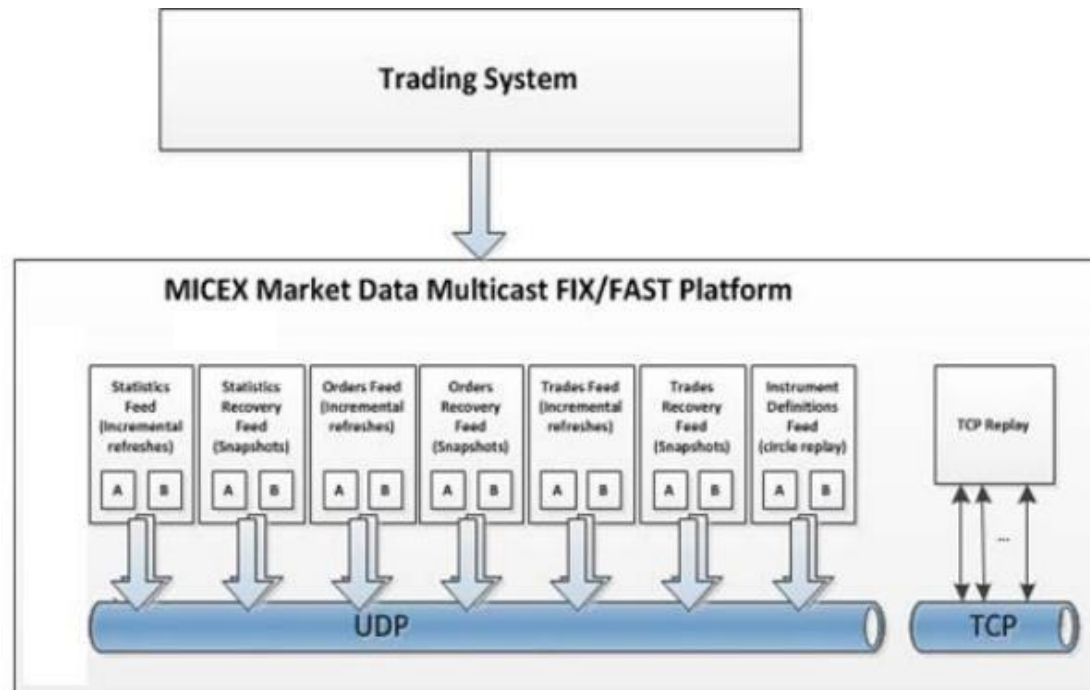
4. SYSTEM ARCHITECTURE

UDP channels used to transfer market data. UDP channels are also used for recovery process, TCP connection is used to replay sets of lost messages, already published in the one of UDP Channels.

Following feeds are used in the system:

- main feeds;
- Market Data Incremental Refresh feeds;
- Instrument Definition feeds;
- Recovery feeds;

- Market data snapshots distribution feeds;
- Sessions for requesting missed data.



Market Data Multicast FIX/FAST Platform ensures broadcasting via the following feeds: Main feeds:

- Market Statistics

Feeds (MSR): o

Statistics Feed A;

o Statistics Feed B.

- Active Orders List Feeds (OLR):

o Orders Feed A;

o Orders Feed B.

- Trades List Feeds (TLR):

o Trades Feed A;

o Trades Feed B;

- Instrument Status Feeds (ISF):

o Status Feed A;

o Status Feed B.

Recovery feeds:

- Market Statistics Recovery Snapshots Feeds (MSS):

o Statistics Recovery Feed A;

o Statistics Recovery Feed B.

- Active Orders List Recovery Snapshots Feeds (OLS):

o Orders Recovery Feed A;

o Orders Recovery Feed B.

- Trades List Recovery Snapshot Feeds (TLS):

o Trades Recovery Feed A;

o Trades Recovery Feed B. Instruments

Definitions Feeds (IDF):

- Instruments Definitions Feed A;
- Instruments Definitions Feed B.

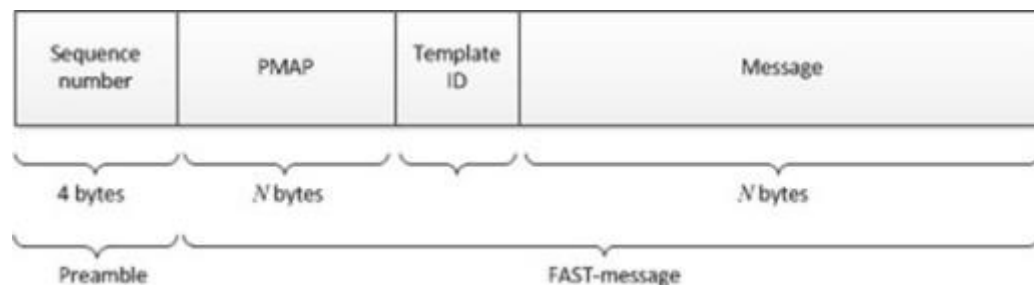
Besides publishing market data in UDP channels, MOEX Market Data Multicast FIX/FAST Platform can accept TCP requests from clients. The replay of data from the following feeds can be requested over TCP connection:

- Statistics Feed (MSR);
- Orders Feed (OLR);
- Trades Feed (TLR);
- Instrument Status Feed (ISF).

5. FAST FORMAT

5.1. Message structure

All messages sent by Market Data Multicast are FIX format messages encoded using the FAST (FIX Adapted for Streaming) protocol. The FAST Protocol has been developed as part of the FIX Market Data Optimization Working Group. FAST is designed by FIX Market Data Optimization Working Group to optimize electronic exchange of financial data, particularly for high volume, low latency data dissemination. A feature of the dissemination of data in information flows from Market Data Multicast is that before each FAST message a 4-byte preamble is added, which contains the value of the 34th tag (SeqNum) following the preamble of the FAST message. This allows you to get the serial number of the message (both when processing messages from streams A and B, and when detecting gaps) without the need to decode the FAST message itself – this significantly saves time when processing the stream.



Stop bit coding is one of the components of the FAST process, which eliminates redundancy at the level of data field transmission using stop bits instead of the usual byte separator. In FAST, a stop bit is used instead of FIX's traditional <SOH> separator byte. Thus 7 bits of each byte are used to transmit data and the eighth bit is used to indicate the end of a field.

5.2. Implicit Tagging

In traditional FIX messages each field takes the form "Tag=Value" where the tag is a number representing which field is being transmitted and the value is the actual data content. The ASCII character is used as a byte delimiter to terminate the field.

FAST eliminates redundancy with a template that describes the message structure. This technique is known as implicit tagging as the FIX tags become implicit in the data. A FAST template replaces the tag=value syntax with "implicit tagging" as follows:

- tag numbers are not present in the message but specified in the template
- fields in a message occur in the same sequence as tags in the template
- the template specifies an ordered set of fields with operators.

FAST functions as a state machine and must know at each moment which field values to keep in memory . FAST compares the current value of a field to the prior value of that field and determines what action should be taken:

- use a constant (specified in the template) as a new value;
- default value (apply if there is no new field value);
- make a copy (duplicate the previous value of this tag);
- calculate the delta (for integers - the arithmetic difference between the current and previous value is also used with string values);
- increment the previous value (only for integers).

A dictionary is a cache in which previous values are maintained. All dictionary entries are reset to the initial values specified after each UDP packet. Currently, MOEX sends one message per UDP packet. In this realization delta is not needed

5.3. Main UDP feeds

The following market data is distributed in the main feeds (Statistics, Orders, Trades - Feed A and Feed B) in multicast mode over UDP protocol:

- in the Statistics feed - market statistics;
- in the Orders feed - updates of the order table;
- in the Trades feed - updates of the transaction table;
- in the Instrument Status feed – updates of the status of financial instruments.

All of these feeds are broadcast over UDP multicast protocol. Each stream is broadcast on a separate multicast address. Identical messages are broadcast in respective feeds A and B. Duplication provides a statistical reduction in the probability of loss of UDP packets. Instrument Definitions feeds. In Instrument Definitions feeds (Feed A and Feed B) send financial instrument descriptions with fixed frequency in the form of Security Definition (d) FIX messages encoded in FAST format. One message contains a description of one financial instrument.

Market Statistics, Orders, and Trades feeds. The following market data are distributed in separate feeds:

- Statistics (A and B) feeds – transmit market statistics, updates from the SECURITIES table. Types of updates: Add, Change, and Delete.
- Orders (A and B) feeds – transmit updates to the list of active market orders. Types of updates: Add, Change, and Delete;
- Trades (A and B) feeds – transmit updates from the market transactions table. Types of updates: Add only (MDUpdateAction (279) = 0).

Data is distributed in the form of FIX messages Market Data – Incremental Refresh (X) encoded in FAST format. Each message may contain updates for several financial instruments.

Feeds Instrument Status (A and B).

When the trading status of the instrument changes, the message Security Status (f) is sent to these feeds.

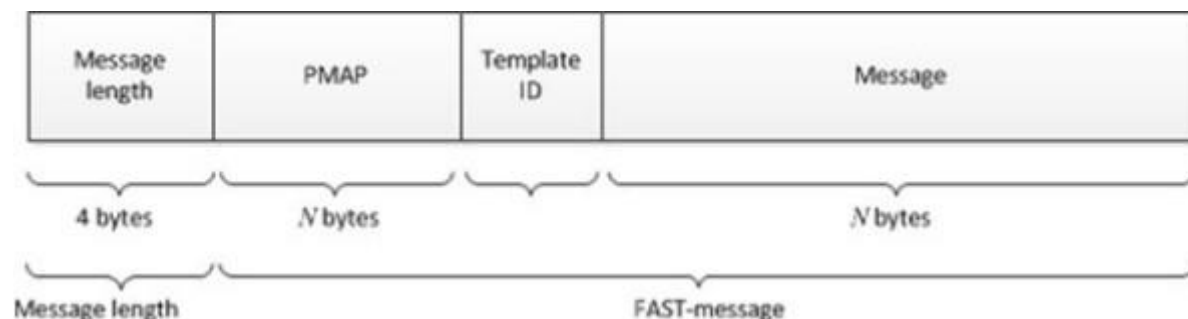
Recovery feeds In the recovery feeds (Statistics, Orders, Trades, Instrument Status) in multicast mode using UDP protocol with fixed periodicity, current snapshots of the corresponding data are distributed in the form of FIX messages Market Data – Snapshot / Full Refresh (W) encoded in the FAST format. Each message contains information on one instrument. The information includes the current trading status of the instrument and the current status of the connection to the Trading system.

