



Instruction Manual for Wanwallet 3.0 GUI

Bitcoin & ERC20 Cross-chain transactions

With 3.0 release, Wanwallet now supports cross-chain transactions with Ethereum, Bitcoin and also ERC20 tokens.

Previous versions of Wanwallet still work as usual after release of Wanwallet 3.0, but new features like Bitcoin & ERC20 cross-chain transactions require Wanwallet 3.0 or later, so we strongly encourage you to update to the latest version of Wanwallet.

For users of previous versions, we strongly recommend backing up keystore files in a safe location before upgrading to Wanwallet 3.0 to prevent any kind of data loss, though the upgrading process will not alter existing keystore files in any way.

This instruction guide is for Wanwallet 3.0 GUI in which users can send BTC & ERC20 tokens to Wanchain and withdraw BTC & ERC20 tokens from Wanchain to Bitcoin and to Ethereum respectively.

ERC20 token used as example in this instruction manual is MKR. Wanwallet 3.0 also supports other ERC20 tokens, please use Wanwallet 3.0 or later, or refer to Wanchain's Explorer – Token page, for complete list of ERC20 tokens supported.

Wanwallet will support more ERC20 tokens in the future. Actually Wanwallet 3.0 or later can support cross-chain transaction of all kinds of ERC20 token, given necessary implementation by Wanchain Foundation for them.

ERC20 token issuing party doesn't have any implementation/adaptation work to do in order to be supported by Wanchain's cross-chain ability.

Users can choose between BTC/ETH/WAN main network and test network in Wanwallet.

This version combines BTC/ETH light wallet and WAN full node wallet.

Terminology

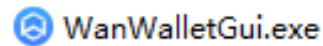
WBTC: *Wanchain Bitcoin Crosschain Token, BTC symbol on Wanchain.*

WMKR: *Wanchain MKR Crosschain Token, MKR symbol on Wanchain. MKR being an ERC20 token on Ethereum*

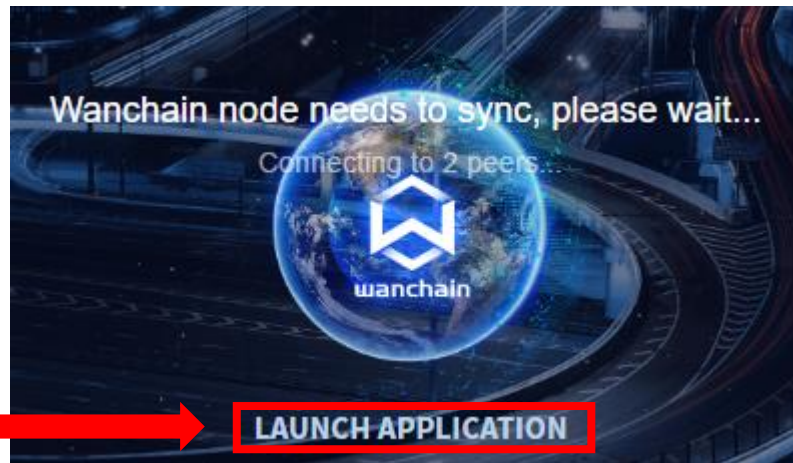
HTLC: *Hashed Timelock Contracts.*

- 1) Download Wanwallet 3.0 installation file from <https://wanchain.org/product>
 - * Wanwallet 3.0 supports **Linux, Windows, MacOS**, please download corresponding installation file for your OS.
 - * Please verify downloaded installation file's data integrity with SHA256 checksum tools. You can find SHA256 checksum value along with Wanwallet's download link on <https://wanchain.org/product>
- 2) Extract the file, run, and click the "LAUNCH APPLICATION" button below to start the wallet

For Windows:



For MacOS:



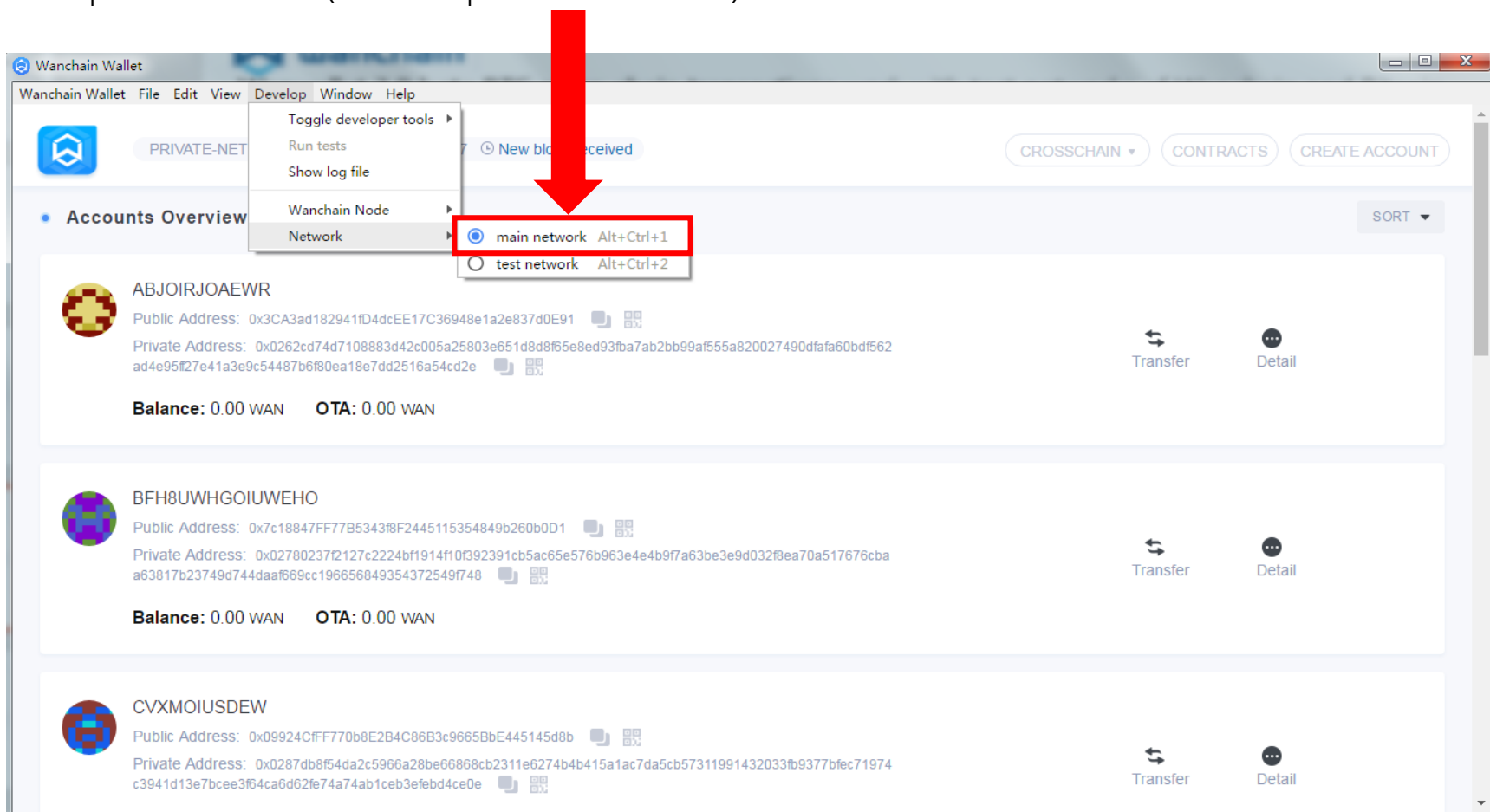
Click here to start

For **Linux**: Setup by CLI: `sudo dpkg -i WanWalletGui-linux64-3.0.XX.deb`
Start by CLI for main network: `wanwalletgui`
Start by CLI for test network: `wanwalletgui --network testnet`
Or click Wanwalletgui to start under `/usr/local/bin/`

