

Introduction To

BUYING HASH POWER

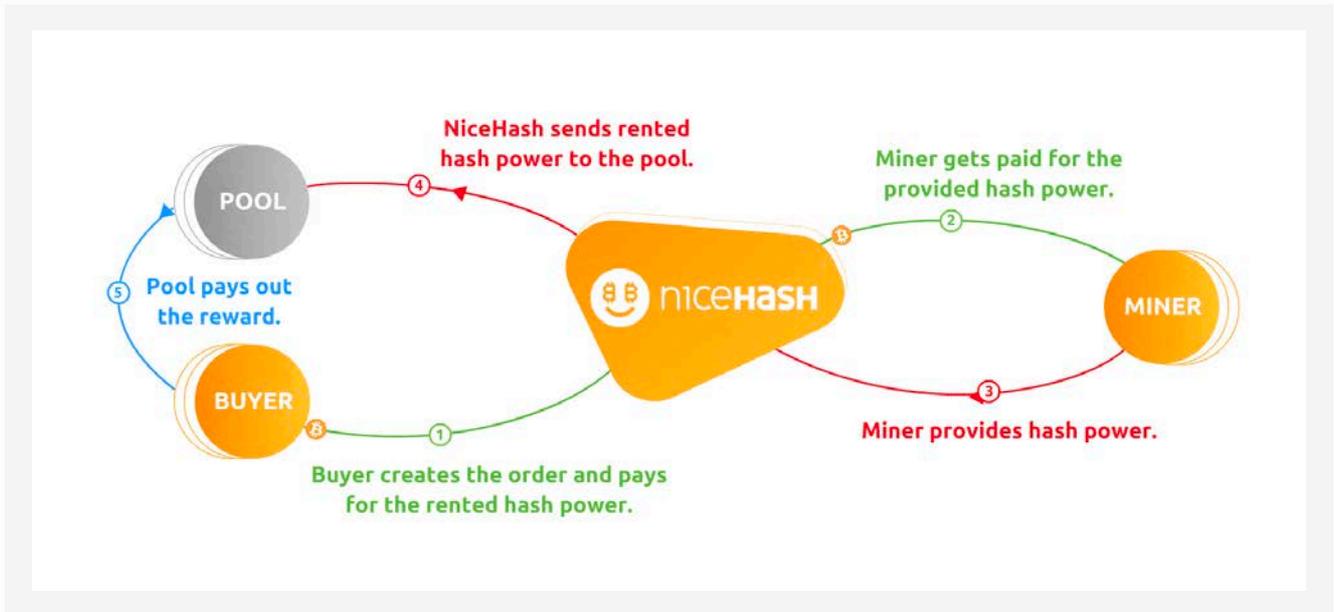
for mining **Bitcoin, Ethereum, Beam, Raven**
and **other Cryptocurrencies.**

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1. Introduction to Buying Hash Power for Mining Bitcoin, Ethereum, Beam, Raven and other Cryptocurrencies

NiceHash is the largest hash power broker marketplace that connects sellers or miners of hash power with buyers of hash power. Hash power is a computational resource that describes the power that your computer or hardware uses to run and solve different cryptocurrency Proof-of-Work hashing algorithms. NiceHash service is unique in a way that only connects different end-users and is not offering any cloud mining options - meaning NiceHash does not own or rent out any mining equipment.



Buying hash power at NiceHash has several benefits. The most notable is the massive hashing power available and fast delivery time. Unlike classical cloud mining, where you buy long-term contracts on private mining farms that usually yield no return, NiceHash offers dynamic and fully autonomous on-demand hash power delivery under your terms. You dictate the price of hash power and decide for how long and where you want to use it. It's a bit like having your own personal on-demand mining farm.

In the following table, we present the main differences between classical cloud mining contracts and buying hash power at NiceHash.

