



AMD Windows Catalyst Driver
Release Notes

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1. Overview

Windows Embedded Catalyst Drivers include a set of drivers to enable Graphics and peripheral devices on selected development platforms.

2. New in this Release

- Catalyst (Graphics):
 - o Driver supports only V2000 platforms

3. Windows Driver Support

Non-Legacy Graphics Driver Support Win 10 64 bit	21.30
Windows Chipset Driver	AMD_Software_3.09.28.749
OS Support	Windows 10 21H1 x64 Windows 10 RS5 x64
SoC Family (Platform)	V2000 Platform (Celadon)

4. SW Driver & SoC support

SoC	AMD Program	Windows 10 RS5	Windows 10 21H1	Catalyst Driver
		64 bit	64 bit	Non-Legacy
V2000 Series	Renoir FP6	X	X	X

- X- supported
- Blank- Not supported

5. Supported feature list

Features Group	Features category	V2000 Series
3D	OGL 4.6	Yes
3D	Vulkan	Yes
Display	4K Cinema	Yes
Display	Number of displays	Refer display support table below
Display	DP MST	Yes
Multimedia	H.264 decode	Yes
Multimedia	H.265 decode	Yes
Multimedia	VP9 decode	Yes
Multimedia	10-bit decode	Yes
Audio	DP Audio	Yes
External discrete graphics card (dGPU) validation	Refer table for dGPU pairing	No
Eyefinity	Auto Eyefinity (MST)	Yes
Eyefinity	Mixed rotation	No
Eyefinity	Mixed Alignment	Yes
Eyefinity	Tiled display SLS(4x1,3x1,2x1etc..)	Yes
Eyefinity	Mixed Tiled display (2x2 ,1x3 etc...)	Yes
Eyefinity	Tiled Groups (1x2+1 ,1x2 + 1x2 etc...)	Yes
Eyefinity	Multi GPU (Eyefinity on single GPU)	No
Eyefinity	Bezel Compensation	Yes
EDID management	Advance Feature	Yes
Custom timing	Advance Feature	No
10-bit color	Advance Feature	Yes
dGMA	OpenGL	No
dGMA	OpenCL	No
Peripherals	AHCI Drivers	Yes
Peripherals	AMD PSP Drivers	Yes
Peripherals	USB 3.0 Driver	Yes
Peripherals	eMMC driver (HS400 mode only)	No
Peripherals	Ethernet driver	No
Peripherals	Audio driver	Yes
Peripherals	GPIO2	Yes
Peripherals	I2C	Yes
Peripherals	UART	Yes
Peripherals	SMBUS	Yes
Peripherals	Watchdog	Yes

Peripherals	SPI	Yes
Peripherals	GPIO	Yes
Peripherals	Serial (UART w/ COM interface)	Yes

6. SoC Display support

APUs	Max No of display
V2000 Series	4x4K60

7. Platform configurations

a. V2000 Platform (Celadon)

V2000 Platform (Celadon)	
SoC	V2000 Series
OPN Details, Base Frequency	V2516 (6C/12T 2.1GHz CPU, 6CUs GPU, 15W) V2718 (8C/16T 1.7GHz CPU, 7CUs GPU, 15W) V2546 (6C/12T 3.0GHz CPU, 6CUs GPU, 45W) V2748 (8C/16T 2.9GHz CPU, 7CUs GPU, 45W)
BIOS version	RCO1005A
VRAM setting	8GB
RAM (DDR4)	2x8GB SODIMM 2667 MT/s (Celadon socketed) 2x16GB SODIMM 3200 MT/s (Celadon DM Non-Nova)
Display Convertors / Dongles Used	DP Direct Cable, HDMI Direct Cable, DP-HDMI converter, Type C- DP, Type C -HDMI, Type C Direct Cable
Storage disk	M.2 NVME

8. SW Package

SW Component	WHQL certified drivers	Catalyst Installer Package	Chipset Installer Package	Comments
Display	Yes	Yes	No	Includes Graphics Drivers
PSP	Yes	No	Yes	
SBDrv:acpi	Yes	No	Yes	
SBDrv:SFH	Yes	No	Yes	Not supported on V2000
SBDrv:SFHI2C	Yes	No	Yes	
SBDrv:I2C	Yes	No	Yes	
SBDrv:SMBus	Yes	No	Yes	Null driver (AMD SMBUS Driver)
SBDrv:UART	Yes	No	Yes	Max 4M baud-rates
Audio:ACPBus	Yes	Yes	No	
Audio:HDMI	Yes	Yes	No	
Audio:HDABus	Yes	No	No	I2S & I2STDm not applicable on V2000.
Audio:I2S	Yes	Yes	No	
Audio:I2STDm	Yes	Yes	No	
XGBE	Yes	No	Yes	Not applicable for V2000.
Ryzen Power Plan	Yes	No	Yes	For V2000, “AMD Processor Power Management Support” gets installed as provisional package.
IOV	Yes	No	Yes	Null driver
SMBUS	Yes	No	Yes	Functional driver (AMD Emb SMBUS Driver)
CIR	Yes	No	Yes	Null driver (Feature not supported on V2000)
USB 3.1	Yes	No	Yes	
GPIO	Yes	No	Yes	
Serial	Yes	No	Yes	Drivers: UART with COM interface. Max baudrate: 115200, 3M, 4M bauds
Watchdog	Yes	No	Yes	

9. SW Package - Graphics Driver Version

Graphics driver package is also termed as 'ESE Q4 Driver' or 'Radeon Software'.