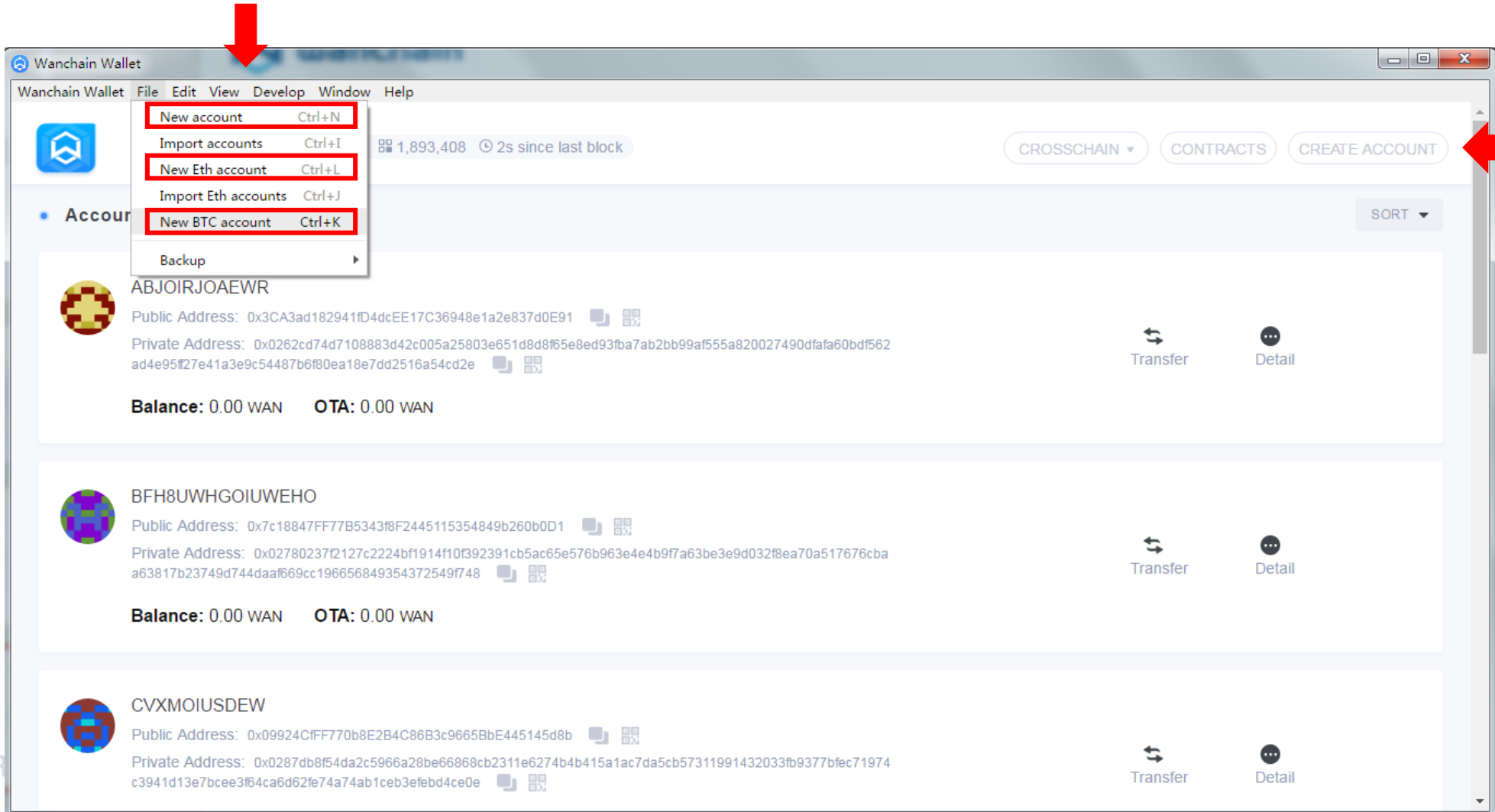
Wanwallet 3.0 BTC & ERC20 cross-chain transactions work with both main network and test network of Wanchain, Bitcoin and Ethereum.

Below you can see the Wanchain accounts overview page (also the default start-up page), you can access it anytime by clicking on the Wanchain logo on the upper-left corner

4) Use the menu option below (Develop--->Network) to switch between main network and test network.

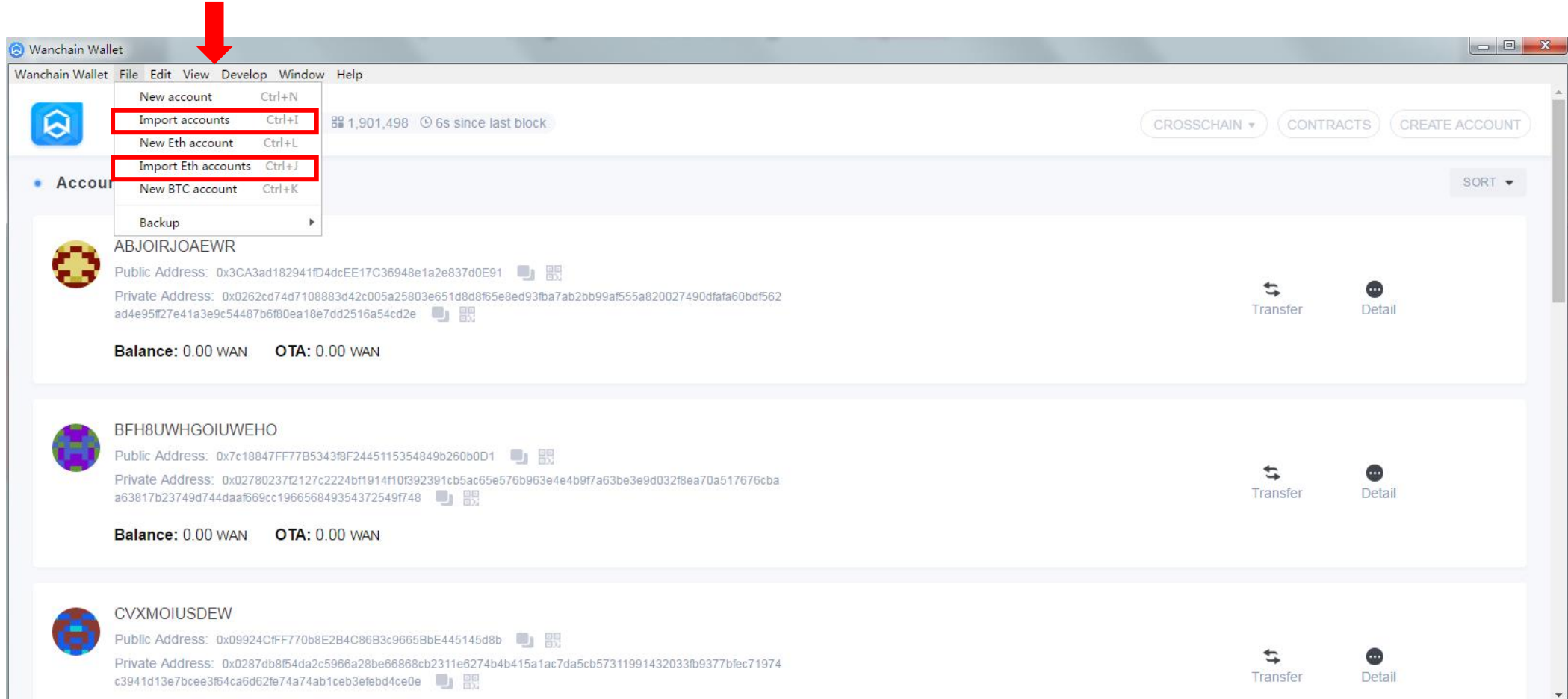


- 5) These 3 options allow you to create new WAN, ETH account or new BTC address.
The "CREATE ACCOUNT" button in the upper-right corner only creates new WAN account.
* All BTC addresses handled in Wanwallet must use same password (same as the password of 1st BTC address created in Wanwallet).