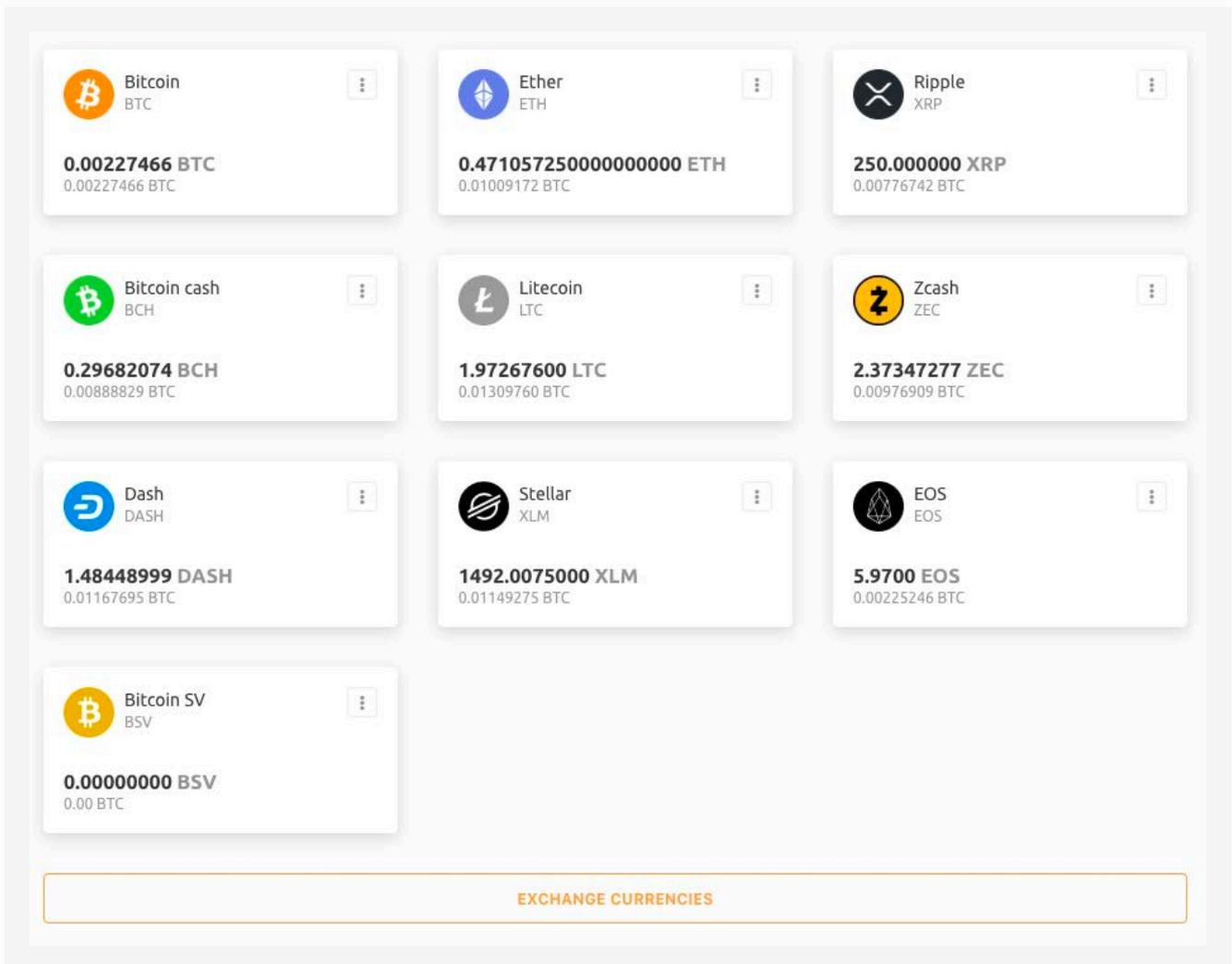
	Classical cloud mining	Buying hashing power at NiceHash
Type	Contracts	Fixed and standard (bidding) orders
Duration	Months, years or lifetime <small>(i.e. as long as electricity costs are not larger than income)</small>	From a few minutes to max. 10 days
Payment	Upfront	On the go
Price	Determined by the cloud mining provider	Determined by the marketplace <small>(NiceHash doesn't have any say in the price)</small>
Strategy	Small amount of hashing power for long period of time	Large amount of hashing power on any pool for unfixed time

2. Detailed instructions on how to get started

In this guide, we have prepared different tips and knowledge you need when buying hashing power for mining your favorite coin.

2.1. Getting started

Log into your account and deposit some bitcoins or some supported cryptocurrency to your NiceHash Wallet address. Keep in mind that you can buy hashing power only with bitcoins. If you have deposited some other supported cryptocurrency you will need to use our exchange.