5.4. Trading Session Status and HeartBeat messages

Trading Session Status (h) message is used to represent connection status with appropriate MOEX market. When status of connection changed this message is sent into UDP channel. If no updates are produced or in pauses between that snapshot cycles UDP multicast feeds publish HeartBeat messages with period of one second. Trading Session Status and HeartBeat messages increment the feed message sequence number counter (tag 34).

5.5. Sessions for requesting missed messages over TCP

The TCP replay component allows requesting a replay of a set of messages already published in one of UDP Channels. To request FAST messages, the client opens a TCP connection and then initiates a FIX session by sending a message like Logon. A FAST message request is sent as a FIX Market Data Request (V) message. In the request, the client indicates the range of sequence numbers for forwarding, as well as the identifier of the UDP feed from which the information is requested. Only single data request is allowed. The requested FAST message data is sent to the client from the same TCP session. The length of the message in TCP stream can be found in 4-bytes number before each message being transmitted:



After sending all data the server initiates termination of session by sending FAST encoded Logout message and then waits for FIX Logout reply. After receiving reply the TCP connection is closed. The client should use this service only in case of missing a small number of messages simultaneously in two copies.

5.6. Recovery of missed data

Data in all UDP feeds are disseminated over two UDP subfeeds: Feed A and Feed B on two different multicast-addresses. In Feeds A and B the identical messages are sent. It lowers the probability of packets loss and provides the first level of protection against missed messages. It is recommended that the client process both streams due to the unsuccessful delivery of UDP packets. It may happen that packages from both feeds are lost, in this case you need to use the data recovery procedure. It is possible to understand that the message is lost by omissions in serial numbers of 34-MsgSeqNum messages or omissions in incremental update numbers 83-RptSeq. This means that market data is no longer reliable, and the client does not receive it in full. You must use the recovery procedure. Market Data Multicast provides several mechanisms for data recovery. It is recommended that you use Recovery streams first. Recovery using a TCP connection is allowed only for skipping small numbers of messages simultaneously in two copies of feeds.

Recovering Missed Data from Recovery feeds (UDP)

Recovery of missing data from Recovery feeds can be used to obtain a large amount of lost data and to connect after the start of trading.

Snapshots of market data are distributed in Recovery feeds at a fixed time interval.

In each Market Data – Snapshot / Full Refresh (W) message, the tag 369-LastMsgSeqNumProcessed corresponds to the 34-MsgSeqNum tag of the Market Data – Incremental Refresh (X) message in the corresponding feed published at the time the snapshot was created for this tool.

The update number of each instrument contained in the 83-RptSeq tag of the Market Data message – Snapshot / Full Refresh (W) corresponds to the incremental update number contained in the 83-RptSeq tag of the corresponding MDEntry of the last Market Data message – Incremental Refresh (X) included in this snapshot.

The data on the instrument in the incremental update channel should be considered relevant from the moment the update number of this instrument in the 83-RptSeq tag of the Market Data – Incremental Refresh (X) message becomes larger than this number in the same Market Data – Snapshot / Full Refresh (W) message tag for this instrument. Also, the data on the instrument in the incremental update channel can be considered relevant from the moment the serial number of the Market Data – Incremental Refresh (X) message becomes greater than the value of the 369-LastMsgSeqNumProcessed message of the Market Data – Snapshot / Full Refresh (W) tag on this instrument. The numbering of messages in each cycle of sending snapshots starts with 1. Therefore, all snapshots should be considered received when a message arrives with serial number 1, which refers to the next cycle.

Tag 7944 – RouteFirst with a Y value marks the first message in a snapshot of this instrument.

Tag 893-LastFragment with the value 'Y' marks the last message in the snapshot for this instrument. Therefore, a snapshot on the instrument should be considered received when 21 received a message with 893-LastFragment = 'Y' (taking into account the absence of gaps on the tag sequence number). An indirect sign of receiving a full snapshot cycle is the correspondence of the number of snapshots received to the 911 TotNumReports tag from the IDF feed.

Data recovery process

The recovery process only affects feeds with missed messages. The remaining feeds can be processed in two ways: they can be moved to the queue until all packages from the Recovery feed are received, or they can be processed in parallel with the Recovery feeds.

Move packets to the queue

This process is applied to messages from update feeds during processing of packages from the Recovery feed. To avoid the accumulation of too many packets in the queue, it is recommended to process updates immediately as soon as the corresponding snapshot is received.

Identify the thread in which the message is skipped.

Receive and queue messages from update feeds.

Get snapshots from the Recovery feed, which corresponds to the stream of updates with a missed message. Check that all the necessary snapshots have been received:

- o The serial number of messages in the snapshot cycle starts with 1. To determine the end of the cycle, you need to wait for the next message with $34 - \text{MsgSeqNum} = 1$;
- o Snapshots in Recovery feeds are sent in the same order as tool descriptions in Instrument Definitions feeds. The value $7944 = Y$ determines the first message in the message set with a snapshot of the instrument, and the value $893 = Y$ determines the last message for this instrument.

Take all messages from the queue in which:

- o The value $34 - \text{MsgSeqNum}$ is greater than the minimum value $369 - \text{LastMsgSeqNumProcessed}$ Market Data – Snapshot / Full Refresh (W) messages in the full snapshot cycle for all instruments; or
- o The $83 - \text{RptSeq}$ value from the Market Data Incremental – Refresh (X) message for this instrument is greater than the $83 - \text{RptSeq}$ value from the snapshot.

Continue to receive updates.

Parallel processing

This process allows you to receive updates on tools and at the same time restore missing data. Identify the thread in which the message is skipped.

Receive updates, and possibly missed data will be updated and lose their relevance.

Get snapshots from the Recovery stream, which corresponds to the stream of updates with a missed message. For each instrument:

- o Compare the value $369 - \text{LastMsgSeqNumProcessed}$ from the snapshot with the value $34 - \text{MsgSeqNum}$ from the update, and make sure that $34 - \text{MsgSeqNum}$ is not less; or
- o Compare the value of $83 - \text{RptSeq}$ from the snapshot with the value of $83 - \text{RptSeq}$ from the update, and make sure that the value of $83 - \text{RptSeq}$ from the update is not less.

Continue to receive updates.

5.7. Incremental instrument updates

Messages from update feeds contain update numbers for each tool (tag $83 - \text{RptSeq}$). In each repeating group, the market data element contains the incremental update number of the instrument (tag $83 - \text{RptSeq}$). Customers can track the order of incremental update numbers to quickly detect missing messages.

If the order of the $83 - \text{RptSeq}$ numbers is out of order, this indicates that some of the market melons for the instrument were skipped. If the

order of the 83-RptSeq numbers is not broken, this indicates that the data on the instrument is correct and up to date.

Recovering missing data over a TCP connection

Data that is missing in the Statistics, Orders, Trades feeds can be restored by querying them over a TCP connection. This recovery method is not high-performance, it should be used only as a last resort and only to request a small number of missed messages. The number of messages that can be requested by the client in one connection is specified in the configuration file of the Market Data Multicast server.

6. PUBLIC FIX INTERFACE

The interface description is based on the FIX protocol specification (Financial Information Exchange, <http://fixprotocol.org/>) version 5.0 SP2. The system uses only those messages (groups) and their fields that are described in this public interface.

*It should be noted that the fields present in the 5.0 SP2 standard (mandatory and optional), but not listed in this public interface, are considered optional and **are ignored by the Exchange**. Field values that are present in the list of acceptable values in the 5.0 SP2 standard, but not described in this document, are considered incorrect - and incoming messages with such data will be rejected.*

Field groups

6.1. Heading

Tag	Field name	Req'd	Type	Valid values	Comments
8	BeginString	O	String (8)	'FIXT.1.1'	Identifies beginning of new message and protocol version. Always contains unencrypted data, must be first field in message.
9	BodyLength	Y	Length		The length of the message. Calculated in accordance with the standard. It always contains unencrypted data, it should be the second field in the message. It must be if sent by the user in the TCP Recovery service.
35	MsgType	O	String (10)		Defines the type of message. It always contains unencrypted data, it should be the third field in the message.

1128	AppVerID	O	String (1)	'9' (FIX50SP2)	Defines the protocol version for application messages. Always contains unencrypted data. Must be sent after tag 35.
49	SenderCompID	O	String (12)		Identifier of the computer sending the message. Always contains unencrypted data. If this message is sent to TCP replay server of the Exchange, this field may contain a deliberate value.
56	TargetCompID	O	String		Identifier of the receiving firm. Always contains unencrypted data. If this message sent from KASE, then it must contain USERID assigned to a trader on KASE.
34	MsgSeqNum	O	SeqNum		Integer message sequence number.
52	SendingTime	Y	uint64		Time of message transmission (in UTC time zone) in the following format: yyMMDDHHmmSSuuuuuu with fixed length of 18 digits, where yy – last pair of digits in the year number (17 for year 2017), MM – month number, DD – day number, HH – hour number, mm – number of minutes, SS – number of seconds, uuuuuu – fraction of a second rounded to microseconds. Each part of formatting template has fixed length. Zeroes are added where necessary. Example: 52 = 170125080709000030 for time 2017-01-25 08: 07: 09.000030 in the usual format for reading. Please note that this format is used in all types of messages, including TCP Replay.
347	MessageEncoding	H	String(11)	'UTF-8' (Unicode)	Encoding type (non ASCII characters). Mandatory if at least one of the fields in the message has an encoding different from ASCII.

