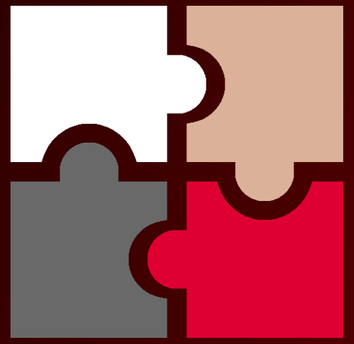


PROJECT HYDRA

OC-SANDBOX FOR ZEN3+ PROCESSORS

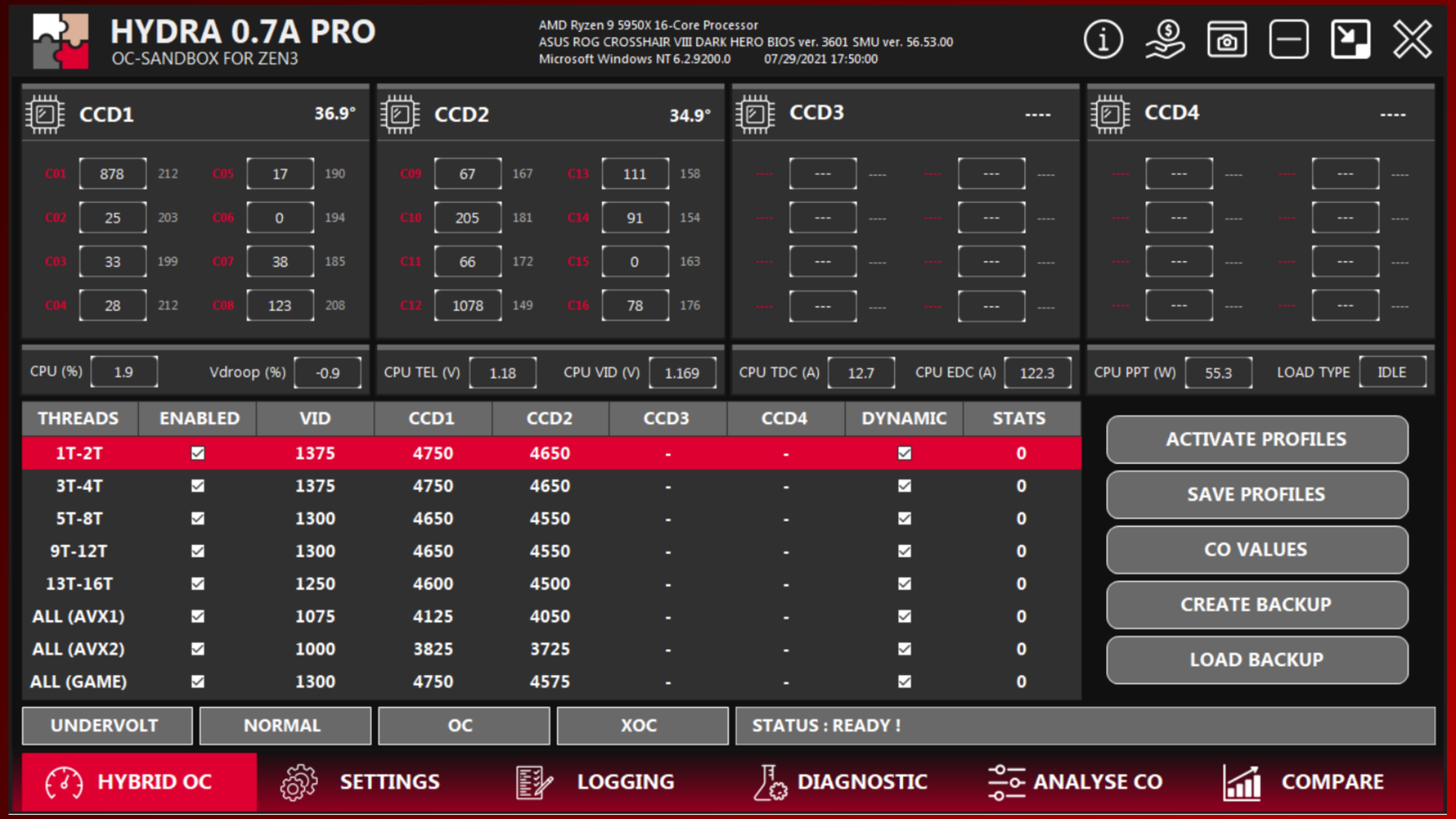
THE FIRST ALPHA VERSION IS ALREADY AVAILABLE FOR PATREON SUBSCRIBERS

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

