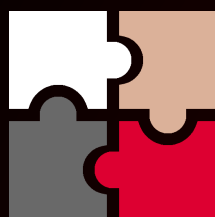


PROJECT HYDRA

OC-SANDBOX FOR ZEN3+ PROCESSORS

THE FIRST ALPHA VERSION IS ALREADY AVAILABLE FOR PATREON SUBSCRIBERS

THIS PRESENTATION IS AN EARLY CONCEPT, THE FEATURES AND GUI ARE SUBJECT TO CHANGE DURING DEVELOPMENT
1USMUS 2021



PROJECT HYDRA – NEW PLATFORM, NEW FEATURES

- Exclusive APP for ZEN 3 and ZEN 3+ processors
- New platform, new UI, compact size
- Powerful customization for each profile
- 4 voltage curves (presets) for all profiles (undervolt, normal, OC and XOC)
- Up to 9 profiles
- Individual profiles for games and AVX2
- New diagnostic (all values are filled in automatically)
- All profiles can work in dynamic mode (unlocked CO in PRO version)

HYDRA 0.7A PRO

OC-SANDBOX FOR ZEN3

AMD Ryzen 9 5950X 16-Core Processor
ASUS ROG CROSSHAIR VIII DARK HERO BIOS ver. 3601 SMU ver. 56.53.00
Microsoft Windows NT 6.2.9200.0 07/29/2021 17:50:00

CCD1 36.9°

C01	878	212	C05	17	190
C02	25	203	C06	0	194
C03	33	199	C07	38	185
C04	28	212	C08	123	208

CCD2 34.9°

C09	67	167	C13	111	158
C10	205	181	C14	91	154
C11	66	172	C15	0	163
C12	1078	149	C16	78	176

CCD3 ----

---	---	---	---	---	---
---	---	---	---	---	---
---	---	---	---	---	---
---	---	---	---	---	---

CCD4 ----

---	---	---	---	---	---
---	---	---	---	---	---
---	---	---	---	---	---
---	---	---	---	---	---

CPU (%)

Vdroop (%)

CPU TEL (V)

CPU VID (V)

CPU TDC (A)

CPU EDC (A)

CPU PPT (W)

LOAD TYPE

THREADS	ENABLED	VID	CCD1	CCD2	CCD3	CCD4	DYNAMIC	STATS
1T-2T	<input checked="" type="checkbox"/>	1375	4750	4650	-	-	<input checked="" type="checkbox"/>	0
3T-4T	<input checked="" type="checkbox"/>	1375	4750	4650	-	-	<input checked="" type="checkbox"/>	0
5T-8T	<input checked="" type="checkbox"/>	1300	4650	4550	-	-	<input checked="" type="checkbox"/>	0
9T-12T	<input checked="" type="checkbox"/>	1300	4650	4550	-	-	<input checked="" type="checkbox"/>	0
13T-16T	<input checked="" type="checkbox"/>	1250	4600	4500	-	-	<input checked="" type="checkbox"/>	0
ALL (AVX1)	<input checked="" type="checkbox"/>	1075	4125	4050	-	-	<input checked="" type="checkbox"/>	0
ALL (AVX2)	<input checked="" type="checkbox"/>	1000	3825	3725	-	-	<input checked="" type="checkbox"/>	0
ALL (GAME)	<input checked="" type="checkbox"/>	1300	4750	4575	-	-	<input checked="" type="checkbox"/>	0

UNDERVOLT

HYBRID OC

NORMAL

OC

XOC

STATUS : READY !

SETTINGS

LOGGING

DIAGNOSTIC

ANALYSE CO

COMPARE

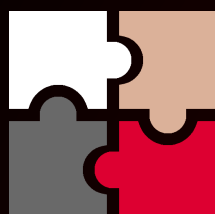
ACTIVATE PROFILES

SAVE PROFILES

CO VALUES

CREATE BACKUP

LOAD BACKUP



PROJECT HYDRA – NEW PLATFORM, NEW FEATURES

- 2 CO tables for different types of tasks allow you to get maximum performance (are created automatically during diagnostics)
- Complete independence from CPPC
- Real-time CO control, allow you to change V/F on the fly, without rebooting
- Each CCD has its own differentiated frequency control
- Curve Optimizer search tool for each core
- Profile backup management system

HYDRA 0.7A PRO

OC-SANDBOX FOR ZEN3

AMD Ryzen 9 5950X 16-Core Processor
ASUS ROG CROSSHAIR VIII DARK HERO BIOS ver. 3601 SMU ver. 56.53.00
Microsoft Windows NT 6.2.9200.0 07/29/2021 19:26:21

