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Graphics Boards for *hyper* MILL®

System requirements: graphics engine requires an OpenGL accelerated graphics display driver. Latest generation of GPU with OpenGL 4.0 or higher is recommended.

Windows don't supply OpenGL accelerated drivers out of the box. End users will need to install drivers from OEM or manufacturers in order to access native hardware-accelerated OpenGL. These drivers can be found on the web sites of most hardware manufacturers.

The following table gives the list of graphic cards and display driver suggested. **Please note:** This does not mean that *hyper* MILL® can only run on these specific systems. These are only the systems that are currently running automated test or are currently used in daily work. *hyper* MILL® should run on any graphics system that supports a complete implementation of OpenGL.

Reference driver can be installed on notebook GPUs. However, please note that your notebook original equipment manufacturer (OEM) provides drivers for your specific notebook on their website. Please check with your notebook OEM about recommended software updates for your notebook.

On system with two graphic boards select the accelerated GPU (AMD/NVIDIA) instead of the integrated one, from the relative display control panel. With NVIDIA Quadro/RTX board we recommend to use the "Workstation app - dynamic streaming" or the "3D App - Visual Simualtion" profiles from the NVIDIA control panel.

Windows update may change the display driver or video card settings without any notification. We recommend checking after the Windows update. The hyperCAD-S\<version>\systemchecktool.exe application may help you to identify problems.

The recommended graphics drivers do not consider the connection of additional peripheral devices. Connected devices can affect the quality and performance of the graphics card. Therefore OPEN MIND Technologies recommends to contact the hardware manufacturer in these cases.
All liability is excluded, all information is given without guarantee of being complete, correct and up-to-date.

Brand		Year	Series	Product	Windows 10	Windows 11
NVIDIA	Quadro / RTX desktop workstation	2014	Kepler	K620	472.84 473.81 517.40 528.49	472.84 473.81 517.40 528.49
				K1200		
				K2200		
				K4200		
				K5200		
		2015	Maxwell	M2000	472.84 473.81 517.40 528.49	472.84 473.81 517.40 528.49
				M4000		
				M5000		
				M6000		
		2017	Pascal	P400	472.84 473.81 517.40 528.49	472.84 473.81 517.40 528.49
				P600		
				P1000		
				P2000		
				P4000		
				P5000		
				P6000		
				GP100		
		2018	Pascal	P620	472.84 473.81 517.40 528.49	472.84 473.81 517.40 528.49
				P2200		
				P5200		
				GV100		
		2019	Turing	RTX 3000	472.84 473.81 517.40 528.49	472.84 473.81 517.40 528.49
				RTX 4000		
				RTX 5000		
				RTX 6000		
				RTX 8000		
		2021	Turing	T400	472.84 517.40 528.49	472.84 517.40 528.49
				T600		
				T1000		
		2021	Ampere	RTX A2000	472.84 517.40 528.49	472.84 517.40 528.49
				RTX A4000		
				RTX A5000		
				RTX A6000		
		2022	Ampere	RTX A4500	517.40 528.49	517.40 528.49
				RTX A5500		
		2023	Ada Lovelace	RTX 6000	528,49	528,49

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	Brand	Year	Series	Product	Windows 10	Windows 11
NVIDIA	Quadro / RTX notebook	2014	Kepler	K1100M K2100M K3100M K4100M K5100M	376.84 391.03 392.37 412.40	
		2014	Kepler	K2200M	472.84, 473.81, 517.40, 528.49	472.84, 473.81, 517.40, 528.49
		2015	Maxwell	M500M M600M M1000M M2000M M3000M M4000M M5000M	472.84 473.81 517.40 528.49	472.84 473.81 517.40 528.49
		2016	Maxwell	M620 M1200 M2200	472.84 473.81 517.40 528.49	472.84 473.81 517.40 528.49
		2017	Pascal	P600 P1000 P2000 P3000 P4000 P5000	472.84 473.81 517.40 528.49	472.84 473.81 517.40 528.49
		2018	Pascal	P3200 P4200 P5200	472.84 473.81 517.40 528.49	472.84 473.81 517.40 528.49
		2019	Turing	T1000 T2000	472.84 517.40 528.49	472.84 517.40 528.49
		2020	Turing	RTX 3000 RTX 4000 RTX 5000 RTX 6000	472.84 473.81 517.40 528.49	472.84 473.81 517.40 528.49
		2021	Turing	T500 / T550 T600 T1200	472.84 517.40 528.49	472.84 517.40 528.49
		2021-2022	Ampere	RTX A1000 RTX A2000 RTX A3000 RTX A4000 RTX A5000	472.84 473.81 517.40 528.49	472.84 473.81 517.40 528.49
		2022	Ampere	RTX A4500 RTX A5500	517.40 528.49	517.40 528.49