1USMUS 2021

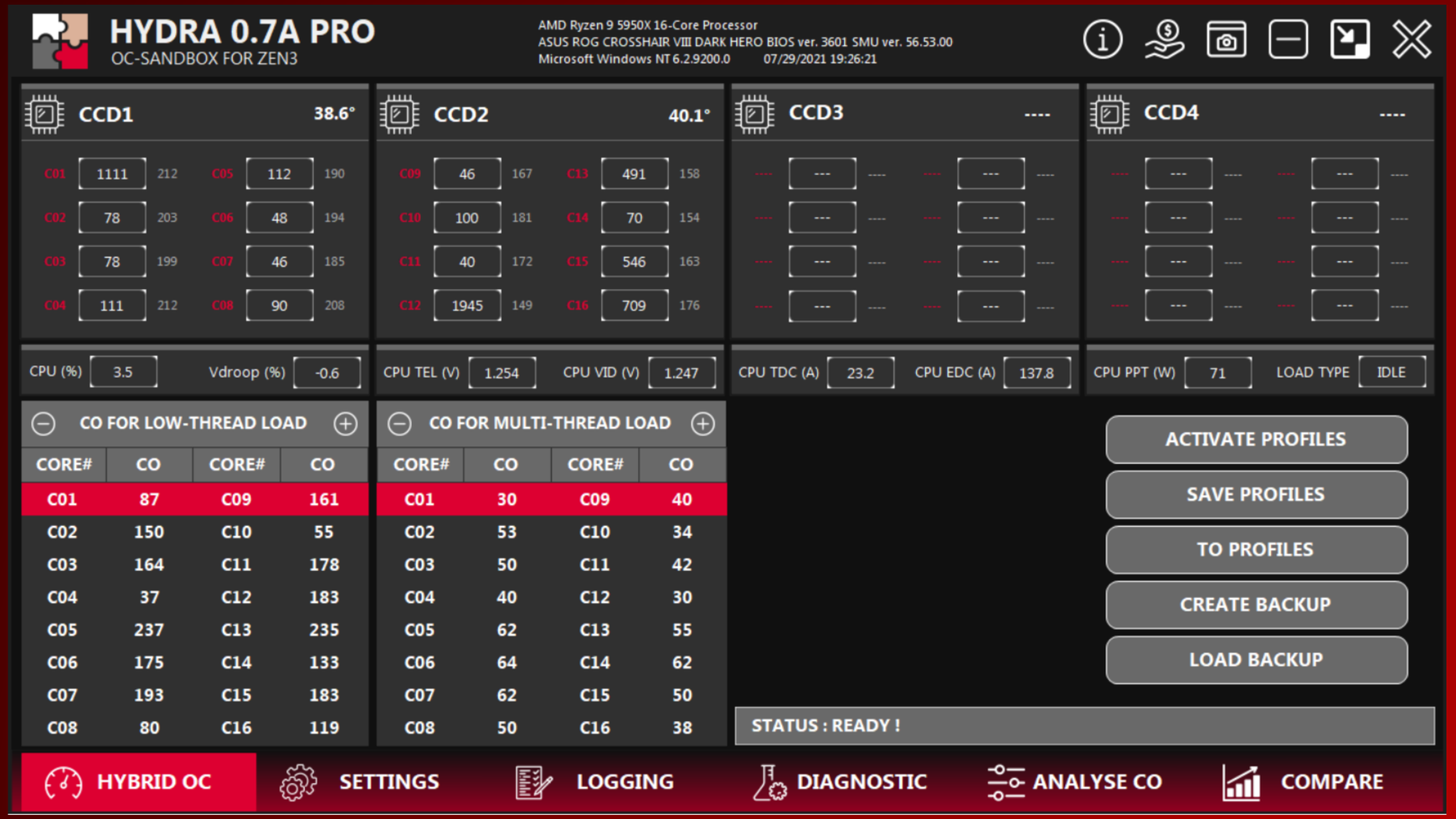
PROJECT HYDRA – NEW PLATFORM, NEW FEATURES

- 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)



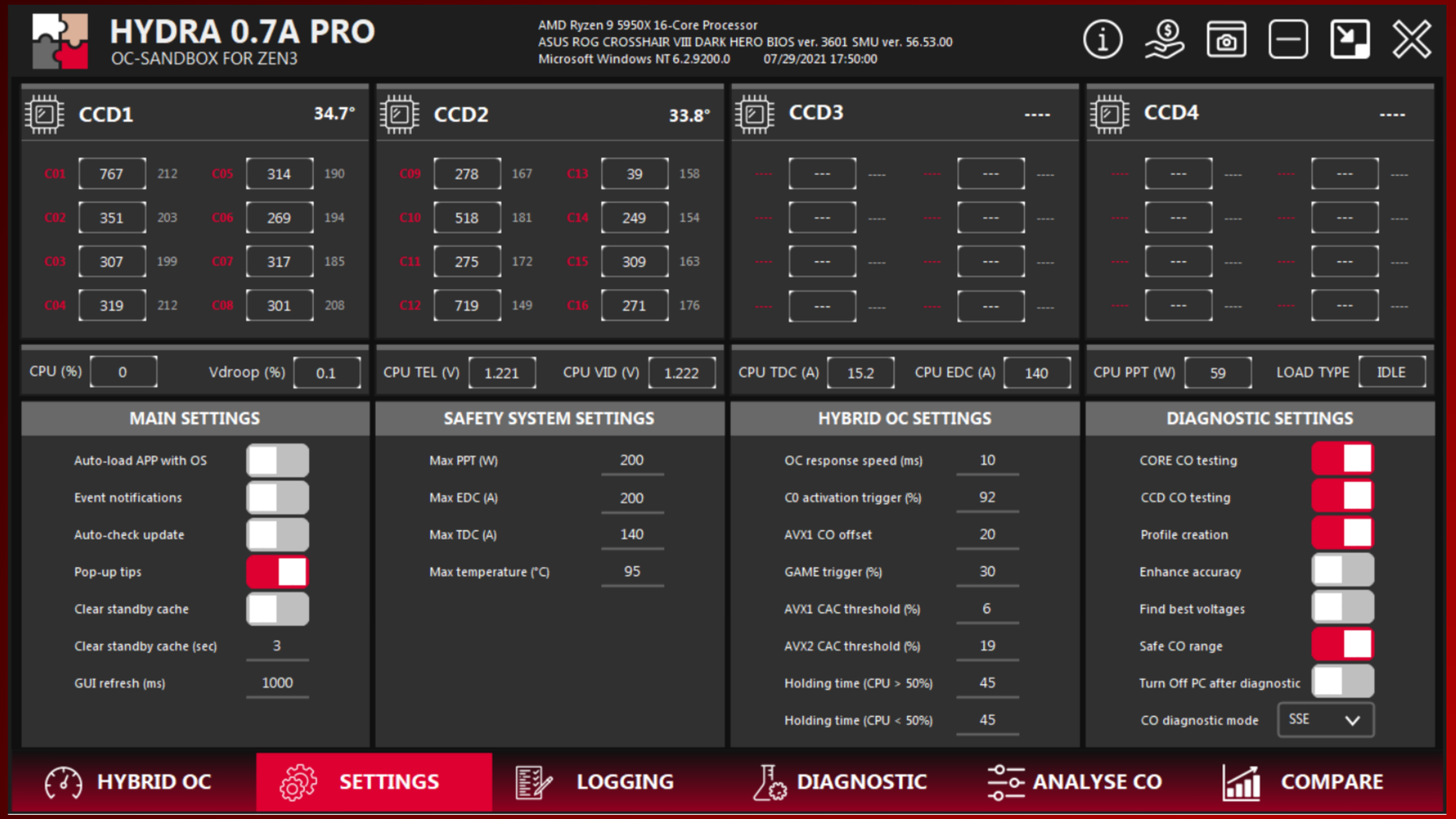
PROJECT HYDRA – NEW PLATFORM, NEW FEATURES