Deposits to NiceHash wallet are subject to a deposit fee which varies depending on the amount deposited.

Learn more about this here: <https://www.nicehash.com/support/exchange/general/exchange-fees>
You can withdraw the balance from your NiceHash Wallet whenever you like.

2.2. Which coin to choose?

One of the most common questions we get is which algorithm/coin to choose. We cannot give you any advice on your investments, but we suggest you research the general market and decide what you want to achieve and buy hashing power accordingly.

You can find the minimum prices for some hashing power, prices for maximum hashing power and prices for fixed orders for each algorithm on our pricing page: <https://www.nicehash.com/pricing>

If you are also a seller of hashing power and you are planning on buying hashing power, we suggest you mine to your NiceHash Wallet directly. That way, you will avoid additional transaction fees and will be able to spend mined bitcoins to buy more hashing power.

Each coin can be mined on the pools that support the coin's algorithm. Here is a list of more popular coins and algorithms for mining them (correct at the time of writing of this Guide).

Coin	Algorithm
Bitcoin (BTC)	SHA256
Ethereum (ETH)	DaggerHashimoto
Litecoin (LTC)	Scrypt
Dash (DASH)	X11
Monero (XMR)	CryptoNight
Dogecoin (DOGE)	Scrypt
Zcash (ZEC)	Equihash
Decred (DCR)	Decred

When you're mining crypto coins, you also have to look at the long-term profitability, not only the current one.

There are two major cases for successful hash power renting:

- do it for fun, because you like to mine and want to own some crypto coins or
- do it for profit. In the latter case, you have to monitor new altcoins, monitor profitability and monitor opportunities for a particular coin to rise in future - mine it when the difficulty is low and sell it when the price is high – this enables you to gain greater profits.

You can also just hold the coins for long-term investment and cash out or use them for buying goods in the future.

Make sure to find the most suitable pools: those that support stratum and have high enough difficulty. You can check the required difficulty and verify the pool here:

<https://www.nicehash.com/pool-operators>

2.3. Choose your favorite pool provider

We are working hard to deliver excellent service for our buyers of hashing power.

Here: <https://www.nicehash.com/compatible-pools> you will find a list of pools that are known to work well with our service. You can use them with peace of mind when mining coins with hash power, bought through our service. You can, of course, also use any other pool of your choice. However, please choose your pools at your own risk and judgment.

Please note that NiceHash is not affiliated with any of the pools listed on this page, and takes no responsibility for a particular pool should it not fulfill your demands or expectations.

2.4. Register at a pool

After you register, you need to create a worker for mining your coin, whereby you need to set the worker's name and password. Some pools are supporting anonymous mining where you don't need to create an account, you just need to use a wallet address as your worker.

Example: "SiZEWnivGJv49dHV7xFdqCf.nicehash".

NEW WORKER

Miner login
buyer.NiceHash

Worker Name
NiceHash| 8/32
Mandatory field (only letters, numbers and: _ @ + -)

LABELS

Enable monitoring
The monitoring system will detect and report any hash rate issues related to this worker.

Auto detect Alert Limit
Automatically estimates Hash Rate of your worker by its past activity.

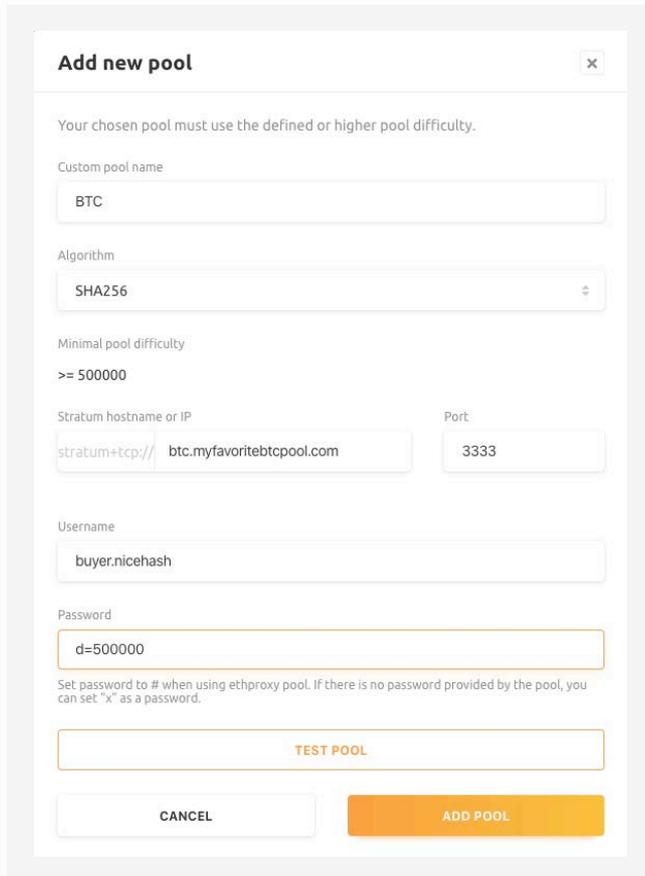
Alert Limit [Gh/s]
The system will report issues, when hash rate drops below this value.