6.2. Trailer

Table 3

Tag	Field name	Req'd	Type	Valid values	Comments
10	Checksum	O	String(3)		Checksum is three bytes. Always unencrypted, always last field in message.

6.3. Group Instrument

Table 4

Tag	Field name	Req'd	Type	Valid values	Comments
55	Symbol	O	String(12)		Ticker symbol. The KASE internal identifier of financial instrument, SECCODE. Note: a financial instrument with SecCode code may be available for trading in different modes. You should consider the combination Symbol (55) + TradingsessionId (336) as a separate tool with separate quotes and tables of deals and orders.
48	SecurityID	H	String		Financial instrument's identifier (for example CUSIP, SEDOL, ISIN etc.).
22	SecurityIDSource	H	String	'4' (ISIN)	Financial instrument type identifier. Field is obligatory if Security ID (48) is specified.

460	Product	H	int	'3' (CORPORATE); '4' (CURRENCY); '5' (EQUITY); '6' (GOVERNMENT); '7' (INDEX); '9' (General collateral certificate) '10' (MORTGAGE) '11' (MUNICIPAL); '12' (OTHER); '13' (FINANCING).	Indicates the type of product the security is associated with.
461	CFIcode	H	String		Indicates the type of security using ISO 10962 standard, Classification of Financial Instruments (CFI code) values.
167	SecurityType	H	String	'CORP' (Corporate Bond); 'FOR' (Foreign Exchange Contract); 'CS' (Common Stock); 'PS' (Preferred Stock); 'EUSOV' (Euro Sovereigns); 'BN' Bank Notes; 'MF' Mutual Fund 'MUNI' (Municipal bonds); 'RDR' – (Russian depositary receipt) 'ETF' – (Exchange traded fund); 'COFP' (Certificate Of Participation); 'XCN' (Extended Comm Note); 'STRUCT' (Structured Notes); 'WAR' (Warrant) 'GCD' (General collateral certificate)	Type of security.
541	MaturityDate	H	LocalMktDate		Maturity date for bonds
224	CouponPaymentDate	H	LocalMktDate		Date accrued coupon interest is to be paid.
223	CouponRate	H	Price		Value of the coupon, expressed in the currency of settlement

107	SecurityDesc	H	String		Security description. This tag contains security name in English on KASE.
350	EncodedSecurityDescLen	H	Length		Byte length of EncodedSecurityDesc (351) field.
351	EncodedSecurityDesc	N	data		Russian language (non-ASCII characters) name for the security. Encoded format is specified via the MessageEncoding (347) field. If used, the ASCII (English) representation should also be specified in the SecurityDesc (107) field.
5217	StateSecurityID	N	String		State Securities Identification Number.
5382	EncodedShortSecurityDescLen	N	Length		Byte length of encoded (non-ASCII characters) EncodedShortSecurityDesc (5383) field.
5383	EncodedShortSecurityDesc	N	data		Short (non-ASCII characters) security name in Russian language. Field encoding format specified via the MessageEncoding (347) field. in message header.
5556	BaseSwapPx	N	Price		Base SWAP price.
5558	BuyBackPx	N	Price		Base price for yield calculation. If indicated then the yield is calculated using this price. If defined, the field BuyBackDate appears in stream.
5559	BuyBackDate	N	LocalMktDate		Date for yield calculation. If indicated then the yield is calculated for this date

6.4. Group Instrument Extension

Table 5

	Field		Type	Valid value	Comments
870	NoInstrAttrib	H	NumInGroup		Number of elements in group InstrAttribs.

=> 871	InstrAttribType	H	int	'8' (Coupon period)	Security attribute type.
				'27' (Number of decimals (DECIMALS) in prices of financial instruments)	Field is mandatory, if NoInstrAttrib (870) > 0.
=> 872	InstrAttribValue	H	String		Security attribute value (if applicable)

6.5. Group Market Segment

Table 6

	Field		Type	Valid values	Comments
1310	NoMarketSegments	H	NumInGroup		The number of elements in the MarketSegmentGrp group.
=> 561	RoundLot	H	Qty		Number of securities in one standard lot.
=> 1309	NoTradingSessionRules	H	NumInGroup		The number of elements in the group TradingSessionRulesGrp.
=> => 336	TradingSessionID	H	String (4)		The identifier of the trading session at which a financial instrument is being traded. Used to indicate the trading mode of the SECBOARD. Note: an instrument with a given SecCode may be traded in

					<p>several trading boards (SecBoard). You should use each Symbol (55)+TradingSessionID (336) combination as an individual security with its own order book and list of trades available for trading in different modes. You should consider a combination of Symbol (55) + TradingSessionId (336) as a standalone instrument with separate quotes and transaction tables and applications.</p>
=> => 625	TradingSessionSubID	N	String	<p>'NA' – No trading 'O' – Opening period 'C' – Closing period 'N' – Normal trading period 'L' – Closing auction 'I' – Discrete auction 'D' – Dark pool auction 'E' – Trading at the closing auction price period S – opening auction 'A' - Auction: Order entry phase 'a' - Auction: Trade conclusion phase 'b' - Auction: Bookbuilding phase, orders are locked 'P' - Auction: After auction trade phase</p>	<p>Indicates the trading period</p> <p>Notes: Period is empty before the trading start and after the trading is closed. Switching between periods typically involves a short stop in trading, in which the period is not defined (625=NA) The sequence and schedule of periods depends on board code and on market conditions as defined by the Exchange Trading rules.</p> <p>Period value of this component block indicates a period that is running at the start of Security definition publishing cycle. Security status updates that come after Security definitions publishing cycle start should replace status with status from messages 35 = f.</p>
=> => 326	SecurityTradingStatus	N	int	<p>18 – Not available for trading 118 – Opening period 119 - Opening auction period 18 – Trading closed 103 – Closing period 2 – Break in trading 17 – Normal trading 102 – Closing auction 106 – Dark pool auction 107 – Discrete auction 120 – Trading at Closing auction</p>	<p>Trading status for a security</p> <p>Notes: a break in any period is indicated by 326=2 and period identifier in tag 625. Not available for trading and Trading Closed are different technological states in the Trading system. However they both disable trading activity and thus have equal values of tag 326. Trading status value of this component block indicates a trading status that existed at the start of Security definition publishing cycle. Security status updates that come after Security definitions publishing cycle</p>

=>=>9 680	OrderNote	N	Char	price	start should replace status with status from messages 35 = f. Level of listing
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6.6. Session-Level Messages

Logon (A)

Logon message from customer to KASE

Table 7

	Field		Type	Valid values	Comment
	<Standard Message Header>	O			MsgType = 'A'
553	Username	Y*	String		Userid or username.
554	Password	Y*	String		User password.
1137	DefaultApplVerID	Y	String	'9' (FIX50SP2)	Specifies the service pack at the session level.

Note: it is strongly recommended to identify your firm via meaningful string in SenderCompID field of a standard message header in FIX TCP replay sessions.

6.7. Logon message from KASE to customer:

Table 8

	Field		Type	Valid values	Comments
	<Standard Message Header>	O			MsgType = 'A'
108	HeartBtInt	O	int		Heartbeat interval (seconds).
1137	DefaultAppVer ID	O	String	'9' (FIX50SP2)	Specifies the service pack at the session level.

6.8. Logout (5)

Table 9

	Field		Type	Valid values	Comments
	<Standard Message Header>	O			Message type = '5'
58	Text	H	String		Logout reason.

6.9. Heartbeat (0)

Table 10

	Field		Type	Valid values	Comments
	<Standard Message Header>	O			Message type = '0'

Header>					
Business level message					

6.10. Security Definition (d)

Table 11

	Filed	Availability	Type	Valid values	Comments
	<Standard Message Header>	Y			MsgType = 'd'
911	TotNumReports	Y	int		Total number of Security Definition messages in a cycle.
	Component block <Instrument>	Y			The <Instrument> component block contains all the fields commonly used to describe a security or instrument.
	Component block <Instrument Extension>	N			The <InstrumentExtension> component block identifies additional security attributes that are more commonly found for Fixed Income securities.
15	Currency	N	Currency		Currency in which security is denominated
	Component block <Market Segment>	N			Contains all the security details related to listing and trading the security, including its trading status and trading period as they were at the start of Security Definitions publishing cycle. This allows late joiners to get current security trading state if they have missed earlier Security status (35=f) messages.
120	SettlCurrency	N	Currency		Currency code of settlement denomination.

	Filed	Availability	Type	Valid values	Comments
423	PriceType	N	int	'1' (Percentage); '2' (Per unit).	Code to represent the price type. Note: for REPO with CCP this tag value is 1, but indicates the REPO rate, not the price of underlying security (bond or share)
5385	MarketCode	N	String		Code of the market where instrument is traded. Note: MarketCode indicates a group of trading boards (SECBOARDS) with similar trading rules. MarketCode value may coincide with <Market> value of tag 335 but have a different purpose
64	SettlDate	N*	LocalMktDate		Specific date of trade settlement (SettlementDate) in YYYYMMDD format For Equities and FX in orders driven market: indicates settlement date For Equities in quote driven market (negotiated): indicates default settlement date. Actual date may vary and is indicated for each trade in the Trade List feed For FX swaps: indicates settlement date for first trade.
969	MinPriceIncrement	N	float		Minimum price increase for a given exchange-traded Instrument.
5508	FaceValue	N	Amt		Face value of security.
5850	OrigIssueAmt	N	Int		Number of placed securities in the issue
7595	NoSharesIssued	N	Qty		The number of issued shares.

	Filed	Availability	Type	Valid values	Comments
9119	SettlFixingDate	N	Date		N
9982	DividendNetPx	N	Numeric		N
9696	QuoteText	N	Char		N

6.11. Security Status (f)

Security Status messages indicate the changes in the current Trading status and period for a security. Security Status messages are published in a separate ISF channel.

Note: to get current Security Status in a scenario of late join, please use the Instrument Definition feed as a snapshot channel for the fields 326 and 625, or use TCP replay channel.