- 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



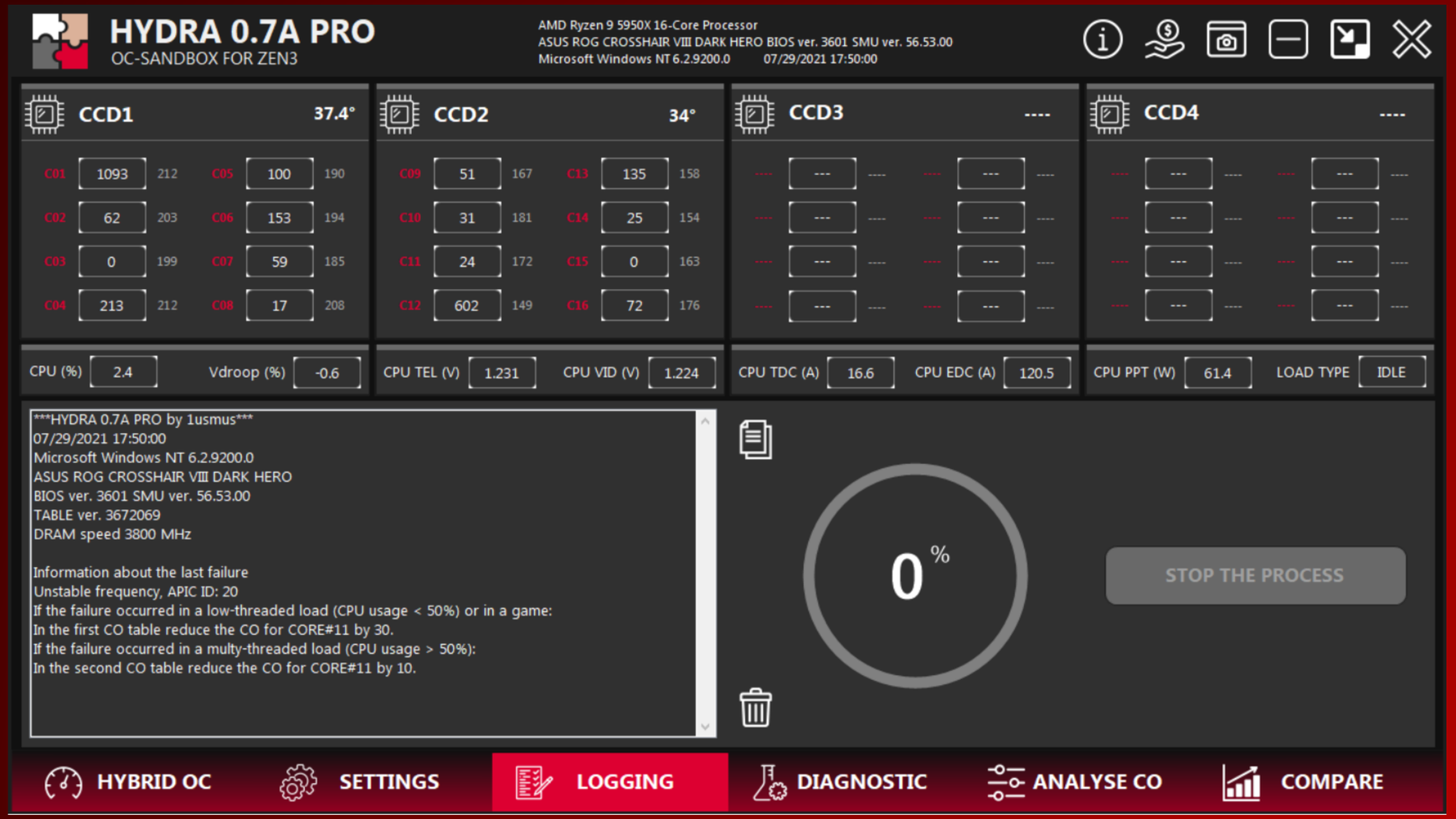
PROJECT HYDRA – NEW PLATFORM, NEW FEATURES

- 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)



