

HYDRA 1.0A PRO IS ALREADY AVAILABLE FOR PATREON SUBSCRIBERS

1USMUS 2021

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

	YDRA 1. -SANDBOX FOR	OA PRO)	AMD Ryzen 9 MSI MEG B5 Microsoft W	9 5900X 12-Co 50 UNIFY-X (M indows NT 6.
CCD1		31.2°	CCD2		
C01 183	162 C04	135 166	C07 629] 141 C10	3538
C02 0	158 C05	224 174	C08 1571] 145 C11	1138
C03 383	170 C06	545 174	C09 509] 154 C12	431
] [
CPU (%) 3.1	Vdroop	p (%) 0.1	CPU TEL (V)	.099 CPU	VID (V)
THREADS	ENABLED	VID	CCD1	CCD2	сс
THREADS 1T-2T	ENABLED	VID 1375	CCD1 4800	CCD2 4700	СС
THREADS 1T-2T 3T-4T	ENABLED	VID 1375 1375	CCD1 4800 4800	CCD2 4700 4700	cc
THREADS 1T-2T 3T-4T 5T-6T	ENABLED	VID 1375 1375 1325	CCD1 4800 4800 4700	CCD2 4700 4700 4625	cc
THREADS 1T-2T 3T-4T 5T-6T 7T-9T	ENABLED	VID 1375 1375 1325 1325	CCD1 4800 4800 4700 4650	CCD2 4700 4700 4625 4575	cc
THREADS 1T-2T 3T-4T 5T-6T 7T-9T 10T-12T	ENABLED	VID 1375 1375 1325 1325 1325 1275	CCD1 4800 4800 4700 4650 4600	CCD2 4700 4700 4625 4575 4525	cc
THREADS 1T-2T 3T-4T 5T-6T 7T-9T 10T-12T ALL (AVX1)	ENABLED	VID 1375 1375 1325 1325 1275 1288	CCD1 4800 4800 4700 4650 4600 4300	CCD2 4700 4700 4625 4575 4525 4250	cc
THREADS 1T-2T 3T-4T 5T-6T 7T-9T 10T-12T ALL (AVX1) ALL (AVX2)	ENABLED	VID 1375 1375 1325 1325 1275 1288 1176	CCD1 4800 4800 4700 4650 4600 4300 3950	CCD2 4700 4700 4625 4575 4525 4250 3875	CC
THREADS 1T-2T 3T-4T 5T-6T 7T-9T 10T-12T ALL (AVX1) ALL (GAME)	ENABLED	VID 1375 1375 1325 1325 1275 1288 1176 1300	CCD1 4800 4800 4700 4650 4600 4300 3950 4650	CCD2 4700 4700 4625 4575 4525 4250 3875 4525	CC
THREADS 1T-2T 3T-4T 5T-6T 7T-9T 10T-12T ALL (AVX1) ALL (AVX2) ALL (GAME) UNDERVO	ENABLED	VID 1375 1375 1325 1325 1275 1288 1176 1300	CCD1 4800 4800 4700 4650 4600 4300 3950 4650 OC	CCD2 4700 4700 4625 4575 4525 4250 3875 4525	Xoc

Core Process (MS-7D13) B 6.2.9200.0	or IOS ver. A.41 SMU ve 09/15/2021 11:37	r. 56.52.00 :04	Ç	(j 🎐	0] 💥
30.3°	🗊 ССD3)4		
133][]
150		[
137][
]][]
1.1	CPU TDC (A)	1.9 CPU ED	C (A) 122.2	CPU PPT (W)	37.9	LOAD TYPE	IDLE
CD3	CCD4	DYNAMIC	STATS	DE	ΔΟΤΙΛΑΤ		
-	-		6			E FROMELS	
-	-		0		SAVE PR	ROFILES	
-	-	×	0		CO VA	LUES	
-	-	×	0 0		CREATE	BACKUP	
-	-	X	0		LOAD B	ACKUP	
	STATUS : p	rofiles are succ	cessfully activ	ated!			
IG		GNOSTIC	စုံ၊ ရှိ BOO	ST TEST	1	СОМРА	RE

- 2 CO tables for different types of tasks allows for maximum performance (created automatically during diagnostics)
- Complete independence from CPPC
- Real-time CO control, allowing 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
- Real-time CO bottle-neck information
- Profile backup management system