Table 12

	Field		Type	Valid values	Comments
	<Standard Message Header>	Y			MsgType = 'f'
55	Symbol	Y	String		<p>Ticker symbol. The Moscow Exchange internal instrument identifier, SecCode.</p> <p>Note: an instrument with a given SecCode may be traded in several trading boards (SecBoard). You should use each Symbol (55)</p> <p>+TradingSessionID (336) combination as an individual security with its own order book and list of trades and orders.</p>

	Field		Type	Valid values	Comments
336	TradingSessionID	N	String		Identifier for Trading Session. Used to represent SECBOARD. Note: an instrument with a given SecCode may be traded in several trading boards (SecBoard). You should use each Symbol (55)+TradingSessionID (336) combination as an individual security with own order book and list of trades.
625	TradingSessionSubID	N	String	'NA' – No trading 'O' – Opening period 'C' – Closing period 'N' – Normal trading period 'L' – Closing auction period 'I' – Discrete auction period – Dark pool auction period – Trading at the closing auction price period S – opening auction 'A' - Auction: Order entry phase 'a' - Auction: Trade conclusion phase 'b' - Auction: Bookbuilding phase, orders are locked	Indicates the trading period Notes: Period is empty before the trading start and after the trading is closed. Switching between periods typically involves a short stop in trading, in which the period is not defined (625=NA) The sequence and schedule of periods depends on board code and market conditions as defined by the Exchange Trading rules.
326	SecurityTradingStatus	N	int	'18' – Not available for trading '118' – Opening period '18' – Trading closed '103' – Closing period '2' – Break in trading '17' – Normal trading '102' – Closing auction – Dark pool auction – Discrete auction	Trading status for a security Notes: a break in any period is indicated by 326=2 and period identifier is in tag 625. Not available for trading and Trading Closed are different technological states in the Trading system. However they both disable trading activity and thus have equal values of tag 326.

	Field		Type	Valid values	Comments
				<ul style="list-style-type: none"> – Closing auction – Trading at Closing auction price 	
5509	AuctionIndicator	N	Boolean	'Y' (Yes); 'N' (No).	<p>Indicates that the primary distribution auction is being held for the security. Primary distribution auction data is currently not published in the feed.</p> <p>Notes: 5509=N for ALL other auction types. Boolean values are encoded in FAST messages as binary integers: 1 for Y, and 0 for N.</p>

6.12. Trading Session Status (h)

Table 13

	Field		Type	Valid values	Comments
	<Standard Message Header>	Y			MsgType = 'h'
336	TradingSessionID	Y	String		Identifier for Trading Session is used to represent SECBOARD.

340	TradSesStatus	O	int	'100' (Connection to MOEX market was established); '101' (Lost connection to MOEX); '102' (Connection to MOEX market was established, trading system wasn't restarted); '103' (Connection to MOEX market was established, trading system was restarted).	The state of the trading session. Informs about the connection state between the MOEX Market Data Multicast FIX/FAST Platform and the trading system. Note: Receiving the very unlikely message 340=103 means that Trading system has been started from scratch and you must remove all feed data on your side and start over.
58	Text	N	String		Free format text string. Can be used for comments, additional connection information to a specific KASE market.

6.13. Market Data Request (V)

Table 14

	Field		Type	Valid values	Comments
	<Standard Message Header>	Y			MsgType = 'V'
1180	ApplID	H	String	OLR, TLR, MSR, ISF	Identifier of UDP-feed.
1182	ApplBegSeqNum	N	SeqNum		The beginning range of application sequence numbers.
1183	ApplEndSeqNum	N	SeqNum		The ending range of application sequence numbers. If Market Date Request is for one message then ApplBegSeqNum(1182) = ApplEndSeqNum(1183). If the request is for all messages after a specified message (but no more than a maximum number of sending messages), then ApplEndSeqNum(1183) = '0' (infinity).

6.14. Market Data - Snapshot/Full Refresh (W)

Table 15

	Field		Type	Valid values	Comments
	<Standard Message Header>	O			Message type = 'W'
83	RptSeq	Y	int		Sequence number of a message within report series. Value equal to the RptSeq(83) in Market Data - Incremental Refresh (X) message at the time when the snapshot for a given instrument has been prepared.
369	LastMsgSeqNumProcessed	N	SeqNum		Value equal to the MsgSeqNum (34) from the last Market Data - Incremental Refresh (X) message which was published at the time of a snapshot for a given instrument has been prepared. Note: this field value may be different for different instruments within the same snapshot publishing cycle.
340	TradSesStatus	N	int	'100' (Connection to MOEX market was established); '101' (Lost connection to MOEX); '102' (Connection to MOEX market was established, trading system wasn't restarted); '103' (Connection to MOEX market was established, trading system was restarted).	The state of the trading session. Informs about the connection state between the MOEX Market Data Multicast FIX/FAST Platform and the trading system. Note: Receiving the very unlikely message 340=103 means that the Trading system has been started from scratch and you must remove all feed data on your side and start over.

	Field		Type	Valid values	Comments
55	Symbol	Y	String		<p>Ticker symbol. The MOEX internal instrument identifier, SecCode.</p> <p>Note: an instrument with a given SecCode may be traded in several trading boards (SecBoard). You should use each Symbol (55)+TradingSessionID (336) combination as an individual security with its own order book and list of trades.</p>
893	LastFragment	N	Boolean	'N' (Not Last Message); 'Y' (Last Message).	Indicates whether this message is the last in a sequence of messages in the snapshot for a security. Boolean values are encoded in FAST messages as binary integers: 1 for Y, and 0 for N.
7944	RouteFirst	N	Boolean	'Y' (the first message in a set of messages forming a snapshot for an instrument); 'N' (Not the first message in a set of messages forming a snapshot for an instrument).	Indicate that a message is the first in a set of messages forming a snapshot for an instrument.

	Field		Type	Valid values	Comments
1682	MDSecurityTrading Status	N	int	18 – Not available for trading 118 – Opening period 119- Opening auction period 18 – Trading closed 103 – Closing period 2 – Break in trading 17 – Normal trading 102 – Closing auction 106 – Dark pool auction 107 – Discrete auction 120 – Trading at Closing auction price	Current trading status for a security Notes: a break in any period is indicated by 1682=2 and period identifier is in tag 625 Switching between trading periods typically involves a short stop in trading in which the period is not defined (625=NA) The sequence and schedule of periods and trading status values depends on market conditions and Trading rules. Not available for trading and Trading Closed are different technological states in the Trading system. However, they both disable trading activity and thus have equal values of tag 326.
5509	AuctionIndicator	N	Boolean	'Y' (Yes); 'N' (No).	Indicates that the primary distribution auction is being held for the security. Primary distribution auction data is currently not published in the feed. Notes: 5509=N for ALL other auction types. Boolean values are encoded in FAST messages as binary integers: 1 for Y, and 0 for N.
451	NetChgPrevDay	N	PriceOffset		Net change from previous day's closing price vs. last traded price.

	Field		Type	Valid values	Comments
336	TradingSessionID	N	String		<p>Identifier for Trading Session. Used to represent SECBOARD.</p> <p>Note: an instrument with a given SecCode may be traded in several trading boards (SecBoard). You should use each Symbol (55)+TradingSessionID (336) combination as an individual security with its own order book and list of trades.</p>
779	LastUpdateTime	N	ulnt64		<p>For MSS channel the meaning of the field is a timestamp of the last processed transaction in the trading system, for which a snapshot is generated.</p> <p>Field format is yyMMDDHHmmSSuuuuuu with fixed length of 18 digits, where yy – last pair of digits in the year number (17 for year 2017), MM – month number, DD – day number, HH – hour number, mm – number of minutes, SS – number of seconds, uuuuuu – fraction of a second rounded to microseconds. Each part of formatting template has fixed length. Zeroes are added where necessary.</p>
268	NoMDEntries	Y	NumInGroup		Number of entries in Market Data message.
=> 269	MDEntryType	Y	char	'0' (Bid); '1' (Offer); '2' (Last Trade in Market statistics feed); '3' (Index Value); '4' (Opening Price); '5' (Closing Price);	<p>Type Market Data entry.</p> <p>Notes:</p> <p>The availability of different types of data is determined by the Trading Rules and depends on the trading mode and the market.</p> <p>Different feeds have subsets of possible values,</p>

Field		Type	Valid values	Comments
			<p>'7' (Trading Session High Price); '8' (Trading Session Low Price);</p> <p>'9' (Trading Session VWAP Price);</p> <p>'A' (Imbalance), expressed in number of securities;</p> <p>'B' (Trade Volume), expressed in number of securities;</p> <p>'J' (Empty book);</p> <p>'N' (Session high bid);</p> <p>'O' (Session low offer);</p> <p>'Q' (Auction Clearing Price), the clearing volume (271) is expressed in lots;</p> <p>'W' (Opening/Closing auction price);</p> <p>'c' (Opening/Closing auction volume), expressed in number of securities;</p> <p>'e' (prevention of uncovered trading for security)</p> <p>'f' (market in opening auction period/ closing auction buy order);</p> <p>'g' (market in opening auction period/ closing auction sell order);</p> <p>'i' (Last bid price);</p> <p>'j' (Last offer price);</p> <p>'h' (Open period price); 'k' (Close period price);</p>	<p>depending on the data contents.</p> <p>Empty Book (269=J) indicates no data for a security. Empty Book message may be generated market-wide, which indicates that you should remove all previously collected data and start over.</p> <p>Meaning of some values depends on market type(FX or Equities) and corresponding trading rules</p> <p>Off-book trading boards do not have data in OrderList snapshot feed (OLS).</p> <p>The set of field values may be extended following the Trading system updates.</p> <p>It is recommended to allow in your code ignoring unknown values of this field, and linked to such entry values of other fields, until the new field meaning can be supported by your application.</p> <p>Indexes are published in Market statistics (MSR and MSS) channels.</p> <p>Previous trading day values are indicated by additional tag 286</p>

	Field		Type	Valid values	Comments
				'l' (Market price 2); on FX market – FX fixing price as calculated between 11:59 and 12:00 Moscow time. 'm' (Market price); on FX market – FX fixing price 'o' (Official open price); 'p' (Official current price); 'q' (admitted quote); On FX market: international FX fixing price; 'r' (Official close price); 'v' (Total bid volume); 'w' (Total offer volume); 's' (Dark pool Auction price) 'x' (Dark Pool Auction volume), expressed in number of securities 'y' (Accrued interest amount per the unit of security at current date, expressed in rubles) 'u' (Duration); 'z' (Trades list).	
=> 278	MDEntryID	N	String		Unique Market Data Entry identifier. Notes: For trades (269=z) entries, this tag contains a string with Exchange trade number. For OrderList (OLR, OLS channels), it contains a string identifier of Add Order, NOT directly tied to the Exchange Order number in trading interfaces.