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NVIDIA

Brand	Year	Series	Product	Windows 10	Windows 11
GeForce desktop / notebook	2014	Kepler	GTX 750	372.70	471,68
			GTX 760	398.36	
			GTX 770	430.86	
			GTX 780	442.19	
			GTX TITAN	471.68	
	2015	Maxwell	GTX 950	372.70	471,68
			GTX 960	398.36	
			GTX 970	430.86	
			GTX 980	442.19	
			GTX TITAN X	471.68	
	2016-2017	Pascal	GTX 1050	471.68	471.68
			GTX 1060	472.84	472.84
			GTX 1070 / Ti	517.40	517.40
			GTX 1080 / Ti	528.49	528.49
			TITAN XP		
	2018-2019	Turing	RTX 2060	471.68	471.68
			RTX 2070	472.84	472.84
			RTX 2080 / Ti	517.40	517.40
			TITAN RTX	528.49	528.49
	2020-2022	Ampere	RTX 3050 / Ti	471.68	471.68
			RTX 3060 / Ti	472.84	472.84
			RTX 3070 / Ti	517.40	517.40
			RTX 3080 / Ti	528.49	528.49
			RTX 3090 / Ti		
	2023	Ada	RTX 4050	528.49	528.49
			RTX 4060		
			RTX 4070		
			RTX 4080		
			RTX 4090		

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	Brand	Year	Series	Product	Windows 10	Windows 11
AMD - ATI	FirePro desktop workstation	2014	W	W600 W5000 W7000 W8000 W9000	15.301.2601 18Q1 - 23.20.15018.16 20Q1 - 26.20.14001.22011 20Q3 - 27.20.1027.2005	
		2015	W	W2100 W4100 W5100 W7100 W8100 W9100 W4300	15.301.2601 18Q1 - 23.20.15018.16 20Q1 - 26.20.14001.22011 20Q3 - 27.20.1027.2005	
	Radeon Pro / workstation	2017	WX	WX 2100 WX 3100 WX 4100 WX 5100 WX 7100 WX 9100	21Q4 - 30.0.14011.2006 22Q2 - 30.0.21020.2	21Q4 - 30.0.14011.2006 22Q2 - 30.0.21020.2
		2019	WX	WX 3200 WX 8200	21Q4 - 30.0.14011.2006 22Q2 - 30.0.21020.2	21Q4 - 30.0.14011.2006 22Q2 - 30.0.21020.2
		2020	W	W 5500 W 5700	21Q4 - 30.0.14011.2006 22Q2 - 30.0.21020.2	21Q4 - 30.0.14011.2006 22Q2 - 30.0.21020.2
		2021-2022	W	W 6400 W 6600 W 6800	21Q4 - 30.0.14011.2006 22Q2 - 30.0.21020.2	21Q4 - 30.0.14011.2006 22Q2 - 30.0.21020.2
	Radeon desktop workstation	2015	R9	270 280 290 380 390	Crimson 16.2.1 Driver 15.301.1901 Adrenalin 19.5.2 - 26.20.11015.5009 Adrenalin 20.4.2 - 26.20.15029.27017	
		2016	RX 400	460 470 480	Adrenalin 19.5.2 - 26.20.11015.5009 Adrenalin 20.4.2 - 26.20.15029.27017 Adrenalin 21.8.2 - 27.20.22025.1006 Adrenalin 22.2.1 - 30.0.14023.7007	Adrenalin 22.2.1 - 30.0.14023.7007
		2018	RX 500	550 560 580 590	Adrenalin 19.5.2 - 26.20.11015.5009 Adrenalin 20.4.2 - 26.20.15029.27017 Adrenalin 21.8.2 - 27.20.22025.1006 Adrenalin 22.2.1 - 30.0.14023.7007	Adrenalin 22.2.1 - 30.0.14023.7007
		2019	VEGA	VEGA Series	Adrenalin 20.4.2 - 26.20.15029.27017 Adrenalin 21.8.2 - 27.20.22025.1006 Adrenalin 22.2.1 - 30.0.14023.7007	Adrenalin 22.2.1 - 30.0.14023.7007
		2020	RX 5000	5500 5600 5700	Adrenalin 20.4.2 - 26.20.15029.27017 Adrenalin 21.8.2 - 27.20.22025.1006 Adrenalin 22.2.1 - 30.0.14023.7007	Adrenalin 22.2.1 - 30.0.14023.7007
		2021	RX 6000	6500 6600 6700 6800 6900	Adrenalin 21.8.2 - 27.20.22025.1006 Adrenalin 22.2.1 - 30.0.14023.7007	Adrenalin 22.2.1 - 30.0.14023.7007

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