CCD1 38.6°

C01	1111	212	C05	112	190
C02	78	203	C06	48	194
C03	78	199	C07	46	185
C04	111	212	C08	90	208

CCD2 40.1°

C09	46	167	C13	491	158
C10	100	181	C14	70	154
C11	40	172	C15	546	163
C12	1945	149	C16	709	176

CCD3 ----

---	---	---	---	---	---
---	---	---	---	---	---
---	---	---	---	---	---
---	---	---	---	---	---

CCD4 ----

---	---	---	---	---	---
---	---	---	---	---	---
---	---	---	---	---	---
---	---	---	---	---	---

CPU (%)

Vdroop (%)

CPU TEL (V)

CPU VID (V)

CPU TDC (A)

CPU EDC (A)

CPU PPT (W)

LOAD TYPE

CO FOR LOW-THREAD LOAD

CORE#	CO	CORE#	CO
C01	87	C09	161
C02	150	C10	55
C03	164	C11	178
C04	37	C12	183
C05	237	C13	235
C06	175	C14	133
C07	193	C15	183
C08	80	C16	119

CO FOR MULTI-THREAD LOAD

CORE#	CO	CORE#	CO
C01	30	C09	40
C02	53	C10	34
C03	50	C11	42
C04	40	C12	30
C05	62	C13	55
C06	64	C14	62
C07	62	C15	50
C08	50	C16	38

ACTIVATE PROFILES

SAVE PROFILES

TO PROFILES

CREATE BACKUP

LOAD BACKUP

STATUS : READY !

HYBRID OC

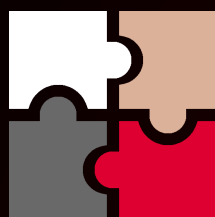
SETTINGS

LOGGING

DIAGNOSTIC

ANALYSE CO

COMPARE



PROJECT HYDRA – NEW PLATFORM, NEW FEATURES

- Modular setup storage system (minimum chance of corrupting configuration files)
- Ability to adjust the response speed and CAC-tolerances of the dynamic mode
- Event notification system
- Built-in failsafe's against system and user errors
- 24/7 monitoring of processor parameters and automatic shutdown of profiles in a critical situation
- Automatic loading of profiles with Windows startup
- Clear standby cache - maximum comfort in games
- Auto updates (PRO version)

HYDRA 0.7A PRO

OC-SANDBOX FOR ZEN3

AMD Ryzen 9 5950X 16-Core Processor
ASUS ROG CROSSHAIR VIII DARK HERO BIOS ver. 3601 SMU ver. 56.53.00
Microsoft Windows NT 6.2.9200.0 07/29/2021 17:50:00

ⓘ 👤 📷 ⏪ 📄 ✕

CCD1	CCD2	CCD3	CCD4
34.7°	33.8°	----	----
C01 767 212 C05 314 190	C09 278 167 C13 39 158	----	----
C02 351 203 C06 269 194	C10 518 181 C14 249 154	----	----
C03 307 199 C07 317 185	C11 275 172 C15 309 163	----	----
C04 319 212 C08 301 208	C12 719 149 C16 271 176	----	----

CPU (%) Vdroop (%)

CPU TEL (V) CPU VID (V)

CPU TDC (A) CPU EDC (A)

CPU PPT (W) LOAD TYPE

MAIN SETTINGS	SAFETY SYSTEM SETTINGS	HYBRID OC SETTINGS	DIAGNOSTIC SETTINGS
Auto-load APP with OS <input type="checkbox"/>	Max PPT (W) <input type="text" value="200"/>	OC response speed (ms) <input type="text" value="10"/>	CORE CO testing <input checked="" type="checkbox"/>
Event notifications <input type="checkbox"/>	Max EDC (A) <input type="text" value="200"/>	C0 activation trigger (%) <input type="text" value="92"/>	CCD CO testing <input checked="" type="checkbox"/>
Auto-check update <input type="checkbox"/>	Max TDC (A) <input type="text" value="140"/>	AVX1 CO offset <input type="text" value="20"/>	Profile creation <input checked="" type="checkbox"/>
Pop-up tips <input checked="" type="checkbox"/>	Max temperature (°C) <input type="text" value="95"/>	GAME trigger (%) <input type="text" value="30"/>	Enhance accuracy <input type="checkbox"/>
Clear standby cache <input type="checkbox"/>		AVX1 CAC threshold (%) <input type="text" value="6"/>	Find best voltages <input type="checkbox"/>
Clear standby cache (sec) <input type="text" value="3"/>		AVX2 CAC threshold (%) <input type="text" value="19"/>	Safe CO range <input checked="" type="checkbox"/>
GUI refresh (ms) <input type="text" value="1000"/>		Holding time (CPU > 50%) <input type="text" value="45"/>	Turn Off PC after diagnostic <input type="checkbox"/>
		Holding time (CPU < 50%) <input type="text" value="45"/>	CO diagnostic mode <input type="text" value="SSE"/>