Use default minimum difficulty
User minimum difficulty from your user profile settings.

Minimum Difficulty
131072
Pool always assigns difficulty equal or greater than this value.

2.5. Save your chosen pool in your NiceHash dashboard

The first thing to do before placing a new order is to set up your favorite pools in NiceHash dashboard. You can do that by following navigation Hashpower Marketplace > My pools (<https://www.nicehash.com/my/marketplace/pools>) > Add new pool . Here, you need to enter your pool settings.

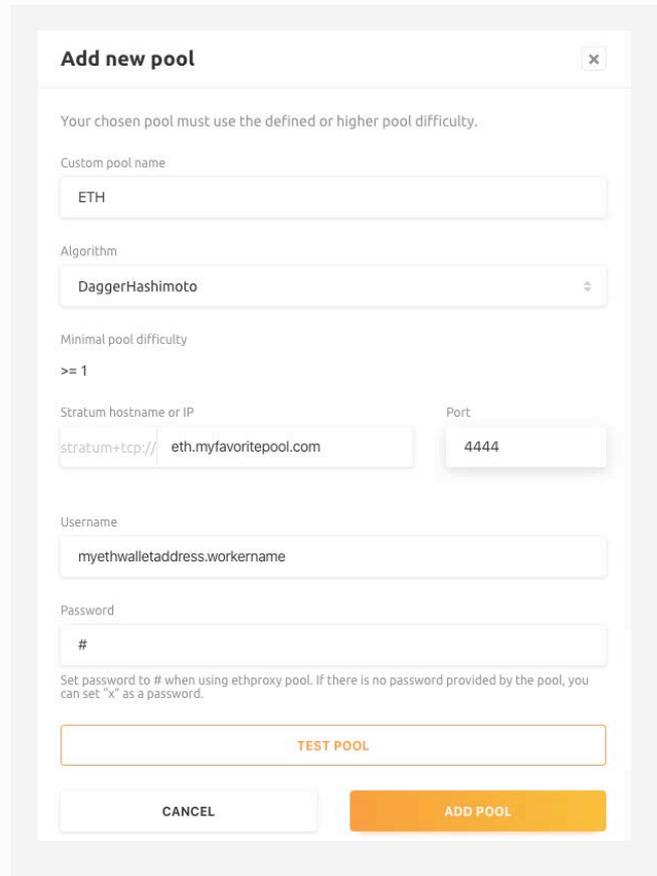


The screenshot shows the 'Add new pool' form with the following fields and values:

- Custom pool name: BTC
- Algorithm: SHA256
- Minimal pool difficulty: >= 500000
- Stratum hostname or IP: stratum+tcp:// btc.myfavoritebtcpool.com
- Port: 3333
- Username: buyer.nicehash
- Password: d=500000

Buttons: TEST POOL, CANCEL, ADD POOL

Example of created worker on registered pool.



The screenshot shows the 'Add new pool' form with the following fields and values:

- Custom pool name: ETH
- Algorithm: DaggerHashimoto
- Minimal pool difficulty: >= 1
- Stratum hostname or IP: stratum+tcp:// eth.myfavoritepool.com
- Port: 4444
- Username: myethwalletaddress.workername
- Password: #

Buttons: TEST POOL, CANCEL, ADD POOL

Example of anonymous mining.

When you have entered the correct pool settings, we suggest you verify your settings with pool verifier. If the pool is compatible with NiceHash, you should get this result:

Pool verification ✕

Pool verification process is complete. Tested pool is compatible!

