

# Masterchest Wallet

## User Documentation

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Second Initial Draft

Zathras Feb/2014



## DISCLAIMER

This software is pre-release software for testing only.

The protocol and transaction processing rules for the Master Protocol are still under active development and are subject to change in future.

**DO NOT USE IT WITH A LARGE AMOUNT OF MASTERCOINS AND/OR BITCOINS. IT IS ENTIRELY POSSIBLE YOU MAY LOSE ALL YOUR COINS. INFORMATION DISPLAYED MAY BE INCORRECT.**

A fraction of a bitcoin and a fraction of a mastercoin are the suggested testing amounts. Preferably use a fresh bitcoin wallet.dat.

**MASTERCHEST OFFERS ABSOLUTELY NO GUARANTEES OF ANY KIND.**

This software is provided open-source at no cost. You are responsible for knowing the law in your country and determining if your use of this software contravenes any local laws.

## DEPENDENCIES

Masterchest Wallet requires that the following dependencies are met:

- .NET Framework 4.0 installed
- Bitcoin reference client installed
- Bitcoin reference client transaction index enabled

NOTE: The transaction index is disabled by default in versions 0.8 and above of the Bitcoin reference client. You may re-enable by closing the reference client, adding the line:

**txindex=1**

to bitcoin.conf and then restarting the reference client with the -reindex flag. It may take some time to rebuild the transaction index and progress can be checked with the 'getinfo' call (you should see 'blocks' increasing). You only need to reindex once and the -reindex flag is not needed on subsequent launches of the reference client.

## INSTALLATION

Installation is as simple as extracting the compressed wallet download into a folder of your choosing. An installation package will be available soon.

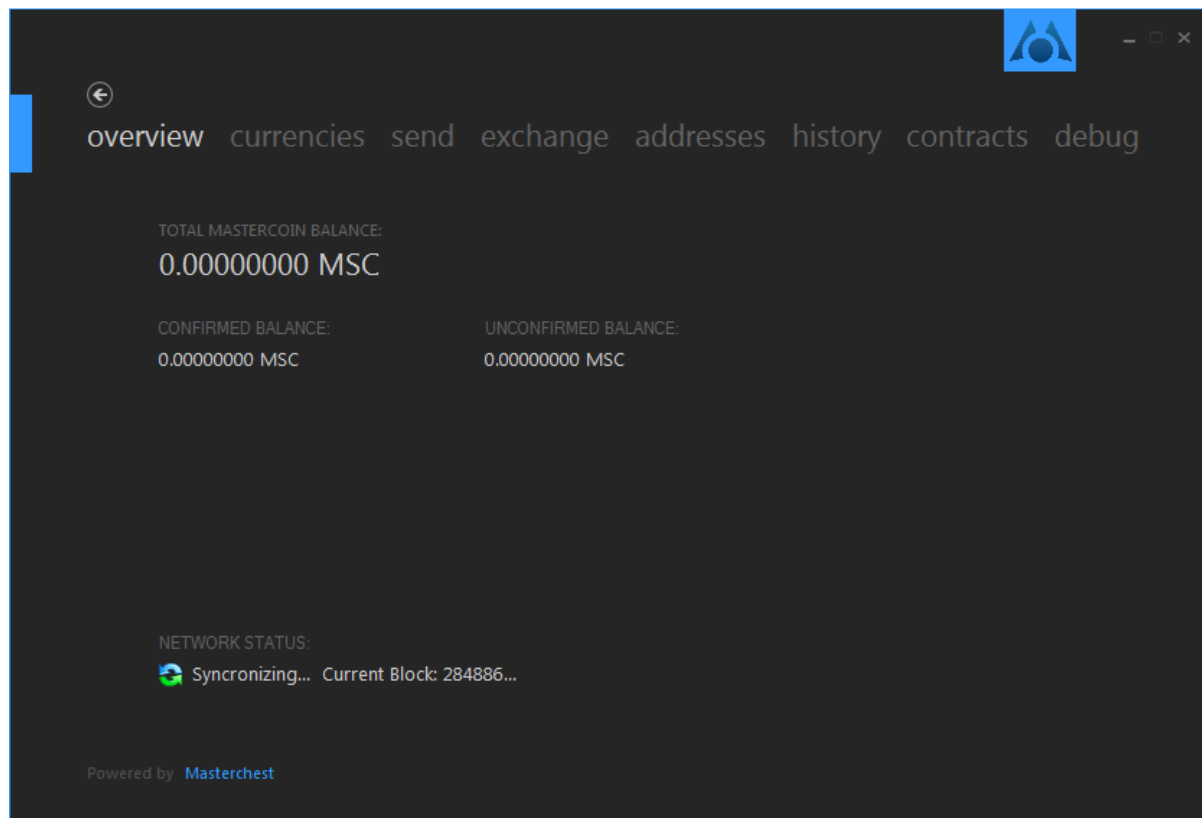
The wallet features auto-detection for configuration so usually no setup will be required, you may simply launch the wallet by running the executable 'Masterchest\_Wallet.exe'.

