

KRX HANDBOOK

A. Introduction to the KRX System

The KRX Trading System is a new Information Technology (IT) platform developed to manage all securities trading and settlement activities in Vietnam. The KRX system has been transferred from the Korea Exchange (KRX) to the Ho Chi Minh Stock Exchange (HOSE) with the goal of comprehensively upgrading the technological infrastructure of the stock market.

The KRX system is designed as a backbone, encompassing all trading activities, market information, registration, depository, clearing and settlement, surveillance, and risk management functions of the stock market. What makes this system particularly special is that it does not only merely replace the current technology but also integrates with the functions of the stock exchanges and the Vietnam Securities Depository and Clearing Corporation (VSDC), creating a unified and seamless platform.

With its ability to integrate multiple markets (equities, bonds, derivatives) into a single platform and offering flexible connectivity between market participants, the KRX system also introduces modern market surveillance functions. This opens up opportunities for the development of new product types and services such as day trading (T+0), shortened settlement cycles, warrant trading, short selling, and many other innovative financial products.

This is not only a technological project but also a strategic catalyst that can reshape the market structure, create new space for financial products, transform trading methods, enhance the participation of foreign institutional investors, and especially help in realizing the goal of upgrading Vietnam stock market from a frontier market to an emerging market.

B. Changes in Trading Regulations

1. Changes in Periodic Order Matching Session/Periodic Call Auction

1a. Price Table in the Periodic Order Matching Session/PCA

OLD SYSTEM

- Display the 3 best bid, best ask prices along with the corresponding volumes.
- ATO, ATC orders are displayed as “ATO” and “ATC”, respectively.



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- Display the estimated best bid/ask volume and price **after matching**
- ATO/ATC orders display determined prices like LO orders.

1b. Priority of ATO/ATC Orders

OLD SYSTEM

ATO/ATC orders are prioritized for matching before the LO to buy at the ceiling price and sell at the floor price that are entered beforehand.



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- ATO/ATC orders are not prioritized for matching before the LO to buy at the ceiling price and sell at the floor price, that are entered beforehand. The priority order is time-based
- ATO/ATC orders are still prioritized before LO at the remaining prices.

1c. How to Determine the price of ATO/ATC Order

Price Determination Principle

If one side of the order book has only ATO/ATC orders: The price of the ATO order is the reference price, while the price of the ATC order is the last executed price or the reference price (hereinafter referred to as LEP - Last Executed Price).

If both sides of the order book only have ATO/ATC orders:

- If Bid Volume = Ask Volume → Price of ATO/ATC orders = LEP
- If Bid Volume > Ask Volume → Price of ATO/ATC orders = LEP + 1 tick size
- If Bid Volume < Ask Volume → Price of ATO/ATC orders = LEP - 1 tick size

If there are LO orders in the orders book, the price of ATO/ATC orders will be determined as follows:

- ATO/ATC Bid Price = Max (Highest bid price + 1 tick size, Highest ask price, LEP)
- ATO/ATC Ask Price = Min (Lowest ask price - 1 tick size, Lowest bid price, LEP)

Note: Every time a new order is entered into the order book, the Exchange's system will automatically recalculate the data to re-determine the price for all previously entered ATO/ATC orders

Example 1: Determine price of the ATO/ATC order

The ticker ABC has a reference price of 39,000. During the ATO session, the following order situations can occur:

❖ If one side of the order book has only ATO/ATC orders

Two bid orders (1) ATO-100 shares and (2) ATO-200 shares are entered into the system consecutively. At that time, the bid side has two ATO orders, and the ask side has no order.

⇒ The ATO order price on the bid side = the reference price = 39,000

BID	ORDER PRICE	PRICE OF THE ORDER	ORDER PRICE	ASK
(1)ATO-100 (2)ATO-200	ATO	39,000		

❖ If both sides of the order book have ATO/ATC orders

➤ Bid volume = Ask volume

Bid orders (1) ATO - 100 shares and (2) ATO - 200 shares, and ask order (3) ATO - 300 shares are consecutively entered into the system. At that time, both the bid side and ask side have ATO orders, and the total bid and ask volumes are equal.

⇒ The ATO order price on the bid and ask sides = the reference price = 39,000

BID	ORDER PRICE	PRICE OF THE ORDER	ORDER PRICE	ASK
(1)ATO-100 (2)ATO-200	ATO	39,000	ATO	(3)ATO-300

➤ Bid volume > Ask volume

Bid orders (1) ATO - 100 shares and (2) ATO - 200 shares, and ask order (3) ATO - 200 shares are consecutively entered into the system. At that time, both the bid side and ask side only have ATO orders, but the total bid volume (300 shares) is greater than the total ask volume (200 shares).