	HYDR oc-sandb	CA 1.0	A PRC)	AMD MSL M Micro	Ryzen 9 5900 MEG B550 UN osoft Windov)X 12-0 IFY-X (vs NT 6
@ cc	D1		34.1°	🗊 cci	02		
C01	0 162	C04 0	166	C07 6	1 141	C10 2	888
CO2	45 158	C05 46	2 174	C08 21	145	c11	21
C03	6 170	C06 46	3 174	C09 () 154	C12	166
CPU (%)	0	Vdroop (%) 0.7	CPU TEL (V)	1.092	CPU VID (V)
⊖ co	FOR LOW-1	THREAD LO	AD (+)	─ CO F	OR MULTI-	THREAD	LOA
CORE#	со	CORE#	со	CORE#	со	CORE#	
C01	211	C07	147	C01	76	C07	
C02	217	C08	204	C02	111	C08	
C03	265	C09	122	C03	80	C09	
C04	210	C10	175	C04	80	C10	
C05	122	C11	150	C05	52	C11	
C06	31	C12	178	C06	62	C12	
(3) H		oc ,	_{ල්} බූදි SE1	TINGS	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	LOG	GIN

Core Process (MS-7D13) Bl 6.2.9200.0	or IOS ver. A.41 SMU ver. 56.52.00 09/15/2021 11:37:04	Ç	í) A	0		Y	\otimes
35.2°	ССРЗ		ē	CCD4				
133]			
150 137]			
]]			
1.1	CPU TDC (A) 6.6 CPU EDC (A)	122.5	CPU PP	T (W)	43.1	LOAD T		SSE
				DEAC	TIVATI	PROF	ILES	
74				S/	AVE PR	OFILES	1	
83 74				1	O PRC	FILES		
103 66				CR	EATE E	ACKU	Р	
88				L	DAD B	ACKUP		
	STATUS : profiles are successf	ully activ	vated!					
IG		၀ ၂၀ ၂၀	OST TES	ST		CON	1PARE	

- Modular setup storage system (protection against configuration file corruption)
- Ability to adjust the response speed and CAC-tolerances of the dynamic mode
- Event notification system
- Built-in fail-safes against system and user errors
- 24/7 monitoring of processor parameters and automatic shutdown of profiles during critical situations



-Core Process (MS-7D13) Bl 6.2.9200.0	or IOS ver. A.41 SMU ver. 56.52.00 09/15/2021 11:37:04	Ç	(j)	্প	0		Z	\otimes
33°	ССРЗ			CCD4			-	
133]]]	
150 137	···· · · · · · · · · · · · · · · · · ·]]			
]]]	- [
1.375	CPU TDC (A) 5.4 CPU EDC (A)	140	СРU РРТ	r (w)	43	LOAD T		DLE
	HYBRID OC SETTINGS							
	OC response speed (ms) 7							
	Core activation trigger (%) 97							
	AVX1 CO offset 10							
	AVX1 CAC threshold (%) 8							
	AVX2 CAC threshold (%) 24							
	Holding time MT (ms) 30							
	Holding time LT (ms) 30							
IG	្រុ DIAGNOSTIC ពុំ	ှိ воо	ST TES	T	1	COM	PARE	

- Automatic loading of profiles upon Windows startup
- Clear standby cache maximum smoothness in games (higher FPS for 0.1% and 1% events)
- Many configurations that allows the user to control all HYDRA processes more accurately (including advanced trigger settings for the GAME profile)
- Frequency limiting mechanisms in ultralight loads (overboost protection)
- Auto updates (PRO version)
- Automatic search individual voltages for AVX1 and AVX2 loads

~	HYDR OC-SANDB	A 1.0	A PRO)		AMD R MSI M Micros	lyzen 9 EG B550 oft Wir	5900X 12-C) UNIFY-X (N) dows NT 6
◎ cc	D1		32.1°	ē	CCD2			
C01 2	278 162	C04 0) 166		0	141		2111
C02	3 06 158	C05 12	23 174		171	145		0
C03	59 170	C06 45	i 8 174		60	154		1922
]		
_				_				
CPU (%)	0	Vdroop (%) 0.3	CPU TE	EL (V) 1.3	371	CPU V	/ID (V)
C.	DIAGNOSTI	C SETTING	5		DIAG	NOSTIC	SETT	INGS
CORE#	ON/OFF	CORE#	ON/OFF		Target AVX1	PPT (W)		145
C01	_	C07	<u>∽</u>		Target AVX1	temp. (°C)		75
C02		C08			Target AVX2	PPT (W)		145
COS	<u> </u>	C09	<u>~</u>		Target AVX2	temp. (°C)		75
C04	<u>~</u>	C10	<u>~</u>		Find best vo	ltages	Disat	oled 🗸
C05	\checkmark	C11	\checkmark			lages		
C06	V	C12	X					
(3) H	HYBRID C	ic ,	ති වී	TING	S		LO	GGIN



- Updated logging system
- Simplified and more intuitive interface
- A new way to evaluate processor quality
- Real-time monitoring
- Real-time Vdroop and LOAD TYPE information
- CO correction prompt upon failure

