Disclaimer:

- For Educational Purposes only.
- Contains all Affiliate Links. All of the proceeds go to maintenance of our infrastructure
- Please take care in handling the equipment. We cannot be held responsible for absolutely any kind of damage, whatsoever.

Thanks to : https://www.reddit.com/r/EtherMining/wiki/index and r/Robbbbbbbb

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1. Procurement (Buying Stuff) 4941-5500

	Acronym	Title	Specification	Nos.	Price	Link
a.	MB	Motherboard	Biostar Pro BTC 250	1	160 $	http://amzn.to/2fzBJzu
b.	CPU	Processor	Intel G4400	1	41 $	http://amzn.to/2xPUFVt
c.	RAM	Memory	4gb DDR4	1	34 $	http://amzn.to/2xlBUYt
d.	HDD	Hard disk	120 gb min. SSD	1	54 $	http://amzn.to/2ypij8d
e.	PSU x3	Power Supply	750W Gold / Platinum	3	420 $	http://amzn.to/2xlF7Y7
f.	PR	PCIE Riser	V6. Molex Connector	18	100 $	http://amzn.to/2xQGlfj
g.	GPU	Graphics Card	AMD rx580	6	1620 $	http://amzn.to/2fySdro
h.	GPU	Graphics Card	Nvidia 1070	6	2400 $	http://amzn.to/2xlnIi8
i.	A2P	Add2PSU		2	16 $	http://amzn.to/2xlwFb6
j.	Frame	Housing		1	37 $	http://amzn.to/2xQe1JX
k.	Screws			1	7 $	http://amzn.to/2xlKCG9
l.	PS	Power Strip		1	10 $	http://amzn.to/2xvjrcz
m.	FAN	Cabinet Fans		5	40 $	http://amzn.to/2FxuciI
n.	KAW	Kill a Watt		1	20 $	http://amzn.to/2tmoU4N

GPU Buying Guide

i. Set up Email updates on www.nowinstock.com for GTX 1060, GTX 1070 & RX 580 (Never buy gtx1060 above 260$, gtx1070 above 400$ and rx580 above 260$. If you are lucky and keep a watch continuously, you'll be able to get better prices.)
ii. Set up 1-click-ordering on Amazon
iii. Try your best to click through and snap a card before it goes out of stock.
iv. Remember AMD cards are cheaper and have better hash rates in most of the cases but they consume almost twice the electricity required by NVidia cards for almost the same performance. If you are into it for the long run, I suggest going ahead with NVidia.

Optional Notes:

v. Even if you plan on a lesser number of GPU's, it's a good idea to buy a MB capable of supporting more. I think that it's worth the 50-60 bucks that you would have otherwise saved had you gotten a cheaper MB.
vi. I would recommend going ahead with Intel 7th gen, i3 (instead of the Intel G4400 CPU) at least. I need to keep my server hosted and I tend to mine on HDD and I don't like a slow unresponsive system.
vii. HDD 120 GB minimum required. Please do yourself a favor and get a SSD. Paging file and OS would occupy around 60GB
viii. Getting a platinum powered power supply is highly recommended. Even a 2 percent increase efficiency balances its cost in the long run (breakeven 1 year)
ix. Always remember to NOT use SATA to Molex converters to power up your risers.
x. You can always simply short the PSU cables and not particularly need Add2PSU but it's better for the long run
xi. The rack is probably the cheapest frame that I found online for hosting our rig. The only improvisation we have to do is to fine tune a perfect spot for tightening the bar that will handle the lock ends of the GPUs.

2. Assembly (Assembling Hardware and connecting the cables)
    a. PSU1, PSU2, PSU3 >> Power Strip >> Kill-A-Watt >> Wall Socket (110V AC)
    b. PSU1 to
        i. GPU1 (6 Pin to 8 Pin PCIE)
        ii. GPU2 (6 Pin to 8 PCIE)
        iii. GPU3 (6 Pin to 8 PCIE)
        iv. GPU4 (6 Pin to 8 PCIE)
        v. MB CPU (8 Pin to 8 Pin)
        vi. PR1, PR2, PR3, PR4 (6 Pin to Molex)
        vii. Add2PSU1 (22 Pin to ATX)

viii. FAN1, FAN2, FAN3, FAN4 (6 pin to Molex (Note: if you are short of Molex cables, it's pretty safe to use 6 Pin to SATA cables and SATA to Molex converters.))

