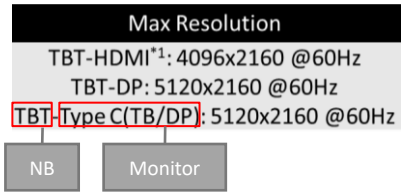
Video Output Information

1. In the External Display Output column, the supported resolutions and the refresh rates for each display port are listed.

External Display Output	
Max Resolution	Max Refresh Rate
TBT-HDMI*1: 4096x2160 @60Hz TBT-DP: 5120x2160 @60Hz TBT-Type C(TB/DP): 5120x2160 @60Hz	TBT-HDMI*1: 1920x1080 @240Hz TBT-DP: 1920x1080 @240Hz TBT-Type C(TB/DP): 1920x1080 @240Hz

2. The port listed in front represents the port on the laptop, and the other one represents the port connected on the external monitor.



3. The Display Ports column shows the type and number of output connectors.

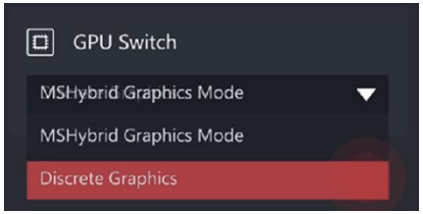
*The miniDP and Type-C w/DP ports on the laptops listed in this document support DP v1.4 unless stated otherwise.

Display Ports	
iGPU	dGPU
TBT 4*3x1	-
Type-C w/DP x1	-
-	HDMIx1

4. See the list of used acronyms in the right table.

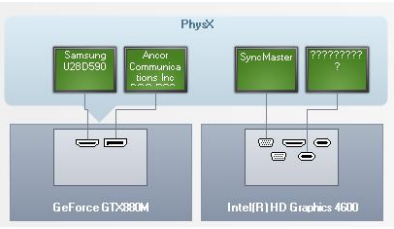
Acronym	Description
DP/mDP	Display Port/ mini Display Port
HDMI	High-Definition Multimedia Interface
TBT	Thunderbolt
iGPU/dGPU	Intergrated GPU/ Dedicated GPU

5. The MUX switch is an option that allows users to run the system in MSHybrid mode or Discrete Graphics mode, and can be configured in the General Settings in MSI Centers (MSI Center/ MSI Center Pro) on laptops that support it.



6. To know which graphics card the display port is wired to, check where the display pot is shown in the table, or check the connected graphics in the “Set PhysX Configuration” page in NVIDIA Control Panel.

Display Ports	
iGPU	dGPU
TBT 4*3x2	-



MSI Laptops with Ryzen 8000 AMD Processor

Gaming

- Crosshair
- Raider

Crosshair Series – 1/3

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU*1	Max Resolution	Max Refresh Rate	
Crosshair A16 HX D8WGKG	RTX 5070	Y	Type C(DP) x1	-	Type C(DP)- Type C(DP): 5120*1440 @144Hz Type C(DP)-DP: 7680x4320 @60Hz Type C(DP)-HDMI: 7680x4320 @60Hz	TBT Type C(DP)- Type C(DP): 3840*2160 @240Hz Type C(DP)-DP: 1920x1080 @380Hz Type C(DP)-HDMI: 3840*2160 240Hz	3*2
			-	HDMI x 1	HDMI-HDMI: 7680x4320 @60Hz	HDMI-HDMI: 2560x1440 @360Hz	
Crosshair A16 HX D8WFKG	RTX 5060	Y	Type C(DP) x1	-	Type C(DP)- Type C(DP): 5120*1440 @144Hz Type C(DP)-DP: 7680x4320 @60Hz Type C(DP)-HDMI: 7680x4320 @60Hz	TBT Type C(DP)- Type C(DP): 3840*2160 @240Hz Type C(DP)-DP: 1920x1080 @380Hz Type C(DP)-HDMI: 3840*2160 240Hz	3*2
			-	HDMI x 1	HDMI-HDMI: 7680x4320 @60Hz	HDMI-HDMI: 2560x1440 @360Hz	

Note:

*1: VR devices will require display ports wired to the dGPU to function correctly.

Display output ports wired to the dGPU support external displays in MSHybrid Graphics and Discrete Graphics mode only.

*2: Maximum matrix display numbers are tested under MSHybrid mode.

