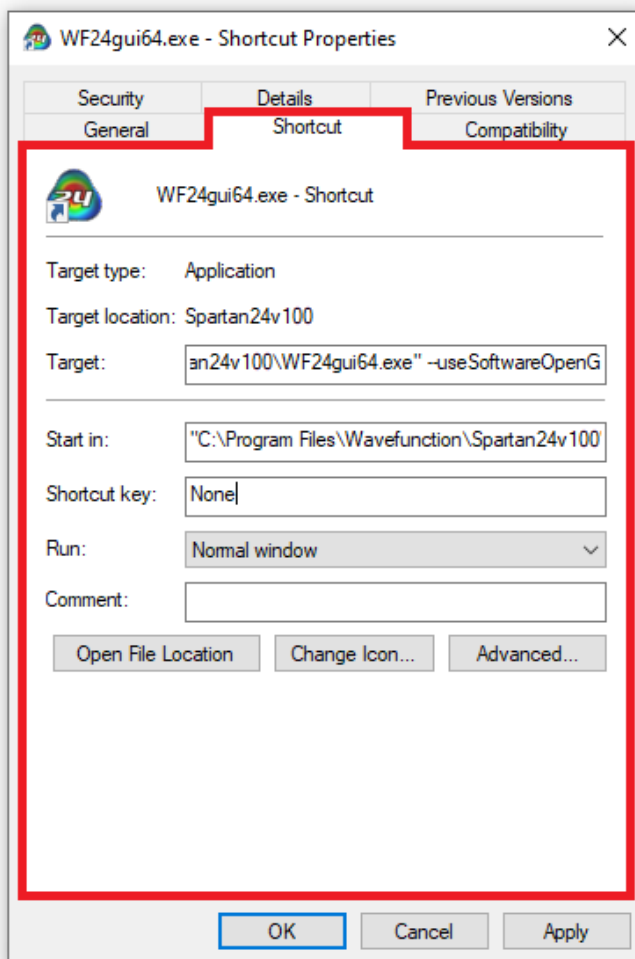


Opening **Spartan** with some graphics packages (Intel Integrated Graphics as well as Intel HD and UHD Graphics have been identified) or when using Remote Desktop Protocol may result in the GUI crashing. This is due to a lack of full support for OpenGL. To work around this, or to support remote access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



Add a space followed by:
`--useSoftwareOpenGL`
Click OK, then double-click
to open **Spartan '24**.