c. PSU2 to
    i. GPU5 (6 Pin to 8 Pin PCIE)
    ii. GPU6 (6 Pin to 8 Pin PCIE)
    iii. GPU7 (6 Pin to 8 Pin PCIE)
    iv. GPU8 (6 Pin to 8 Pin PCIE)
    v. MB (22 Pin to ATX)
    vi. Add2PSU1 (6 Pin to Molex)
    vii. Add2PSU2 (6 Pin to Molex)

d. PSU3 to
    i. GPU9 (6 Pin to 8 Pin PCIE)
    ii. GPU10 (6 Pin to 8 Pin PCIE)
    iii. GPU11 (6 Pin to 8 Pin PCIE)
    iv. GPU12 (6 Pin to 8 Pin PCIE)
    v. HDD (6 Pin to SATA)
    vi. R5,R6,R7,R8 (6 Pin to Molex)
    vii. R9,R10,R11,R12 (6 Pin to Molex)
    viii. Add2PSU2 (22 Pin to ATX)

e. GPU (the one connected to the PCIe x 16 port on the MB) to TV (HDMI)

3. Installation (Booting, Installing Windows, Successful detection of all cards)
    a. Install Windows
        i. Download Windows ISO file and flash on USB using Rufus
        ii. Attach USB to MB
        iii. Connect HDMI, Ethernet/WIFI, Keyboard & Mouse to the MB
        iv. Double check all the connections and then switch on the power
            1. To power on the MB, you're going to have to locate a pinout section containing 8-10 pins which are labelled as LED, PWR etc. There'll be a small diagram referencing the pins and their functions on the MB itself. Short the corresponding pins which denote PWR.
            2. Theoretically, the behavior of each GPU is different, but in all my experience, if the connections are proper and the hardware in intact, all of the GPU fans should spin as soon as you power on the MB
        v. Press F9 and enter the BIOS
            1. Change XHCI handover to enabled
            2. Set Mining Mode to enable
            3. Set PCIE to gen 2
            4. Select boot device as "UEFI: *name_of_the_USB*"
        vi. Install Windows regularly
        vii. As soon as you boot into desktop, hit [Ctrl+Shift+ESC] and **don't dare touch the pc until the CPU is down to 3-4% and disk is down to 0%**

viii. Now hit the windows key, search for Windows Update and check for updates and complete the updates procedure
ix. Hit the [Windows + X] and select device manager. Under Display Adapters, check the number of GPU's detected. (Note: if the number of GPUs detected is less than connected, you probably have Hardware issues)
x. Increase Virtual Memory of the PC to 40GB (number of cards * 3 GB)
xi. Now restart the PC

b. Install AMD Drivers
http://support.amd.com/en-us/kb-articles/Pages/Radeon-Software-Crimson-Edition-16.11.5-Release-Notes.aspx
c. Install NVidia Drivers
http://www.nvidia.com/content/DriverDownload-March2009/confirmation.php?url=/Windows/385.28/385.28-desktop-win10-64bit-international-whql.exe&lang=us&type=GeForce

4. Mining (finalizing a coin, a wallet, a pool and a miner)
   a. Finalize a coin (ETH) and create a wallet, join a pool and start mining
   b. Download Claymore Miner, extract to a folder and create a new text file inside it. Paste the following:

```
setx GPU_FORCE_64BIT_PTR 0
setx GPU_MAX_HEAP_SIZE 100
setx GPU_USE_SYNC_OBJECTS 1
setx GPU_MAX_ALLOC_PERCENT 100
setx GPU_SINGLE_ALLOC_PERCENT 100
EthDcrMiner64.exe -epool us1.ethermine.org:4444 -mode 1 -ewal
0xXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX.YYY -epsw x
```

   c. Replace 0xXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX with your Eth wallet address and YYY with any random name you want and save as mine.bat (bat is the extension to the file).
   d. Now restart the PC and Click on mine.bat
   e. This starts the Claymore miner and connects to ethermine.org