You can also import existing WAN or ETH accounts using wallet keystore files.

Backup feature opens local keystore files location of WAN or ETH accounts, and BTC wallet database files location.





Bitcoin Cross-chain transactions

To access BTC cross-chain transactions, click on "BTC" option under "CROSSCHAIN" button.



A1) Before you make a BTC cross-chain transaction, please check WAN and BTC balance in your account in Wanwallet GUI or with explorer listed below. In testnet, if you don't have any WAN or BTC, you can use testnet faucets to get some.

Main network explorer:

BTC: <https://www.blockchain.com/explorer>

WAN: <https://www.wanscan.org/>

Test network explorer :

BTC: <https://testnet.blockchain.info>

WAN: <http://13.58.108.244>

BTC testnet faucet :

<http://bitcoinafaucet.uo1.net/>

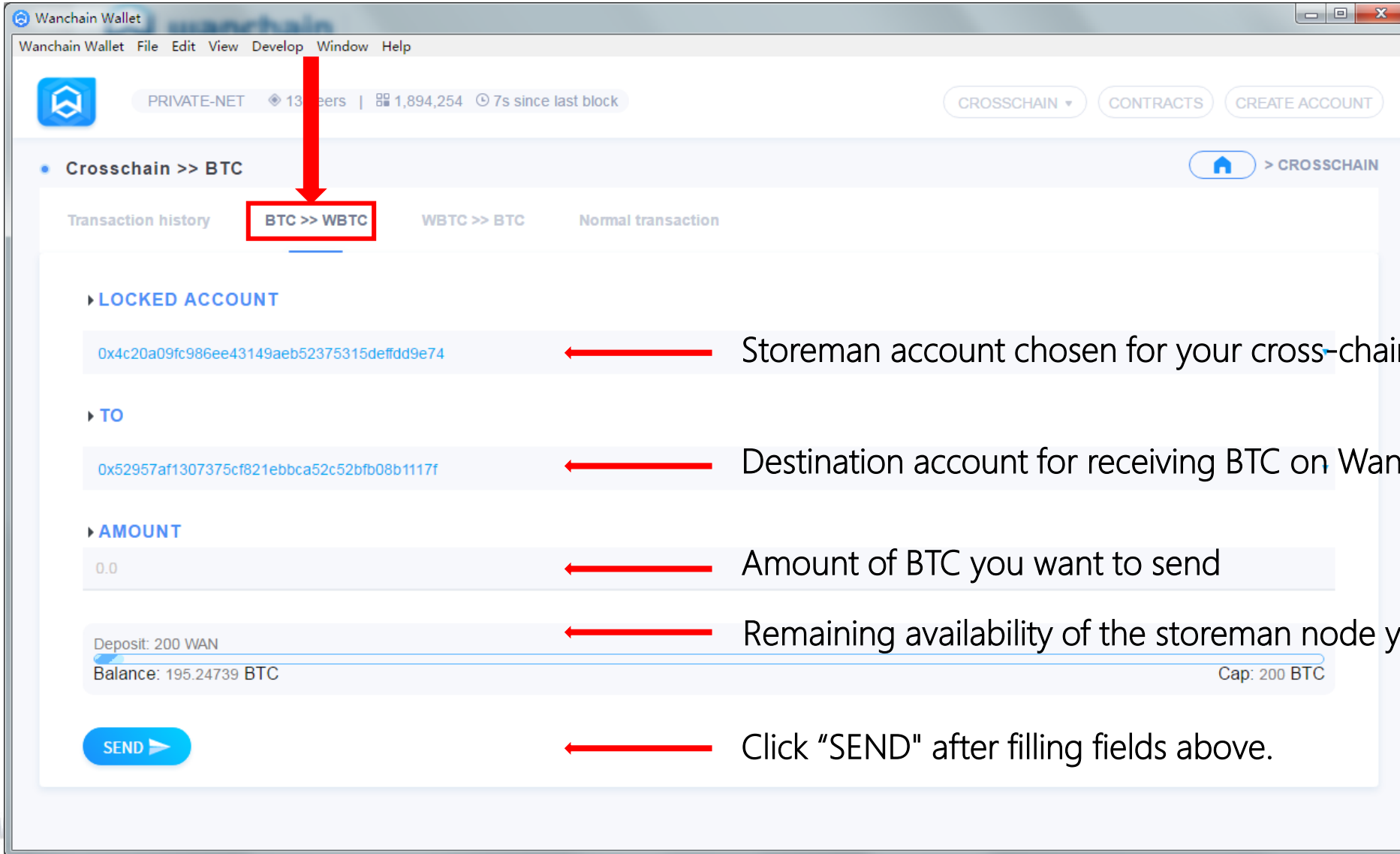
<https://coinafaucet.eu/en/btc-testnet/>

<https://testnet.manu.backend.hamburg/faucet>

WAN testnet faucet :

<http://52.88.191.131:8080/>

A2) Click the "BTC >> WBTC" tab below to send BTC to Wanchain.



Wanchain Wallet

Wanchain Wallet File Edit View Develop Window Help

PRIVATE-NET 13 peers 1,894,254 7s since last block

CROSSCHAIN CONTRACTS CREATE ACCOUNT

Crosschain >> BTC

Transaction history **BTC >> WBTC** WBTC >> BTC Normal transaction

LOCKED ACCOUNT

0x4c20a09fc986ee43149aeb52375315deffdd9e74

TO

0x52957af1307375cf821ebbc52c52bfb08b1117f

AMOUNT

0.0

Deposit: 200 WAN

Balance: 195.24739 BTC

Cap: 200 BTC

SEND

Storeman account chosen for your cross-chain transaction

Destination account for receiving BTC on Wanchain

Amount of BTC you want to send

Remaining availability of the storeman node you choose

Click "SEND" after filling fields above.

Enter your WAN account's password and your BTC wallet's password, then press "OK" button to send the transaction.

Crosschain Transaction

Storeman:	0x81973c84d7814f2b4a0ade68c30d59280dbbd339
To:	0x93c7b94dc1dfa83effd080fa85efe146f04ac484
Amount	0.05 BTC