Below are its release number and AMDVER details.

Release Number	AMDVER
21.30.26	30.0.13026.3

This package contains various independent drivers. Below are the version numbers of Radeon software and other drivers included. The same should also be visible at Radeon Software->System->Software & Driver Details.

S. No	SW Driver Description	Version
1	Radeon Software Version	2021.1005.1412.25570
2	Radeon Software Edition	Adrenalin
3	Driver Packaging Version	21.30 .26-21105a-372692c
4	2D Driver Version	8.1.1.1634
5	Direct3D®	9.14.10.01510
6	OpenGL®	29.20.11000.14761
7	AMD Audio Driver	10.0.1.21
8	Vulkan™ Driver	2.0.198
9	Vulkan™ API	1.2.188

10. Issues Fixed from previous SW package release

1. AMD logo is corrupted “AMD Software” (Catalyst driver) in “Add/Remove programs” page.
2. Sporadically usbC-to-usbC Hot unplug and Hot-plug is not working on both the ports
3. Very sporadically system not entering MSB state with EDID Emulation
4. Sporadically system fails to enter to MSB state with Eyefinity arrangement.
5. MPEG/H.264 playback stutter observed after switching from windowed mode to full screen and vice versa

11. Known Issues/Limitations

a. V2000 Platform (Celadon)

1. Frequently (2/5 times) one of the display blank out observed while performing sleep/Reboot function with MST HUB
2. Display flicker observed with TypeC-to-HDMI converter cable
Workaround:
 Use TypeC-to-DP cable. OR
 Use Type-C to HDMI cable, Make: CableCreation , Model CD0472, Resolution: 4K@60HZ .
3. Display blank out observed after waking system from MSB state with EDID emulation on below display combination:
 - Three HDMI Display
 - Two “usbC to HDMI” displays and one DP display
 - Two “usbC to DP” displays and one DP display**Workaround:** For “two usbC” and DP display issue,
 Add Regkey **DalEdidReadDeferralTime** with value 1.
4. Chipset driver installs power plan “AMD Processor Power Management Support” in provisional packages.
5. Modern Standby is not supported on RS5 with SATA SSD.
Workaround: Use NVMe M.2 disk
6. BIOS settings to enable S3 (default settings):
 - I. AMD PBS ->S3/Modern Standby S3 enable
 - II. Boot UEFI OS Fast Boot Option --> Disable
7. BIOS settings required for Modern Standby:
 - I. AMD PBS -> S3/Modern Standby Support = <Modern Standby Enable>
 - II. AMD PBS -> Modern Standby Type = <Modern Standby + S0i3>
 - III. AMD PBS -> Reduced Hardware Support = <Enabled>
6. BIOS Settings to avoid yellow bang with I2C and UART enabled in BIOS:
 - I. Setup Utility->AMD PBS->NFC Support->Disabled
 - II. Setup Utility->AMD PBS->ALS Support->Disabled

- III. Setup Utility->AMD PBS->Touch Panel Support->Disabled
- IV. Setup Utility->AMD PBS->Touch Pad Support->Disabled

- 7. Observed one of the display's resolution downgrading to 1280x720 resolution with 3 display connecting 1st time after flashing fresh OS.
- 8. [Eyefinity] Unused monitors become abnormal after setup 4x1 or 3x1 layout then setup to 3x1 or 2x1 layout.
Workaround: Once issue occurs, disable Eyefinity and make all monitors return to extend mode, then configure fewer monitors(4X1->3X1).
- 9. S3 is enabled by default in BIOS. If switched to MSB, re-install graphics and chipset drivers.
- 10. Radeon Pro Settings UI not opening after EDID emulation and Reboot.
Workaround: Close Radeon Pro UI before reboot
- 11. Very sporadically observing system hung while resume system from MSB state along with 1x4 Eyefinity configuration

b. Eyefinity (V2000)

- 12. Tearing with Eyefinity: All displays will be tear free only if all displays are using the same timing and same connector type
- 13. Tearing observed during window drag with Mixed dimension Eyefinity Configuration
- 14. Display blank out is observed for Eyefinity in portrait mode.
- 15. Sporadically system restart is observed during Video playback with Eyefinity enabled
- 16. Sporadically (2/10) Display blank out, system hang, BSOD is observed during video playback with Eyefinity arrangement
- 17. Eyefinity is not functional with mix of DP and HDMI monitors
- 18. Eyefinity arrangement is not changing using quick setup (Retains always first enabled arrangement)
- 19. Display Arrangement option not listing under AMD Radeon settings after creating Eyefinity configuration using Quick setup
- 20. Frequently (7/10 times) video playback corruption observed while performing windowed to full screen mode with eyefinity enabled

12. Notes on Validation

- 1. The driver for RS5 OS is tested after installing following Win10 RS5 OS updates: [KB4465065](#), [KB4505658](#), [KB4509095](#) and [KB4512937](#)

13. Support

Please contact your Field Application Engineer for support on this release.

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