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

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

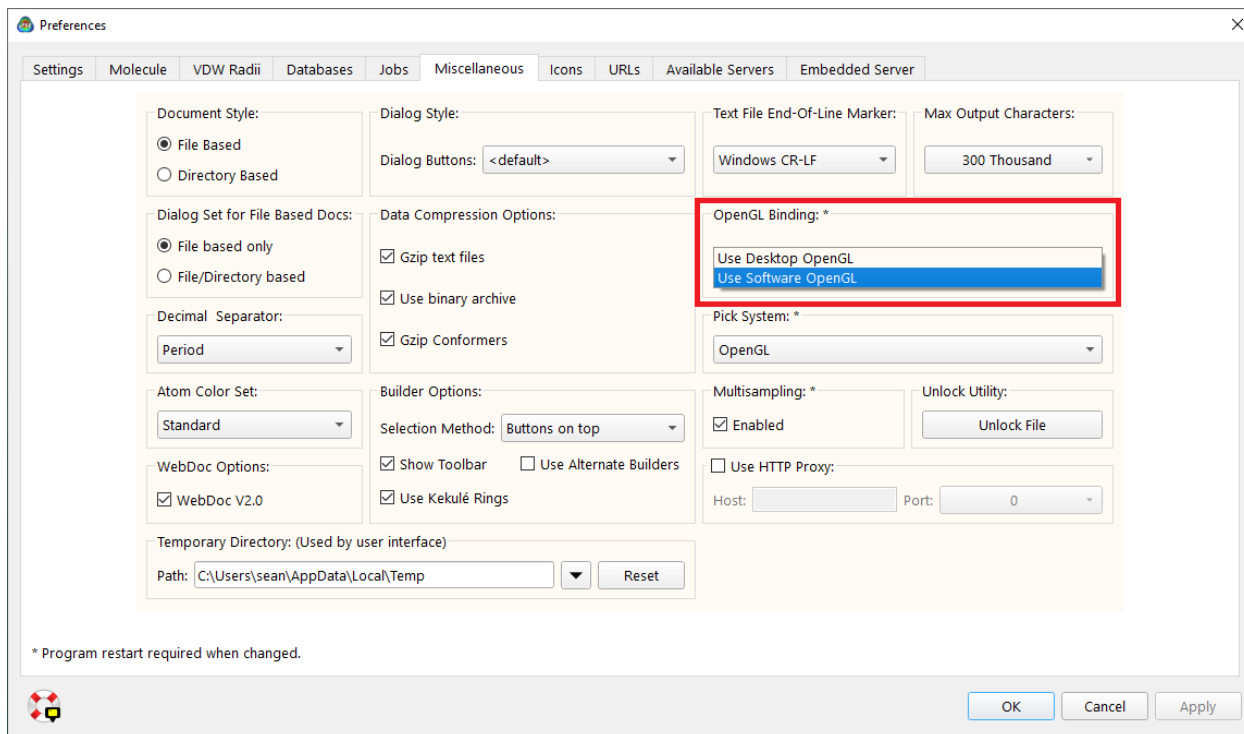
For Spartan'24, type (exactly as shown with quotation marks included):

```
"C:\Program Files\Wavefunction\Spartan24v100\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**:



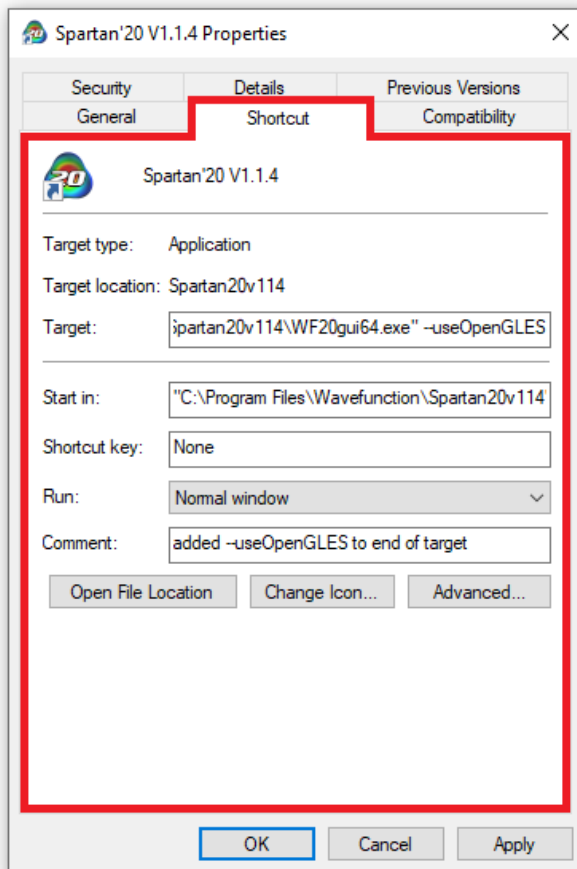
This change will use a set of Mesa Libraries to support the OpenGL rendering, rather than the default display adapter drivers associated with your machine (the “**Use Desktop OpenGL**” option).

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:

--useOpenGLES



**Add a space followed by:
--useOpenGLES
Click Apply, then OK**