				37.2°		CCD2			
C01	0	162 C04	0	166		0	141	C10	256
C02	950 1	158 C05	0] 174		675	145	C11	0
CO3	0 1	170 C06	0] 174		0	154	C12	47
]]		
Informat	ion about t	he last failur	e						
Informat Unstable If the fai Decreas	ion about t frequency ure occurre e by 30 the	he last failur , APIC ID: 10 ed in a game values for (e e: GAME CO	offset, SET	TINGS ta	b).			
Informat Unstable If the fai Decreas If the fai In the CC	ion about t frequency ure occurre e by 30 the ure occurre table #2 r	he last failur , APIC ID: 10 ed in a game values for (ed in a multi reduce the C	e GAME CO -threaded O for COR	offset, SET load (CPU E#6 by 10	TINGS ta usage >	b). 70%):			
Informat Unstable If the fai Decreas If the fai In the CC If the fai In the CC	ion about t frequency ure occurre by 30 the ure occurre table #2 r ure occurre table #1 r	he last failur , APIC ID: 10 ed in a game values for (ed in a multi reduce the C ed in a low-t reduce the C	e GAME CO -threaded O for COR hreaded Io O for COR	offset, SET load (CPU E#6 by 10 bad (CPU u E#6 by 20	TINGS ta usage > usage < 7	b). 70%): '0%):			

Core Process (MS-7D13) B 6.2.9200.0	or IOS ver. A.41 SMU ver. 56.52.00 09/15/2021 11:51:52	Ç	(j) 🍰	@ (·		\otimes
31.9°	🗊 ССРЗ		CCD4			
] 133] 150] 137]]	•••	
1.215		 .) 65.8	 CPU PPT (W)			DLE
▲			STO	P THE PR	OCESS	
IG		စ္ပုံစုံ BOO	ST TEST	1	COMPARE	



- Zen 3 CPU : Ryzen 9 5950X, Ryzen 9 5900X, Ryzen 7 5800X, Ryzen 7 5700G, Ryzen 5 5600X and Ryzen 5 5600G. \bullet
- Stable, overclocked (or XMP) DRAM. \bullet
- PBO settings no matter. Disabled Curve Optimizer (in UEFI). •
- Recommended values for Manual CPU LLC (Load Line Calibration). ASUS 3, MSI 4, ASRock 2, GIGABYTE High. \bullet
- CPU Voltage Auto (in BIOS). Offset is forbidden. \bullet
- Windows 10 build 2004 or newer. Windows 11 fully supported.
- Chipset drivers or Ryzen Master Not required. •
- Actual GPU drivers (GeForce 471.68 / AMD Radeon Adrenalin 21.6.1 or newer). \bullet
- Power plan Balanced (recommended). \bullet

STEP 1:

Click on "HYBRID OC" and select the voltage preset (UNDERVOLT, NORMAL, OC or XOC) you want to use. You may also enter custom voltages.

For AIO and air cooling system I do not recommend using the OC and XOC presets due to the risk of overheating.

If indecisive, skip this step - the base voltages HYDRA offers are safe for any cooling system and weak VRM.

	YDRA 1. SANDBOX FOR	OA PRO		AMD Ryzen 9 MSI MEG B55 Microsoft Wii	5900X 12-C 0 UNIFY-X (ndows NT 6
		30.7°	CCD2		
C01 69] 162 (04 [0 166	C07 30] 141 C10	994
C02 0] 158 C05 [18 174	C08 108	145 C11	205
C03 0] 170 C06 [0 174	C09 76] 154 C12	2496
] [
CPU (%) 0	Vdroo	p (%) 0	CPU TEL (V) 1	.168 CPU \	/ID (V)
THREADS	ENABLED	VID	CCD1	CCD2	c
1T-2T	V	1375	4800	4700	
3T-4T	V	1375	4800	4700	
5T-6T	✓	1325	4700	4625	
7T-9T	\checkmark	1325	4650	4575	
10T-12T	\checkmark	1275	4600	4525	
ALL (AVX1)	\checkmark	1288	4300	4250	
ALL (AVX2)	\checkmark	1176	3950	3875	
ALL (GAME)	~	1300	4650	4525	
UNDERVO	LT	IORMAL	ос		хос

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30°		D3		m ccd4
133	- [[
150	[[
137	- [
]		[
1.007	CPU TDC (4	4) 0.8 CPU ED	C (A) 33	CPU PPT (W) 35 LOAD TYPE IDLE
CD3	CCD4	DYNAMIC	STATS	ACTIVATE PROFILES
-	-		12	
-	-		0	SAVE PROFILES
-	-	M M	0	CO VALUES
-	-		1	
-	-		0	
-	-		0	LOAD BACKUP
-			0	
	STATU	S : profiles are suc	cessfully deac	tivated!
IG	<u>,</u> ⊿	IAGNOSTIC	စုံစ္စ BOO	OST TEST

STEP 2:

If you have selected NORMAL, OC or XOC presets, you must carefully review the rest of HYDRA's settings in order to protect the system from overheating or excessive power consumption.