🕒 HYBRID OC

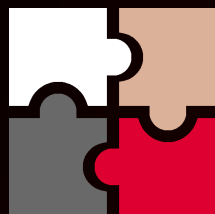
⚙️ SETTINGS

📄 LOGGING

🔬 DIAGNOSTIC


🔗 ANALYSE CO

📊 COMPARE









PROJECT HYDRA – NEW PLATFORM, NEW FEATURES

- Updated logging system
- Simplified and more intuitive interface
- A new way to evaluate processor quality
- Updated monitoring is always with the user
- If there was a failure, no problem, HYDRA will prompt which core requires correction CO
- Real-time Vdroop information



HYDRA 0.7A PRO
OC-SANDBOX FOR ZEN3

AMD Ryzen 9 5950X 16-Core Processor
ASUS ROG CROSSHAIR VIII DARK HERO BIOS ver. 3601 SMU ver. 56.53.00
Microsoft Windows NT 6.2.9200.0 07/29/2021 17:50:00

CCD1	CCD2	CCD3	CCD4
37.4°	34°	----	----
C01 1093 212	C09 51 167	----	----
C02 62 203	C10 31 181	----	----
C03 0 199	C11 24 172	----	----
C04 213 212	C12 602 149	----	----
C05 100 190	C13 135 158	----	----
C06 153 194	C14 25 154	----	----
C07 59 185	C15 0 163	----	----
C08 17 208	C16 72 176	----	----

CPU (%) 2.4

Vdroop (%) -0.6

CPU TEL (V) 1.231

CPU VID (V) 1.224

CPU TDC (A) 16.6


CPU EDC (A) 120.5

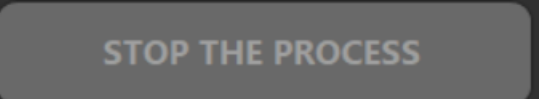
CPU PPT (W) 61.4


LOAD TYPE IDLE


HYDRA 0.7A PRO by 1usmus
07/29/2021 17:50:00
Microsoft Windows NT 6.2.9200.0
ASUS ROG CROSSHAIR VIII DARK HERO
BIOS ver. 3601 SMU ver. 56.53.00
TABLE ver. 3672069
DRAM speed 3800 MHz


Information about the last failure
Unstable frequency, APIC ID: 20
If the failure occurred in a low-threaded load (CPU usage < 50%) or in a game:
In the first CO table reduce the CO for CORE#11 by 30.
If the failure occurred in a multy-threaded load (CPU usage > 50%):
In the second CO table reduce the CO for CORE#11 by 10.








 HYBRID OC

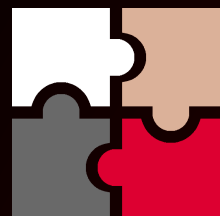
 SETTINGS

 LOGGING

 DIAGNOSTIC

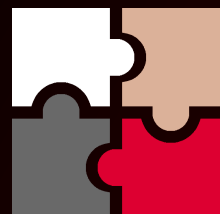
 ANALYSE CO

 COMPARE



PROJECT HYDRA – QUICK START, REQUIREMENTS

- Zen 3 CPU : Ryzen 9 5950X, Ryzen 9 5900X, Ryzen 7 5800X or Ryzen 5 5600X.
- Stable, overclocked (or XMP) DRAM.
- Disabled Curve Optimizer (in BIOS). PBO – no matter.
- Manual CPU LLC (Load Line Calibration). ASUS - 3, MSI - 4, ASRock - 2, GIGABYTE - High. You also have every right to use whichever mode you like.
- CPU Voltage - Auto (in BIOS). Offset is forbidden.
- Windows 10 build 2004 or newer. Windows 11 fully supported.
- Chipset drivers or Ryzen Master – unnecessarily.
- Power plan – Balanced (tip).



PROJECT HYDRA – QUICK START, DIAGNOSTIC

STEP 1:

Click on "HYBRID OC" and select the voltage preset (**UNDERVOLT**, **NORMAL**, **OC** or **XOC**) you want to use. You can also enter the voltages you want to use yourself. For AIO and air cooling system I do not recommend using the **OC** and **XOC** presets because of the danger of overheating.

If you don't know what to choose, skip this step, the base voltages HYDRA offers are safe for any cooling system and weak VRM.