NOTE: If you have customized your bitcoin installation (for example by using the --datadir flag to change the location of your bitcoin configuration and database) you may need to specify your configuration manually. To do so simply change the four values in wallet.cfg from empty to your chosen bitcoin RPC server configuration.

## USAGE - OVERVIEW

When launching the wallet, it will first perform some sanity checks such as making sure it can talk to your bitcoin installation (and verifying you have a transaction index) and checking the wallet database is accessible.

Providing these tests are passed you should be presented with an overview panel as follows:



The wallet will now use your bitcoin installation to scan the blockchain for Master Protocol messages. You may check the status of synchronization using the debug panel.

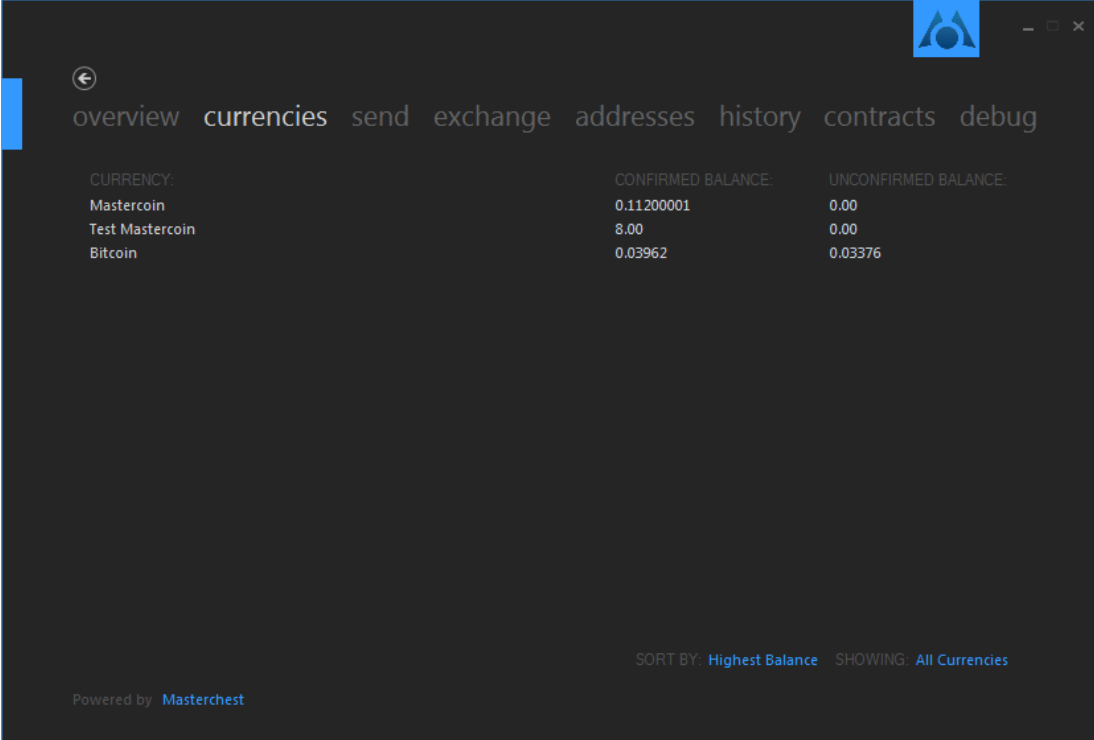
Once synchronization is complete (note on first run this may take a number of hours depending on the speed of your hardware) the network status label will show 'Synchronized' and you should see an overview of your Mastercoin balance displayed.