For example, do not forget to increase the Max EDC, Max TDC and Max PPT limits in the SETTINGS tab. In most cases, it is sufficient to increase these values by 30-40.

If one of the limits is reached during HYDRA operation, the profiles will automatically throttle mode or HYBRID OC will be disabled (AMD standard boost will be enabled). These safeguards also work under Diagnostics.



STEP 3:

You can choose which tests to perform (CORE CO testing, CCD CO testing and Profile creation) under the DIAGNOSTIC tab. The order of testing does not matter.

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

CCD CO testing - defines the limits 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. AVX mode runs hotter.

	HYDR OC-SANDB	CA 1.0	A PRO)		AMD MSI N Micro	Ryzen 9 /IEG B550 osoft Wir	5900X 12-0) UNIFY-X (ndows NT 6
p cc	D1		31.2°	Ē	CCD2			
C01 2	2 69 162	CO4) 166		122	141		1337
C02 1	153 158	C05 () 174		179	145		148
C03	0 170	C06) 174		0	154		2999
]		
CPU (%)	0	Vdroop (%) 0	CPU TE	EL (V) 1	.18	CPU V	/ID (V)
C	DIAGNOSTI	C SETTING	S		DIAG	NOSTI	C SETT	INGS
CORE#	ON/OFF	CORE#	ON/OFF		Target AVX1	PPT (W)		145
C01	~	C07			Target AVX1	temp. (°C)	75
C02	_	C08			Target AVX2	PPT (W)		145
C03		C09			Target AVX2	temp. (°C)	75
C04	~	C10 C11	×		Find best vo	oltages	Disat	oled 🗸
C06	~	C12						
(3) H	IYBRID C	С	ත්රි ක්රී	TING	s	1.1.1.1 I.I.I.I.I	LO	GGIN



STEP 3 (OPTIONAL):

The user has the option of combining any preset voltages with the automatic search ideal voltages for AVX1 and AVX2 loads.

In order to use this function, the user must specify the cooling system (AIR/AIO/CUSTOM) as well as set the power and temperature limits for each load type.

	HYDR OC-SANDB	RA 1.0 BOX FOR ZE	A PRO)		AMD R MSI ME Micros	yzen 9 EG B550 oft Wir	5900X 12-C) UNIFY-X (I 1dows NT 6
cc ﷺ	D1		31.2°	Ē	CCD2			
C01	45 162	C04 (0 166		0	141		1798
C02	322 158	C05	0 174		219	145		223
C03	0 170	C06	0 174		0	154		0
CPU (%)	0	Vdroop (%	6) 5.1	CPU TI	EL (V) 1.02	21	CPU V	1D (V)
l	DIAGNOSTI	C SETTING	S		DIAGN	IOSTIC	SETT	INGS
CORE#	ON/OFF	CORE#	ON/OFF		Target AVX1 P	PT (W)		150
C01	~	C07	\checkmark		Target AVX1 t	emp. (°C)		75
C02	×	C08	×		Target AVX2 P	PT (W)		150
C03		C09			Target AVX2 t	emp. (°C)		75
C04 C05	×	C10 C11	× ×		Find best volt	ages	AIO	~
C06	_	C12	M					
(3) H	HYBRID C	с	_{ැබ්} ි SET	TING	iS	1111	LO	GGIN



STEP 3 (OPTIONAL):

NOTE: the duration of the auto voltage selection will depend on the cooling system used (each type of cooling has its own preheating phase) and on the limits (PPT and temperature) that the user has selected.

If you don't need the automatic voltage selection, turn it off before starting a new diagnostic.

HYDR oc-sandb	A 1.0A P	RO			AMD R MSI MI Micros	yzen 9 EG B550 oft Wir	5900X 12- 0 UNIFY-X ndows NT
ECD1	4	9.4°	ē	CCD2			
C01 182 162	CO4 63	166		0	141		2185
C02 1026 158	C05 15	174		360	145		311
C03 20 170	C06 4749	174		0	154		251
]		
CPU (%) 6.2	Vdroop (%) 1	.7	CPU TE	L (V) 1.	466	CPU V	/ID (V)
19:49:59: TEL: 941mV	VID: 1000mV	TEM	PERATU	RE: 52.8°C	POV	VER: 1	13.6W
19:51:00: TEL: 987mV	VID: 1050mV	TEM	PERATU	RE: 55.8°C	POV	VER: 1	25.4W
19:52:03: TEL: 1040mV	VID: 1100mV	TEM	PERATU	RE: 60.8°C	POV	VER: 1	40.2W
19:53:05: TEL: 1062mV	VID: 1125mV	TEM	PERATU	RE: 64°C	POV	VER: 1	48.4W
19:54:07: TEL: 1072mV	VID: 1150mV	TEM	PERATU	RE: 66.7°C	POV	VER: 1	56.2W
19:55:10: TEL: 1087mV	VID: 1163mV	TEM	PERATU	RE: 68.2°C	POV	VER: 1	61W
19:56:13: TEL: 1103mV	VID: 1176mV	TEM	PERATU	RE: 69.8°C	POV	VER: 1	66W
The power limit has beer	n reached: 166W	AVX	2 VID: 11	.76mV			
19:56:16: The search for 1	the ideal voltage for	the AV	X1 has b	egun			22.011
19:57:18: TEL: 1052mV	VID: 1100mV	TEM	PERATU	RE: 54.5°C	POV	VER: 1	22.8W
19:58:24: TEL: 1100mV	VID: 1150mV	TEM		RE: 50°C	POV	VER: 1	31.5W
20:00:37: TEL: 1145mV	VID: 1200mV	TEM	DERATU	RE: 63.2°C	PON	VER-1	53 3W
20:01:40: TEL: 1219mV	VID: 1275mV	TEM	PERATU	RE: 64°C	PON	VER: 1	61.4W
20:02:48: TEL: 1228mV	VID: 1275mV	TEM	PERATU	RF: 66°C	POV	VFR: 1	63.4W
The power limit has been	reached: 163.4W	AVX	1 VID: 12	288mV			
(HYBRID O	c ැබූ?	SET	TING	s		LO	GGIN