HYDRA 0.8A PRO

OC-SANDBOX FOR ZEN3

AMD Ryzen 9 5950X 16-Core Processor
ASUS ROG CROSSHAIR VIII DARK HERO BIOS ver. 3601 SMU ver. 56.53.00
Microsoft Windows NT 6.2.9200.0 07/29/2021 21:23:18

CCD1		35.3°		CCD2		32.3°		CCD3		----		CCD4		----	
C01	708	212	C05	3	190	C09	7	167	C13	19	158	----	----	----	----
C02	82	203	C06	0	194	C10	22	181	C14	0	154	----	----	----	----
C03	29	199	C07	0	185	C11	21	172	C15	0	163	----	----	----	----
C04	124	212	C08	32	208	C12	316	149	C16	22	176	----	----	----	----

CPU (%)

Vdroop (%)

CPU TEL (V)

CPU VID (V)

CPU TDC (A)

CPU EDC (A)

CPU PPT (W)

LOAD TYPE

THREADS	ENABLED	VID	CCD1	CCD2	CCD3	CCD4	DYNAMIC	STATS
1T-2T	<input checked="" type="checkbox"/>	1375	3400	3400	-	-	<input checked="" type="checkbox"/>	0
3T-4T	<input checked="" type="checkbox"/>	1375	3400	3400	-	-	<input checked="" type="checkbox"/>	0
5T-8T	<input checked="" type="checkbox"/>	1300	3400	3400	-	-	<input checked="" type="checkbox"/>	0
9T-12T	<input checked="" type="checkbox"/>	1300	3400	3400	-	-	<input checked="" type="checkbox"/>	0
13T-16T	<input checked="" type="checkbox"/>	1250	3400	3400	-	-	<input checked="" type="checkbox"/>	0
ALL (AVX1)	<input checked="" type="checkbox"/>	1075	3400	3400	-	-	<input checked="" type="checkbox"/>	0
ALL (AVX2)	<input checked="" type="checkbox"/>	1000	3400	3400	-	-	<input checked="" type="checkbox"/>	0
ALL (GAME)	<input checked="" type="checkbox"/>	1300	3400	3400	-	-	<input checked="" type="checkbox"/>	0

UNDERVOLT

HYBRID OC

NORMAL

OC

XOC

STATUS : READY !

ACTIVATE PROFILES

SAVE PROFILES

CO VALUES

CREATE BACKUP

LOAD BACKUP

HYBRID OC

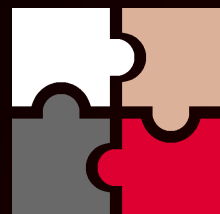
SETTINGS

LOGGING

DIAGNOSTIC

ANALYSE CO


COMPARE



PROJECT HYDRA – QUICK START, DIAGNOSTIC

STEP 2:







If you have selected **NORMAL**, **OC** or **XOC** presets you should take care to inform HYDRA about the new settings to protect the system from overheating or too high a power consumption. To do this, press **SETTINGS** and increase the **Max EDC**, **Max TDC** and **Max PPT** limits. In most cases, it is sufficient to increase these values by 30-40. If during HYDRA operation one of the limits is reached, the profiles will go into throttle mode or HYBRID OC will be disabled (AMD standard boost will be enabled). In the diagnostic mode, these parameters also work.



HYDRA 0.8A PRO

OC-SANDBOX FOR ZEN3

AMD Ryzen 9 5950X 16-Core Processor
 ASUS ROG CROSSHAIR VIII DARK HERO BIOS ver. 3601 SMU ver. 56.53.00
 Microsoft Windows NT 6.2.9200.0 07/29/2021 21:23:18

CCD1	CCD2	CCD3	CCD4
36.4°	37.3°	----	----
C01 1150 212 C05 513 190 C02 575 203 C06 484 194 C03 454 199 C07 537 185 C04 632 212 C08 520 208	C09 490 167 C13 470 158 C10 490 181 C14 479 154 C11 485 172 C15 478 163 C12 884 149 C16 337 176	--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---	--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---







CPU (%) Vdroop (%)

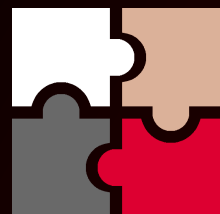
CPU TEL (V) CPU VID (V)

CPU TDC (A) CPU EDC (A)

