Elite Dangerous HUD Mod (EDHM)

Mod proudly created with 3Dmigoto
https://github.com/bo3b/3Dmigoto/

This is version 1.1 of the EDHM v1.5 Manual (23 March 2021)

This Manual is updated frequently as more features are added.
Please check the EDHM GitHib for updates to this Manual:

https://github.com/psychicEgg/EDHM/releases

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** Contact **

If you have any questions about the mod feel free to contact me on Discord (psychicEgg#9971)
or reddit (u/psychicEgg), or on the Elite forums (GeorjCostanza)

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Please note, when Elite receives an official update, all mod files are automatically deleted. If you
added custom code to Custom.ini, or added new keybinds or profiles then please backup your ini
files before updating Elite.

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---=== Please read this WHOLE Manual, or at least the installation section, thank you ===---
Sorry to capitalise 'whole' :) But I get a lot of questions and the answers are in here
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** DISCLAIMER **

This is an experimental graphics mod.
Please see the 3Dmigoto Github link above to research if or how this mod will affect your PC.

Hundreds of CMDRs run this mod with zero issues, but it is impossible to predict how the mod will react with your particular PC configuration.

Therefore, install the mod at your own risk – we will not be held responsible for any losses incurred, including game suspensions or bans if you use the mod or 3Dmigoto inappropriately.

At the current date, and with the current mod configuration (and included shader files), this mod has been approved by FDev for players to use. The mod does not provide any competitive advantage.

Nevertheless, it's important to understand the risks of using experimental mods.

With all that out of the way, we hope you enjoy the mod!

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IMPORTANT ANNOUNCEMENT

3Dmigoto (the modding software) is not compatible with Steam overlay (and associated controllers and screenshot buttons).

Please see this link for a possible controller solution:

https://forums.frontier.co.uk/threads/elite-dangerous-hud-mod-edhm.557033/post-9006439

Every day I receive multiple requests asking for me to fix this issue, but I did not create 3Dmigoto so I cannot fix this issue.

Thank you!

Table of Contents

1. What does the mod do?

As you know, Elite has a default orange HUD.

Over the years, CMDRs found a way to alter the HUD via a modification of the file *GraphicsConfiguration.xml*. However, this method has widespread unintended effects on many other important elements, such as the colour of ships on the radar, and pilot portraits.

Elite Dangerous HUD Mod (EDHM) enables precise colour changes to almost any element on the HUD without the annoying side-effects of the old method.

Other features include:
- Coloured cabin lighting
- Dimmer keys for the HUD and cabin lighting
- XML coloured panels with portrait fixes
- Install as many XML themes as you like, and switch them with a Hotkey
- Your XML themes can also be applied to the HUD elements
- Dimmed cockpit lights that shine directly in your eyes
- Hotkey to change panel opacity, to make text easier to read when light is shining behind the panels
- Option to remove dirty streaks from the canopy glass
- Explorer mode, dims all internal lighting so you can focus on the scenery outside the ship
- EDHM also works in the SRV and SLFs

Achieving these outcomes took a very long time, literally 9 months and 1000s of hours. There isn't an instruction manual for any of this, so the progress has been slow. But I'm pleased with the final result and hope it makes your Elite experience even more enjoyable.

Videos of mod features:

v1.5:   https://youtu.be/7MqgLzI-8fA
v1.31:   https://youtu.be/PkyblldaNgQ
v1.00:   https://youtu.be/s7hkfSBtHs8
Intro: https://youtu.be/n91daAThRP8

DTEA: https://youtu.be/dReNh9Xxdug

2. How to install EDHM

Reset your GraphicsConfiguration.xml
====================================

If you've altered the HUD colours in the past using the *GraphicsConfiguration.xml* (or *GraphicsConfigurationOverride.xml*) XML method, then it's very important to reset the colour matrix back to the default values.

This is the default colour matrix. If you've never altered the XML then you don't need to do anything.

```
<GUIColour>
        <Default>
                <LocalisationName>Standard</LocalisationName>
                <MatrixRed>    1, 0, 0 </MatrixRed>
                <MatrixGreen> 0, 1, 0 </MatrixGreen>
                <MatrixBlue>   0, 0, 1 </MatrixBlue>
        </Default>
```

Also, if you've made other changes in the **GraphicsConfiguration.xml** (especially with the **HDRNode**, **HDRNode_Reference** and **PrototypeLightingBalancesEnabled** settings) then it is likely the shader colours won't load correctly and may even glitch under some circumstances.

I strongly recommend using a default, pristine version of **GraphicsConfiguration.xml**.

If you changed anything in that file then make a backup and run '*Validate Game Files*' from the **Elite Dangerous Launcher** (*Options menu*). That process restores all Elite files back to default (but will not delete your key bindings or *GraphicsConfigurationOverride.xml*) and ensures your game files will work with the mod.

If you have a previous version of EDHM installed
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- If you have a previous version of EDHM installed, please uninstall by double-clicking the **uninstall.bat** (or **EDHM-Uninstall.bat**) file in your **elite-dangerous-64** folder

  It's important to exit Elite before uninstalling, otherwise mod files will be left behind.

Installing the current version of EDHM
======================================

Installing is as simple as unzipping a file. Really, that's it.

- Firstly, locate your "**elite-dangerous-64**" folder. This is where you will extract the zip files.