Your addresses are retrieved from your bitcoin installation, and any that have participated in Master Protocol transactions and/or hold a Mastercoin balance will automatically become available in the wallet interface.

**NOTE:** Transaction processing occurs following completion of blockchain scanning. Therefore you will only see your balances once synchronization has completed.

## USAGE - CURRENCIES

The currencies panel provides a total of your balances for each currency supported by the wallet. It can be used to easily determine your summary position.



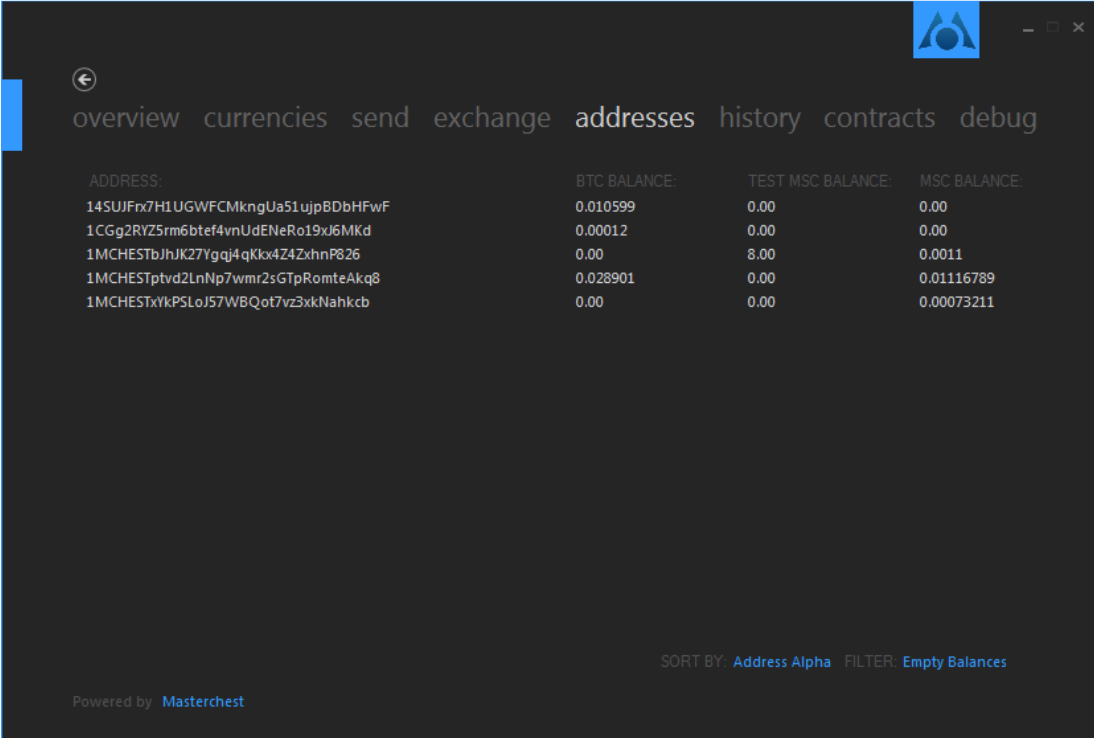
CURRENCY:	CONFIRMED BALANCE:	UNCONFIRMED BALANCE:
Mastercoin	0.11200001	0.00
Test Mastercoin	8.00	0.00
Bitcoin	0.03962	0.03376

Sort BY: Highest Balance    Showing: All Currencies

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## USAGE - ADDRESSES

The addresses panel provides a list of the addresses retrieved from your bitcoin installation and their respective balances. By default addresses with empty balances are filtered.