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



PROJECT HYDRA – QUICK START, REQUIREMENTS

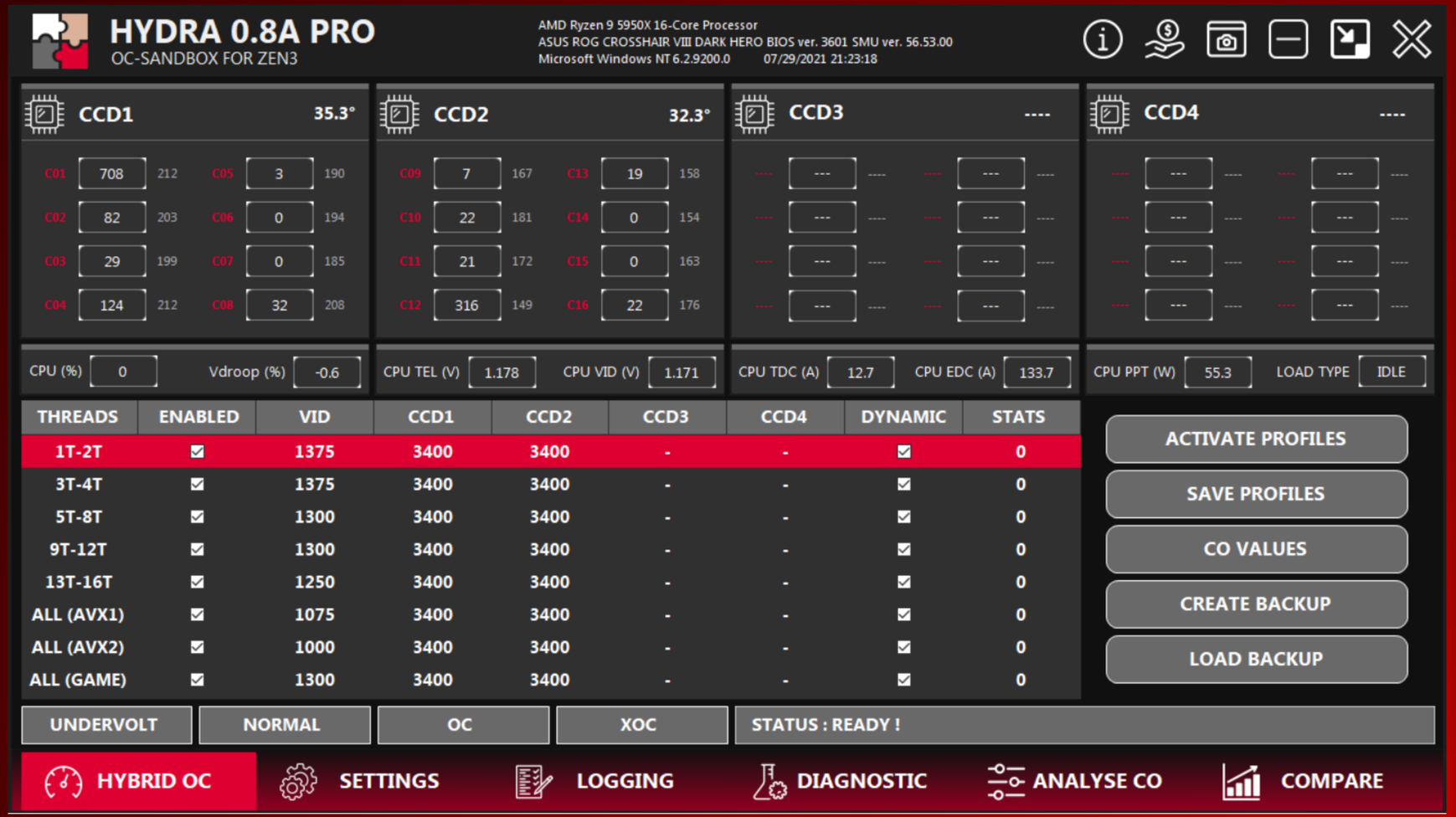
- Zen 3 CPU : Ryzen 9 5950X, Ryzen 9 5900X, Ryzen 7 5800X or Ryzen 5 5600X.
- Stable, overclocked (or XMP) DRAM.
- Disabled Curve Optimizer (in BIOS). PBO – no matter.
- Manual CPU LLC (Load Line Calibration). ASUS - 3, MSI - 4, ASRock - 2, GIGABYTE - High. You also have every right to use whichever 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.