Notice: Pool verifier may not be 100% accurate and may report pool being compatible while in fact it is not compatible or vice versa. Always discuss with pool operator if you encounter any issues with the pool verifier. Verification process can take up to 20 seconds.

Pool host	eth.myfavoritepool.com
Pool port	4444
Pool user	myethwalletaddress.workername
Pool pass	#
Algorithm	DaggerHashimoto

Pool host 169.62.102.88 resolved to IP 169.62.102.88... **OK**

Connecting to Stratum proxy for region: EUROPE... **OK**

Sending login information... **OK**

Sending ETH get work command... **OK**

Pool difficulty is correct (provided=1.99996948, minimum=1)... **OK**

CLOSE

2.6. Creating and placing an order

Once you have deposited bitcoins on your NiceHash wallet and saved your pools, you are ready to place your first order.

You can do that by going to the Marketplace: <https://www.nicehash.com/my/marketplace>

The screenshot displays the NiceHash marketplace interface. At the top, it shows 'Seeing All Orders for DaggerHashimoto' and a 'Hide charts on my orders' checkbox. The main area is split into two panels: 'EU' and 'USA'. The EU panel shows a 'Total Available Speed' of 4.9205 TH/s and a 'HIDE ORDER FORM' button. Below this, there are tabs for 'STANDARD ORDER' (selected) and 'FIXED ORDER'. A dropdown menu for 'Select your pool' is set to 'ETH'. Input fields for 'Price (BTC/TH/day)' (0.5006), 'Limit (TH/s)' (0.01), and 'Amount (BTC)' (0.005) are visible. A blue bar indicates an 'Approximate duration of mining' of '0d 23h 58min'. A checkbox for 'I agree with the Terms and conditions' is checked. A large orange button at the bottom says 'PLACE ORDER ON EU MARKET'. The USA panel shows a 'Total Available Speed' of 1.6504 TH/s and a '+ NEW ORDER ON USA MARKET' button. Below this is a table of orders with columns: ORDER TYPE & ID, PRICE (BTC/TH/DAY), LIMIT (TH/S), MINERS, and SPEED (TH/S). The table lists 15 orders, including IDs like 8aad4202, 266152f3, 603147e4, 96f6da11, a8ace452, 781937e4, 214dd53c, 6f6a8f6c, ea6957b0, 7ec075d0, 4b6172bb, 1ba5466f, 312e7f9e, and ef793986.

Select the appropriate algorithm for your chosen coin from the drop-down list. Depending on your pool location, choose the closest marketplace – Europe or the USA.

You have two types of orders on NiceHash marketplace: fixed order type and standard (bidding) order type. The main difference between the two is that the fixed type will provide you with a dedicated fixed price and dedicated hashing power, while the standard/bidding type of order can be outbid by other bidders at any time. Our advice is to place a fixed order when the prices are increasing and you have a chance of getting a low price – in that way you will be able to mine for 24 hours at an affordable price. When you want a dynamic mining and ongoing competition with other buyers, you should consider going for the standard order type.

There are three important variables that you need to set to place your order: **price**, **limit**, and **amount**.

Price

Price is the number that puts you on the marketplace. If it is too low, you won't get any hashing power. Note that the price does not determine the total amount you will spend on the order – this is determined by a variable amount. So, if it says, for example, 1.5431 BTC/GH/day, that doesn't mean that you will be charged 1.5431 BTC. When you select a fixed order, the price is already set and you cannot change it. When you select standard order, a minimum price that would get you some miners is suggested to you. Note, once again, that for standard order type you can always increase or decrease the price later on.

Limit

Limit is the number that determines the maximum speed of your order. Standard order type has a lower limit (different for each of the algorithms) value. If you don't want to limit your speed, you can enter 0.00 in the limit field and your speed will have no limit. The fixed order type has an upper and lower limit value. You can enter any value between these two in the limit field.

Amount

Amount is the variable expressed in bitcoins and determines how much will you spend for the given order.

When you set all three variables, the duration of your order is calculated accordingly. The duration of fixed order is capped to 24 hours while the maximum duration of standard/bidding order is 10 days. In case the order is canceled before it is completed, the remaining unspent amount is returned to your NiceHash wallet.