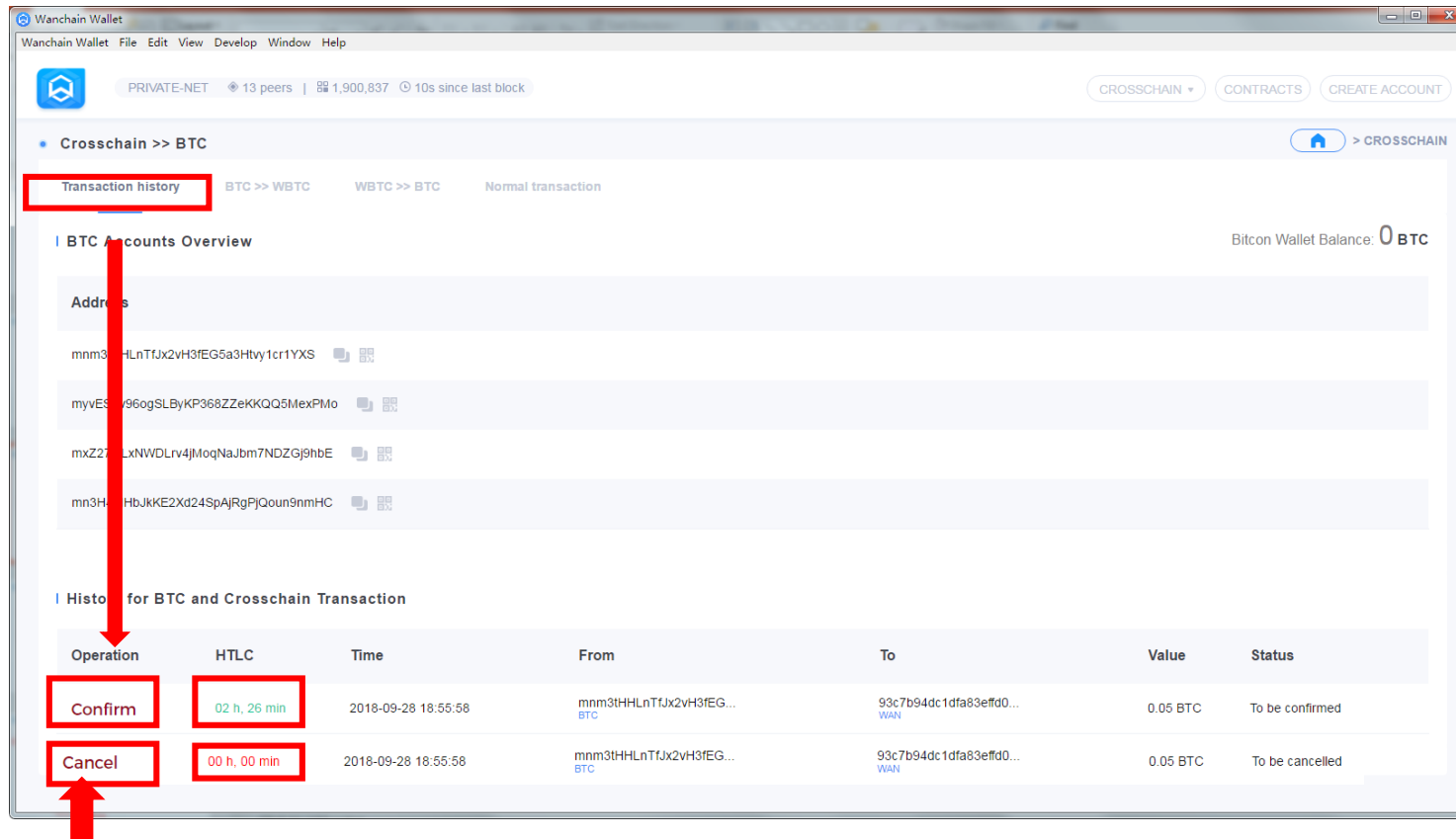
Enter wan account's password

Enter btc wallet's password

CANCEL

OK

A3) In the "Transaction history" tab, click on the "Confirm" button to finalize the cross-chain transaction process once it turned red.



If you do not confirm before the HTLC countdown ends, it means you choose to cancel the transaction and refund the BTC from the locked account. The "Confirm" button changes to "Cancel" and you can click it to cancel the transaction once it turned red

Once the "Confirm" button turned red, click it to access "Confirm Transaction" page.

History for BTC and Crosschain Transaction

Operation	HTLC	Time	From	To	Value	Status
Confirm	02 h, 23 min	2018-09-28 18:55:58	mnm3tHHLnTfJx2vH3fEG... BTC	93c7b94dc1dfa83effd0... WAN	0.05 BTC	To be confirmed

Enter the password then click "OK" button to finalize transaction

Confirm Transaction

From:

mnm3tHHLnTfJx2vH3fEG5a3Hty1cr1YXS
BTC

To:

93c7b94dc1dfa83effd080fa85efe146f04ac484
WAN

Storeman:

81973c84d7814f2b4a0ade68c30d59280dbbd339

Amount:

0.05 BTC

Enter TO account's password

CANCEL

OK

Once the "Cancel" button turned red (after HTLC countdown ends), click it to access "Cancel Transaction" page.

History for BTC and Crosschain Transaction

Operation	HTLC	Time	From	To	Value	Status
Cancel	00 h, 00 min	2018-09-28 18:55:58	mnm3tHHLnTfJx2vH3fEG... BTC	93c7b94dc1dfa83effd0... WAN	0.05 BTC	To be cancelled

Enter the password then click "OK" button to cancel the transaction

Cancel Transaction

From:

mnm3tHHLnTfJx2vH3fEG5a3Htvy1cr1YXS
BTC

To:

93c7b94dc1dfa83effd080fa85efe146f04ac484
WAN

Storeman:

81973c84d7814f2b4a0ade68c30d59280dbbd339

Amount:

0.05 BTC

Enter FROM account's password

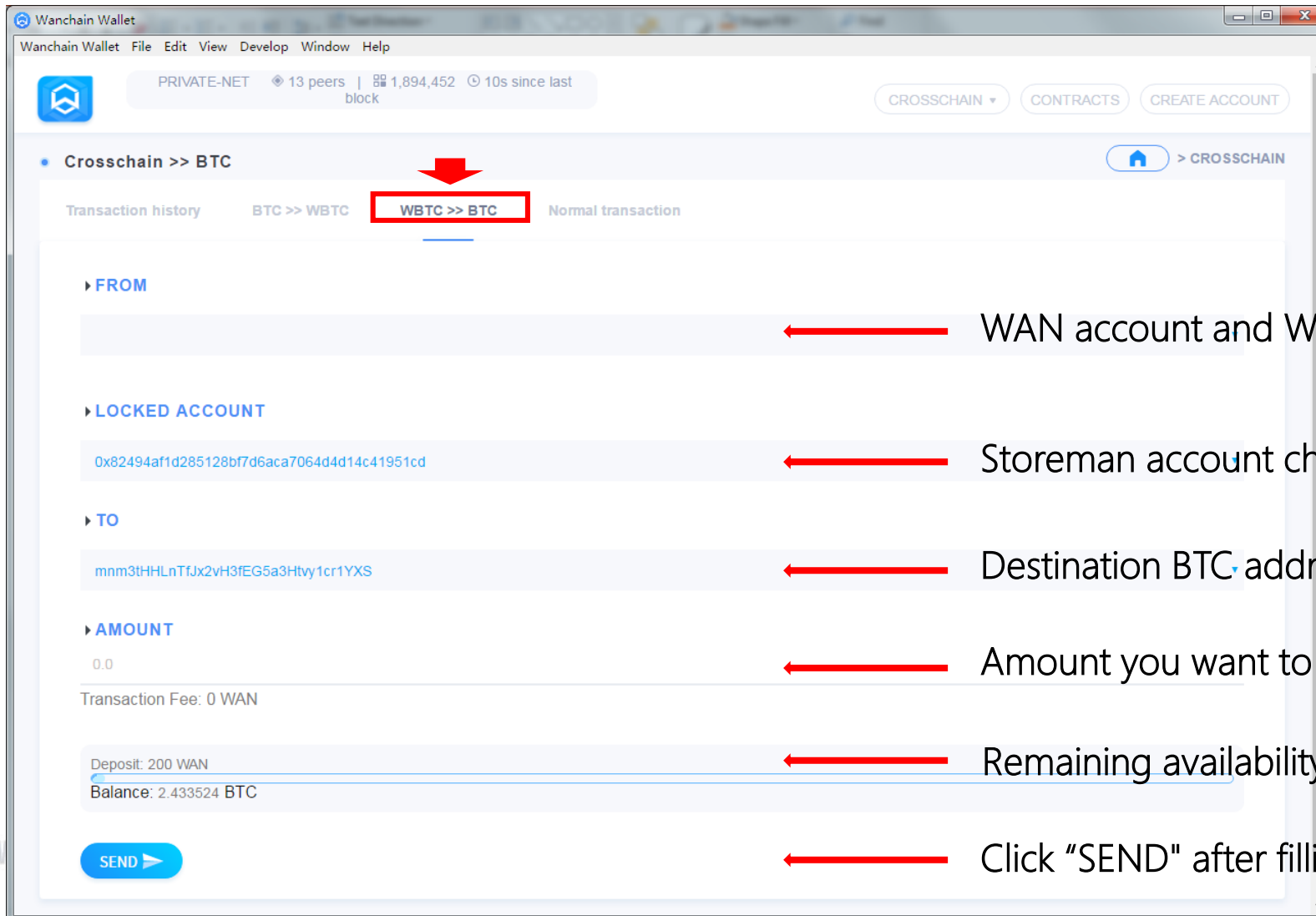
CANCEL

OK

A4) If you have BTC balance on Wanchain (WBTC balance), you can send WBTC back to Bitcoin blockchain.