	Field		Type	Valid values	Comments
					MDEntryID value for new Orders are growing but not always for a number up.
=> 270	MDEntryPx	C	Price		Price of the Market Data Entry. Conditionally required if MDEntryType (269) is not in ('A', 'B', 'J').
=> 271	MDEntrySize	C	Qty		The number or volume of the market data item (corresponds to the specified market data type and refers to the current MDEntry). Conditionally required if MDUpdateAction (279) = New (0) and MDEntryType (269) is one of ('0', '1', '2', 'A', 'B', 'Q', 'f', 'g', 'v', 'w'). Note: For 269='A', 'B', this field value is expressed in number of securities. For all other values, this field value is expressed in number of lots.
=> 272	MDEntryDate	N	UTCDateOnly		Date of Market Data Entry.
=> 273	MDEntryTime	N	UTCTimeOnly		Time of Market Data Entry.
=> 625	TradingSessionSub ID	N	String	'NA' –No trading 'O' – Opening period 'S' - Opening auction period 'C' – Closing period 'N' – Normal trading period 'L' – Closing auction period	Indicates the trading period For incremental updates and snapshots, the trading period indicates the period in which the event occurred for this element, and not the current trading period.

	Field		Type	Valid values	Comments
				'I' – Discrete auction period 'D' – Dark pool auction period 'E' – Trading at the closing auction price period 'A' - Auction: Order entry phase 'a' - Auction: Trade conclusion phase 'b' - Auction: Bookbuilding phase, orders are locked	
=> 276	QuoteCondition	N	MultipleValueString	'C' (Exchange Best)	The list of conditions that characterize the quote, the conditions are separated by spaces.
=> 277	TradeCondition	N	MultipleValueString	'C' (Cash Trade (same day clearing)); 'J' (Next Day Trade (next day clearing)); 'R' (Opening Price); 'AJ' (Official Closing Price); '98' (Minimum value); '99' (Maximum value).	Terms that characterize a deal or market data that are calculated on the basis of a deal, the terms are separated by spaces.
=> 286	OpenCloseSettlFlag	N	MultipleValueString	'4' (Entry from previous business day)	Flag that identifies a market data entry.
=> 40	OrdType	N	Char	'1' (Market)	Order type. Used when MDEntryType (269) = 'f', 'g' Note: Market in Closing Auction orders are activated and published in Order List feed in Closing Auction period. Matching occurs at the end of closing auction.
=> 236	Yield	N	Percentage		Yield, calculated at the price MDEntryPx (270).

	Field		Type	Valid values	Comments
=> 64	SettlDate	N*	LocalMktDate		Specific date of trade settlement (SettlementDate) in YYYYMMDD format Notes: For trades – settlement date; For REPO trades – settlement date of the first part of REPO.
=> 44	Price	N	Price		REPO rate for REPO trades.
=> 423	PriceType	N	int	'1' percentage	Indicates price type (REPO rate in percentage) for REPO trades.
=> 5154	CXFlag	N	Boolean	'Y' (Yes); 'N' (No).	Prevention of uncovered trading for security (269='e')
=> 5292	BidMarketSize	N	Int		Total volume of market buy orders calculated for currently expected auction price, expressed in number of securities. Used in closing auctions
=> 5293	AskMarketSize	N	Int		Total volume of market sell orders, expressed in number of securities used in closing auctions.
=> 5384	AccruedInterestAmt	N	Amt		Amount of accrued interest.
=> 5459	SettlType	N	Char		MOEX settlement code for trades (269=z)
=> 5510	ChgFromWAPrice	N	PriceOffset		Indicates the change from previous day's weighted average price vs. last traded price.
=> 5558	BuyBackPx	N	Price		For REPO deals - REPO deal value (269=z)
=> 5559	BuyBackDate	N	LocalMktDate		For REPO deals - the date of the second part of REPO (269=z)
=> 5677	Repo2Px	N	Price		Value of the 2nd REPO leg (269=z).

	Field		Type	Valid values	Comments
=> 5791	TotalVolume	N	Amt		Total volume of cash. Used when MEntryType (269)= 'f', 'g' Markets in the auction for opening / closing buy orders indicate the amount of money as the volume. Orders of another type contain the number of lots of the instrument being traded.
=> 5902	EffectiveTime	N	UTSTimestamp		Order activation time. Orders and price levels in quotes for which activation has not occurred do not participate in trading.
=> 9820	StartTime	N	UTSTimestamp		Auction start time. Used for Dark pool and Discrete auctions
=> 6139	TotalNumOfTrades	N	int		Total number of deals concluded during the day.
=> 6143	TradeValue	N	Amt		Trade Value.
=> 7017	VolumIndicator	N	char	'0' (No orders) '1' (Total orders value is less than N*) '2' (Total orders value is greater than N*) '3' (Order exists)	Volume indicator of Dark Pool auction active orders. Used when MEntryType(269)= 'v' or 'w'. N (variable)*- as determined by the Exchange
=> 9168	OfferNbOr	N	int		Number of sell orders in the queue.
=> 9169	BidNbOr	N	int		Number of buy orders in the queue.
=> 9412	OrigTime	N	int		Indicates the time of recording a transaction in the trading system in microseconds (relative to the time in whole seconds specified in field 273). Should be added to tag's 273 value to get microsecond precision timestamp. The field is

	Field		Type	Valid values	Comments
					available in Orders and trades channels.
=> 10504	OrderSide	N	char		Side of aggressive order in TLR feed.
=> 1080	RefOrderID	N	char		In TLR feed: MDentryID of OLR order entry for an order being hit or taken.
=> 10505	OrderStatus	N	char	'O' (Active); 'T' (Order activation time hasn't come yet).	Describes the current state of order. Orders in T status are not active and not used in matching.
=> 10509	MinCurrPx	N	Price		The minimum of two prices: the official current price and the price of the last transaction that entered into the calculation of the official current price. Used to define the conditions for prohibiting short selling.
=> 10510	MinCurrPxChgTime	N	UTCTimeOnly		Time when minimum current price was changed.

6.15. Market Data - Incremental Refresh (X)

Table 16

	Field		Type	Valid values	Comments
	<Standard Message Header>	O			MsgType = 'X'
779	LastUpdateTime	H	ulInt64		For MSR channel the meaning of the field is a timestamp of the last processed transaction in the trading system, for which an update is generated as a change from the previous state. While comparing data from MSR, OLR, TLR incremental updates you

	Field		Type	Valid values	Comments
					<p>can now detect, which update contains most recent data by comparing tag 779 value of MSR channel to timestamps from tags 273 and 9412 in OLR and TLR channels.</p> <p>Field format is yyMMDDHHmmSSuuuuuu with fixed length of 18 digits, where yy – last pair of digits in the year number (17 for year 2017), MM – month number, DD – day number, HH – hour number, mm – number of minutes, SS – number of seconds, uuuuuu – fraction of a second rounded to microseconds. Each part of formatting template has fixed length. Zeroes are added where necessary.</p>
268	NoMDEntries	Y	NumInGroup		Number of entries in Market Data message.
=> 279	MDUpdateAction	Y	uInt	'0' (New); '1' (Change); '2' (Delete).	Type of Market Data update action.
=> 269	MDEntryType	Y	char	'0' (Bid); '1' (Offer); '2' (Last Trade in Market statistics feed); '3' (Index Value); '4' (Opening Price); '5' (Closing Price); '7' (Trading Session High Price); '8' (Trading Session Low Price); '9' (Trading Session VWAP Price); 'A' (Imbalance) 'B' (Trade Volume); 'J' (Empty book);	<p>Type Market Data entry.</p> <p>Notes: The availability of different types of data is determined by the Trading Rules and depends on the trading mode and the market.</p> <p>Different broadcast channels have subsets of datatype values from this list.</p> <p>Empty Book (269=J) indicates no data for a security. Empty Book message may be generated market-wide, which indicates that you should remove all previously collected data and start over.</p>

Field		Type	Valid values	Comments
			'N' (Session high bid); 'O' (Session low offer); 'Q' (Auction Clearing Price); 'W' (Opening/Closing auction price); 'c' (Opening/Closing auction volume); 'e' (prevention of uncovered trading for security) 'f' (market in opening auction period/closing auction buy order); 'g' (market in opening auction period/closing auction sell order); 'i' (Lastbid price); 'j' (Last offer price); 'h' (Open period price); 'k' (Close period price); 'l' (Market price 2); on FX market – FX fixing price as calculated between 11:59 and 12:00 Moscow time. 'm' (Market price); on FX market – FX fixing price 'o' (Official open price); 'p' (Official current price); 'q' (admitted quote); On FX market: international FX fixing price 'r' (Official close price); 'v' (Total bid volume); 'w' (Total offer volume); 's' (Dark pool Auction price) 'x' (Dark Pool Auction volume), 'y' (Accrued interest amount per the unit of security at current date, expressed in rubles) 'u' (Duration);	Meaning of some values depend on market type (FX or Equities). Negotiated trading modes do not contain data on active orders The set of values for this field can be expanded when the trading system is updated. It is recommended to develop your code so that unknown values of this field and other fields bound to them are ignored in the code until it is adapted to new data types. Indexes are published in Market statistics (MSR and MSS) channels. Previous trading day values are indicated by additional tag 286