CPU PPT (W) LOAD TYPE

MAIN SETTINGS	SAFETY SYSTEM SETTINGS	HYBRID OC SETTINGS	DIAGNOSTIC SETTINGS
Auto-load APP with OS <input type="checkbox"/> Event notifications <input type="checkbox"/> Auto-check update <input type="checkbox"/> Pop-up tips <input checked="" type="checkbox"/> Clear standby cache <input type="checkbox"/> Clear standby cache (sec) <input type="text" value="3"/> GUI refresh (ms) <input type="text" value="1000"/>	Max PPT (W) <input type="text" value="300"/> Max EDC (A) <input type="text" value="300"/> Max TDC (A) <input type="text" value="300"/> Max temperature (°C) <input type="text" value="95"/>	OC response speed (ms) <input type="text" value="10"/> CO activation trigger (%) <input type="text" value="92"/> AVX1 CO offset <input type="text" value="20"/> GAME trigger (%) <input type="text" value="30"/> AVX1 CAC threshold (%) <input type="text" value="6"/> AVX2 CAC threshold (%) <input type="text" value="19"/> Holding time (CPU > 50%) <input type="text" value="45"/> Holding time (CPU < 50%) <input type="text" value="45"/>	CORE CO testing <input checked="" type="checkbox"/> CCD CO testing <input checked="" type="checkbox"/> Profile creation <input checked="" type="checkbox"/> Enhance accuracy <input type="checkbox"/> Find best voltages <input type="checkbox"/> Safe CO range <input checked="" type="checkbox"/> Turn Off PC after diagnostic <input type="checkbox"/> CO diagnostic mode <input type="text" value="SSE"/>

 HYBRID OC
 SETTINGS
 LOGGING
 DIAGNOSTIC
 ANALYSE CO
 COMPARE



PROJECT HYDRA – QUICK START, DIAGNOSTIC

STEP 3:

Also on this page, under **DIAGNOSTIC SETTINGS** you can choose which tests to perform (**CORE CO testing**, **CCD CO testing** and **Profile creation**). The order of testing does not matter.

CORE CO testing - defines the boundary conditions at which HYBRID OC will stop frequency ramping (GAME and low-thread load).

CCD CO testing - defines the boundary conditions at which HYBRID OC will stop frequency ramping (AVX1 and AVX2 profiles).

Profile creation - searches for stable base frequencies for all profiles.

CO diagnostic mode – SSE. In most cases it is highly accurate and is recommended for use.

HYDRA 0.8A PRO
OC-SANDBOX FOR ZEN3

AMD Ryzen 9 5950X 16-Core Processor
ASUS ROG CROSSHAIR VIII DARK HERO BIOS ver. 3601 SMU ver. 56.53.00
Microsoft Windows NT 6.2.9200.0 07/29/2021 21:23:18

CCD1		36.4°	CCD2		37.3°	CCD3		----	CCD4		----		
C01	1150	212	C05	513	190	----	----	----	----	----	----		
C02	575	203	C06	484	194	----	----	----	----	----	----		
C03	454	199	C07	537	185	----	----	----	----	----	----		
C04	632	212	C08	520	208	C12	884	149	C16	337	176	----	----
C09	490	167	C13	470	158	----	----	----	----	----	----		
C10	490	181	C14	479	154	----	----	----	----	----	----		
C11	485	172	C15	478	163	----	----	----	----	----	----		

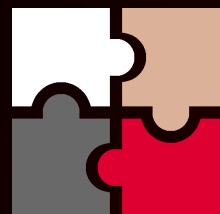
CPU (%) 1.4 Vdroop (%) -0.5 CPU TEL (V) 1.242 CPU VID (V) 1.236 CPU TDC (A) 21.3 CPU EDC (A) 140 CPU PPT (W) 68.2 LOAD TYPE IDLE

MAIN SETTINGS		SAFETY SYSTEM SETTINGS		HYBRID OC SETTINGS		DIAGNOSTIC SETTINGS	
Auto-load APP with OS	<input type="checkbox"/>	Max PPT (W)	300	OC response speed (ms)	10	CORE CO testing	<input checked="" type="checkbox"/>
Event notifications	<input type="checkbox"/>	Max EDC (A)	300	CO activation trigger (%)	92	CCD CO testing	<input checked="" type="checkbox"/>
Auto-check update	<input type="checkbox"/>	Max TDC (A)	300	AVX1 CO offset	20	Profile creation	<input checked="" type="checkbox"/>
Pop-up tips	<input checked="" type="checkbox"/>	Max temperature (°C)	95	GAME trigger (%)	30	Enhance accuracy	<input type="checkbox"/>
Clear standby cache	<input type="checkbox"/>			AVX1 CAC threshold (%)	6	Find best voltages	<input type="checkbox"/>
Clear standby cache (sec)	3			AVX2 CAC threshold (%)	19	Safe CO range	<input checked="" type="checkbox"/>
GUI refresh (ms)	1000			Holding time (CPU > 50%)	45	Turn Off PC after diagnostic	<input type="checkbox"/>
				Holding time (CPU < 50%)	45	CO diagnostic mode	SSE

HYBRID OC SETTINGS: OC response speed (ms) 10, CO activation trigger (%) 92, AVX1 CO offset 20, GAME trigger (%) 30, AVX1 CAC threshold (%) 6, AVX2 CAC threshold (%) 19, Holding time (CPU > 50%) 45, Holding time (CPU < 50%) 45.