Click the "WBTC >> BTC" tab below to perform this kind of cross-chain transaction.

The process is similar to the BTC to Wanchain one, except that you don't need to enter BTC password. Please refer to section "A3" for details about how to confirm or cancel the transaction.



Wanchain Wallet

PRIVATE-NET | 13 peers | 1,894,452 blocks | 10s since last block

CROSSCHAIN | CONTRACTS | CREATE ACCOUNT

Crosschain >> BTC

Transaction history | BTC >> WBTC | **WBTC >> BTC** | Normal transaction

FROM

LOCKED ACCOUNT

TO

AMOUNT

Transaction Fee: 0 WAN

Deposit: 200 WAN

Balance: 2.433524 BTC

SEND

← WAN account and WBTC balance

← Storeman account chosen for your cross-chain transaction

← Destination BTC address for receiving BTC

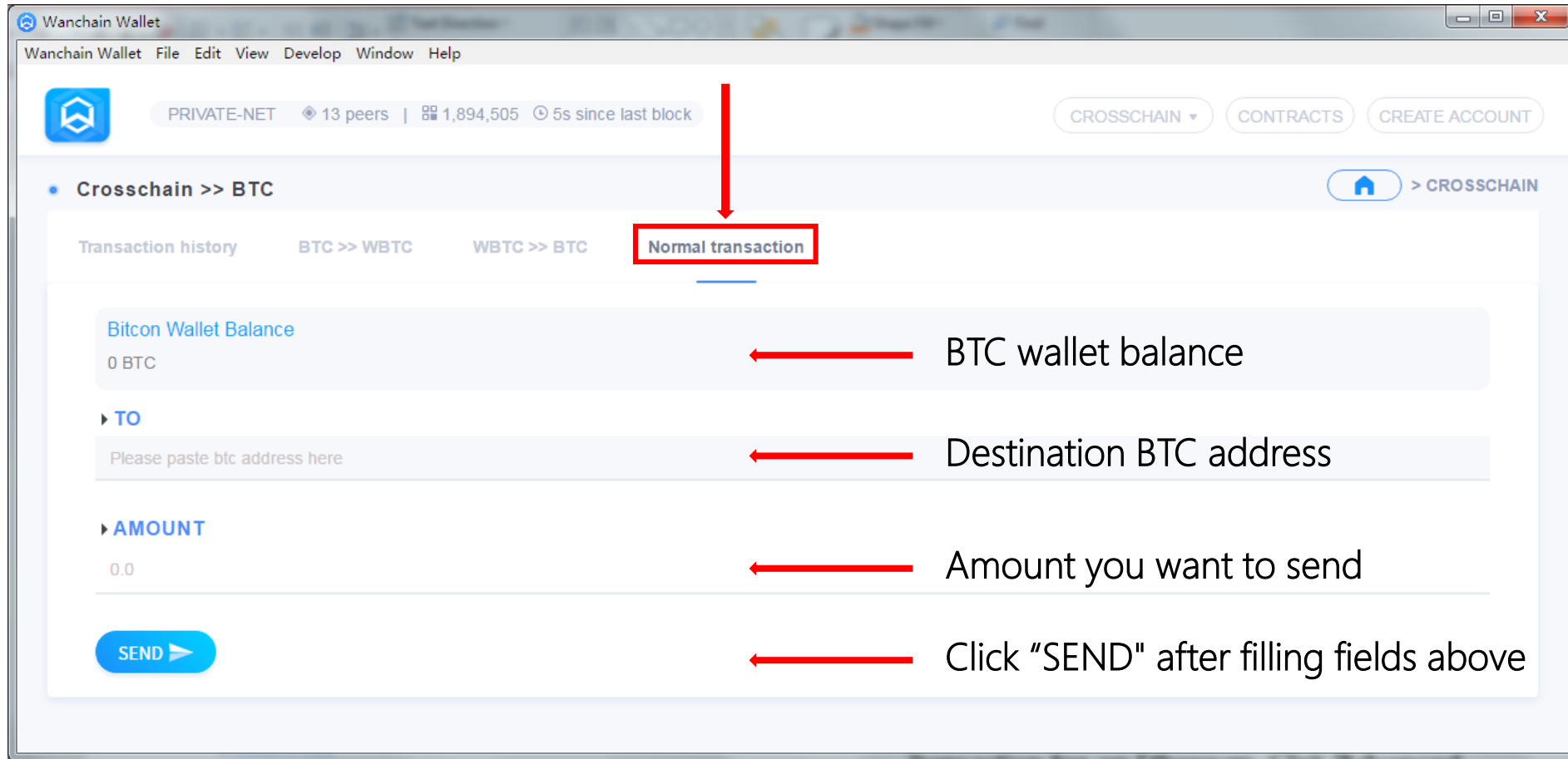
← Amount you want to send

← Remaining availability of the storeman node you choose

← Click "SEND" after filling fields above.

A5) You can also perform normal Bitcoin transaction in Wanwallet GUI.

Click the "Normal transaction" tab below, fill destination BTC address, transaction amount, then click "SEND"

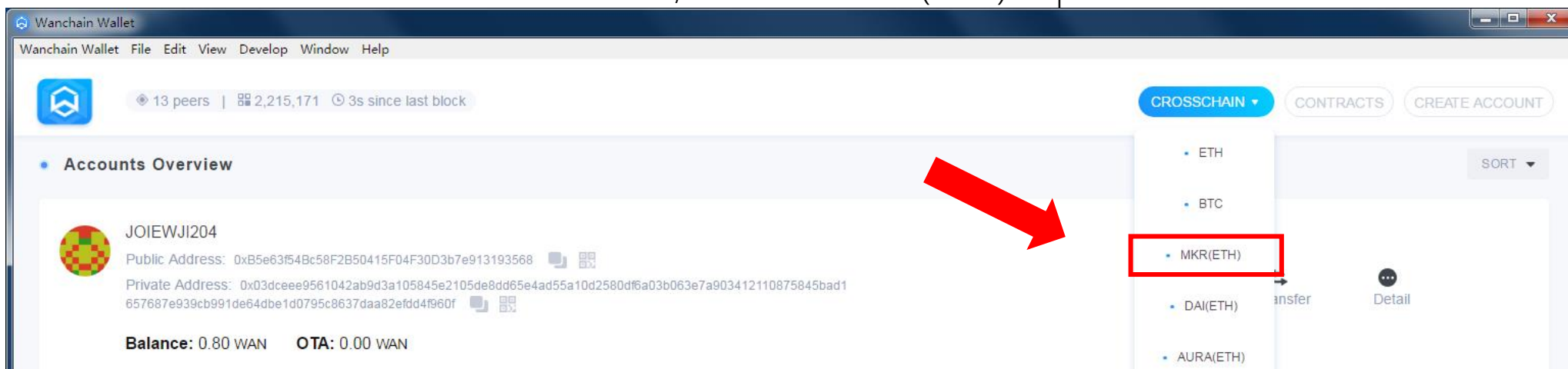




ERC20 Cross-chain transactions

In following parts of this instruction manual, we use MKR ERC20 token as example, same instructions also apply to other ERC20 tokens.