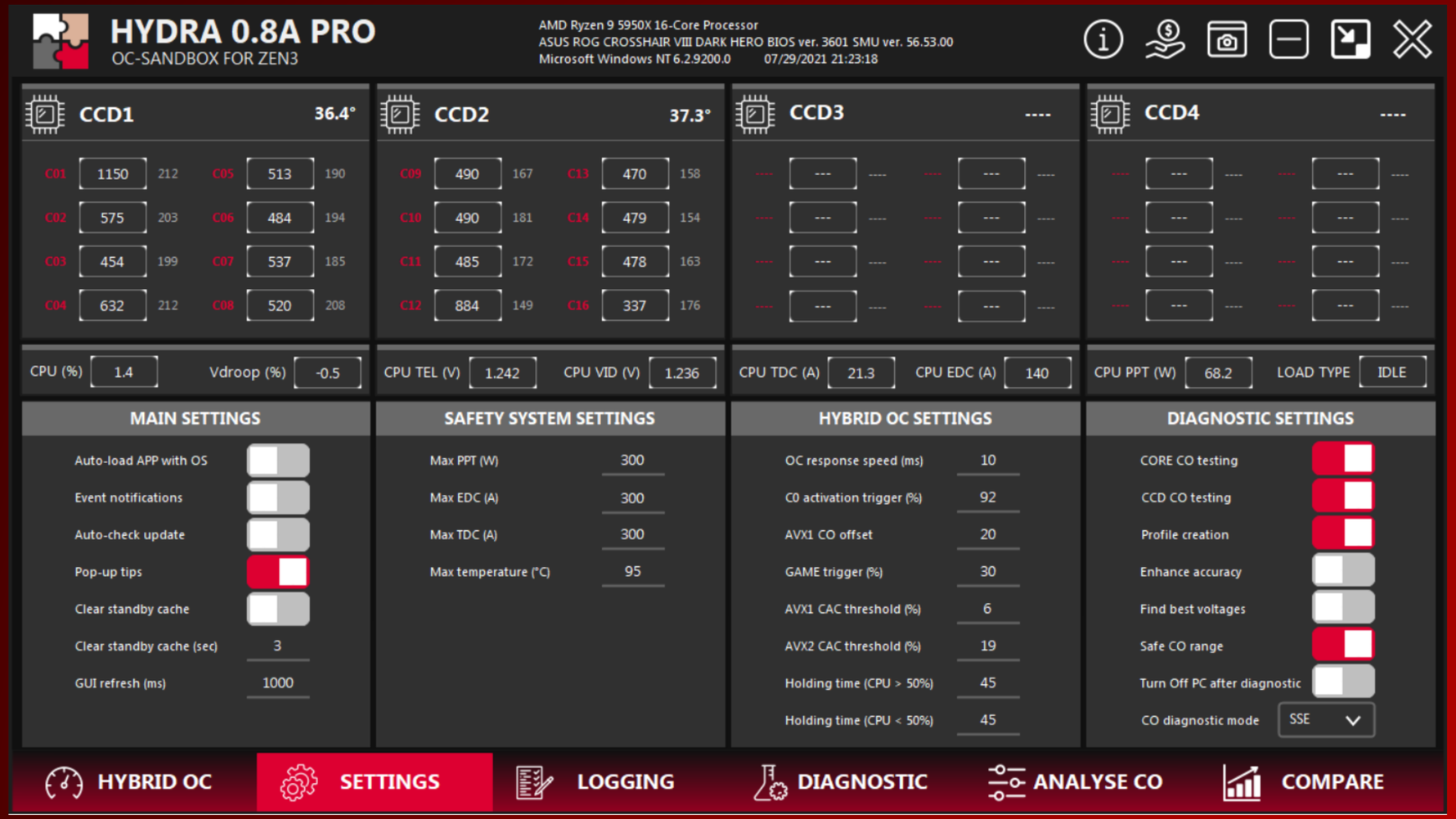
If you don't know what to choose, skip this step, the base voltages HYDRA offers are safe for any cooling system and weak VRM.



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.



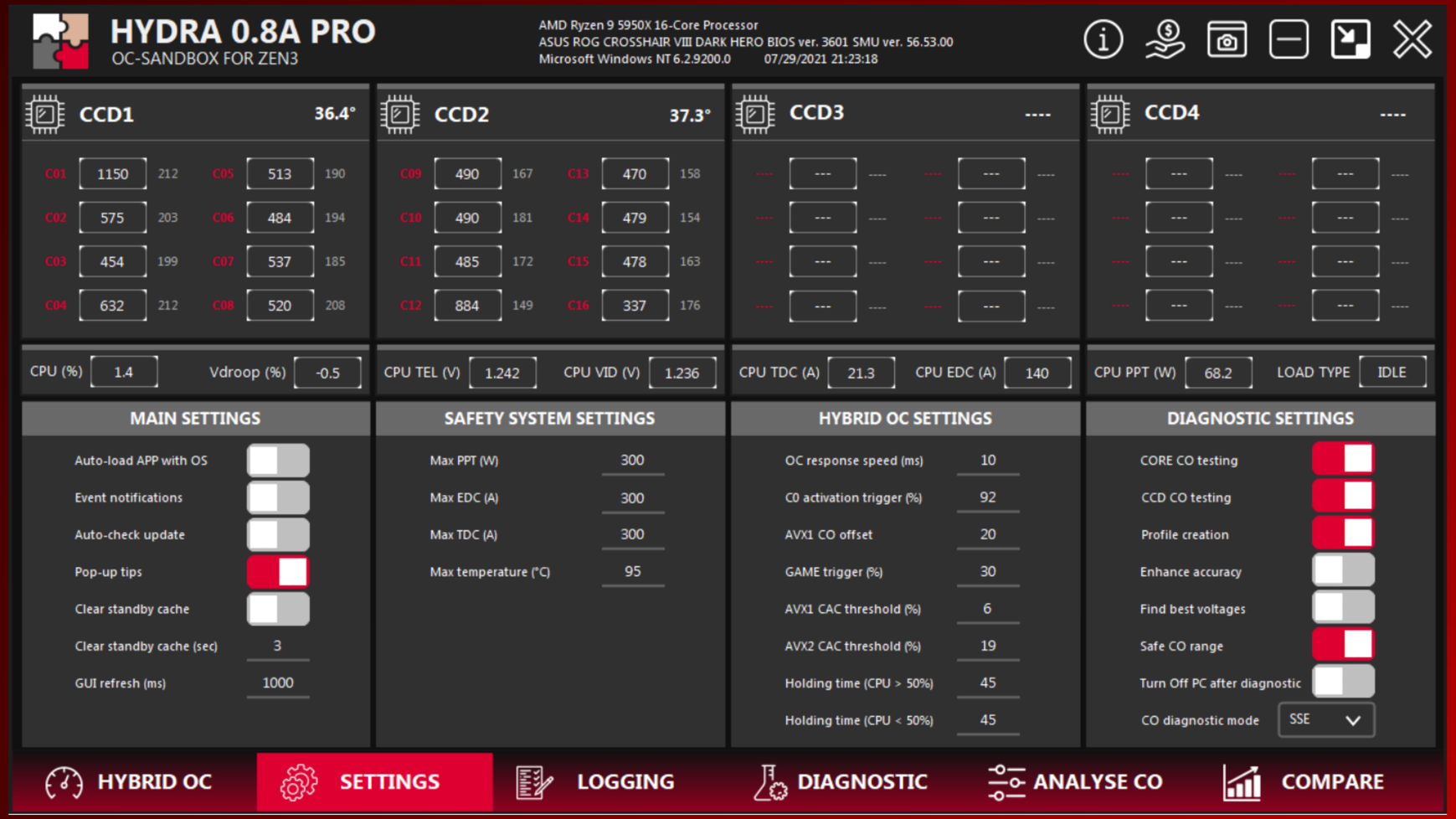
PROJECT HYDRA – QUICK START, DIAGNOSTIC

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.