ADDRESS:	BTC BALANCE:	TEST MSC BALANCE:	MSC BALANCE:
14SUJFr7H1UGWFCMkngUa51ujpBDbHFwF	0.010599	0.00	0.00
1CGg2RYZ5rm6btef4vnUdENeRo19xJ6MKd	0.00012	0.00	0.00
1MCHESTbJhJK27Ygqj4qKkx4Z4ZxhnP826	0.00	8.00	0.0011
1MCHESTptvd2LnNp7wmr2sGTpRomteAkq8	0.028901	0.00	0.01116789
1MCHESTxYkPSLoJ57WBQot7vz3xkNahkcb	0.00	0.00	0.00073211

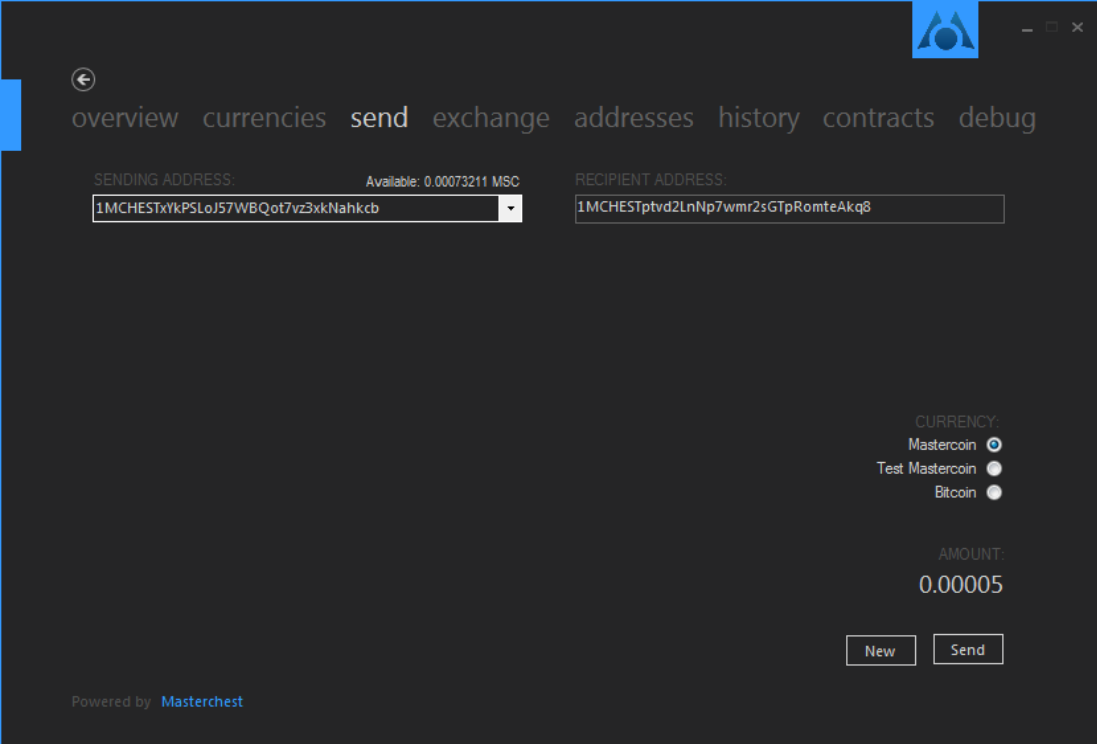
Sort BY: Address Alpha    Filter: Empty Balances

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## USAGE - SEND

The send panel allows you to transact any currency supported by the wallet by sending it to your chosen recipient.

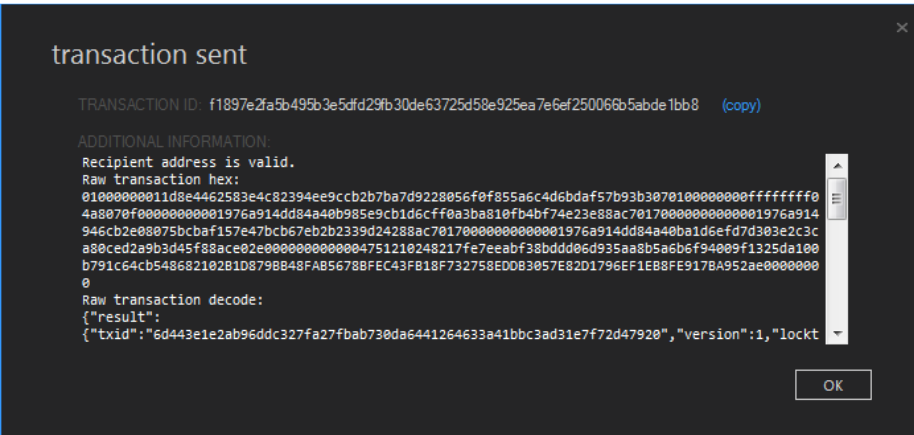
Simply select your sending address from the list on the left and enter (or paste) the recipient address into the right hand box. Select the currency and enter the amount you wish to send - the available amount of your chosen currency at the sending address is displayed for your convenience.