Note that you can always cancel the order and no cancellation fees will be applied. We do, however, charge a non-refundable 0.0001 BTC fee for each new order to prevent order spam. We also take a 3% fee only on the spent balance. If you cancel the order, we will return all the remaining balance to NiceHash wallet and no fee will be applied to that remaining balance.

2.7. Monitoring the order

After you place your order, you can see a small dashboard for your order.



On the left, you have a mining graph – if there are a lot of red-colored areas, then you should check why the speed at the pool is not accepted.

For standard order types, you can increase and decrease price and limit by clicking on the arrows beside the numbers or by clicking the edit button and changing one or both values. To refill your order, click on the button for the refill and enter the amount you wish to add to your order. To cancel your order, click on the cancel button. You can click on the last button to get more order details.

The 'Refill order #0caf94e1' modal shows a 'Refill Amount' field set to **BTC 0.005**. Below it, the balance is **0.07607310 (≈ €0.00)** and a note states **A refundable service fee is charged.** An orange **REFILL ORDER** button is at the bottom.

The 'Edit order #0caf94e1' modal shows a 'Price' field set to **BTC/GH/day 0.0023** and a 'Limit' field set to **GH/s 0.25**. A note below says **Enter 0 for unlimited speed**. An orange **SAVE CHANGES** button is at the bottom.

Note that if your placed order is colored in red, then it is dead. This could be due to different reasons, but the most common is because of the connection to the pool cannot be established.

You can also find all of your active orders and finished orders from the previous month by following Hashpower Marketplace > My orders (<https://www.nicehash.com/my/marketplace/orders>).

In order details page, you will find your order ID number, type, algorithm, pool, username and password for your order. In the balance section, you will find the date when your order started and what its lifetime is (how much time is available for you to complete this order) and the remaining time (how much time is left for your order if it continues at the current speed). You can see the price you placed on that order, how much have you already spent, how much remains of your deposited amount and completion percentage.

This information is followed by a history chart with live updates, which is split into three major parts:

1. The upper part will show you the hashing speed of your order. To see anything here, your order has to be successfully connected to the selected pool. If the connection is successful and the order is paying highly enough (according to current NiceHash market prices), miners start connecting and the order gains hashing power.
2. The middle section shows eventual issues with pool rejects. There shouldn't be any pool rejects if the pool is working correctly and the pool is close enough to the chosen NiceHash marketplace location.
3. The third, lower part shows the difference between the actual reported pool speed and the speed that you are paying for – also called delta. Please keep in mind that Delta can swing up and down depending on your pool's luck. The graphs are shown by using data from accepted shares and this only evens out after at least 24 hours of mining – for shorter intervals it is not possible to make exact graphs.

In the table below, you can see what is going on with hashing power and how is it accepted by the pool. Keep in mind that you only pay for accepted shares and if you see any kind of rejected shares, you should take a look at your selected pool performance. If you don't see any rejects, but still you see low delta, this is only related to low pool luck on your selected order pool – in case of a significant negative delta, you should contact the pool operator of your chosen pool.



All statistics regarding mined coins can be found at the pool you selected in your order. NiceHash only holds information for the sent hashing power and cannot know anything about mined coins at the pool.

2.8. Check your income from purchased hashing power

When you purchase hashing power (place order), NiceHash distributes hashing power to your chosen pool. Your chosen pool generates your income according to their payout scheme and/or found blocks. To view or collect your income, you have to refer to your chosen pool.

NiceHash also does not guarantee that you will make any income at the targeted pool. **NiceHash only guarantees to deliver the hashing power that you purchased.** The hashing power may not always be fully accepted by the chosen pool due to technical obstacles of the chosen pool.

3. A quick summary on How to Buy Hash Power

1. Find the coin you want to mine and the pool you want to mine that coin in. You can get help yourself from these two links:

<https://whattomine.com> and <https://www.coinwarz.com/cryptocurrency>

2. Register at your chosen pool provider (<https://www.nicehash.com/compatible-pools>) and create a worker.

3. Copy your pool settings into your NiceHash dashboard:

<https://www.nicehash.com/my/marketplace/pools>

Algorithm, Stratum, Port (some pools have special NiceHash port but usually you can find it at the end of stratum server), Username (the name of the worker that you have created at the pool or coin wallet address), Password (password from your worker at the pool, usual that is x).