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

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

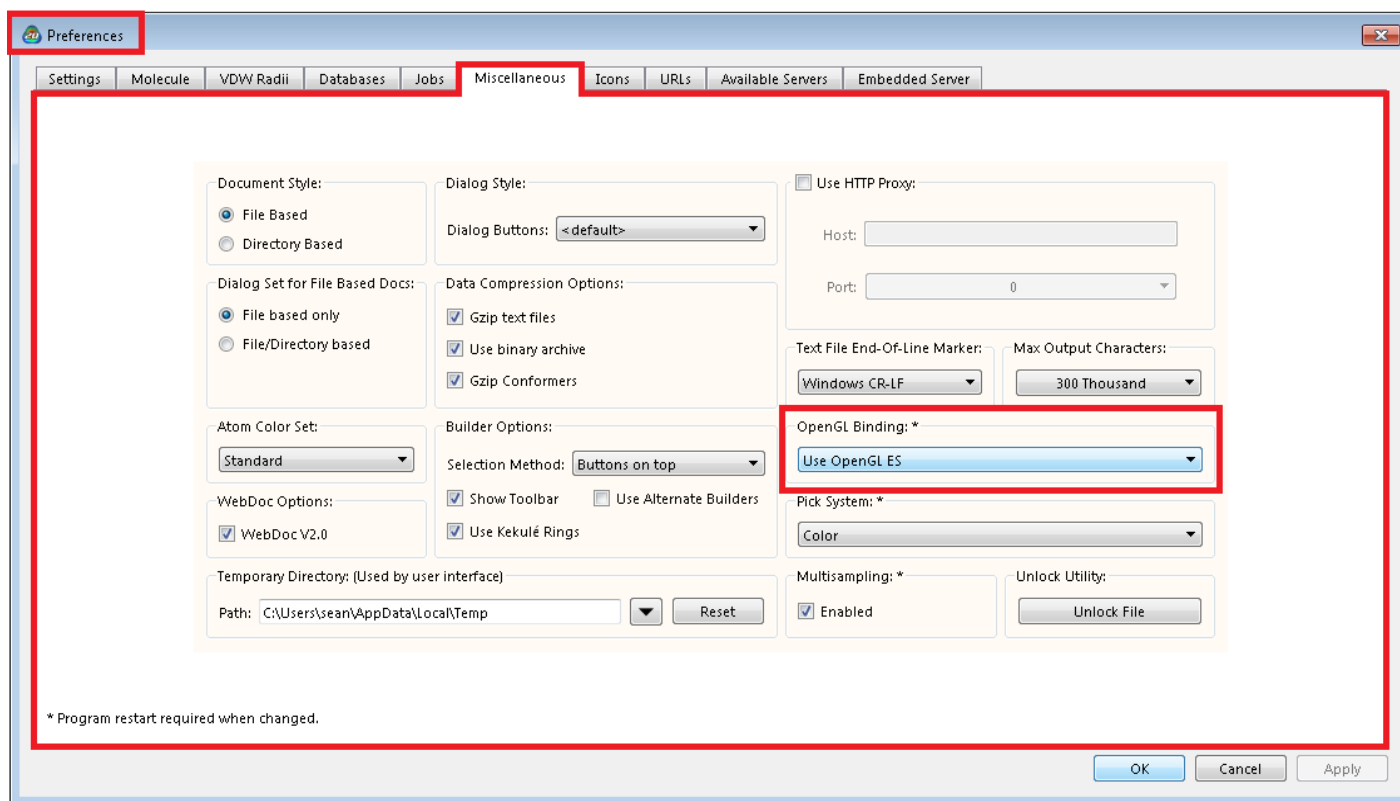
For Spartan'20, type (exactly as shown with quotation marks included):

"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:



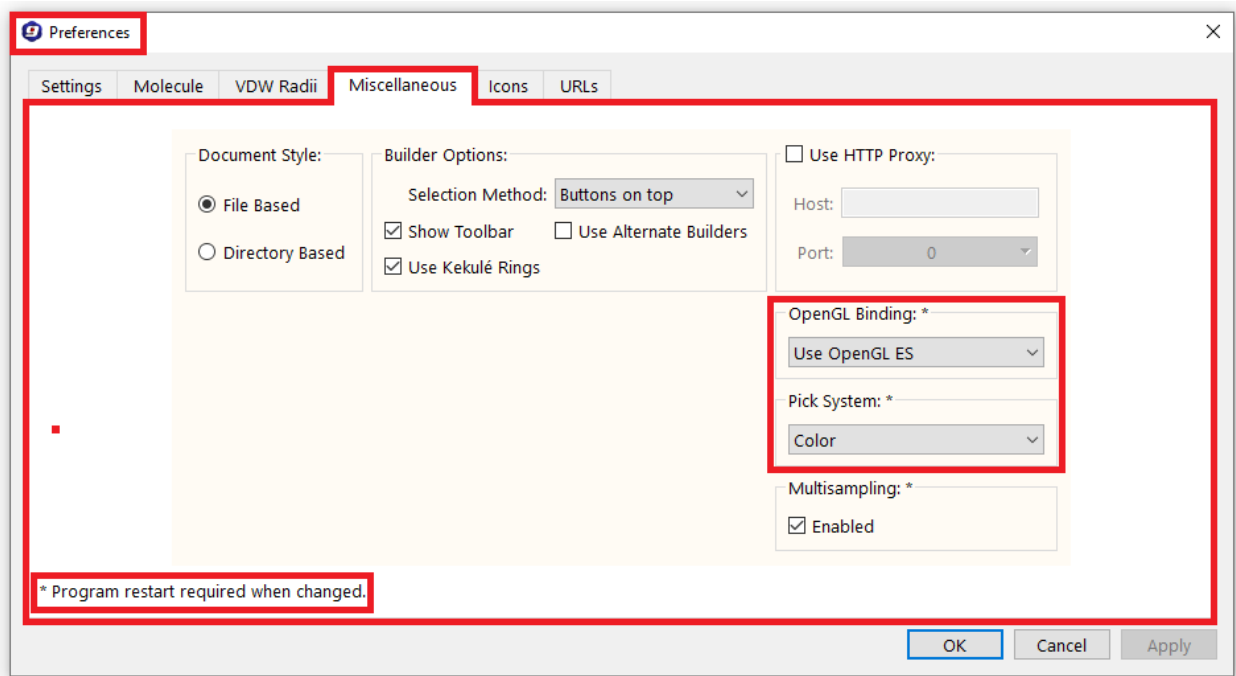
Click OK or Apply. This will set the option as a user preference going forward, and should address the issue going forward. . .If there are continued issues please contact us via support@wavefun.com The remaining information in this document is similar information applicable to the Spartan Student Edition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



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