STEP 4:

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

This process can take from 2-5 hours, depending on the quality of the sample (higher the quality, the longer it takes).

The system may periodically reboot during diagnostics – this is completely normal.

Once the diagnostics are completed, the corresponding tables under HYBRID OC will be automatically entered and saved. The user will also receive a message that the diagnostic process is complete.

NOTE: re-diagnostics is recommended only if you have changed the CPU VRM or DRAM OC settings.

HYDRA 1.0A PRO OC-SANDBOX FOR ZEN3	AMD Ryzen 9 5900X 12-Core Pr MSI MEG B550 UNIFY-X (MS-7D Microsoft Windows NT 6.2.920	ocessor 3) BIOS ver. A.41 SMU ver. 56.52.00 .0 09/14/2021 21:25:35	C (i 🎐 🖻	
∰ CCD1 38° ╡	CCD2 64.	• 🛱 CCD3		CCD4	
C01 49 162 C04 39 166	C07 313 141 C10 4750 133]		
C02 2 158 C05 420 174	C08 3508 145 C11 240 150]		
C03 0 170 C06 50 174	C09 97 154 C12 235 133]		
]		
CPU (%) 12.5 Vdroop (%) 1.8 C	CPU TEL (V) 1.338 CPU VID (V) 1.363	CPU TDC (A) 27.1 CPU EDC (A)	140	CPU PPT (W) 71.8	LOAD TYPE AVX2
00:11:15: Saving intermediate values 00:11:23: Test#1 CORE#10 CO: 106 DELTA: 32 TEMPERATURE: 65°C 00:12:04: Saving intermediate values 00:12:14: Test#2 00:12:55: Saving intermediate values 00:13:05: Test#3 00:13:51: Step: 63 CORE#10 BASE FREQ: 4625MHz REAL FREQ: 4750MH 00:13:51: Saving intermediate values 00:13:59: Test#1 CORE#10 CO: 129 DELTA: 23 TEMPERATURE: 65°C 00:14:40: Saving intermediate values 00:14:50: Test#2 00:15:31: Saving intermediate values 00:15:31: Saving intermediate values 00:15:41: Test#3	Ζ	1		STOP THE	PROCESS
(7) HYBRID OC		ာ DIAGNOSTIC	BOOS	ST TEST	COMPARE

OPTIONAL STEP:

You may want to re-test specific cores – in order to do this, go to the SETTINGS tab and select the cores that you want to test.

Enhance accuracy - intended for more accurate diagnosis of cores or CCDs. Doubles the testing time. Not recommended by default.

Safe CO range - frequency vs. voltage curves for cores are not always smooth (according to SMU info). To avoid abnormal CO results, it is recommended to activate this option. Otherwise, it may cause malfunctions during the operation of the HYBRID OC.

	HYDR OC-SANDBO	A 1.0A	PRO)		AMD MSI N Micro	Ryzen 9 : IEG B550 soft Win	5900X 12-0) UNIFY-X (idows NT 6
<u>الله</u>	D1		30.7°		CCD2			
C01	0 162	C04 0	166		0	141		2104
C02	0 158	C05 0	174		2044	145		18
C03	0 170	C06 275	174		0	154		320
]					
CPU (%)	0	Vdroop (%)	-0.9	CPU TE	EL (V) 1.0	051	CPU V	ID (V)
I	DIAGNOSTIC	SETTINGS			DIAG	NOSTI	C SETT	INGS
CORE#	ON/OFF	CORE# C	NI/OEE		Target AVX1	PPT (W)		150
C01		C07			Target AVX1	temp. (°C)	75
C02		C08			Target AVX2	PPT (W)		150
C03		C09	× ✓		Target AVX2	temp. (°C)	75
C05		C11	_		Find best vo	Itages	Disat	oled 🗸
C06	•	C12						
(3) H	HYBRID O	c (õ	ခွဲနဲ့ SET	TING	S		LO	GGIN



STEP 1:

Under the HYBRID OC tab, press the ACTIVATE PROFILES button to activate the enabled profiles. This button acts as a switch and will also serve to DEACTIVATE PROFILES. The state of the button is saved automatically.