PROJECT HYDRA – QUICK START, DIAGNOSTIC

STEP 4:

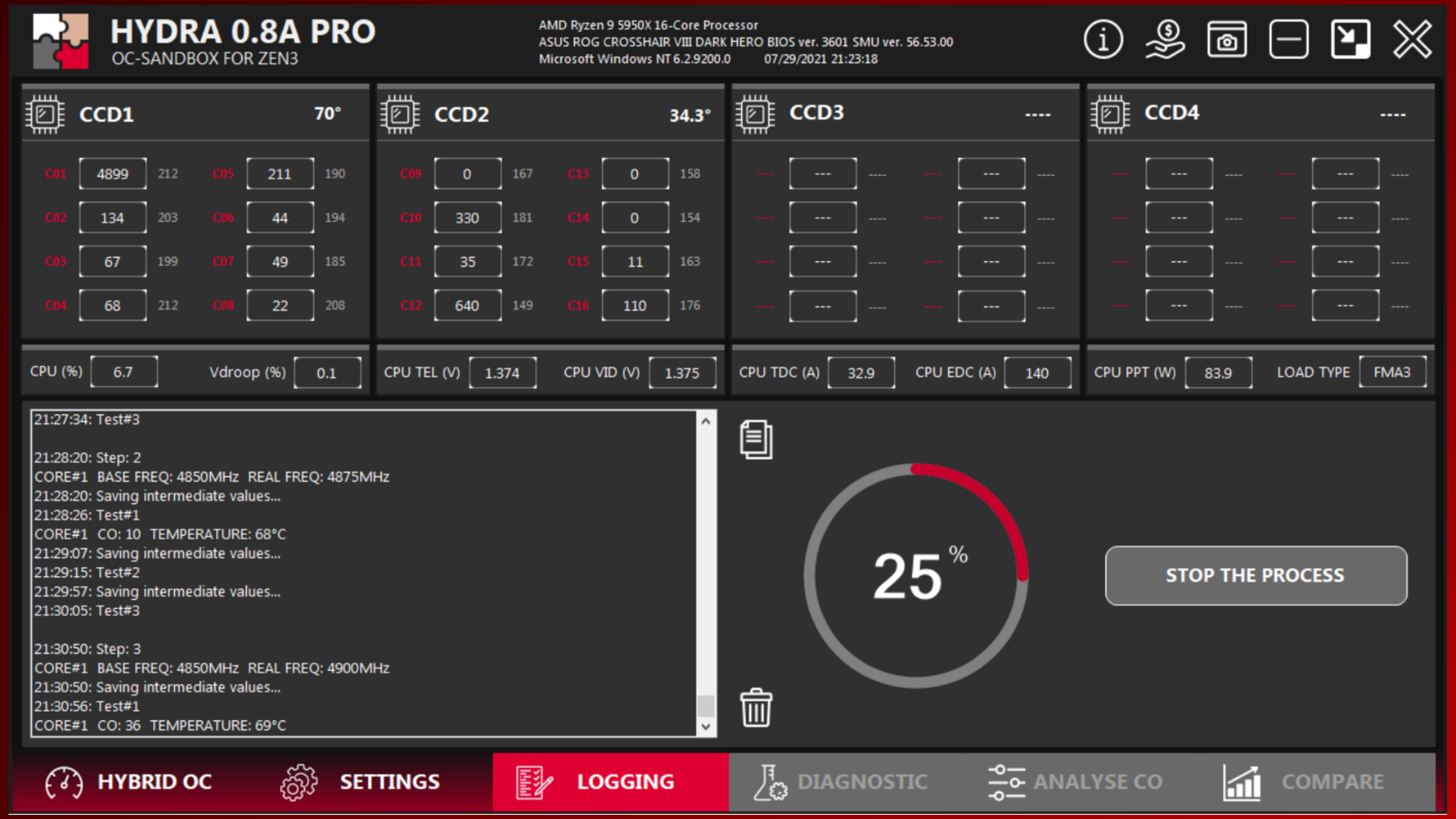
Once you have decided on the settings and preset voltages, run the diagnostics by pressing the DIAGNOSTIC button.

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.