Crosshair Series – 2/3

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU[*1]	Max Resolution	Max Refresh Rate	
Crosshair A17 HX D8WGKG	RTX 5070	Y	Type C(DP) x1	-	Type C(DP)- Type C(DP): 5120*1440 @144Hz Type C(DP)-DP: 7680x4320 @60Hz Type C(DP)-HDMI: 7680x4320 @60Hz	TBT Type C(DP)- Type C(DP): 3840*2160 @240Hz Type C(DP)-DP: 1920x1080 @380Hz Type C(DP)-HDMI: 3840*2160 240Hz	3[*2]
			-	HDMI x 1	HDMI-HDMI: 7680x4320 @60Hz	HDMI-HDMI: 2560x1440 @360Hz	
Crosshair A17 HX D8WFKG	RTX 5060	Y	Type C(DP) x1	-	Type C(DP)- Type C(DP): 5120*1440 @144Hz Type C(DP)-DP: 7680x4320 @60Hz Type C(DP)-HDMI: 7680x4320 @60Hz	TBT Type C(DP)- Type C(DP): 3840*2160 @240Hz Type C(DP)-DP: 1920x1080 @380Hz Type C(DP)-HDMI: 3840*2160 240Hz	3[*2]
			-	HDMI x 1	HDMI-HDMI: 7680x4320 @60Hz	HDMI-HDMI: 2560x1440 @360Hz	

Note:

*1: VR devices will require display ports wired to the dGPU to function correctly.

Display output ports wired to the dGPU support external displays in MSHybrid Graphics and Discrete Graphics mode only.

*2: Maximum matrix display numbers are tested under MSHybrid mode.

Crosshair Series – 3/3

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU*1	Max Resolution	Max Refresh Rate	
Crosshair A18 HX A8WFKG	RTX 5070	Y	Type C(DP) x1	-	Type C(DP)- Type C(DP): 5120*1440 @144Hz Type C(DP)-DP: 7680x4320 @60Hz Type C(DP)-HDMI: 7680x4320 @60Hz	TBT Type C(DP)- Type C(DP): 3840*2160 @240Hz Type C(DP)-DP: 1920x1080 @380Hz Type C(DP)-HDMI: 3840*2160 240Hz	3*2
			-	HDMI x 1	HDMI-HDMI: 7680x4320 @60Hz	HDMI-HDMI: 2560x1440 @360Hz	
Crosshair A18 HX A8WGKG	RTX 5060	Y	Type C(DP) x1	-	Type C(DP)- Type C(DP): 5120*1440 @144Hz Type C(DP)-DP: 7680x4320 @60Hz Type C(DP)-HDMI: 7680x4320 @60Hz	TBT Type C(DP)- Type C(DP): 3840*2160 @240Hz Type C(DP)-DP: 1920x1080 @380Hz Type C(DP)-HDMI: 3840*2160 240Hz	3*2
			-	HDMI x 1	HDMI-HDMI: 7680x4320 @60Hz	HDMI-HDMI: 2560x1440 @360Hz	

Note:

*1: VR devices will require display ports wired to the dGPU to function correctly.

Display output ports wired to the dGPU support external displays in MSHybrid Graphics and Discrete Graphics mode only.

*2: Maximum matrix display numbers are tested under MSHybrid mode.

Raider Series – 1/1

Notebook	GPU	MUX Switch	Display Ports		External Display Output		Matrix Display (incl. NB display)
			iGPU	dGPU*1	Max Resolution	Max Refresh Rate	
Raider A16 HX B8WH	RTX 5070Ti	Y	-	Type C(DP) x2	Type C(DP)- Type C(DP): 5120*1440 @240Hz Type C(DP)-DP: 7680x4320 @60Hz Type C(DP)-HDMI: 7680x4320 @60Hz	Type C(DP)- Type C(DP): 1920x1080 @600Hz Type C(DP)-DP: 1920x1080 @600Hz Type C(DP)-HDMI: 1920x1080 @600Hz	4*2
			-	HDMI x 1	HDMI-HDMI: 7680x4320 @60Hz	HDMI-HDMI: 1920x1080 @600Hz	
Raider A16 HX B8WI	RTX 5080	Y	-	Type C(DP) x2	Type C(DP)- Type C(DP): 5120*1440 @240Hz Type C(DP)-DP: 7680x4320 @60Hz Type C(DP)-HDMI: 7680x4320 @60Hz	Type C(DP)- Type C(DP): 1920x1080 @600Hz Type C(DP)-DP: 1920x1080 @600Hz Type C(DP)-HDMI: 1920x1080 @600Hz	4*2
			-	HDMI x 1	HDMI-HDMI: 7680x4320 @60Hz	HDMI-HDMI: 1920x1080 @600Hz	

Note:

*1: VR devices will require display ports wired to the dGPU to function correctly.

Display output ports wired to the dGPU support external displays in MSHybrid Graphics and Discrete Graphics mode only.

*2: Maximum matrix display numbers are tested under MSHybrid mode.