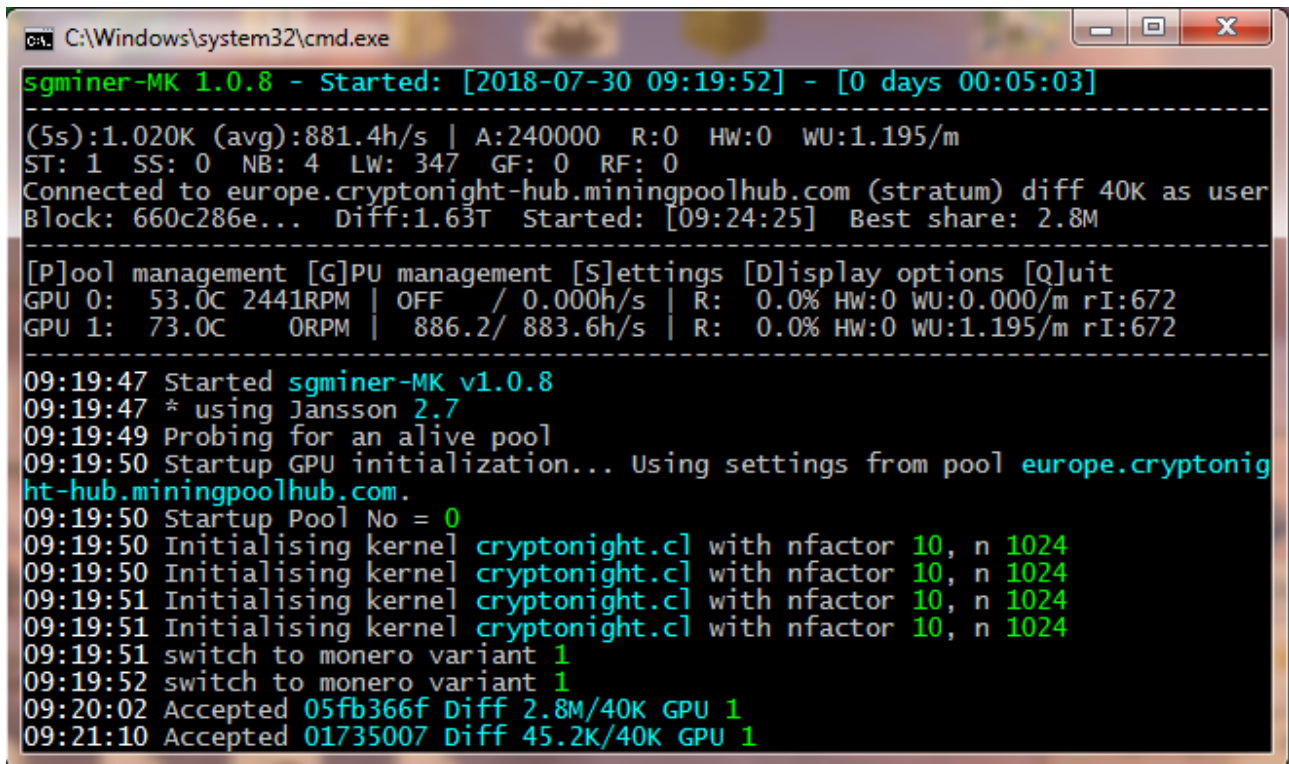


# SGMINER-MK 1.0.8 - CONFIGURATION MANUAL FOR MONERO (CRYPTONIGHT V7) COINS:

V. 1.0



```
C:\Windows\system32\cmd.exe
sgminer-MK 1.0.8 - Started: [2018-07-30 09:19:52] - [0 days 00:05:03]
-----
(5s):1.020K (avg):881.4h/s | A:240000 R:0 HW:0 WU:1.195/m
ST: 1 SS: 0 NB: 4 LW: 347 GF: 0 RF: 0
Connected to europe.cryptonight-hub.miningpoolhub.com (stratum) diff 40K as user
Block: 660c286e... Diff:1.63T Started: [09:24:25] Best share: 2.8M
-----
[P]ool management [G]PU management [S]ettings [D]isplay options [Q]uit
GPU 0: 53.0C 2441RPM | OFF / 0.000h/s | R: 0.0% HW:0 WU:0.000/m rI:672
GPU 1: 73.0C 0RPM | 886.2/ 883.6h/s | R: 0.0% HW:0 WU:1.195/m rI:672
-----
09:19:47 Started sgminer-MK v1.0.8
09:19:47 * using Jansson 2.7
09:19:49 Probing for an alive pool
09:19:50 Startup GPU initialization... Using settings from pool europe.cryptoni
ht-hub.miningpoolhub.com.
09:19:50 Startup Pool No = 0
09:19:50 Initialising kernel cryptonight.cl with nfactor 10, n 1024
09:19:50 Initialising kernel cryptonight.cl with nfactor 10, n 1024
09:19:51 Initialising kernel cryptonight.cl with nfactor 10, n 1024
09:19:51 Initialising kernel cryptonight.cl with nfactor 10, n 1024
09:19:51 switch to monero variant 1
09:19:52 switch to monero variant 1
09:20:02 Accepted 05fb366f Diff 2.8M/40K GPU 1
09:21:10 Accepted 01735007 Diff 45.2K/40K GPU 1
```