	Field		Type	Valid values	Comments
				'z' (Trades list).	
=> 278	MDEntryID	N	String		<p>Unique Market Data Entry identifier.</p> <p>Notes:</p> <p>For trades (269=z) entries, contains a string with Exchange trade number.</p> <p>For OrderList (OLR, OLS channels), contains a string identifier, NOT directly tied to the Exchange Order number.</p> <p>For regular orders, the MDEntryID counter will increase by 1 for each registered order.</p> <p>MDEntryID value for new Orders will be growing for a number up.</p>
=> 55	Symbol	Y	String		<p>Ticker symbol. The KASE internal instrument identifier, SECCode.</p> <p>Note: an instrument with a given SecCode may be traded in several trading boards (SecBoard). You should use each Symbol (55)+TradingSessionID (336) combination as an individual security with its own order book and list of trades.</p>
=> 83	RptSeq	Y	int		<p>Sequence number of a message within report series.</p> <p>Incremented by one for each update entry and for</p>

	Field		Type	Valid values	Comments
					security status updates.
=> 270	MDEntryPx	C	Price		<p>Market data item price (the price corresponds to the specified market data type and refers to the current MDEntry).</p> <p>The field is conditionally required when MDUpdateAction (279) = New (0) and MDEntryType (269) is not one of ('A', 'B', 'J').</p>
=> 271	MDEntrySize	C	Qty		<p>The number or volume of the market data item (corresponds to the specified market data type and refers to the current MDEntry).</p> <p>Conditionally required when MDUpdateAction (279) = New (0) and MDEntryType (269) is one of ('0', '1', '2', 'A', 'B', 'Q', 'f', 'g').</p> <p>Note: for 269 = 'A', 'B' this field is expressed in the number of units of the financial instrument. For other types of data, this field is expressed in the number of lots.</p>
=> 272	MDEntryDate	N	UTCDateOnly		Date of Market Data Entry.
=> 273	MDEntryTime	N	UTCTimeOnly		Time of Market Data Entry.
=> 336	TradingSessionID	N	String		<p>Identifier for Trading Session. Used to represent SECBOARD.</p> <p>Note: an instrument with a given SecCode may be traded in several trading boards (SecBoard). You should use each Symbol (55)+TradingSessionID (336) combination as an individual security with its own order book and list of trades.</p>

	Field		Type	Valid values	Comments
=> 625	TradingSessionSub ID	N	String	'NA – No trading 'O – Opening period 'S - Opening auction period 'C – Closing period 'N – Normal trading period 'L – Closing auction period 'I' – Discrete auction period 'D' – Dark pool auction period 'E' – Trading at the closing auction price period 'A' - Auction: Order entry phase 'a' - Auction: Trade conclusion phase 'b' - Auction: Bookbuilding phase, orders are locked	Indicates the trading period Note: the value of the trading period is empty before the start of the trading and after the close of the trading. For incremental updates and snapshots, the trading period indicates the period in which the event occurred for this item, not the current trading period.
=> 276	QuoteCondition	N	MultipleValueString	'C' (Exchange Best)	The list of conditions that characterize the quote, the conditions are separated by spaces..
=> 277	TradeCondition	N	MultipleValueString	'C' (Cash Trade (same day clearing)); 'J' (Next Day Trade (next day clearing)); 'R' (Opening Price); 'AJ' (Official Closing Price); '98' (Minimum value); '99' (Maximum value).	Terms that characterize a deal or market data that are calculated on the basis of a deal, the terms are separated by spaces.

	Field		Type	Valid values	Comments
=> 286	OpenCloseSettlFlag	N	MultipleValueString	'4' (Entry from previous business day)	Flag that identifies a market data entry.
=> 40	OrdType	N	Char	'1' (Market)	Order type. Used when MDEntryType (269) = 'f', 'g' Note: Market in Closing Auction orders are activated and published in Order List feed in Closing Auction period. Matching occurs at the end of closing auction. Out of auction periods, market orders are not published in the feed because they never stay active.
=> 451	NetChgPrevDay	N	PriceOffset		Change in the price of the last deal in relation to the price of the last deal of the previous trading day
=> 236	Yield	N	Percentage		Profitability calculated using the MDEntryPx price (270).
=> 64	SettlDate	N*	LocalMktDate		Specific date of trade settlement (SettlementDate) in YYYYMMDD format Notes: For trades – settlement date of regular trade or negotiated deal. For REPO trades – settlement date of first part of REPO.
=> 44	Price	N	Price		REPO rate for REPO trades
=> 423	PriceType	N	int	'1' repo rate percentage	Indicates price type (REPO rate in percentage) for REPO deals.
=> 5292	BidMarketSize	N	Int		Total volume of market buy orders calculated for currently expected auction price, expressed in number of securities.Used in closing auctions

	Field		Type	Valid values	Comments
=>5154	CXFlag	N	Boolean	'Y' (Yes); 'N' (No).	Prevention of uncovered trading for security (269='e')
=> 5293	AskMarketSize	N	Int		Total volume of market sell orders, expressed in number of securities used in closing auctions
=> 5384	AccruedInterestAmt	N	Amt		Amount of accrued interest.
=> 5459	SettlType	N	Char		Settlement code for trades (269=z)
=> 5510	ChgFromWAPrice	N	PriceOffset		Indicates the change from previous day's weighted average price vs. last traded price.
=> 5558	BuyBackPx	N	Price		For REPO deals - REPO value (269=z)
=> 5559	BuyBackDate	N	LocalMktDate		For REPO deals - the date of the second part of REPO (269=z).
=> 5677	Repo2Px	N	Price		Value of the 2nd (buy-back) REPO leg (269=z).
=> 5791	TotalVolume	N	Amt		Used when MDEntryType (269)= 'f', 'g' Market in auction buy orders have money volume instead of lot quantity. Other orders use lot quantities.
=> 5902	EffectiveTime	N	UTSTimestamp		Order activation time. Orders and price levels in quotes for which activation has not occurred do not participate in trading.
=> 6139	TotalNumOfTrades	N	int		The total number of deals concluded during the trading day.
=> 6143	TradeValue	N	Amt		Volume of deals executed.

	Field		Type	Valid values	Comments
=> 7017	VolumeIndicator	N	char	'0' (No orders) '1' (Less than N* minimum order value) '2' (Greater than N* minimum order value) '3' (Order exists)	Volume indicator of Dark Pool auction active orders. Used when MDEntryType(269)= 'v' or 'w'. N (variable)*- the large order volume factor as determined by the Exchange.
=> 9168	OfferNbOr	N	int		Number of sell orders in queue.
=> 9169	BidNbOr	N	int		Number of buy orders in queue.
=> 9412	OrigTime	N	int		Indicates the microseconds portion of the transaction's registration time at the Matching engine. Should be added to tag's 273 value to get microsecond precision timestamp. The field is available in Orders and Trades channels.
=> 9820	StartTime	N	UTSTimestamp		Auction start time. Used for Dark pool and Discrete auctions
=> 10504	OrderSide	N	char		Side of aggressive order in the deal.
=> 1080	RefOrderID	N	char		In TLR and TLS feeds: MDEntryID of the passive order of this transaction in the OLR feed.
=> 10505	OrderStatus	N	char	'O' (Active); 'T' (Order activation time hasn't come yet).	Describes the current state of order. Orders in T status are not active and not used in matching.
=>10509	MinCurrPx	N	Price		The minimum of two prices: the official current price and the price of the last deal included in the calculation of the official current price. Used to define the conditions for prohibiting short selling.
=>10510	MinCurrPxChgTime	N	UTCTimeOnly		Time when minimum current price was changed.

Appendix 2

to the Regulations on terms of commercial dissemination of market data

TECHNICAL SPECIFICATION

of information on trading results

1. Product reference book

Product code	KASE_EOD_24
Periodicity	Once a day after the close of trading
Historical	No
Format	CSV, XLS

2. Information about the results of trading is provided in the form of information slices

The format of market data slices is shown below.

2.1. Equity instruments market

Field No.	Name	Description
1.	Date	Date
2.	Timestamp	Timestamp
3.	Sector	Sector (1 – regular trading, 2 – special trading)
4.	Symbol	Code of instrument/indicator
5.	ISIN	International security identification number
6.	ISIN	International security identification number ⁶
7.	<i>(This line was excluded by a decision of the Exchange's Management Board of November 19, 2019)</i>	
8.	Inst_Type	Instrument type (ES – common share, EP – preferred share, EC – convertible share, EU – unit, EM – other)
9.	Issuer_rus	Issuer's name in Russian
10.	Issuer_eng	Issuer's name in English
11.	Currency	Quotation currency
12.	Best_Bid	Best bid price at the time of cut
13.	Best_Ask	Best ask price at the time of cut
14.	Open	First deal's price
15.	Low	Minimum price in period
16.	High	Maximum price in period
17.	Close	Price of last dela in period

⁶ This field is not empty, when a security has two ISIN.