To access MKR ERC20 cross-chain transactions, click on “MKR(ETH)” option under “CROSSCHAIN” button.



B1) Before you make an MKR ERC20 cross-chain transaction, please check WAN and ETH and also MKR balance in your account in Wanwallet GUI or with explorer listed below. In testnet, if you don't have any WAN or ETH or ERC20 (MKR here), you can use testnet faucets to get some.

Main network explorer:
ETH: <https://etherscan.io/>

WAN: <https://www.wanscan.org/>

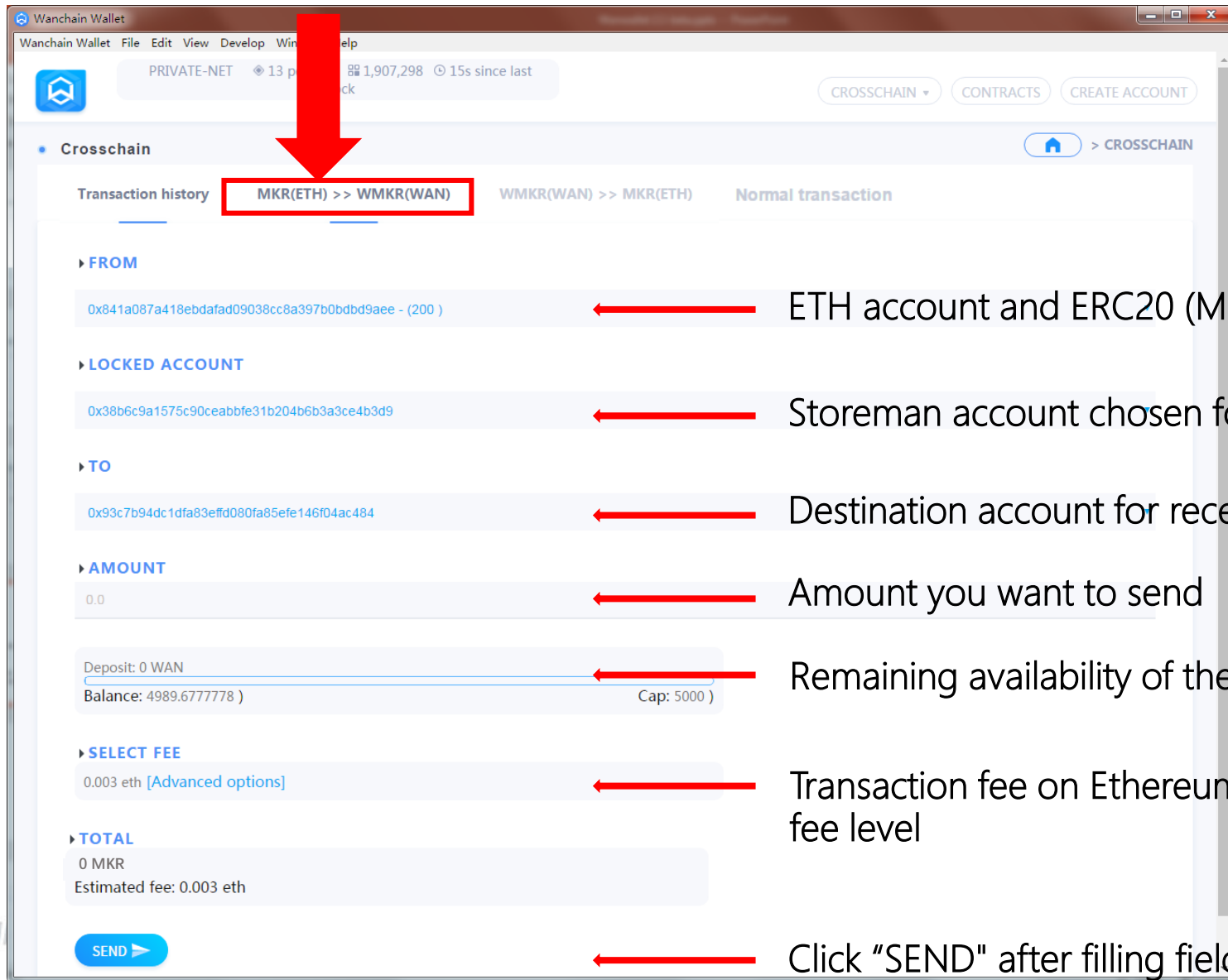
Test network explorer :
ETH: <https://rinkeby.etherscan.io/>

WAN: <http://13.58.108.244>

ETH testnet faucet :
<https://faucet.rinkeby.io/>

WAN testnet faucet :
<http://52.88.191.131:8080/>

B2) Click the "MKR(ETH) >> WMKR(WAN)" tab below to send ERC20 (MKR) to Wanchain.



Wanchain Wallet

PRIVATE-NET 13 p 1,907,298 15s since last

CROSSCHAIN CONTRACTS CREATE ACCOUNT

Crosschain

Transaction history **MKR(ETH) >> WMKR(WAN)** WMKR(WAN) >> MKR(ETH) Normal transaction

FROM

0x841a087a418ebdafad09038cc8a397b0bdbd9aee - (200)

LOCKED ACCOUNT

0x38b6c9a1575c90ceabbfe31b204b6b3a3ce4b3d9

TO

0x93c7b94dc1dfa83effd080fa85efe146f04ac484

AMOUNT

0.0

Deposit: 0 WAN

Balance: 4989.6777778) Cap: 5000)

SELECT FEE

0.003 eth [Advanced options]