The active profile is highlighted red in the profile table. The STATS column shows the statistics of the number profile activations.

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 pressing the CO VALUES button.

	YDRA 1. SANDBOX FOR	OA PRO		AMD Ryzen 9 MSI MEG B5 Microsoft W	9 5900X 12- 50 UNIFY-X indows NT
ECD1		56°	CCD2		
C01 4600	162 C04	4600 166	C07 4474] 141 C10	4474
C02 4600] 158 COS [4600 174	C08 4474	145 C11	4475
C03 4600] 170 CO6 [4600 174	C09 4474	154 C12	4475
] [
CPU (%) 100	Vdroop	o (%) 6.9	CPU TEL (V)	.095 CPU	VID (V)
THREADS	ENABLED	VID	CCD1	CCD2	C
1T-2T	\checkmark	1375	4800	4700	
3T-4T	\checkmark	1375	4800	4700	
5T-6T	\checkmark	1325	4700	4625	
7T-9T	\checkmark	1325	4650	4575	
10T-12T	\checkmark	1275	4600	4525	
ALL (AVX1)	✓	1288	4300	4250	
ALL (AVX2)		1176	3950	3875	
ALL (GAME)	\checkmark	1300	4650	4525	
UNDERVO	LT N	IORMAL	ос		хос
(а) нув	RID OC	_{ලි} බූදි SET	TINGS		OGGIN

Core Process (MS-7D13) Bl 6.2.9200.0	or IOS ver. A.41 SMU ver 09/15/2021 15:05:	r. 56.52.00 28	Ç	(j 🎐 🖻 🗆 🏹 💥
53.6°	🗊 ССD3			m CCD4
133][
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1.175	CPU TDC (A)	LO3.2 CPU EDO	C (A) 140	CPU PPT (W) 152.8 LOAD TYPE FMA3
CD3	CCD4	DYNAMIC	STATS	
-	-	\checkmark	8	DEACTIVATE PROFILES
-	-	<u>∽</u>	0	SAVE PROFILES
2	-	⊠ ⊠	0 2	CO VALUES
-	-	~	3	
-	-	√	18	CREATE BACKUP
-	-		17	
-	-		1	
	STATUS : pr	ofiles are succ	essfully activ	ivated!
IG		NOSTIC	စ္ခုစ္ BOO	OST TEST

STEP 2:

As previously mentioned, the CO tables are designed to change the resulting frequency (frequency curve relative to voltage). The unit of measure is millivolts (mV).

You can change the resulting frequency for both CCDs in real-time without deactivating the profiles by pressing the "+" and "-" buttons. You can also change the CO value for each core individually in real-time. Once satisfied with the results press the SAVE PROFILES button.

A key feature of HYDRA is the real-time analysis of the bottle-neck CO. The cores that are highlighted in red prevent frequency growth for the entire CCD or CORE, i.e. these are the worst cores. This mechanism will easily help you calibrate the CO table to achieve a higher frequency.

~	HYDR oc-sande	RA 1.0	A PRO)	AMD MSI I Micro	Ryzen 9 5900X MEG B550 UNII osoft Windows	(12-(FY-X (s NT 6
n the second sec	D1		56.4°	r cc	D2		
C01 4	5 99 162	C04 459	99 166	C07 44	474 141	C10 44	174
CO2 4	599 158	C05 459	99 174	C08 44	474 145	C11 44	474
C03 4	5 99 170	C06 459	99 174	C09 44	4 74 154	C12 44	174
CPU (%)	100	Vdroop (%) 6.8	CPU TEL (V)	1.092	CPU VID (V	n [
O CO	FOR LOW-	THREAD LO	AD 🕂	() () () () () () () () () () () () () (THREAD L	.0A
CORE#	со	CORE#	со	CORE#	со	CORE#	
C01	211	C07	147	C01	76	C07	
C02	217	C08	204	C02	111	C08	
C03	265	C09	122	C03	80	C09	
C04	210	C10	175	C04	80	C10	
C05	122	C11	150	C05	52	C11	
C06	31	C12	178	C06	62	C12	
(ð) I	IYBRID C	oc (_{ලි} බිදි SET	TINGS	1444AA	[,] LOGG	iN



STEP 2:

Want more frequency? Increase the highlighted value. If you want more stability, decrease the highlighted value. The step for the left table (#1) is 15, for the right (#2) - 10.