4. Test your pool settings with the pool verifier.

Please note that some pools have the option to custom set the worker's difficulty. Usually, that is the worker's password (password parameter). In that case, you need to enter d=16383 in the password window if the pool verifier shows you that the minimum pool difficulty is 16383.

Example:

Pool difficulty too low (provided=2048, minimum=16383)

Worker = nicehashminer

Workers password: d=16383

5. Go to the Live marketplace and create a new order.

- How to create a new order: <https://bit.ly/2PFIJhd>

- Difference between a fixed and standard order: <https://bit.ly/2Ch1EXP>

- How does order sorting work: <https://bit.ly/36qHJn1>

If your order difficulty is high, then you should set a higher speed limit and the order should last longer (24 hours or more).

6. Check your income at your chosen pool. <https://bit.ly/2oDDVov>

Please note, that the pool is responsible for your mining rewards. NiceHash only guarantees you to deliver hashing power that you purchased. The hashing power may not always be fully accepted by the chosen pool due to technical obstacles of the chosen pool.

4. How to calculate your profit/loss?

Very helpful website: <https://www.crypto-coinz.net/coins-calculator/>

For example that You wanna mine Ravencoin for 24h with 1GB/s

1. Choose the algorithm: X16Rv2
2. Choose coin: Ravencoin - RVN
3. Enter hash rate: 1000 MH/s = 1GB/s
4. Set electricity and hardware cost to zero (0\$)
5. Set pool fee
6. Choose exchange
7. Press calculate and check daily revenue (example = 0.002229 BTC)



Ravencoin (RVN)

<https://ravencoin.org/>

Algorithm: X16Rv2
 Block time: 1m
 Last block: 946,075
 Bl. reward: 5,000.00
 Bl. reward 24h: 5,000.00
 Difficulty: 131,430.578
 Difficulty 24h: 140,920.521
 Difficulty 3 days: 143,756.000
 Difficulty 7 days: 146,997.138
 Nethash: 9.41 Th/s
 Ex. rate: 0.00000322 (Binance)
 Ex. rate 24h: 0.00000311 (Binance)
 Ex. rate 3 days: 0.00000317 (Binance)
 Ex. rate 7 days: 0.00000350 (Binance)

Hash rate	1000.0 Mh/s	Power	0.0 W	Cost	0.0 \$/kWh
Block reward	5000.0 RVN	Fees	3.0 %	Hardware cost	0.0 \$
Difficulty	140920.521	Exchange rate	0.00000322 BTC	BTC value	9333.08 \$

Please note that calculations are based on mean values, therefore your final results may vary.

Estimated Rewards

Per	Fees	Est. Rewards	Rev. BTC	Rev. \$	Cost	Profit
Hour	0.892106	28.844770	0.000093	\$0.87	\$0.00	\$0.87
Day	21.410551	692.274491	0.002229	\$20.80	\$0.00	\$20.80
Week	149.873859	4,845.921438	0.015604	\$145.63	\$0.00	\$145.63
Month	642.316538	20,768.234734	0.066874	\$624.14	\$0.00	\$624.14
Year	7,814.851214	252,680.189259	0.813630	\$7,593.68	\$0.00	\$7,593.68

8. Check how much you will pay for hash power <https://www.nicehash.com/pricing> (example = 0.0022 BTC/GH/day)

9. Final calculation: daily revenue - spent amount for the hashing power = profit/loss
 0.002229 BTC - 0.0022 BTC = +0.000029 BTC

5. Advice from our user

First rule. Not all algorithms are profitable all the time (or even some of the time). It's important to realize that if the math does not add up, just walk away. Patience is important.

Second rule. Always do the math.

Third rule. Always monitor the current price of the coin you're mining. It's really easy to go to bed with it running, and wake up losing money because the price of the coin dropped.

Fourth rule. Look for the best opportunities and jump on them. Don't be anxious and feel like you have to buy right now, as that will lead to poor decisions. Again, be patient.

Fifth rule. Don't buy underfunded. Buying in small orders can lead to loss of some, or even all of your order. Read up on the payment schemes, particularly PPLNS. The gist is that if you buy a small amount that runs to completion very quickly you are at the mercy of luck. A round that goes long can wipe out your entire investment (I've had it happen).