DIAGNOSTIC SETTINGS: CORE CO testing , CCD CO testing , Profile creation , Enhance accuracy , Find best voltages , Safe CO range , Turn Off PC after diagnostic , CO diagnostic mode SSE.

Navigation: HYBRID OC, **SETTINGS**, LOGGING, DIAGNOSTIC, ANALYSE CO, COMPARE



PROJECT HYDRA – QUICK START, DIAGNOSTIC

STEP 4:

Once you have decided on the settings and preset voltages, run the diagnostics by pressing the **DIAGNOSTIC** button.

The diagnostic time can be up to **2-5 hours**, depending on the quality of the sample.

During diagnostics the system will reboot and then restore the diagnostic process. It can happen several times, it's normal.

When the diagnosis is complete, you will see the message.

After completing the diagnosis the corresponding tables in **HYBRID OC** will be filled in and automatically saved.

HYDRA 0.8A PRO
OC-SANDBOX FOR ZEN3

AMD Ryzen 9 5950X 16-Core Processor
ASUS ROG CROSSHAIR VIII DARK HERO BIOS ver. 3601 SMU ver. 56.53.00
Microsoft Windows NT 6.2.9200.0 07/29/2021 21:23:18

CCD1			CCD2			CCD3			CCD4		
70°			34.3°			----			----		
C01	4899	212	C05	211	190	---	---	---	---	---	---
C02	134	203	C06	44	194	---	---	---	---	---	---
C03	67	199	C07	49	185	---	---	---	---	---	---
C04	68	212	C08	22	208	---	---	---	---	---	---

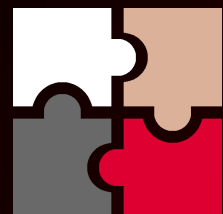
CPU (%) 6.7 Vdroop (%) 0.1 CPU TEL (V) 1.374 CPU VID (V) 1.375 CPU TDC (A) 32.9 CPU EDC (A) 140 CPU PPT (W) 83.9 LOAD TYPE FMA3

```

21:27:34: Test#3
21:28:20: Step: 2
CORE#1 BASE FREQ: 4850MHz REAL FREQ: 4875MHz
21:28:20: Saving intermediate values...
21:28:26: Test#1
CORE#1 CO: 10 TEMPERATURE: 68°C
21:29:07: Saving intermediate values...
21:29:15: Test#2
21:29:57: Saving intermediate values...
21:30:05: Test#3
21:30:50: Step: 3
CORE#1 BASE FREQ: 4850MHz REAL FREQ: 4900MHz
21:30:50: Saving intermediate values...
21:30:56: Test#1
CORE#1 CO: 36 TEMPERATURE: 69°C
  
```

25% **STOP THE PROCESS**

HYBRID OC SETTINGS **LOGGING** DIAGNOSTIC ANALYSE CO COMPARE



PROJECT HYDRA – QUICK START, HYBRID OC

STEP 1:

Press the **ACTIVATE PROFILES** button to activate the HYBRID OC. This button is multifunctional. After activation the name of the button will change to **DEACTIVATE PROFILES**. The state of the button is saved automatically.

To visually assess which profile is currently active, the user will see a red line. The **STATS** column shows the statistics of the number of turns on the profile.

Changing any of the parameters in this table requires that you first disable the profiles using the **DEACTIVATE PROFILES** button.

You can see and edit the CO tables for the profiles by clicking the **CO VALUES** button.

HYDRA 0.8A PRO

OC-SANDBOX FOR ZEN3

AMD Ryzen 9 5950X 16-Core Processor
 ASUS ROG CROSSHAIR VIII DARK HERO BIOS ver. 3601 SMU ver. 56.53.00
 Microsoft Windows NT 6.2.9200.0 07/29/2021 22:14:10

CCD1			CCD2			CCD3			CCD4		
42.8°			43.9°			----			----		
C01	4475	212	C05	4474	190	---	---	---	---	---	---
C02	4475	203	C06	4474	194	---	---	---	---	---	---
C03	4474	199	C07	4474	185	---	---	---	---	---	---
C04	4474	212	C08	4474	208	---	---	---	---	---	---
C09	4375	167	C13	4375	158	---	---	---	---	---	---
C10	4375	181	C14	4375	154	---	---	---	---	---	---
C11	4375	172	C15	4375	163	---	---	---	---	---	---
C12	4375	149	C16	4375	176	---	---	---	---	---	---