Field No.	Name	Description
18.	Time_Close	Time of the last deal
19.	WA	Weighted average price for the period
20.	Trades	Number of deals for the period
21.	Turn_Volume	Trading volume in the number of instruments for the period
22.	Turn_Value_KZT	Trading volume for the period, tenge
23.	Turn_Value_USD	Trading volume for the period, USD

2.2. Debt securities market

Field No.	Name	Description
1.	Date	Date
2.	Timestamp	Timestamp
3.	Sector	Sector (1 – regular trading, 2 – special trading)
4.	Symbol	Code of instrument/indicator
5.	ISIN	International security identification number
6.	ISIN	International security identification number ⁶
7.	<i>(This line was excluded by a decision of the Exchange's Management Board of November 19, 2019)</i>	
8.	Sec_Type	Security type (1 – security, 2 – corporate, 3 – other)
9.	Face_Value	Minimum amount of debt in nominal terms available for concluding a deal on KASE
10.	Issuer_rus	Issuer's name in Russian
11.	Issuer_eng	Issuer name in English
12.	Currency	Quotation currency
13.	P_type	Price type (subject of quotation) (CP – "clean" price in % of the nominal, DP – "dirty" price in % of the nominal, P – "dirty" price in the quotation currency)
14.	Best_Bid	Best bid price at the time of cut
15.	Yield_at_B_Bid	Yield at the best bid price, % per annum
16.	Best_Ask	Best ask price at the time of cut
17.	Yield_at_B_Ask	Yield at the best offer price, % per annum
18.	Open	First deal price
19.	Yield_at_Open	Yield on the first deal, % per annum
20.	Low	Minimum price for the period
21.	Yield_at_Low	Yield at the minimum price, % per annum
22.	High	Maximum price for the period
23.	Yield_at_High	Yield at the maximum price, % per annum
24.	Close	Last deal price for the period

Field No.	Name	Description
25.	Yield_at_Close	Yield at the price of the last deal, % per annum
26.	Time_Close	Time of the last deal
27.	WA	Weighted average price for the period
28.	Yield_at_WA	Yield at weighted average price,% per annum
29.	Trades	Number of deals for the period
30.	Turn_Volume	Trading volume in nominal expression of debt
31.	Turn_Value_KZT	Trading volume, tenge
32.	Turn_Value_USD	Trading volume, USD
33.	DTM	Days to maturity
34.	Maturity	Maturity date

2.3. Foreign currency market

Field No.	Name	Description
1.	Date	Date
2.	Timestamp	Timestamp
3.	Sector	Sector (SP – spot market, SW – currency swap market)
4.	Symbol	Instrument / indicator code
5.	Session	Session (0 – morning, 1 – afternoon, 2 – evening)
6.	Best_Bid	Best bid price at the time of cut
7.	Best_Ask	Best ask price at the time of cut
8.	Open	First deal price
9.	Low	Minimum price for the period
10.	High	Maximum price for the period
11.	Close	Last deal price for the period
12.	Time_Close	Time of the last deal
13.	WA	Weighted average price for the period
14.	Trades	Number of deals for the period
15.	Turn_Volume	Volume of purchased (sold) currency
16.	Turn_Value_KZT	Trading volume for the period, tenge
17.	Turn_Value_USD	Trading volume for the period, USD

2.4. Repo transactions market

Field No.	Name	Description
1.	Date	Date
2.	Timestamp	Timestamp
3.	Symbol	Instrument (repo) / indicator code
4.	Open	Repo rate on the first deal
5.	Low	Minimum repo rate for the period
6.	High	Maximum repo rate for the period
7.	Close	Repo rate on the last deal for the period
8.	Time_Close	Time of the last deal
9.	WA	Weighted average repo rate for the period
10.	Trades	Number of deals for the period
11.	Turn_Volume	Trading volume in the number of instruments for the period
12.	Turn_Value_KZT	Trading volume for the period, tenge
13.	Turn_Value_USD	Trading volume for the period, USD
14.	Inst_Type	Repo item type (ES – common share, EP – preferred share, DB – bond)

The data file on the repo transactions market contains only data on opening deals of repo transactions concluded during the specified period.

2.5. Derivative financial instruments market

Field No.	Name	Description
1.	Date	Date
2.	Timestamp	Cut time
3.	Cont_Type	Type of contract (FFC - financial currency futures, FFI - financial index futures, FFS - financial equity futures) <i>(this box has been changed by a decision of the Exchange Board of Management dated July 16, 2021)</i>
4.	Symbol	Instrument (contract) code
5.	Exp_Date	Contract execution date
6.	Cont_Size	Contract size
7.	Settle_Price	Settlement price
8.	Cont_Value	Contract value
9.	Best_Bid	Best bid price at the time of cut
10.	Best_Ask	Best ask price at the time of cut
11.	Open	First deal price
12.	Low	Maximum price for the period
13.	High	Minimum price for the period
14.	Close	Last deal price for the period

Field No.	Name	Description
15.	Time_Close	Time of the last deal
16.	WA	Weighted average price for the period
17.	Trades	Number of deals for the period
18.	Turn_Volume	Trading volume in the number of contracts for the period
19.	Turn_Value_KZT	Trading volume for the period, tenge
20.	Turn_Value_USD	Trading volume for the period, USD
21.	Op_Int_Volume	Volume of open positions, contracts
22.	Op_Int_Value_KZT	Volume of open positions, tenge

Appendix 3

to the Regulations on terms of commercial dissemination of market data

TECHNICAL SPECIFICATION of archive market data

1. Product reference book

Product code	KASE_HIST
Periodicity	Upon request
Historical	Yes
Format	CSV, XLS

2. Format of archive market data

The format of the archive market data provided in the form of information slices based on the trading results corresponds to the format of the information on the trading results (Appendix 2). The format of archive information provided in the form of a register of orders and a register of deals is given below.

2.1. Order register

Field No.	Name	Description
1.	Date	Date
2.	Time	Application time
3.	Inst_Type	Instrument type (E – equity instrument, D – debt instrument, DY – money market instrument (repo ⁷), F – derivatives, IS – Islamic securities, FX – foreign exchange (spot), SW – currency swap ⁵)
4.	Sec_Type	Type of security (where applicable, 1 – government, 2 – corporate, 3 – other)
5.	Issuer_rus	Issuer's name in Russian (where applicable)
6.	Issuer_eng	Issuer name in English (where applicable)
7.	Symbol	Instrument code
8.	ISIN	International security identification code (where applicable)
9.	ISIN	International security identification code (where applicable) ⁶
10.	<i>(This line was excluded by a decision of the Exchange's Management Board of November 19, 2019)</i>	
11.	Buy/Sell	Order direction (Buy – buy, Sell – sell) ⁸
12.	Ord_Type	Order type (T – market, N – negotiable)

⁷ Only opening deals are accounted for.

⁸ For the repo transactions market, the "buy" direction means the participant's intention to buy the subject of the repo transaction, "sale" – the participant's intention to sell the subject of the repo transaction.

Field No.	Name	Description
13.	Ord_Type_2	Order type (L – limit, M – market)
14.	Currency	Quote currency
15.	Market_Sector	Sector (1 – regular trades, 2 – special trading)
16.	P_type	Price type (subject of quotation) (CP – "clean" price in % of par, DP – "dirty" price in% of par, P – "dirty" price in the quotation currency, Y – yield in % per annum)
17.	Exp_Date	Contract settlement date (for derivatives)
18.	Settle_Price	Settlement price (for derivatives)
19.	Price	Price
20.	Yield	Yield to maturity for a buyer at the declared price (for bonds)
21.	Volume	Order volume in instrument quantity
22.	Value_KZT	Order volume, tenge
23.	Value_USD	Application volume, USD
24.	DTM	Days to maturity (for bonds)

2.2. Deals register

Field No.	Name	Description
1.	Date	Date
2.	Time	Deal time
3.	Inst_Type	Instrument type (E – equity instrument, D – debt instrument, DY – money market instrument (repo ⁷), F – derivative securities, IS – Islamic securities, FX – foreign exchange (spot market), SW – currency swap operation*)
4.	Sec_Type	Type of security (where applicable, 1 – government, 2 – corporate, 3 – other)
5.	Issuer_rus	Issuer's name in Russian (where applicable)
6.	Issuer_eng	Issuer name in English (where applicable)
7.	Symbol	Instrument code
8.	ISIN	International security identification code (where applicable)
9.	ISIN	International security identification code (where applicable) ⁶
10.	<i>(This line was excluded by a decision of the Exchange's Management Board of November 19, 2019)</i>	
11.	T_Type	Deal type (T – market, N – negotiable)
12.	Currency	Quotation currency
13.	Market_Sector	Sector (1 – regular trades, 2 – special trading)
14.	P_type	Price type (subject of quotation) (CP – "clean" price in % of par, DP – "dirty" price in% of par, P – "dirty" price in the quotation currency, Y – yield in % per annum)
15.	Exp_Date	Contract settlement date (for derivatives)

Field No.	Name	Description
16.	Settle_Date	Settlement date
17.	Settle_Price	Settlement price (for derivatives)
18.	Price	Price
19.	Yield	Deal's yield to maturity for buyer (for bonds)
20.	Volume	Deal volume in the number of instruments
21.	Value_KZT	Deal volume, tenge
22.	Value_USD	Deal volume, USD
23.	DTM	Days to maturity (for bonds)

Appendix 4

to the Regulations on terms of commercial dissemination of market data

TECHNICAL SPECIFICATION of the product Web-Quotes in real time mode

1. Product's reference book

Product code	KASE_WEB_QUOTES
Periodicity	Continuous stream
Historical	No

2. Format of information provided as a product Web-Quotes in real time

Field No.	Name	Description
1.	Symbol	Instrument code
2.	Sts	Trading status (Opn – open, Cls – closed, Frt – frankfurt, Pre – pre-trading session)
3.	V Bid	The volume of orders in tenge at the best bid price
4.	Q Bid	The number of instruments at the best bid price
5.	Bid	Best Bid Price
6.	Sprd	The difference between the best ask price and the best bid price
7.	Sprd %	The difference between the best ask price and the best bid price in%
8.	Ask	Best ask price
9.	Q Ask	Number of instruments at the best ask price
10.	V Ask	The volume of applications in tenge at the best offer price
11.	Open	Opening price – the price of the first deal
12.	Min	Minimum deal price
13.	Max	Maximum deal price
14.	Last (Close)	Last trade price (close, if trades are closed)
15.	Q Last	Last deal volume in instrument units
16.	V Last	Last deal volume in tenge
17.	Prev Close	Last price of previous trades
18.	Net Chg	Changing the last price to the last price of the previous day
19.	Net Chg %	Change of the last price to the last price of the previous day%
20.	Chg	Changing the price of the last deal to the price of the previous deal
21.	Chg%	Change in the price of the last deal to the price of the previous deal in %
22.	L/O	Change in the price of the last deal to the opening price (except for the