*A preview of the miner in action*

The Monero.bat file contains this command line:

```
sgminer.exe -k cryptonight -monero -o stratum+tcp://europe.cryptonight-
hub.miningpoolhub.com:20580 -u giovannicastelli.MadKernel -p x --gpu-
platform=0 -d 1 -g 2 -w 4 --rawintensity 672 --worksizes 224
```

This command was used by me to launch and test the miner. It contains optimal working parameters if you have a card like R9390x (and to mine to my address!).

Now you have to check/modify and the configuration options in order your miner works fine in your windows environment.

## **BASIC PARAMETERS**

### **-k cryptonight**

Kernel algorithm (do not modify if you want to mine monero)

### **--monero**

Switch used to support the monero fork of 03/2018 (autodetect and switch to v7 algo)

### **-o [pool]**

Monero (or other cryptonight v7) mining pool address.

### **-u [pool\_username]**

Username or wallet address, required to log in, depending of your mining pool.

### **-p [pool password]**

Password of your mining worker.

### **--gpu-platform=[n]**

OpenCL GPU platform ID of your AMD cards. Normally this parameter defaults to 0. Maybe you have to change it if you have other OpenCL available environments in you machine (Es: Nvidia, Intel).

### **-d [n,..]**

List of GPU cards device(s) the miner uses. If this parameter is omitted all cards will be used.

## **KERNEL PARAMETERS**

### **-g [num gpu threads]**

Number of threads for each GPU (recomended 2)

### **-w [general GPU threads worksize]**

Sets the number of threads for each CU(compute unit) of your GPU the kernel involved in the mining process.

Recommended values 4,8,16.

NOTE: for R9390 4 seems to be optimal. For newer recommended values maybe 8 or 16.

## **--rawintensity [total GPU threads]**

Number of GPU threads launched per kernel.

This number must be carefully selected because it affects performances of the mining process and the GPU memory allocated and used by.

For rawintensity I found best results are obtained using the formula :

$\text{rawintensity} = (\text{GPU ComputeUnits}-2) * 16$

### OPTIMAL RAW INTENSITY REFERENCE TABLE :

R9 390 ( 44 cu )	= 42 * 16 = 672
Rx 470 ( 32 cu )	= 30 * 16 = 480
Rx 480 ( 36 cu )	= 34 * 16 = 544
Rx 570 ( 32 cu )	= 30 * 16 = 480
Rx 580 ( 36 cu )	= 34 * 16 = 544
Vega 56 ( 56 cu ?)	= 54 * 16 = 896
Vega 64 ( 64 cu )	= 62 * 16 = 992

#### NOTE:

For fine tuning you can also try adding or subtracting 16 to the above values.  
Use only values multiples of 16.

Some Vega 56 card model maybe will have more of 56 CU, use GPUZ or other utility to check it.

If you use only one thread per GPU (-g 1) you have to double the values.

## **FINE TUNING PARAMETERS**

### **--worksizes [nnn]**

This parameters permits you to partially override the -w (GPU kernels threads for computer unit) forcing the CU to use for each one of the three main kernels used in the mining process (cn0 / cn1 / cn2 kernels in criptonight.cl file) the requested number of thread.

The value of this parameter has a fixed length of 3 characters.

The characters must be in range 2-5.

Each character specify the power of 2 the worksize of the kernel.