You may also find information on what core caused a crash under the LOGGING tab. Here you will find information on which cores crashed, and recommended actions.

For your convenience, you can save and load intermediate profiles with the CREATE BACKUP and LOAD BACKUP buttons. The files that are generated are compatible between all versions of HYDRA.

	HYDR OC-SANDBO	A 1.0A)	AMD MSI I Micro	Ryzen 9 5900X 1 MEG B550 UNIFY osoft Windows N	2-Core Proces: -X (MS-7D13) B IT 6.2.9200.0	or IOS ver. A.41 SMU ver. 56.52.00 09/15/2021 16:24:45	Ç	(i) (i)	0		9 💥
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C02 4	599 158	C05 4599	9 174	C08 44	145	C11 447	4 150]	- [
C03 4	599 170	C06 4599	9 174	C09 44	154	C12 447	4 137]				
]	- [·
CPU (%)	100	Vdroop (%)	6.8	CPU TEL (V)	1.092	CPU VID (V)	1.175	CPU TDC (A) 104.7 CPU EDC (A)	140	CPU PPT (V	V) 154.3	LOAD TYPE	FMA3
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C01	211	C07	147	C01	76	C07	74				SAVE P	ROFILES	
C02	217	C08	204	C02	111	C08	83						
C03	265	C09	122	C03	80	C09	74						
C04	210	C10	175	C04	80	C10	103				CREATE	BACKUP	
C05	122	C11	150	C05	52	C11	66						$ \rightarrow $
C06	31	C12	178	C06	62	C12	88				LOAD	BACKUP	
								STATUS : profiles are successfu	lly activ	/ated!			
(ð) H	HYBRID O	c 🤅	ୁର୍ଭିତି SET	TINGS	1444AA	[,] LOGGI	NG	DIAGNOSTIC	ရ вос	OST TEST	1	СОМР	ARE

STEP 3:

If you are satisfied with your profiles, you may want to enable HYDRA upon Windows startup. Go to the SETTINGS page and enable Autoload APP with OS.

NOTE: Do not enable this option for while running Diagnostics - "Phoenix" will automatically recover upon a crash. Doing so will break the continuation of diagnostics.

All settings changed here are saved automatically.



TIPS AND TRICKS:

OC response speed - this parameter determines the response time at which the profile/frequency is activated. The optimal value is 8-15ms. The minimum value is 6 ms. A lower value allows you to more accurately evaluate the current state of the cores in order to adjust the frequency. Lower values will also cause HYDRA to use more CPU.

Core activation trigger – C0 core state. The utilization condition under which the core should receive maximum frequency. The recommended value is >92%. With lower values, cores that process background tasks or are idle will be considered active and will activate. This has a negative effect on lowthread performance.



TIPS AND TRICKS:

AVX1 CAC threshold and AVX2 CAC threshold – Ryzen processors evaluate the load type using EDC throttling info, conventionally referred to as the "CAC" trigger. HYDRA allows to automatically adjust the frequency depending on the type of load. Light (SSE), medium (AVX1) and heavy (AVX2/FMA3). By default, the optimal thresholds are already defined, but the user has the ability to adjust this.

Be careful, as too low AVX1 CAC thresholds can increase the aggressiveness of the boost in ultra-light tasks (idle state too). You may end up crashing the system (reboot). The optimal value is between 7 and 10.

AVX1 CO offset - determines the size of the positive CO offset relative to CO table #2 for AVX1 tasks. That is, for tasks of "medium difficulty" you can increase the boost. The optimal value is between 0 and 30. If you experience issues with stability, use 0.



TIPS AND TRICKS:

Holding time MT – the duration (ms) of which the profile (AVX1 or AVX2) remains active after the load has partially or completely disappeared. Allows you to reduce the number of false profile reactivations due to impulse load.

Holding time LT – the duration (ms) of which the profile (low-thread load) remains active after the load has partially or completely disappeared. Allows you to reduce the number of false profile reactivations due to impulse load.

NOTE: larger values will have a negative effect on the speed of activation of the optimal profile (delayed profile switching).

HYDRA 1.0A PRO OC-SANDBOX FOR ZEN3	AMD Ryzen 9 5900 MSI MEG B550 UN Microsoft Window	X 12-C IFY-X (I 's NT 6
ECD1 31.1°	章 CCD2	
CO1 0 162 CO4 0 166	C07 0 141 C10 3	657
C02 227 158 C05 0 174	C08 0 145 C11	0
C03 0 170 C06 154 174	C09 0 154 C12 3	13
CPU (%) 1 Vdroop (%) 0	CPU TEL (V) 1.098 CPU VID (v) [
	HYBRID OC SETTING	S
	Overboost	
	CO table #2 for GAME	
//	Frequency limit 5	100
		200
	GPU CORE trigger (%)	30
	GPU CORE trigger (%)	30 9
	GPU CORE trigger (%)	30 9 ~
MAIN SETTINGS	GPU CORE trigger (%) GPU MEMORY trigger (%) GAME CO offset 0	30 9 V



TIPS AND TRICKS:

GPU CORE trigger - GPU core usage threshold at which the GAME profile will be activated.