PROJECT HYDRA – QUICK START, HYBRID OC

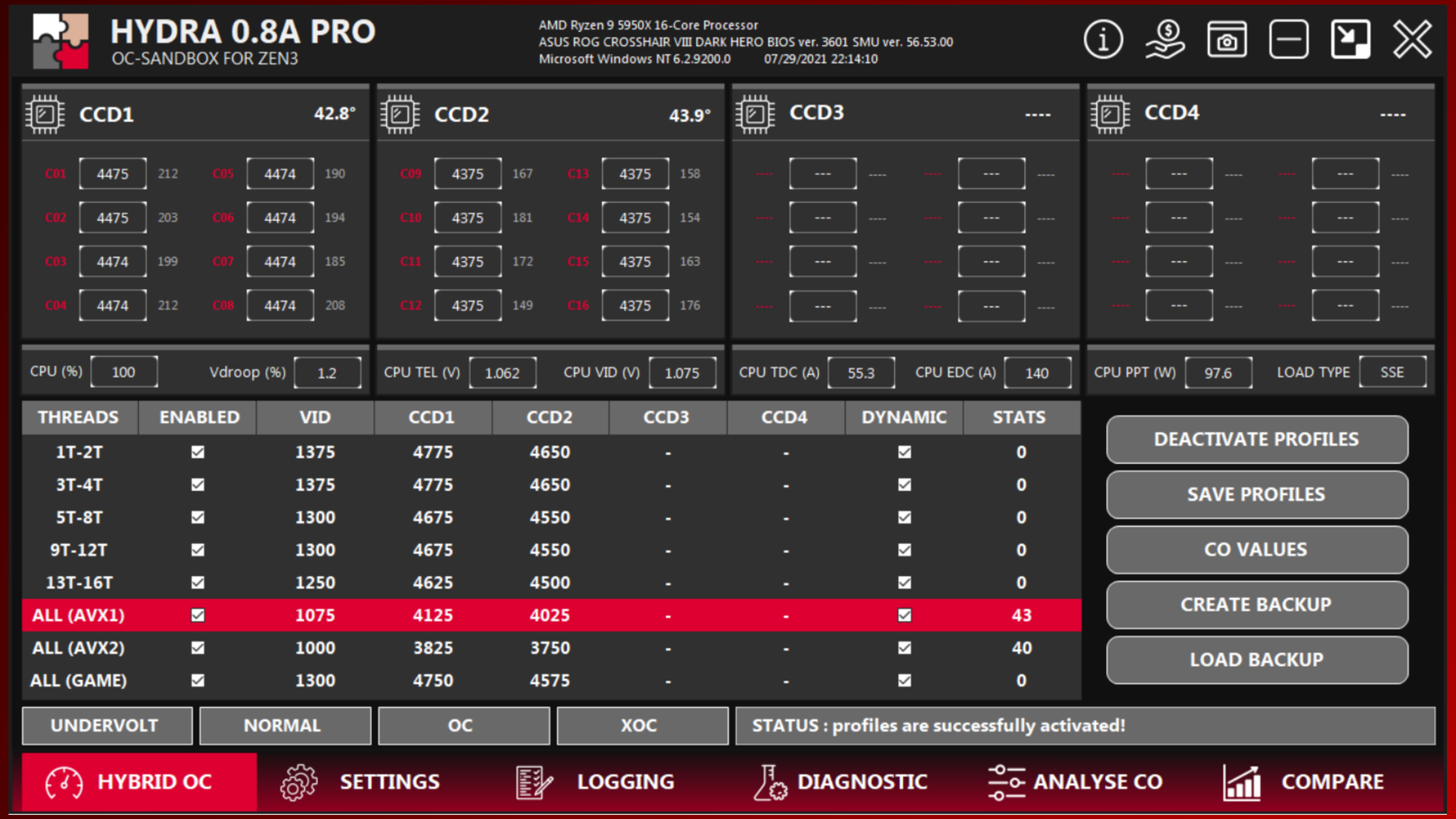
STEP 1:

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.



PROJECT HYDRA – QUICK START, HYBRID OC

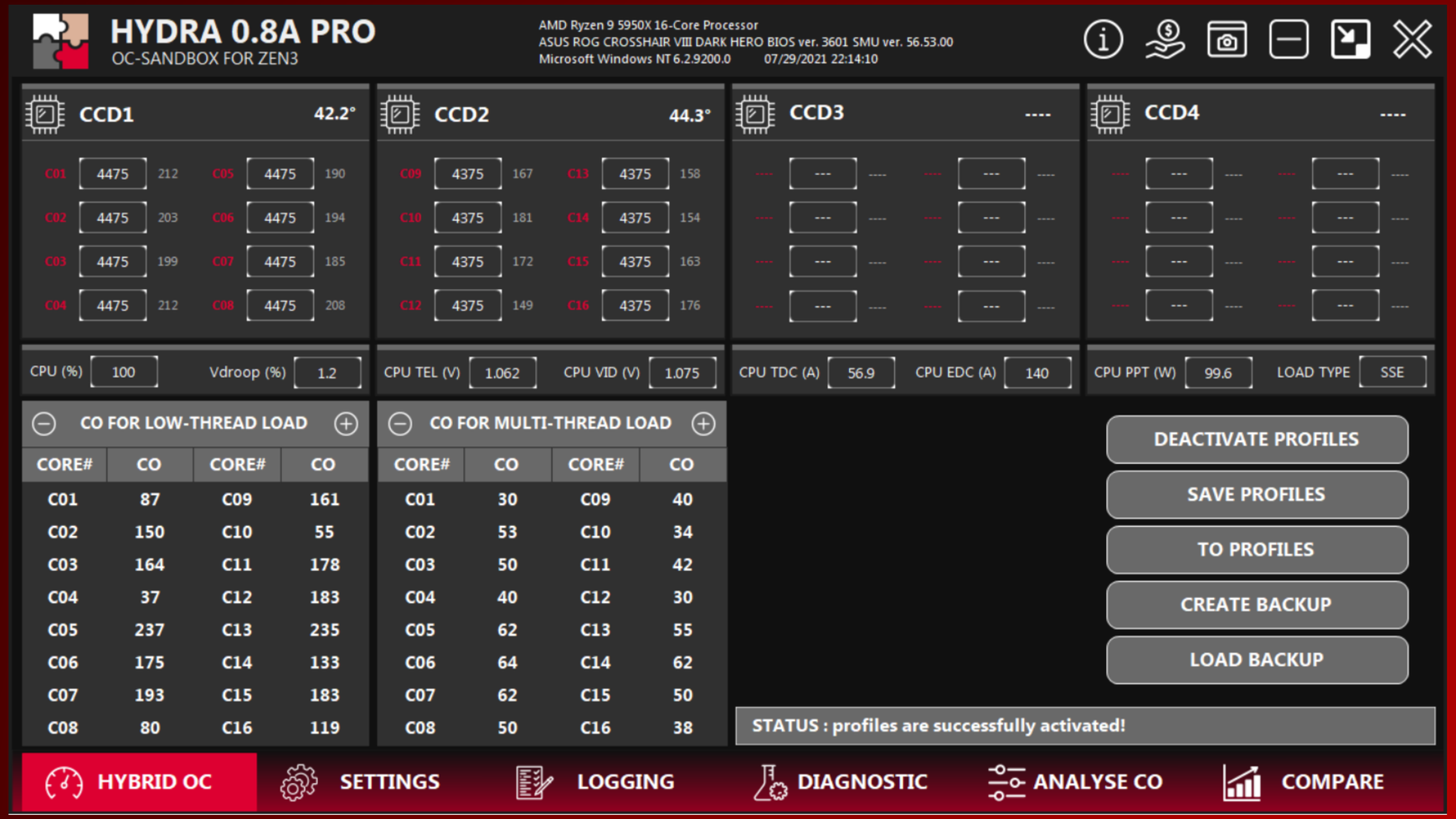
STEP 2:

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.

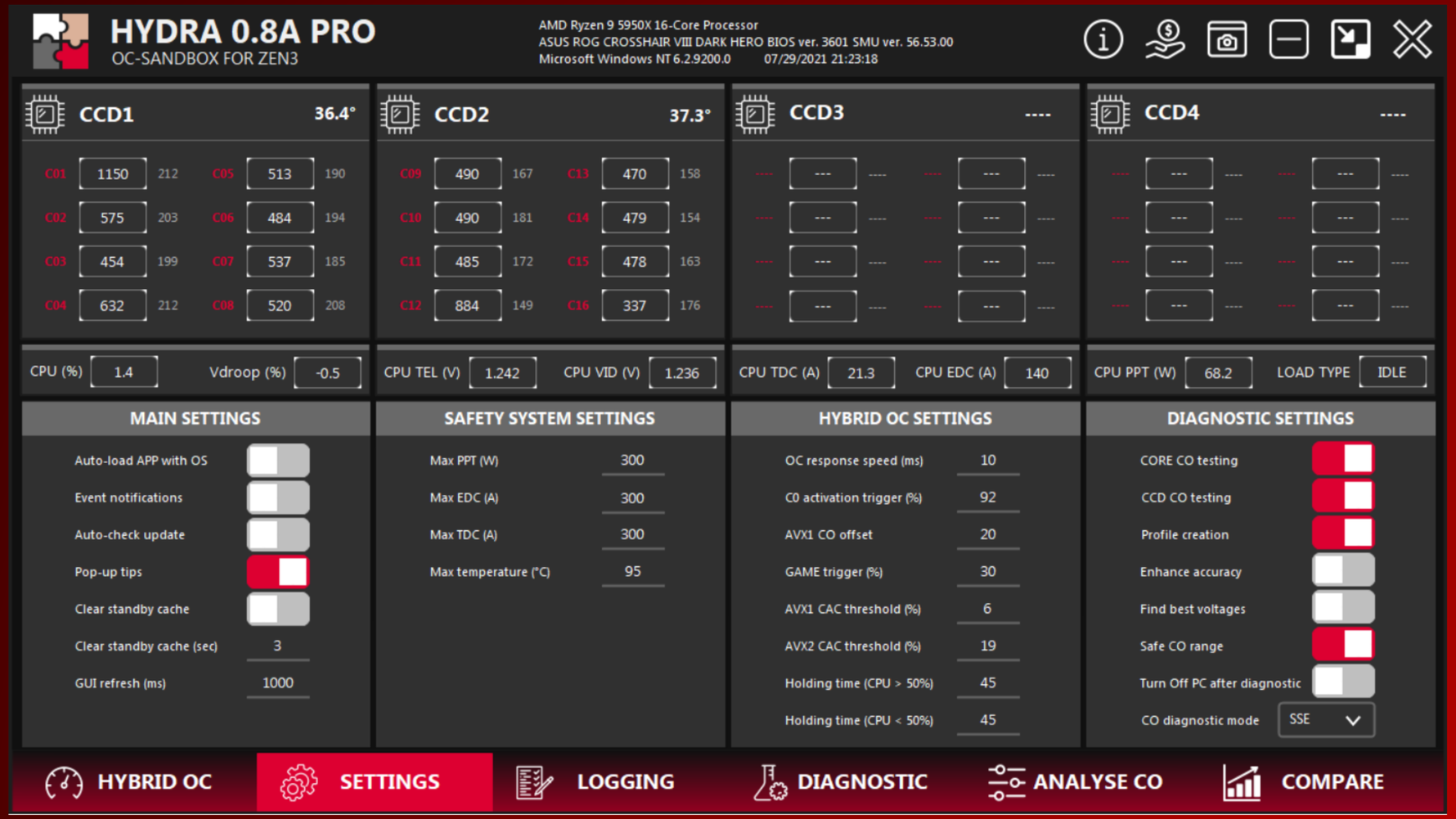


PROJECT HYDRA – QUICK START, HYBRID OC

STEP 3:

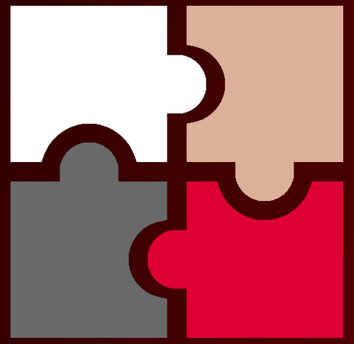
Auto-load HYDRA + auto-activate profiles.
If you have already clicked ACTIVATE PROFILES you should also tell HYDRA, that you want to load it with every Windows startup. Go to the SETTINGS page and enable Auto-load APP with OS. Done.

Saving any of the settings on this page is automatic.



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