Opening *Spartan* with some graphics packages (Intel Integrated Graphics as well as Intel HD and UHD Graphics have been identified) or when using Remote Desktop Protocol may result in the GUI crashing. This is due to a lack of full support for OpenGL. To work around this, or to support remote access using remote desktop (RDP) follow the content below (separate sections for Spartan'24, Spartan'20, and Spartan Student v.9):

Spartan'24;

#1. Right-click on the *Spartan'24 Shortcut* on your Desktop and Select Properties, from the "Shortcut" tab, modify the "Target" line like this:

B WF24gui64.es	ce - Shortcut Properties	×
General General WF Target type: Target location: Target: Start in: Shortcut key:	Shortcut Compatibility 24gui64.exe - Shortcut Application Spartan24v120 124v120\WF24gui64.exe" -useSoftwareOpenGL "C:\Program Files\Wavefunction\Spartan24v120" None	Add a space followed by: useSoftwareOpenGI Click OK, then double-click to open Spartan'24
Run: Comment: Open File Lo	Normal window	
	OK Cancel Apply	

#2. Alternately, you can initially launch from Command Prompt:

From the **Start** menu search for and open the **Command Prompt**.

For Spartan'24, type (exactly as shown with quotation marks included):

"C:\Program Files\Wavefunction\Spartan24v120\WF24gui64.exe" --useSoftwareOpenGL

And hit the Enter/Return key

#3. Once you make this change, open Spartan'24, Go to:

Options menu > **Preferences** > **Miscellaneous** tab – confirm this is in the **Software OpenGL** mode for **OpenGL Binding**:

	ocument Style:) File Based	Dialog Style:	Text File End-Of-Line Marker: Max Output Characters:
	Directory Based		
	ialog Set for File Based Docs: –) File based only) File/Directory based	Data Compression Options:	OpenGL Binding: * Use Desktop OpenGL Use Software OpenGL
	ecimal Separator:	☑ Use binary archive ☑ Gzip Conformers	Pick System: * OpenGL
A	tom Color Set:	Builder Options: Selection Method: Buttons on top	Multisampling: * Unlock Utility:
V	/ebDoc Options:	☑ Show Toolbar □ Use Alternate Builders ☑ Use Kekulé Rings	Use HTTP Proxy: Host: Port: 0
P	Temporary Directory: (Used by user interface) Path: C:\Users\sean\AppData\Local\Temp Reset		

This change will use a set of Mesa Libraries to support the OpenGL rendering, rather than the default display adapter drivers associated with your machine (the ""**Use Desktop OpenGL**" option).

Contact support@wavefun.com if you remain unable to access the Spartan'24 GUI.

Spartan'20:

#1 Modify your desktop shortcut as follows, right click on the Spartan'20 V1.X.X shortcut (icon) and choose Properties, From the Shortcut tab, modify the Target by adding a space and then:

General	Shortcut Compatibility	
🔊 s	partan'20 V1.1.4	
Target type:	Application	
Target location	: Spartan20v114	Add a space followed b
Target:	ipartan20v114\WF20gui64.exe"useOpenGLES	useOpenGLES
Start in:	"C:\Program Files\Wavefunction\Spartan20v114	Click Apply, then OK
Shortcut key:	None	
Run:	Normal window 🗸	
Comment:	addeduseOpenGLES to end of target	
Open File L	ocation Change Icon Advanced	

--useOpenGLES

#2 Alternately, you can initially launch from Command Prompt:

From the Start menu search for and open the Command Prompt.

For Spartan'20, type (exactly as shown with quotation marks included):

"C:\Program Files\Wavefunction\Spartan20v114\WF20gui64.exe" --useOpenGLES

And hit the Enter/Return key

This will open the program using an alternate OpenGL option. Once **Spartan'20** is opened, go to: **Options** Menu > **Preferences** > **Miscellaneous** tab Towards the bottom, switch to Use **OpenGL ES** under the **OpenGL Binding** section:

Document Style:	Dialog Style:	Use HTTP Proxy:
 File Based Directory Based 	Dialog Buttons: ">www.default>	Host:
Dialog Set for File Based Docs:	Data Compression Options:	Port: 0
File based only	✓ Gzip text files	
File/Directory based	Use binary archive	Text File End-Of-Line Marker: Max Output Characters:
	✓ Gzip Conformers	Windows CR-LF 300 Thousand
Atom Color Set:	Builder Options:	-OpenGL Binding: *
Standard 🔻	Selection Method: Buttons on top	Use OpenGL ES
WebDoc Options:	Show Toolbar 📃 Use Alternate Builders	Pick System: *
VebDoc V2.0	🔽 Use Kekulé Rings	Color
Temporary Directory: (Used by use	er interface)	Multisampling: * Unlock Utility:
Path: Cillisersisean\AnnData\lo	cal\Temp Reset	Enabled

Click OK or Apply. This will set the option as a user preference going forward, and should address the issue going forward. . .If there are continued issues please contact us via support@wavefun.com The remaining information in this document is similar information applicable to the Spartan Student Edition (version 8) program, and begins on page 3.

For **Spartan Student 9**, the same options apply, either modify the target, or open from the Command Prompt, use the command (exactly as shown below with quotation marks included):

"C:\Program Files\Wavefunction\Spartan Student v9.0.3\WFSTGui.exe" --useOpenGLES

And hit the Enter key

Once **Spartan Student** is opened, go to: **Options** Menu > **Preferences** > **Miscellaneous** tab Towards the bottom, switch to Use **OpenGL ES** under the **OpenGL Binding** section:

Preferences Settings Molecule	VDW Radii Mi	scellaneous Icons URLs	×	
■ ●	cument Style: File Based Directory Based	Builder Options: Selection Method: Buttons on top ✓ ✓ Show Toolbar □ Use Alternate Builders ✓ Use Kekulé Rings	Use HTTP Proxy: Host: Port: OpenGL Binding: * Use OpenGL ES Pick System: * Color Multisampling: * Enabled	
* Program restart required when changed.				

Click OK. This will set the option as a user preference going forward, and should address the issue.

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