Sixth rule. You're going to lose money at first, as you learn. Just accept that. It's an expensive education. But what you learn will help you to become profitable. In many ways, you learn more from losing than winning.

The math is incredibly easy, if you use a tool like Whattomine or Cryptocompare. All you have to do is look at what the price is going for on NiceHash, and make note of the hash unit being used (MH/GH/PH) and then enter that into Whattomine or Cryptocompare and find out what the coin is currently paying in rewards for 1 unit of the NiceHash price. If the NH price is significantly lower than the rewards, then it's possible to make a profit... but I must caution you again... do not buy small or short orders. And do not "chase" after the hash.

Here's an example from right now: Cryptonight.

The current price on NiceHash is 0.2258 BTC/MH/Day, so at that price you will pay 0.2258 BTC for 1MH/s for 24 hours.

Now, let's go over to Whattomine and enter into the CryptoNight box 1000000 (one million H/s). Make sure you change the Sort by to "current profit" and the "difficulty for current revenue" to "current difficulty". And click Calculate.

Now, find the coin you want (in this case, probably Monero) and check the "Rev BTC" column, the top value. As of right now, this value is 0.25308. Now, $0.25308 - 0.2258 = 0.02728$. So, this means that if you spent .2258 for 1MH/s for 24 hours, and the price of Monero stays steady (which it won't, but we'll just say for examples sake) then you will make 0.02728BTC or about \$166.

That sounds great, but what if you don't have .2258BTC? Well, you can spend less, but you have to calculate the ratio. For instance, if you spend half (.1128) then that just means the order will last 12 hours instead of 24. And your rewards will also be half. I'm sure you can do the math for whatever ratio of reward to spend you want. Another option would be to drop the limit to 500KH/s, and it would still make the half amount, but take 24 hours instead.

Why would you want to do that? Why not just crank it up to infinity? I asked the same question when learning. And there are several reasons why you don't want to. If you set your hash too high, you will suck up all the available hash, and other buyers will get mad at you and outbid you, possibly even to the point of being unprofitable.

The shorter your order, the more you are affected by luck. Depending on the payment scheme used, luck can destroy you. The only solution is to spread your order out over a long time (hours, maybe days) to try and average out the luck (this is called Variance).

Finally, the only way to make profit is to bid low and sell high. Bidding low endangers you of being outbid, and running out of hash. You may be tempted to raise your price to "chase" after it. This often starts a bidding war and drives the price way up.

Secondly, while you can increase the price to whatever you want, you can only decrease the price (as of the last few days) by .0001 every 10 minutes. The only way to lower your price more than that is to cancel your order and rebuy, but doing so will cost you .0001BTC in un-refundable fee.

It makes sense to simply find a price that you're comfortable with, and camp on it. If you lose hash, don't chase after it. wait for it to lower again. It may take hours or even days, but chances are it will happen. Bidding at a price that ensures you have hash all the time will not be profitable in the long run. You are in much more danger of the price of the coin dropping below profitable levels.

Also, be wary of pools and remember to calculate pool fees into your prices. Some charge 2%, some 1%, some less.. some even have 0 pool fees. NiceHash also charges a fee, .0001 + 3%. So, your spread (the difference between the rewards spent and those received) needs to be greater than the fees, and your order length needs to be long enough to counter Variance.

Some pools are also dishonest, and you won't get your full rewards from them. But, more likely, if you aren't earning what you expect, it's more likely luck (or bad luck). And remember that the reward estimations are just that, estimations.

And... you have to watch the price, because in the real world, the price changes. If the price goes down, you may have to lower your price (taking into account that .0001 per 10 minutes rule), cancel your order... or... another tactic is to lower your speed to the minimum speed and wait for the price to return to profitability.

Another tactic I've seen is to place several orders at different price points. Then you raise the speed limit on the price point that has hash, and lower all the others to the minimum. When you see a bunch of other orders at the minimum, that's probably what they're doing.

Finally, why are some people paying way more for their hash than the rewards they receive? The answer is likely that they are solo mining, and are willing to pay more in the hopes that they will find a block before they've spent the equivalent of a full block's rewards. It's basically gambling.

/r/NiceHash, man_of_mr_e

Thank you for using our services.

NiceHash Buyers Guide. Updated November 1, 2019.