Field No.	Name	Description
		foreign currency market)
23.	L/O %	Change in the price of the last deal to the opening price in% (except for the foreign currency market)
24.	L/PA	Change in the price of the last trade to the weighted average price of the previous trades (only for the foreign currency market)
25.	L/PA %	Change in the price of the last transaction to the weighted average price of the previous trading in % (only for the foreign currency market)
26.	Aver	Weighted average price
27.	Prev Aver	Weighted average price of previous trades
28.	Aver Chg	Change in the weighted average price to the weighted average price of the previous trades
29.	Aver Chg %	Change in the weighted average price to the weighted average price of previous trades in %
30.	Deals	Number of concluded deals
31.	Q	Volume of concluded deals in instrument units
32.	V	Volume of concluded deals in tenge
33.	V \$	Volume of concluded deals, denominated in US dollars
34.	Dlrs	Number of participants who concluded deals
35.	DTM	Days to maturity
36.	Cpn	Bond coupon rate
37.	CD	Next coupon payment date
38.	MD	Maturity date
39.	Time	Last update time
40.	Date	Date of last update

(only for debt securities, government securities and IFI bonds markets)

Appendix 5

to the Regulations on terms of commercial dissemination of market data

TECHNICAL SPECIFICATION

for reference information

1. Product reference book

Product code	KASE_REF
Periodicity	Upon request / regular provision of information or access to it
Historical	No
Format	XML

2. Contents of reference information

2.1. Information about securities issuers

Name	Description
General information	Name, types of activities and other information
Securities and shareholders	Information about the issuer's securities and its shareholders
Financial indicators	Main indicators of financial and economic activity
Documentation	Issuer's documents (investment memoranda, securities issue prospectuses, reports, documents)

2.2. Information about financial instruments

Name	Description
general information	Type, identification signs and other information
Characteristics	Characteristics of financial instruments
Main characteristics	Financial instrument properties
trading characteristics	Technical information related to trading a financial instrument
Other	Information about payment agents, financial advisers, market-makers and other information

Appendix 6

to the Regulations on terms of commercial dissemination of market data

TECHNICAL SPECIFICATION

for information provided to members of the Exchange

1. Product's reference book

Product code	KASE_MEMB
Periodicity	Upon request
Historical	Yes
Format	XLS

2. Contents

2.1. Orders

Field No.	Name	Description
1.	SNS	Request number
2.	Date and time	Date and time of order
3.	Instrument	Instrument code
4.	ISIN	International instrument identification code
<i>(This line was changed by a decision of the Exchange's Management Board of November 19, 2019)</i>		
5.	Direction	Order direction (Buy – purchase of a financial instrument, Sell - sale of a financial instrument) ⁹
6.	Type	Order type (Limit – limit order, Repo order – an order submitted to conclude a deal under a repo transaction, Direct – direct order, Trade – trade (market) order)
7.	Status	Order status (Executed – executed order, Not executed – unexecuted order, Partially executed – partially executed order)
8.	Price	Price indicated in the submitted order
9.	Quantity	Order volume in instrument quantity
10.	Volume	Order volume in tenge
11.	Yield	Yield to maturity at declared price (for bonds)
12.	Trading account	Trading account number
13.	Market-maker	Mark of a market maker (0 – an order submitted by a member of the Exchange that is not a market-maker, 1 – an order submitted by a member of the Exchange that is a market-maker)

⁹ For repo transactions, the "buy" direction means the participant's intention to buy the subject of the repo transaction, "sale" – the participant's intention to sell the subject of the repo transaction.

Field No.	Name	Description
14.	Organization	Name of the company – member of the Exchange
15.	Trader	Trader who submitted an order on behalf of a company – a member of the Exchange
16.	Removal time	Time of order deletion
17.	Expiration date	Order expiration date

2.2. Deals

Field No.	Name	Description
1.	DSN	Deal No.
2.	Deal date	Date of the deal
3.	Instrument	Instrument code
4.	ISIN	International Security Identification Number
<i>(This line was changed by a decision of the Exchange's Management Board dated November 19, 2019)</i>		
5.	Deal type	Deal type (Deal – a deal made by the open trade method, Nego – a direct (nego) deal, RepoOpen - a repo transaction opening deal, RepoClose – a repo transaction closing deal)
6.	Price	Deal price
7.	Quantity	Trade volume in the number of instruments
8.	Volume	Deal volume in tenge
9.	Yield	Yield to maturity (for bonds)
10.	Trade code	Trading account number
11.	Buyer / Seller	The name of the company – a member of the Exchange, who entered into a deal as a buyer or seller
12.	Settlement date	Settlement date for the deal
13.	Frankfurt sign	Sign of the trades in which the deal was concluded (0 – a deal concluded at the trades conducted by the continuous counter auction method, 1 – a deal concluded at the trades conducted by the Frankfurt trading method)

Appendix 7

to the Regulations on terms of commercial dissemination of market data

(This appendix was included by a decision of the Exchange's Management Board of May 31, 2018)

TECHNICAL SPECIFICATION

for information product "Corporate events"

1. Product's reference book

Product code	KASE_CA_DD.MM.YYYY
Periodicity	Once a day, after the close of the trading day
Historical	No
Format	CSV, XLS

2. The specification of the information product "Corporate Events" is given below.

Field No.	Name	Description	Permissible value	Format	Comments
-	Date	Date of formation of the corporate events file	Numerical designation		
1.	Issuer	Official name of the issuer	Letter designation	Text	
1.1.	Issuer code	Official name of the issuer	Letter designation	Text	In accordance with the Instruction on the coding procedure for members of Kazakhstan Stock Exchange JSC and their accounts, financial instruments and issuers of securities.

(This line was included by a decision of the Exchange's Management Board of November 19, 2019)

2.	Paper code	Security code	Alphanumeric designation	up to 12 symbols	In accordance with the Instruction on the coding procedure for members of Kazakhstan
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Field No.	Name	Description	Permissible value	Format	Comments
					Stock Exchange JSC and their accounts, financial instruments and issuers of securities.
3.	CFI	International CFI code	Letter designation	6 symbols	Assignment of the CFI classification code is carried out in accordance with the rules defined by the international standard ISO 10962.
4.	ISIN	International security identification code ISIN	Alphanumeric designation	12 symbols	Specified in accordance with ISO 6166. If it is absent, the ISIN is indicated, corresponding to the rules of Reg S or 144A..
5.	<i>(This line was removed by a decision of the Exchange's Management Board of November 19, 2019)</i>				
6.	Corporate event	Corporate event	<ul style="list-style-type: none"> 1. Meeting of shareholders; 2. Coupon payment; 3. Payment of dividends; 4. Repayment; 5. Redemption; 6. Offering; 7. Additional offering; 8. Split (reverse) of shares; 9. IPO; 10. Listing; 11. Delisting; 12. Changes to the terms of 	Text up to 30 symbols	

Field No.	Name	Description	Permissible value	Format	Comments
			issue; 13. Change in par value; 14. Change of name; 15. Rating change; 16. Default; 17. Reorganization; 18. Financial reporting; 19. Change in the composition of shareholders		
7.	Value	Actual (new) value	Numerical values	XXXX,XX* XXXX,XX-XXXX,XX X:X** DD.MM.YYYY	* this and subsequent values of "x" are not limited to the number of characters specified in the specification; ** Proportional ratio is used in the designation of a split, where the first value denotes the original number of shares before the (reverse) split, the second value denotes the number of shares after the (reverse) split.
8.	Unit of measure of value	Unit of measure of data in the "Value" field	1.currency code; 2.%; 3. other; 4. date.	up to 10 symbols	Currency codes for price values according to ISO 4217.
9.	Event status	Current status of corporate event	1. Upcoming; 2. Deferred; 3. Took place; 4. Cancelled.	text up to 11 symbols	As of the date of generation of the corporate events file.

Field No.	Name	Description	Permissible value	Format	Comments
10.	Date 1	Value of date 1 of corporate event	Numerical value	DD.MM.YYYY	
11.	Description of date 1	Description of date in field "Date 1"	1. Date (of the beginning) of the event; 2. Announced date.	Text up to 21 symbols	1. "Date (of the beginning) of the event" is used for the following corporate events: <ul style="list-style-type: none"> - Meeting of shareholders; - Coupon payment; - Payment of dividends; - Redemption of bonds; - Redemption of shares; - Placement of bonds; - Additional placement of shares; - Split (reverse) of shares; - IPO; - Listing; - Delisting; - Changes to the terms of issue; - Change in par value; - Rating change; - Change of name; - Default - Financial statements - Change in the composition of shareholders. 2. "Announced Date" is used for the following

Field No.	Name	Description	Permissible value	Format	Comments
					corporate events: -Reorganization
12.	Date 2	Value of date 2 of corporate event	Numerical value	DD.MM.YYYY	
13.	Description of date 2	Description of date in field "Date 2"	1. Record date; 2. Event end date.	Text 22 symbols	1. "Record Date" is used for the following corporate events: - Coupon payment; - Payment of dividends; 2. "Event end date" is used for the following corporate events: - Redemption of shares; - Default; - Reorganization.
14.	Date 3	Value of date 3 of corporate event	Numerical value	DD.MM.YYYY	
15.	Description of date 3	Description of date in field "Date 3"	Beginning of the accounting period	Text 23 symbols	Used for the following corporate events: - Payment of dividends; - Coupon payment.
17.	Date 4	Value of date 4 of corporate event	Numerical value	DD.MM.YYYY	
18.	Description of date 4	Description of date in field "Date 4"	End of accounting period	Text 22 symbols	Used for the following corporate events: - Payment of dividends; - Coupon payment.
19.	Market	Market to which the security refers	1. Shares; 2. Bonds;	Text 10 symbols	In accordance with the code specified in the "Paper Code"

Field No.	Name	Description	Permissible value	Format	Comments
			3. Derivatives; 4. Units; 5. ETF.		field.
20.	Note	Contes to corporate events	1. Lack of quorum; 2. Announced volume; 3. Interest rate; 4. Maturity date; 5. On payment of interest; 6. On the principal debt; 7. Name of the member of the Exchange or issuer; 7. Text ***	Text	***any possible text value.