The screenshot shows a dark-themed wallet interface with a top navigation bar containing links: overview, currencies, send, exchange, addresses, history, contracts, and debug. The 'send' panel is active. It features two input fields for addresses: 'SENDING ADDRESS' (with a dropdown menu showing '1MCHESTxkPSLoJ57WBQot7vz3xkNahkcb' and 'Available: 0.00073211 MSC') and 'RECIPIENT ADDRESS' (containing '1MCHESTptvd2LnNp7wmr2sGTpRomteAkq8'). Below these is a 'CURRENCY' section with radio buttons for 'Mastercoin' (selected), 'Test Mastercoin', and 'Bitcoin'. An 'AMOUNT' field shows '0.00005'. At the bottom right are 'New' and 'Send' buttons. The footer indicates 'Powered by Masterchest'.

Once you are happy your transaction details are correct (it's always best to check twice!) you may click the 'Send' button. You will be prompted for your bitcoin wallet passphrase and once entered, the wallet will create, sign & broadcast your Master Protocol transaction using your bitcoin installation.

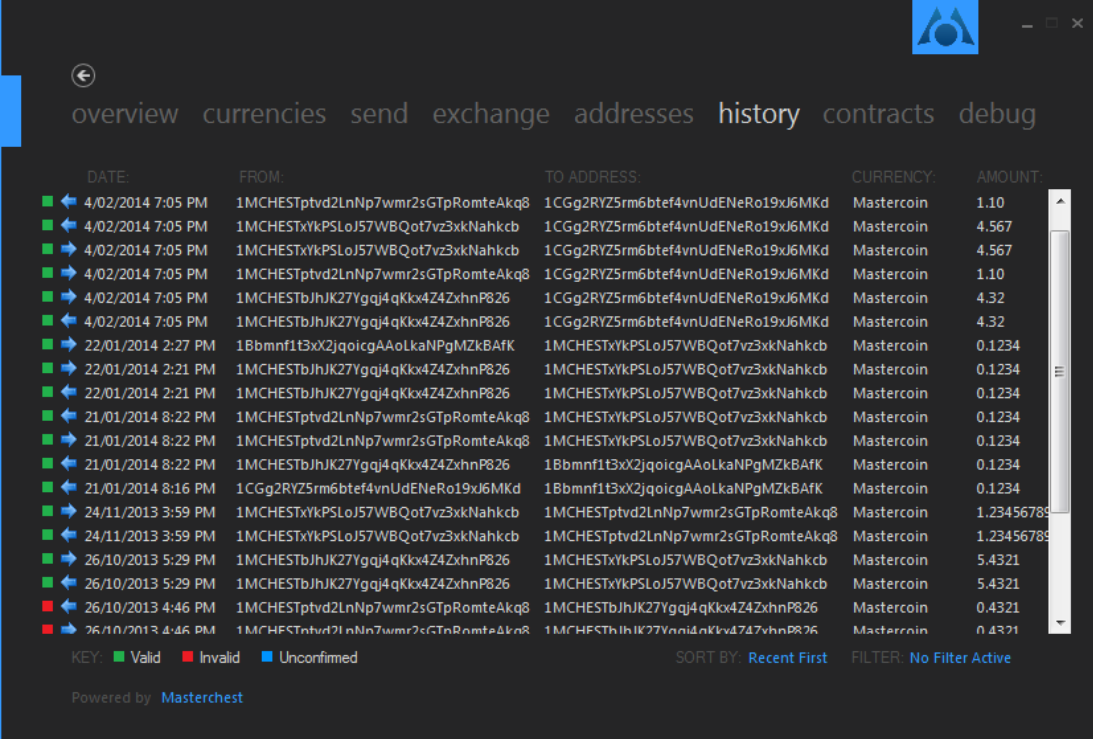
You should then be presented with information about your transaction including the transaction ID. You may use this transaction ID to verify your transaction on any of the various Master Protocol implementations available on the web.