CPU (%)

Vdroop (%)

CPU TEL (V)

CPU VID (V)

CPU TDC (A)

CPU EDC (A)

CPU PPT (W)

LOAD TYPE

THREADS	ENABLED	VID	CCD1	CCD2	CCD3	CCD4	DYNAMIC	STATS
1T-2T	<input checked="" type="checkbox"/>	1375	4775	4650	-	-	<input checked="" type="checkbox"/>	0
3T-4T	<input checked="" type="checkbox"/>	1375	4775	4650	-	-	<input checked="" type="checkbox"/>	0
5T-8T	<input checked="" type="checkbox"/>	1300	4675	4550	-	-	<input checked="" type="checkbox"/>	0
9T-12T	<input checked="" type="checkbox"/>	1300	4675	4550	-	-	<input checked="" type="checkbox"/>	0
13T-16T	<input checked="" type="checkbox"/>	1250	4625	4500	-	-	<input checked="" type="checkbox"/>	0
ALL (AVX1)	<input checked="" type="checkbox"/>	1075	4125	4025	-	-	<input checked="" type="checkbox"/>	43
ALL (AVX2)	<input checked="" type="checkbox"/>	1000	3825	3750	-	-	<input checked="" type="checkbox"/>	40
ALL (GAME)	<input checked="" type="checkbox"/>	1300	4750	4575	-	-	<input checked="" type="checkbox"/>	0

STATUS : profiles are successfully activated!

HYBRID OC

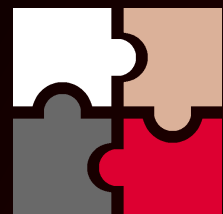
SETTINGS

LOGGING

DIAGNOSTIC

ANALYSE CO

COMPARE



PROJECT HYDRA – QUICK START, HYBRID OC

STEP 2:

As I said earlier, the CO tables are designed to change the resulting frequency. The unit of measure is millivolts (mV).

With the "+" and "-" buttons you can change the resulting frequency in real time without deactivating the profiles. If you want to change the value for only one of the cores, you will need to deactivate the profiles.

If you encounter instability, the "-" button is your best friend. If you are satisfied with the result, don't forget to save the profiles with the **SAVE PROFILES** button.

After a crash you can also find information on which core caused the crash and what you need to do when you start HYDRA again.

HYDRA 0.8A PRO
OC-SANDBOX FOR ZEN3

AMD Ryzen 9 5950X 16-Core Processor
ASUS ROG CROSSHAIR VIII DARK HERO BIOS ver. 3601 SMU ver. 56.53.00
Microsoft Windows NT 6.2.9200.0 07/29/2021 22:14:10

CCD1		42.2°		CCD2		44.3°		CCD3		----		CCD4		----	
C01	4475	212	C05	4475	190	C09	4375	167	C13	4375	158	---	---	---	---
C02	4475	203	C06	4475	194	C10	4375	181	C14	4375	154	---	---	---	---
C03	4475	199	C07	4475	185	C11	4375	172	C15	4375	163	---	---	---	---
C04	4475	212	C08	4475	208	C12	4375	149	C16	4375	176	---	---	---	---

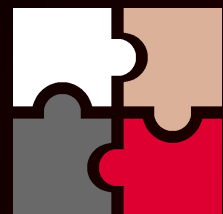
CPU (%) 100 Vdroop (%) 1.2 CPU TEL (V) 1.062 CPU VID (V) 1.075 CPU TDC (A) 56.9 CPU EDC (A) 140 CPU PPT (W) 99.6 LOAD TYPE SSE

CO FOR LOW-THREAD LOAD				CO FOR MULTI-THREAD LOAD			
CORE#	CO	CORE#	CO	CORE#	CO	CORE#	CO
C01	87	C09	161	C01	30	C09	40
C02	150	C10	55	C02	53	C10	34
C03	164	C11	178	C03	50	C11	42
C04	37	C12	183	C04	40	C12	30
C05	237	C13	235	C05	62	C13	55
C06	175	C14	133	C06	64	C14	62
C07	193	C15	183	C07	62	C15	50
C08	80	C16	119	C08	50	C16	38

DEACTIVATE PROFILES
SAVE PROFILES
TO PROFILES
CREATE BACKUP
LOAD BACKUP

STATUS : profiles are successfully activated!