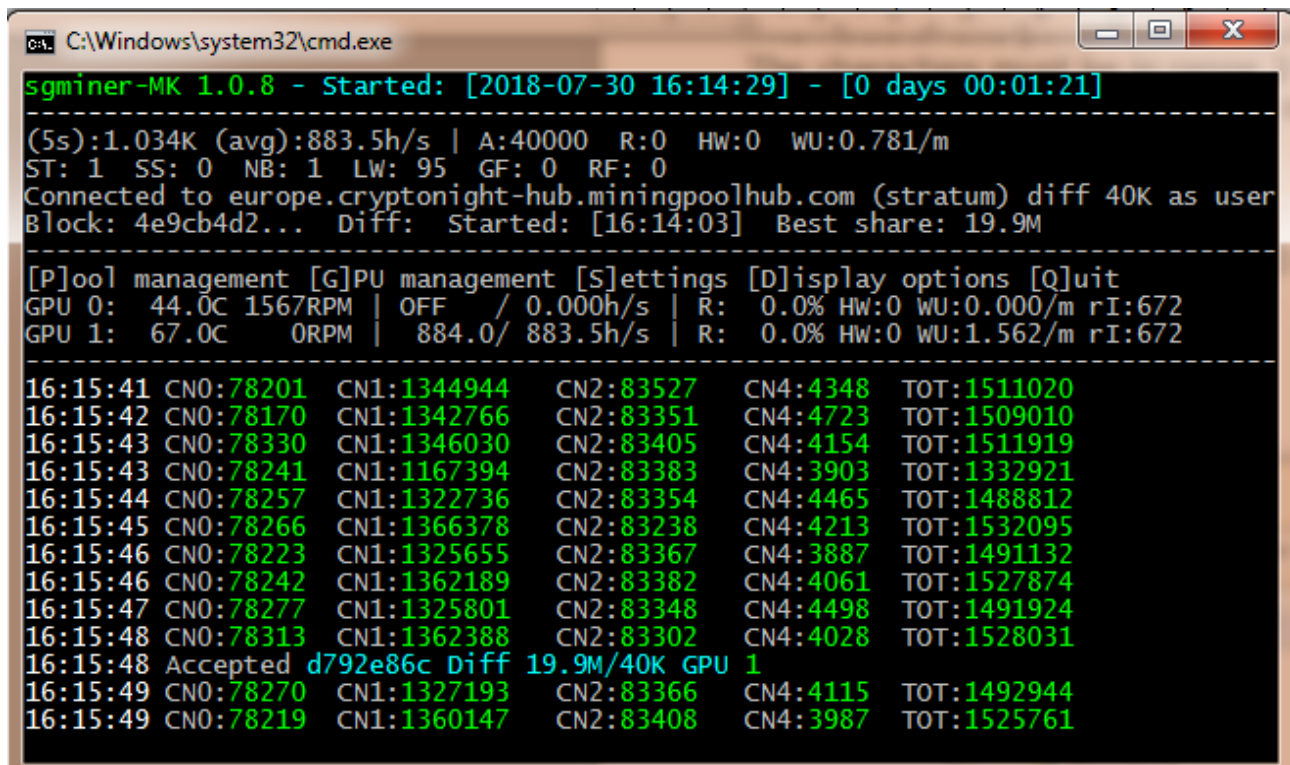
Example : --worksizes 324

Specify worksizes of 8,4,16 so the CN0 kernel will be launched with a worksize of 8, the CN1 for a worksize of 4 and the third uses 16 threads.

## --benchmark

This option, without args, used for cryptonight algo is useful for display the kernels execution time and the total time of each mining iteration.

The time is displayed in microseconds.



```
C:\Windows\system32\cmd.exe
sgminer-MK 1.0.8 - Started: [2018-07-30 16:14:29] - [0 days 00:01:21]
-----
(5s):1.034K (avg):883.5h/s | A:40000 R:0 HW:0 WU:0.781/m
ST: 1 SS: 0 NB: 1 LW: 95 GF: 0 RF: 0
Connected to europe.cryptonight-hub.miningpoolhub.com (stratum) diff 40K as user
Block: 4e9cb4d2... Diff: Started: [16:14:03] Best share: 19.9M
-----
[P]ool management [G]PU management [S]ettings [D]isplay options [Q]uit
GPU 0: 44.0C 1567RPM | OFF / 0.000h/s | R: 0.0% HW:0 WU:0.000/m rI:672
GPU 1: 67.0C 0RPM | 884.0/ 883.5h/s | R: 0.0% HW:0 WU:1.562/m rI:672
-----
16:15:41 CN0:78201 CN1:1344944 CN2:83527 CN4:4348 TOT:1511020
16:15:42 CN0:78170 CN1:1342766 CN2:83351 CN4:4723 TOT:1509010
16:15:43 CN0:78330 CN1:1346030 CN2:83405 CN4:4154 TOT:1511919
16:15:43 CN0:78241 CN1:1167394 CN2:83383 CN4:3903 TOT:1332921
16:15:44 CN0:78257 CN1:1322736 CN2:83354 CN4:4465 TOT:1488812
16:15:45 CN0:78266 CN1:1366378 CN2:83238 CN4:4213 TOT:1532095
16:15:46 CN0:78223 CN1:1325655 CN2:83367 CN4:3887 TOT:1491132
16:15:46 CN0:78242 CN1:1362189 CN2:83382 CN4:4061 TOT:1527874
16:15:47 CN0:78277 CN1:1325801 CN2:83348 CN4:4498 TOT:1491924
16:15:48 CN0:78313 CN1:1362388 CN2:83302 CN4:4028 TOT:1528031
16:15:48 Accepted d792e86c Diff 19.9M/40K GPU 1
16:15:49 CN0:78270 CN1:1327193 CN2:83366 CN4:4115 TOT:1492944
16:15:49 CN0:78219 CN1:1360147 CN2:83408 CN4:3987 TOT:1525761
```

Image showing the effect of the `--benchmark` switch. For each line is displayed the execution time of the three staged kernel(CN0,CN1,CN2) , the execution time of the kernels used to evaluate the target (CN4) and the total time of the process.

This option give a very useful insight how the `-w` and `--worksizes` parameter affects the behavior and the performance of the mining process.

Once you think to have found the best configuration for performance is better to disable this option because the mining process in 'benchmark' mode is a little slower than normal 'mining' mode.