⇒ The ATO order price for both bid and ask sides = reference price + 1 tick size
= 39,000 + 50 = 39,050

BID	ORDER PRICE	PRICE OF THE ORDER	ORDER PRICE	ASK
(1)ATO-100cp (2)ATO-200cp	ATO	39.050	ATO	(3)ATO-200

➤ Bid volume < Ask volume

Bid orders (1) - ATO - 100 shares and (2) - ATO - 200 shares, and ask order (3) - ATO - 500 shares are consecutively entered into the system. At that time, both the bid side

and the ask side have ATO orders, and the total bid volume (300 shares) is less than the total ask volume (500 shares).

⇒ The ATO order price for both bid and ask sides = reference price - 1 tick size
 = 39,000 - 50 = 38,950

BID	ORDER PRICE	PRICE OF THE ORDER	ORDER PRICE	ASK
(1)ATO-100cp (2)ATO-200cp	ATO	38,950	ATO	(3)ATO-500

❖ **If there are Limit Orders (LO) in the order book**

Ask order (1)-LO-100 shares is entered at 39,150

BID	ORDER PRICE	PRICE OF THE ORDER	ORDER PRICE	ASK
		39,150	39,150	(1)LO-100

Next, ask order (2)-ATO-200 shares is entered, according to the regulations, the ATO ask price is the minimum of the following three prices:

- Lowest ask price – 1 tick size = 39,150 – 50 = 39,100
- Lowest bid price: none
- Reference price = 39,000

⇒ ATO ask price = Min of 3 prices = 39,000

BID	ORDER PRICE	PRICE OF THE ORDER	ORDER PRICE	ASK
		39,150	39,150	(1)LO-100cp
		39,000	ATO	(2)ATO-200cp

Next, ask order (3) - LO - 300 shares at the price of 39,000 is entered, according to the regulations, the previously entered ask order (2) - ATO - 200 shares will have its determined price changed from 39,000 to a new price, calculated as the minimum of the following three prices:

- Lowest ask price – 1 tick size = 39,000 – 50 = 38,950
- Lowest bid price: none
- Reference price = 39,000

⇒ ATO ask price = Min of 3 prices = 39,000 – 50 = 38,950

BID	ORDER PRICE	PRICE OF THE ORDER	ORDER PRICE	ASK
		39,150	39,150	(1)LO-100
		39,000	39,000	(3)LO-300
		38,950	ATO	(2)ATO-200

Next, bid order (4) - LO - 400 shares at the price of 38,000 is entered, according to the regulations, the previously entered ask order (2) - ATO - 200 shares will have its price re-determined, changing from 38,950 to a new price, calculated as the minimum of the following three prices:

- ⇒ Lowest ask price – 1 tick size = $39,000 - 50 = 38,950$
- ⇒ Lowest bid price: 38,000
- ⇒ Reference price = 39,000
- ⇒ ATO ask price = Min of 3 prices = 38.000

BID	ORDER PRICE	PRICE OF THE ORDER	ORDER PRICE	ASK
		39,150	39,150	(1)LO-100
		39,000	39,000	(3)LO-300
(4)-LO-400cp	38.000	38,000	ATO	(2)ATO-200

Example 2: Priority of ATO/ATC orders and price display

During the ATO session, stock A (reference price 39,000, ceiling price 41,700, floor price 36,300) has the following detailed order book:

ORDER ENTRY	ORDER TYPE	BID/ASK	ORDER VOLUME	ORDER PRICE
1	LO	Ask	300	41,650
2	LO	Bid	200	41,700
3	LO	Bid	100	41,700
4	ATO	Bid	500	ATO
5	LO	Ask	200	41,550

Calculating the price for an ATO order:

The order book includes both ATO and LO orders → The price of the bid ATO order is determined as the maximum of the following three prices:

- The highest bid price + 1 tick size = $41,700 + 50 = 41,750$, but since it's higher than the ceiling price, the price will be the ceiling price of 41,700
- The highest ask price = 41,650
- Reference price = 39,000
- ⇒ ATO bid price = Max of the three prices = 41,700

The expected matching order table:

CUMMULATIVE	BID	ORDER PRICE	PRICE OF ORDER	ORDER PRICE	ASK	CUMMULATIVE (share)	MATCHED (share)
800	(2)-LO-200 (3)-LO-100 (4)-ATO-500	41,700 41,700 ATO	41,700			500	500
800			41,650	41.650	(1)-LO-300	500	500
800			41,600			200	200
800			41,550	41.550	(5)-LO-200	200	200

The matching price is determined at the price where the matched volume is the highest, and where all bid orders \geq matching price and all ask orders \leq matching price are fully executed.