HYBRID OC SETTINGS LOGGING DIAGNOSTIC ANALYSE CO COMPARE



PROJECT HYDRA – QUICK START, HYBRID OC

STEP 3:

Auto-load HYDRA + auto-activate profiles.
If you have already clicked **ACTIVATE PROFILES** you should also tell HYDRA, that you want to load it with every Windows startup. Go to the **SETTINGS** page and enable **Auto-load APP with OS**. Done.

Saving any of the settings on this page is automatic.

HYDRA 0.8A PRO
OC-SANDBOX FOR ZEN3

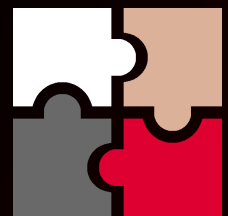
AMD Ryzen 9 5950X 16-Core Processor
ASUS ROG CROSSHAIR VIII DARK HERO BIOS ver. 3601 SMU ver. 56.53.00
Microsoft Windows NT 6.2.9200.0 07/29/2021 21:23:18

CCD1	36.4°	CCD2	37.3°	CCD3	----	CCD4	----
C01: 1150 212	C05: 513 190	C09: 490 167	C13: 470 158	---	---	---	---
C02: 575 203	C06: 484 194	C10: 490 181	C14: 479 154	---	---	---	---
C03: 454 199	C07: 537 185	C11: 485 172	C15: 478 163	---	---	---	---
C04: 632 212	C08: 520 208	C12: 884 149	C16: 337 176	---	---	---	---

CPU (%) 1.4 Vdroop (%) -0.5 CPU TEL (V) 1.242 CPU VID (V) 1.236 CPU TDC (A) 21.3 CPU EDC (A) 140 CPU PPT (W) 68.2 LOAD TYPE IDLE

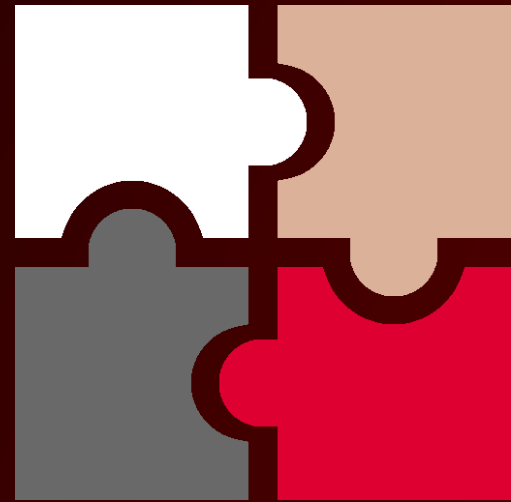
MAIN SETTINGS	SAFETY SYSTEM SETTINGS	HYBRID OC SETTINGS	DIAGNOSTIC SETTINGS
Auto-load APP with OS <input type="checkbox"/>	Max PPT (W) 300	OC response speed (ms) 10	CORE CO testing <input checked="" type="checkbox"/>
Event notifications <input type="checkbox"/>	Max EDC (A) 300	CO activation trigger (%) 92	CCD CO testing <input checked="" type="checkbox"/>
Auto-check update <input type="checkbox"/>	Max TDC (A) 300	AVX1 CO offset 20	Profile creation <input checked="" type="checkbox"/>
Pop-up tips <input checked="" type="checkbox"/>	Max temperature (°C) 95	GAME trigger (%) 30	Enhance accuracy <input type="checkbox"/>
Clear standby cache <input type="checkbox"/>		AVX1 CAC threshold (%) 6	Find best voltages <input type="checkbox"/>
Clear standby cache (sec) 3		AVX2 CAC threshold (%) 19	Safe CO range <input checked="" type="checkbox"/>
GUI refresh (ms) 1000		Holding time (CPU > 50%) 45	Turn Off PC after diagnostic <input type="checkbox"/>
		Holding time (CPU < 50%) 45	CO diagnostic mode SSE

HYBRID OC SETTINGS SETTINGS LOGGING DIAGNOSTIC ANALYSE CO COMPARE



PROJECT HYDRA – WHAT WILL WORK NEXT MONTH?

- Profiles for low-thread load. **Only GAME, AVX1 and AVX2 profiles are ready now(!).**
- Standby clear cache. Improved gaming comfort.
- **Cezanne support.**
- Automatic search for the ideal voltage for your system. For AVX1 and AVX2 profiles.
- Notifications when a new version is released.
- And other features that I will tell you about shortly.



PROJECT HYDRA

OC-SANDBOX FOR ZEN3+ PROCESSORS

NEW FEATURES EVERY MONTH

THIS PRESENTATION IS AN EARLY CONCEPT, THE FEATURES AND GUI ARE SUBJECT TO CHANGE DURING DEVELOPMENT
1USMUS 2021