GPU MEMORY trigger - GPU memory usage threshold at which the GAME profile will be activated.

NOTE: thresholds that are too low may trigger may cause unwanted GAME profile activations during usage of browsers or other hardwareaccelerated applications.

CO table #2 for GAME - CO table #2 is used by default, but you can also try to use the first table for better performance. Using the first table increases system instability.

GAME CO offset - determines the size of the positive CO offset relative to CO table #2 or #1 for the GAME profile. You can increase the frequency or improve stability.



TIPS AND TRICKS:

Overboost - state of the cores at which an abnormally high frequency in light tasks is achieved. This may increase system instability.

Frequency limit - this mechanism allows you to limit the maximum boost frequency. The need for limiting occurs when the system reboots during a very light load or idle. You may also control this with CO table #1.

HYDRA 1.0A OC-SANDBOX FOR ZEN3	PRO	AMD Ryzen 9 5900X 12-C MSI MEG B550 UNIFY-X (M Microsoft Windows NT 6
ECD1	31.1°	ECD2
C01 0 162 C04 0	166	C07 0 141 C10 3657
C02 227 158 C05 0	174	C08 0 145 C11 0
C03 0 170 C06 154	174	C09 0 154 C12 313
]	
CPU (%) 1 Vdroop (%)	0	CPU TEL (V) 1.098 CPU VID (V)
		HYBRID OC SETTINGS
		Overboost
		CO table #2 for GAME
//		Frequency limit 5100
<<		GPU CORE trigger (%) 30
		GPU MEMORY trigger (%) 9
MAIN SETTINGS		
MAIN SETTINGS		



TIPS AND TRICKS:

Some benchmarks (with built-in monitoring) can negatively affect the performance of HYDRA and the system as a whole. To solve this problem, the user only needs to add the application to the list of programs which will provoke HYDRA to increase its priority in the system. As a result, the user will get extra performance while changing the priority of HYDRA has no negative impact on the system.

The user can add any application to the configurator file himself. An example can be clearly seen in the picture.

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TIPS AND TRICKS:

Also the user can configure the basic priority of HYDRA in the settings section. The default value is optimal (A-normal).





BOOST TEST

Diagnostic test which will check the singlethreaded performance of each core individually. Fully compatible with AMD Curve Optimizer, HYDRA HYBRID OC and PBO/PB2.

HYDRA 1.0A PRO OC-SANDBOX FOR ZEN3	AMD Ryzen 9 5900X 12-Core Processo MSI MEG B550 UNIFY-X (MS-7D13) BIO Microsoft Windows NT 6.2.9200.0	or OS ver. A.41 SMU ver. 56.52.00 09/14/2021 09:14:20	(j 🎐 🖻 🖃 💥
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C03 0 170 C06 0 174	C09 0 154 C12 139 137		
CPU (%) 0 Vdroop (%) 0	CPU TEL (V) 1.1 CPU VID (V) 1.1	CPU TDC (A) 0.2 CPU EDC (A) 122.9	CPU PPT (W) 35.7 LOAD TYPE SSE
09:17:30: Boost testing finished! HYDRA BOOST TESTER RESULTS CORE / FREQUENCY / VID / POWER / TEMP C01 F 5034 V 1.375 W 13.06 T 55.38 C02 F 4984 V 1.375 W 13.33 T 55.28 C03 F 5063 V 1.375 W 13.82 T 55.62 C04 F 4986 V 1.375 W 13.09 T 54.48 C05 F 5055 V 1.375 W 13.69 T 57.58 C06 F 4852 V 1.375 W 13.69 T 57.89 C07 F 4898 V 1.375 W 13.34 T 54.36 C08 F 4828 V 1.375 W 11.08 T 50.94 C09 F 4850 V 1.375 W 11.68 T 51.46 C10 F 4894 V 1.375 W 12.63 T 53.28 C11 F 4883 V 1.375 W 11.78 T 55.06			STOP THE PROCESS
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PROJECT HYDRA – UEFI CURVE OPTIMIZER

UEFI CURVE OPTIMIZER

HYDRA is also able to provide information about CO values for UEFI after diagnostics. This is optimal for situations where the user only wants to use the standard frequency management tools.

It is recommended to use the SAFE preset because it can guarantee the user stability in any task.

NOTE: the best cores (the highest CPPC value) have the lowest CO value. It's natural. There is also a small reserve for these cores and you can combine SAFE and FAST presets.



Core Processor (MS-7D13) BIOS ver. A.41 SMU ver. 56.52.00 6.2.9200.0 09/15/2021 11:37:04) 🎐 🖻		🗙
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