The screenshot shows a 'transaction sent' confirmation dialog. It displays the 'TRANSACTION ID' as 'f1897e2fa5b495b3e5dfd29fb30de63725d58e925ea7e6ef250066b5abde1bb8' with a '(copy)' link. Under 'ADDITIONAL INFORMATION', it states 'Recipient address is valid.' and shows the 'Raw transaction hex' as a long alphanumeric string. It also includes a 'Raw transaction decode' section with a JSON object: {"result": {"txid": "6d443e1e2ab96ddc327fa27fbab730da6441264633a41bbc3ad31e7f72d47920", "version": 1, "lockt...}}. An 'OK' button is at the bottom right.

## USAGE - HISTORY

The history panel provides a view of your previous transactions. These do not necessarily have to be transactions conducted by the wallet - any transactions conducted by addresses detected in your bitcoin installation will be displayed.



The screenshot shows the Masterchast wallet interface with the 'history' tab selected. The interface has a dark theme with a blue header bar. The history panel displays a list of transactions with the following columns: DATE, FROM, TO ADDRESS, CURRENCY, and AMOUNT. The transactions are sorted by 'Recent First' and include a 'FILTER: No Filter Active' option. A key at the bottom indicates that green squares represent 'Valid' transactions, red squares represent 'Invalid' transactions, and blue squares represent 'Unconfirmed' transactions. The transactions are listed in descending order of date, with the most recent at the top.

DATE	FROM	TO ADDRESS	CURRENCY	AMOUNT
4/02/2014 7:05 PM	1MCHESTptvd2LnNp7wMr2sGTPRomteAkq8	1CGg2RYZ5rm6btef4vnUdENeRo19xJ6MKd	Mastercoin	1.10
4/02/2014 7:05 PM	1MCHESTXykPSLoJ57WBQot7vz3xkNahkcb	1CGg2RYZ5rm6btef4vnUdENeRo19xJ6MKd	Mastercoin	4.567
4/02/2014 7:05 PM	1MCHESTXykPSLoJ57WBQot7vz3xkNahkcb	1CGg2RYZ5rm6btef4vnUdENeRo19xJ6MKd	Mastercoin	4.567
4/02/2014 7:05 PM	1MCHESTptvd2LnNp7wMr2sGTPRomteAkq8	1CGg2RYZ5rm6btef4vnUdENeRo19xJ6MKd	Mastercoin	1.10
4/02/2014 7:05 PM	1MCHESTbJhJK27Ygqj4qKkx4Z4ZxhnP826	1CGg2RYZ5rm6btef4vnUdENeRo19xJ6MKd	Mastercoin	4.32
4/02/2014 7:05 PM	1MCHESTbJhJK27Ygqj4qKkx4Z4ZxhnP826	1CGg2RYZ5rm6btef4vnUdENeRo19xJ6MKd	Mastercoin	4.32
22/01/2014 2:27 PM	1Bbmnf1t3xX2jqoicgAAoLkaNPgMZkBAfK	1MCHESTXykPSLoJ57WBQot7vz3xkNahkcb	Mastercoin	0.1234
22/01/2014 2:21 PM	1MCHESTbJhJK27Ygqj4qKkx4Z4ZxhnP826	1MCHESTXykPSLoJ57WBQot7vz3xkNahkcb	Mastercoin	0.1234
22/01/2014 2:21 PM	1MCHESTbJhJK27Ygqj4qKkx4Z4ZxhnP826	1MCHESTXykPSLoJ57WBQot7vz3xkNahkcb	Mastercoin	0.1234
21/01/2014 8:22 PM	1MCHESTptvd2LnNp7wMr2sGTPRomteAkq8	1MCHESTXykPSLoJ57WBQot7vz3xkNahkcb	Mastercoin	0.1234
21/01/2014 8:22 PM	1MCHESTptvd2LnNp7wMr2sGTPRomteAkq8	1MCHESTXykPSLoJ57WBQot7vz3xkNahkcb	Mastercoin	0.1234
21/01/2014 8:22 PM	1MCHESTbJhJK27Ygqj4qKkx4Z4ZxhnP826	1Bbmnf1t3xX2jqoicgAAoLkaNPgMZkBAfK	Mastercoin	0.1234
21/01/2014 8:16 PM	1CGg2RYZ5rm6btef4vnUdENeRo19xJ6MKd	1Bbmnf1t3xX2jqoicgAAoLkaNPgMZkBAfK	Mastercoin	0.1234
24/11/2013 3:59 PM	1MCHESTXykPSLoJ57WBQot7vz3xkNahkcb	1MCHESTptvd2LnNp7wMr2sGTPRomteAkq8	Mastercoin	1.23456789
24/11/2013 3:59 PM	1MCHESTXykPSLoJ57WBQot7vz3xkNahkcb	1MCHESTptvd2LnNp7wMr2sGTPRomteAkq8	Mastercoin	1.23456789
26/10/2013 5:29 PM	1MCHESTbJhJK27Ygqj4qKkx4Z4ZxhnP826	1MCHESTXykPSLoJ57WBQot7vz3xkNahkcb	Mastercoin	5.4321
26/10/2013 5:29 PM	1MCHESTbJhJK27Ygqj4qKkx4Z4ZxhnP826	1MCHESTXykPSLoJ57WBQot7vz3xkNahkcb	Mastercoin	5.4321
26/10/2013 4:46 PM	1MCHESTptvd2LnNp7wMr2sGTPRomteAkq8	1MCHESTbJhJK27Ygqj4qKkx4Z4ZxhnP826	Mastercoin	0.4321
26/10/2013 4:46 PM	1MCHESTptvd2LnNp7wMr2sGTPRomteAkq8	1MCHESTbJhJK27Ygqj4qKkx4Z4ZxhnP826	Mastercoin	0.4321