TOTAL

0 MKR

Estimated fee: 0.003 eth

SEND

ETH account and ERC20 (MKR) balance

Storeman account chosen for your cross-chain transaction

Destination account for receiving ERC20 (MKR) on Wanchain

Amount you want to send

Remaining availability of the storeman node you choose

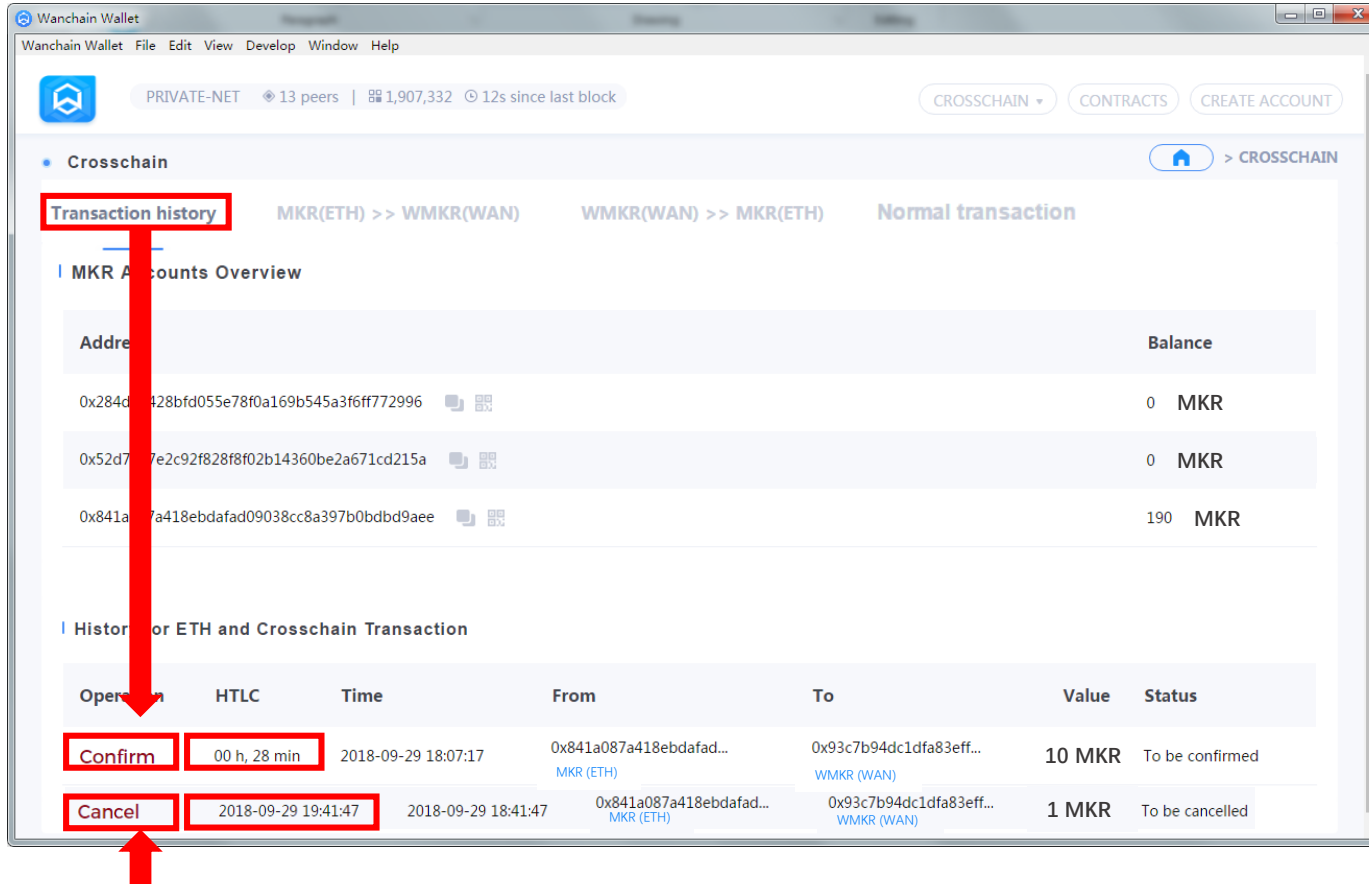
Transaction fee on Ethereum. Click "Advanced options" to adjust fee level

Click "SEND" after filling fields above.

MANCHAIN 000

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B3) In the "Transaction history" tab, click on the "Confirm" button to finalize the cross-chain transaction process once it turned red.



The screenshot shows the Wanchain Wallet interface. The 'Transaction history' tab is selected and highlighted with a red box. Below it, the 'MKR Accounts Overview' table shows three accounts with their addresses and balances. The 'History for ETH and Crosschain Transaction' table lists two transactions. The first transaction is 'To be confirmed' and the second is 'To be cancelled'. The 'Confirm' button for the first transaction is highlighted with a red box, and a red arrow points from the 'Transaction history' tab to it. The 'Cancel' button for the second transaction is also highlighted with a red box, and a red arrow points from it to the text below.

Operation	HTLC	Time	From	To	Value	Status
Confirm	00 h, 28 min	2018-09-29 18:07:17	0x841a087a418ebdafad... MKR (ETH)	0x93c7b94dc1dfa83eff... WMKR (WAN)	10 MKR	To be confirmed
Cancel	2018-09-29 19:41:47	2018-09-29 18:41:47	0x841a087a418ebdafad... MKR (ETH)	0x93c7b94dc1dfa83eff... WMKR (WAN)	1 MKR	To be cancelled

If you do not confirm before the HTLC countdown ends, it means you choose to cancel the transaction and refund the ERC20 (MKR here) from the locked account. The "Confirm" button changes to "Cancel" and you can click it to cancel the transaction once it turned red

Once the “Confirm” button turned red, click it to access “Confirm Transaction” page.

History for ETH and Crosschain Transaction

Operation	HTLC	Time	From	To	Value	Status
Confirm	00 h, 26 min	2018-09-29 18:07:17	0x841a087a418ebdafad... MKR (ETH)	0x93c7b94dc1dfa83eff... WMKR (WAN)	10 MKR	To be confirmed

Enter the password then click "OK" button to finalize transaction

Confirm Transaction

From:

0x841a087a418ebdafad09038cc8a397b0bdbd9aee
MKR (ETH)

To:

0x93c7b94dc1dfa83effd080fa85efe146f04ac484
WMKR (WAN)

Storeman:

0x38b6c9a1575c90ceabbfe31b204b6b3a3ce4b3d9

Amount:

10 MKR

+ Estimated fee 0.036

Gas price 18000000000

Estimated required gas 200000

Data

0x6b2dedb90000000000000000000000000000b410aa9124e5623d62cbb82b4f38a7230c6590f48bb5bcff17f91e115cdeafeffc35209963e9e2d478266489a9f1a09f4fc562