⇒ The matching price is 41,700, with a matched volume of 500 shares

Display on price board:

BID						Matched		ASK					
Prc 3	Vol 3	Prc 2	Vol2	Prc 1	Vol 1	Prc	Vol	Prc 1	Vol 1	Prc 2	Vol 2	Prc 3	Vol 3
				41.700	300	41.700	500						

- Matched section: display the volume and expected matching price
- BID, ASK: display the volume and the remaining bid, ask prices after deducting the expected matching volume

Determining matched orders:

Old system: Bid order (4) - ATO - 500 shares is prioritized to match before bid orders (2) - LO - 200 shares and (3) - LO - 100 shares.

Result: On the bid side, orders are matched in the sequence: (4), (2), (3). On the ask side, orders are matched based on price priority: (5), (1).

Remaining bid orders:

200 shares from order (2) - LO - 200 shares and 100 shares from order (3) - LO - 100 shares.

Order	Matched pair	Matched volume
1	Order 4 & Order 5	200
2	Order 4 & Order 1	300

KRX: Bid order (4) is **not** prioritized over bid orders (2) and (3) at the ceiling price → matching is prioritized based on time priority: first order (2), then order (3), and then order (4).

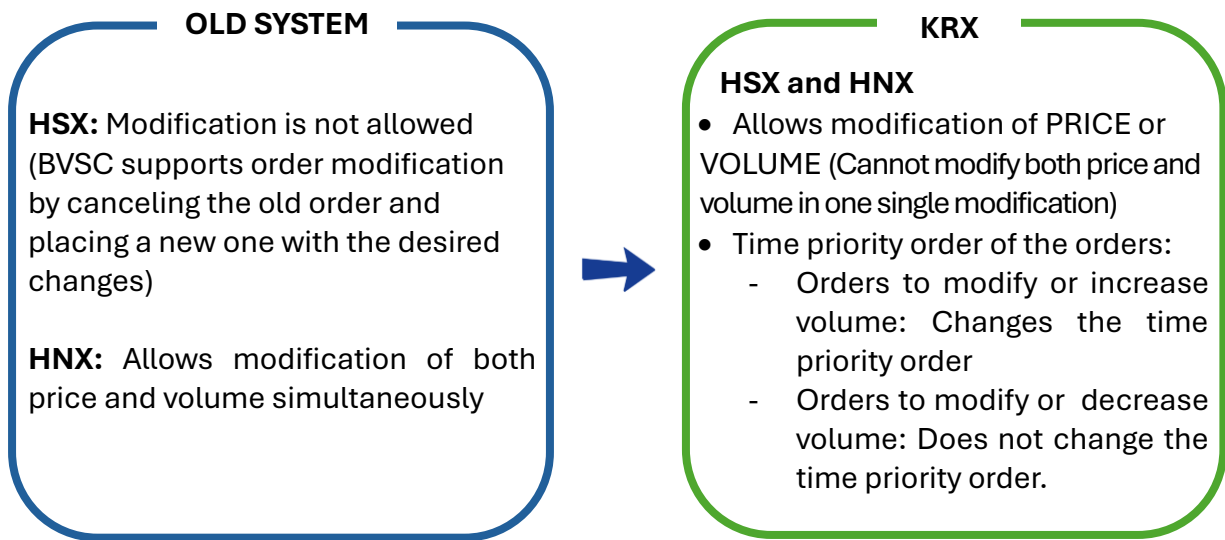
Result: On the bid side, orders are matched in the sequence: (2), (3), (4). On the ask side, orders are matched based on price priority: (5), (1).

Remaining bid orders:

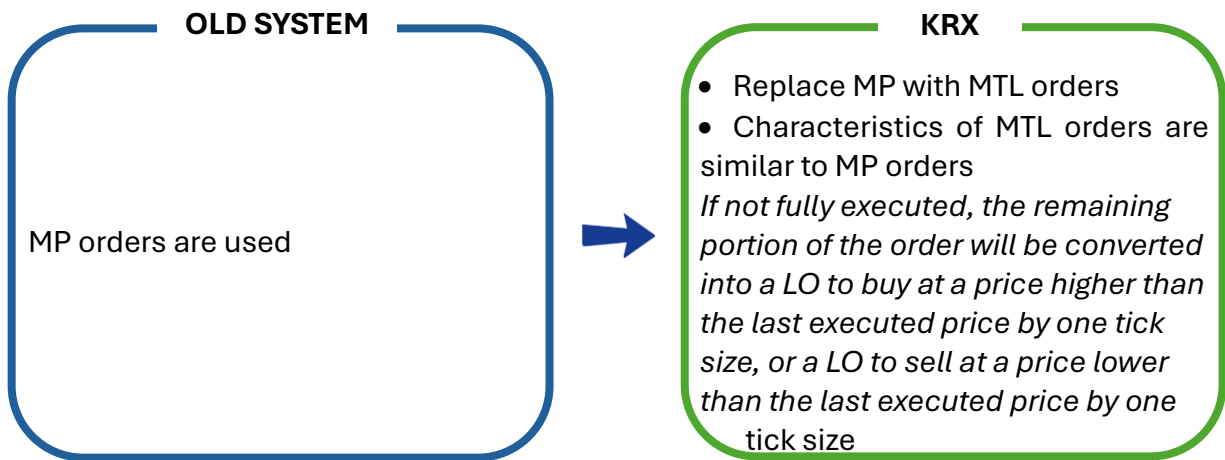
300 shares from order (4)-ATO-500 shares