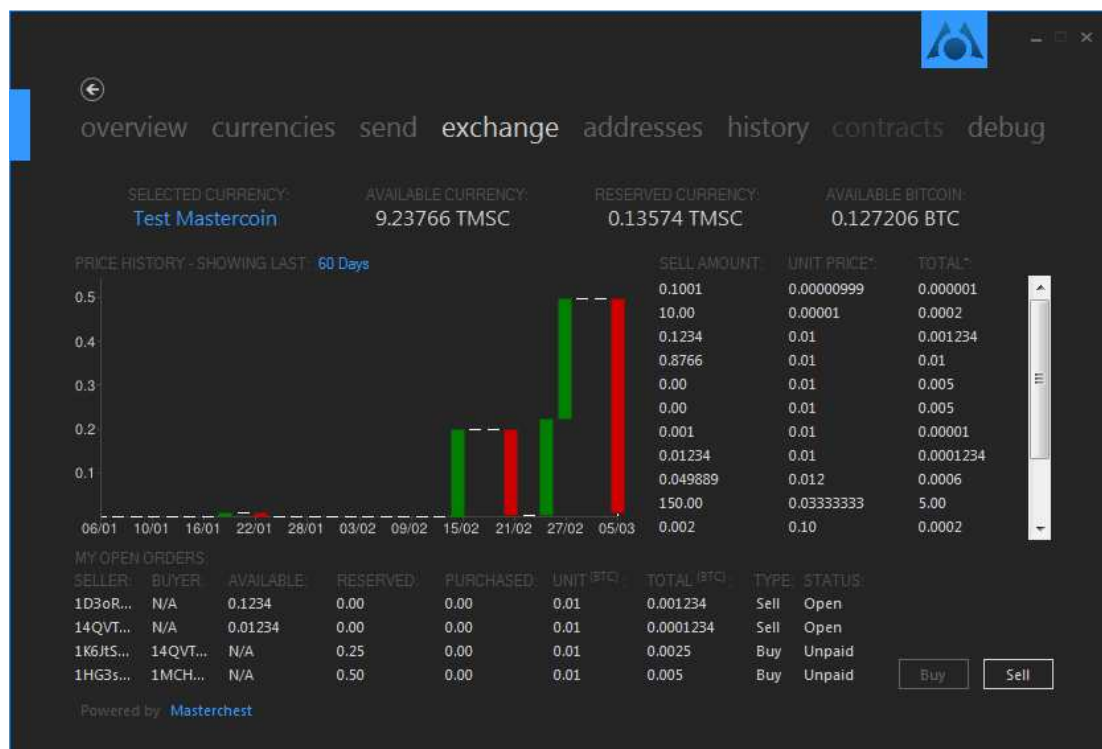
KEY: ■ Valid ■ Invalid ■ Unconfirmed

Sort BY: Recent First FILTER: No Filter Active

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## USAGE - EXCHANGE

The exchange panel provides a way to buy and sell currency in a trust-less fashion directly from the wallet. *NOTE: Current builds support exchanging Test Mastercoins and Bitcoins only.*