Enter TO account's password

CANCEL

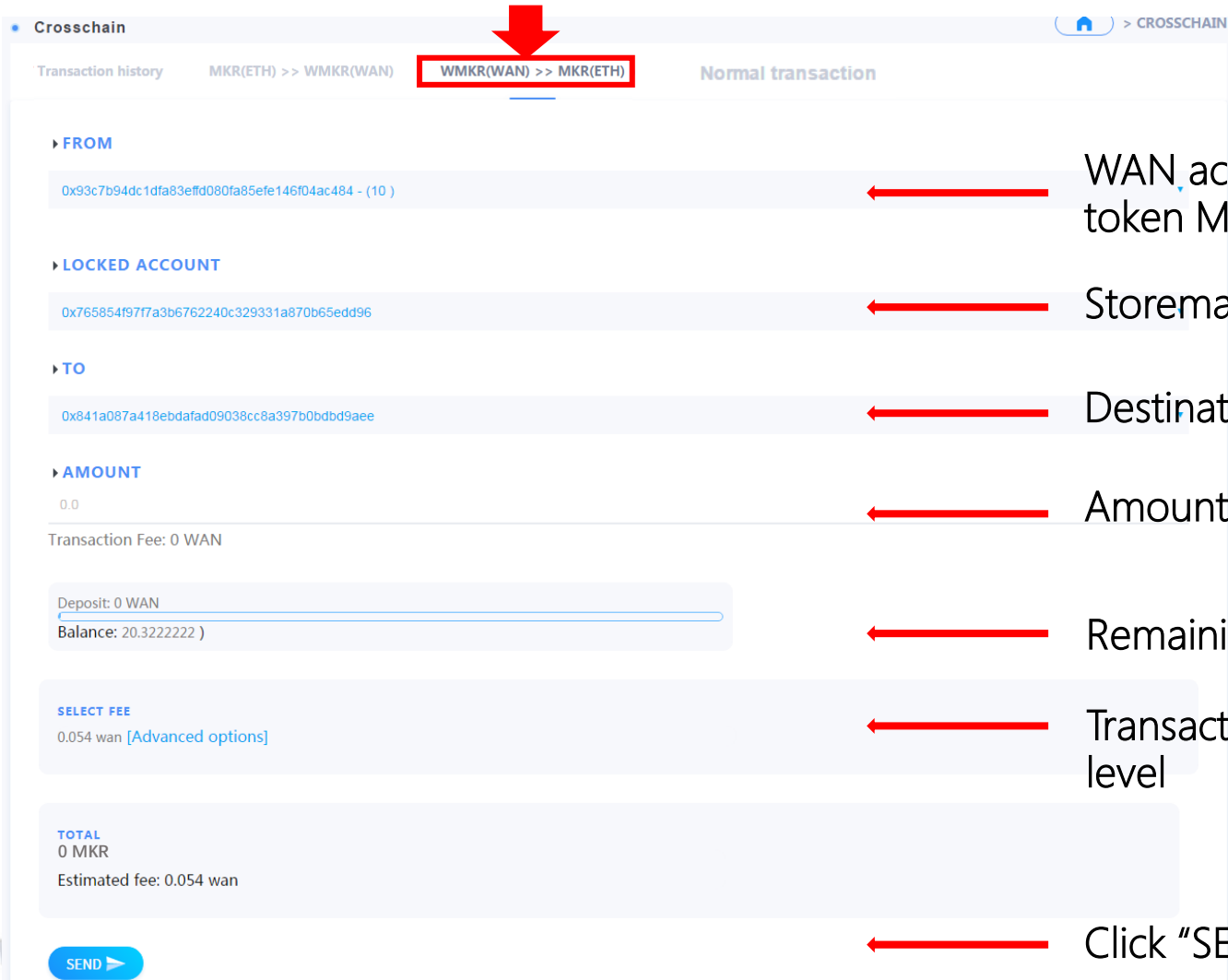
OK

To be cancelled

Enter the password then click "OK" button to cancel the transaction

OK

B4) If you have ERC20 balance on Wanchain (WMKR balance here), you can send WMKR back to MKR on Ethereum. Click the "WMKR(WAN) >> MKR(ETH)" tab below to perform this kind of cross-chain transaction. The process is similar to the MKR(ETH) to WMKR(WAN) one, please refer to section "B3" for details about how to confirm or cancel the transaction.



Crosschain

Transaction history MKR(ETH) >> WMKR(WAN) **WMKR(WAN) >> MKR(ETH)** Normal transaction

▶ **FROM**

0x93c7b94dc1dfa83effd080fa85efe146f04ac484 - (10)

▶ **LOCKED ACCOUNT**

0x765854f97f7a3b6762240c329331a870b65edd96

▶ **TO**

0x841a087a418ebdafad09038cc8a397b0bdbd9aee

▶ **AMOUNT**

0.0

Transaction Fee: 0 WAN

Deposit: 0 WAN

Balance: 20.3222222)

SELECT FEE

0.054 wan [Advanced options]

TOTAL

0 MKR

Estimated fee: 0.054 wan

SEND

WAN account and WMKR balance (Symbol of ERC20 token MKR on Wanchain)

Storeman account chosen for your cross-chain transaction

Destination ETH account for receiving ERC20 (MKR here)

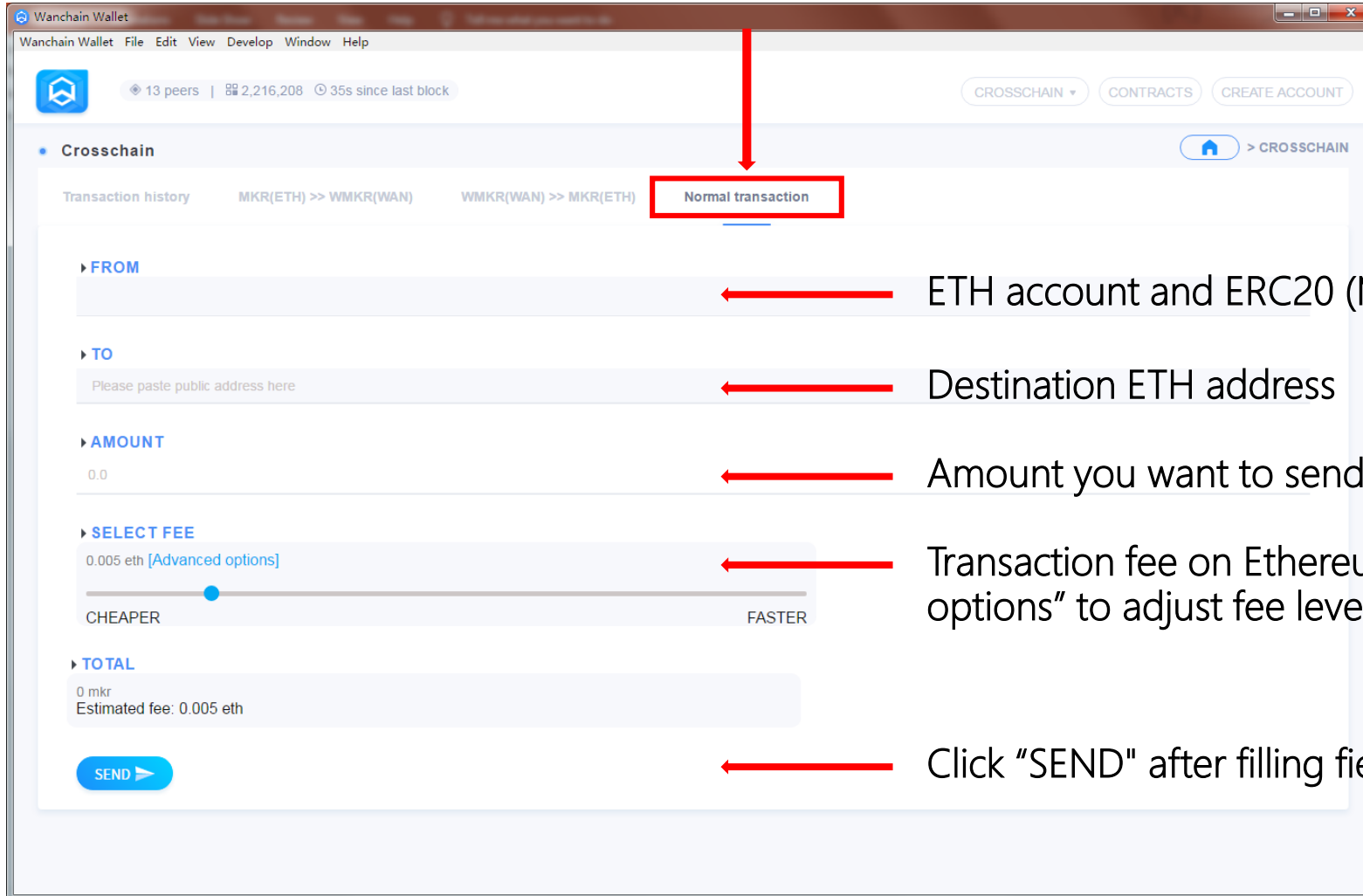
Amount you want to send

Remaining availability of the storeman node you choose

Transaction fee on WAN. Click "Advanced options" to adjust fee level

Click "SEND" after filling fields above.

B5) You can also perform normal ERC20 transactions on Ethereum in Wanwallet GUI (Here MKR as example). Click the "Normal transaction" tab below, fill source and destination accounts, transaction amount, fee preference, then click "SEND"



Wanchain Wallet

Wanchain Wallet File Edit View Develop Window Help

13 peers | 2,216,208 | 35s since last block

CROSSCHAIN ▾ CONTRACTS CREATE ACCOUNT

Crosschain

Transaction history MKR(ETH) >> WMKR(WAN) WMKR(WAN) >> MKR(ETH) **Normal transaction**

FROM

TO

Please paste public address here

AMOUNT

0.0

SELECT FEE

0.005 eth [Advanced options]

CHEAPER FASTER

TOTAL

0 mkr
Estimated fee: 0.005 eth

SEND ➤

ETH account and ERC20 (MKR) balance

Destination ETH address

Amount you want to send

Transaction fee on Ethereum. Click "Advanced options" to adjust fee level

Click "SEND" after filling fields above



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