Order	Matched pair	Matched volume
1	Order 2 & Order 5	200
2	Order 3 & Order 1	100
3	Order 4 & Order 1	200

2. Change in the Rules for Amending LO



3. Market Orders – HSX



Types of order (round lot)

Time	HSX	HNX	UPCOM
09h00 – 09h15	LO, ATO	LO, MTL, MOK, MAK	LO
09h15 – 11h30	LO, MTL	LO, MTL, MOK, MAK	LO
13h00 – 14h30	LO, MTL	LO, MTL, MOK, MAK	LO
14h30 – 14h45	LO, ATC	LO, ATC	LO
14h45 – 15h00		PLO	LO

4. Post Limit Order (PLO) session – HNX

OLD SYSTEM

Continuous matching of orders



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The first 10 minutes: Orders are entered and matched periodically.
The next 5 minutes: Orders are entered and matched continuously.

5. Restricted Securities

OLD SYSTEM

HSX

Order matching and negotiated transactions can only be executed in the afternoon session (13h-15h).

HNX

- No trading is allowed from Monday to Thursday
- Trading is only allowed on Friday



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HSX

- ATO session (9h-9h15)
- 15 periodic order matching/Periodic Call Auction (PCA) sessions, each lasting 15 minutes, occur between 9h15 and 14h30.

- ATC session (14h30-14h45)

Note:

- Only LOs are allowed
- Modification/cancellation of orders is only allowed during the first 10 minutes of each PCA session.

HNX

- Unchanged

6. Put – Through (PT) Transactions

OLD SYSTEM

Placing orders:

- The seller enters a Put-Through order
- The buyer confirms the order

Modification/Cancellation of orders:

- Modify the completed transaction order by canceling the old order and entering a new one once agreed upon by the counterparty and approved by the stock exchange.

Timeframe:

- 9h-11h30 & 13h – 15h.



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Placing orders:

- Either the seller or the buyer can initiate a Put-Through order, and the other party can confirm/decline the transaction.

Modification/Cancellation of orders:

- Executed Put-Through orders cannot be modified or canceled
- Unexecuted Put-Through orders: The initiator may cancel the order they have placed.

Timeframe:

- In-session: 9h-11h30 & 13h-14h45
- Post-session: 14h45 – 15h

7. Odd lot transactions

OLD SYSTEM

Trading is only allowed during the continuous order matching session.



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- Allow trading during both Periodic Order Matching (ATO/ATC) and Continuous Order Matching sessions.
- Only LO can be used

8. Foreign Investor Transactions

OLD SYSTEM

Matching order transactions:

The foreign room only decreases when there is an **executed buy order** from a foreign investor.

Put-Through transaction:

The foreign room decreases when a Put-Through order between a foreign investor (buyer) and a domestic investor (seller) is executed.



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Matching order transactions:

The foreign room will decrease as soon as the buy order from a foreign investor is entered into the system.

Put-Through transaction:

The foreign room will decrease as soon as the buy order from a foreign investor is entered into the system.

9. Securities Transfer Within the Same Investor (Between 2 Securities Companies)

OLD SYSTEM

- The investor notifies and completes the procedures at the securities company they are transferring from.
- The transferring securities company completes the procedures and sends the information to the VSDC, which includes the quantity of securities as stock dividends/bonus shares.
- VSDC sends a notification to the receiving securities company (including information on the quantity of securities as stock dividends/bonus shares).



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- Investor notifies and completes the procedures at both the receiving and transferring securities companies.
- The two securities companies send notifications to the VSDC by telegram (without information on the quantity of securities as stock dividends/bonus shares).
- If the telegram information from both securities companies matches, the system will automatically confirm the transfer.
- The receiving securities company bases the results of the telegram and the notification from the investor/transferring securities company (which includes the quantity of securities as stock dividends/bonus shares) to record the receipt of securities for the investor.



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