### TO SELL CURRENCY:

Create a sell offer by clicking the 'sell' button. Select the address holding the currency you wish to sell, then choose your sell parameters such as the amount and unit price. The total price will be calculated automatically.

The screenshot shows a dialog box titled 'sell test msc'. It prompts the user to 'SELECT YOUR SELLING ADDRESS' and shows 'Available: 8.8766 TMSC'. A dropdown menu displays the selected address: 1MCHSTbJhJK27Ygqj4qKlx4Z4ZxhnP826. Below this, the 'TIME LIMIT' is set to 6 blocks and the 'MINIMUM FEE' is 0.0001 BTC. The dialog also shows the 'AMOUNT TO SELL' as 0.25, the 'UNIT PRICE' as 0.02, and the 'TOTAL (BTC)' as 0.005. At the bottom, there are 'Cancel' and 'Sell' buttons.

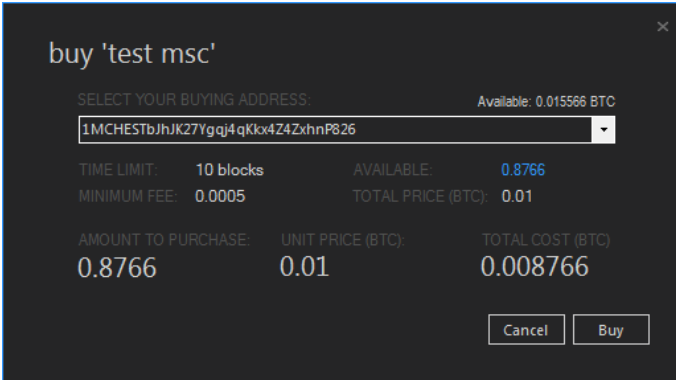
When you are sure you have entered the correct details, click the 'Sell' button. A Master Protocol message will be broadcast using your bitcoin client to advertise your sell offer on the network.

The wallet will then synchronize and you should see your sell in a pending state in your open order list. Once the sell has been confirmed in the blockchain the status will change to 'open' and potential buyers may transact with your sell offer.

To cancel a sell in the 'open' state simply right click on the sell and choose 'Cancel'.

## TO BUY CURRENCY:

Select any of the available sell offers and click the 'Buy' button. Choose your buying address and the amount you wish to purchase.



The screenshot shows a dark-themed dialog box titled "buy 'test msc'". It contains the following information:

- SELECT YOUR BUYING ADDRESS:** A dropdown menu showing "1MCHESTbJhJK27Ygqj4qKlx4Z4ZxhnP826". To the right, it says "Available: 0.015566 BTC".
- TIME LIMIT:** 10 blocks
- AVAILABLE:** 0.8766
- MINIMUM FEE:** 0.0005
- TOTAL PRICE (BTC):** 0.01
- AMOUNT TO PURCHASE:** 0.8766
- UNIT PRICE (BTC):** 0.01
- TOTAL COST (BTC):** 0.008766

At the bottom right, there are two buttons: "Cancel" and "Buy".

When you are sure you have entered the correct details, click the 'buy' button. A Master Protocol message will be broadcast accepting your selected amount of currency.

The wallet will then synchronize and you should see your buy accept in a pending state in your open order list. Once the accept has been confirmed in the blockchain the status will change to 'unpaid' and you may now proceed to payment.

To submit payment for a buy in the 'unpaid' state simply right click on the sell and choose 'Send Payment'. Verify the details to be sure before sending the payment. The buy will re-enter a pending state and once your payment has been confirmed the buy will be completed.

To cancel a buy in the unpaid state simply allow it to expire without payment.



## USAGE - CONTRACTS

This panel is disabled in current builds.