The default **Steam** location is
C:\Program Files (x86)\Steam\steamapps\common\Elite Dangerous\Products\elite-dangerous-64

The default **Epic** location:
C:\Program Files\Epic Games\EliteDangerous\Products\elite-dangerous-64

The default **Frontier** locations:
C:\Program Files (x86)\Frontier\Products\elite-dangerous-64\
or
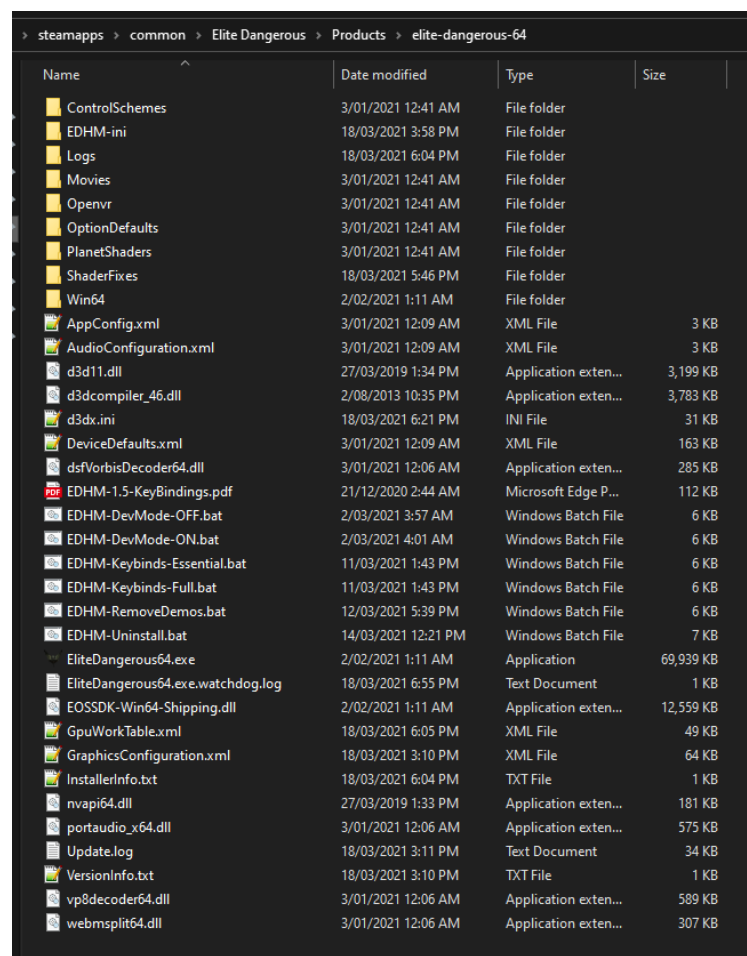C:\Users\%username%\AppData\Local\Frontier_Developments\Products\elite-dangerous-64\

- Unzip the contents of the **EDHM-v1.5.zip** file into the "**elite-dangerous-64**" folder.

Make sure you extract the zip file into the "**elite-dangerous-64**" folder and **not** the "Elite Dangerous" folder.

Look for this folder:
C:\..\Products\elite-dangerous-64

After you extract the files from the installation zip, your **elite-dangerous-64** folder should look similar to this:

- Extracting the contents of the zip file will create the following 12 files in the "**elite-dangerous-64**" folder:

  - d3dx.ini (the main configuration file)
  - d3d11.dll
  - d3dcompiler_46.dll
  - nvapi64.dll
  - EDHM-v1.5-Manual.pdf
  - EDHM-v1.5-Catalogue.pdf
  - EDHM-DevMode-OFF.bat
  - EDHM-DevMode-ON.bat
  - EDHM-Keybinds-Essential.bat
  - EDHM-Keybinds-Full.bat
  - EDHM-RemoveDemos.bat
  - EDHM-Uninstall.bat

  And 2 folders:
  - ShaderFixes (contains all the modified graphics shaders)
  - EDHM-ini (contains extra .ini files for Key Binds and Player Profiles)

- Once you've extracted the zip, that's it, the mod is installed.

- Please note, some zip apps put all the extracted files into a folder with the same name as the zip archive (i.e., it may create a folder called EDHM-v1.5 and put all the mod files in there).

  Try to turn off that option if possible as the mod won't work in that folder. If you can't turn it off, go into that folder and Copy (or Cut) all the files then Paste them into the "**elite-dangerous-64**" folder.

Required Graphics Options in Elite

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For the mod to run correctly, it's critically important (super duper important) you set the following in Elite graphics options:

DISABLE GUI EFFECTS = OFF

This is the default setting. Setting this to ON will prevent the mod from loading correctly.

The graphics setting must look like this for the mod to load correctly:

Checking the mod has installed correctly

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Prior to v1.5, some CMDRs had to run a 'Shader Repair' process due to the way Elite handles the graphics. That issue has been overcome and the repair process is no longer necessary.

However, if you find you are unable to change your distributor colours (or the distributor is orange) it may be a symptom of the broken shader appearing again. Please contact me if you observe this issue, thank you.

But I need to reiterate, please ensure:

3. Uninstalling EDHM

- An uninstall file is included that deletes all mod files (EDHM-Uninstall.bat)

  Please note: Elite must <u>not</u> be running when you uninstall EDHM.

  If Elite is running when you uninstall, some mod files might be left behind.

- To uninstall EDHM:

  Double click   **EDHM-Uninstall.bat**

- Alternatively, in the Elite Launcher:

  Selecting '*Validate Game Files*' in the Options menu will delete all mod files.

- Please note, when Elite receives an official update, all mod files are automatically deleted.

  If you added custom code to Custom.ini, or added new keybinds or profiles then please backup your ini files before updating Elite.

4. Mod Options

There are a large number of mod options.

When you first load the mod you will be greeted by the default EDHM colours (blue, purple and white).

- EDHM has five Demo Profiles pre-loaded, but you can download more on the Elite forums.

    The Demo Profiles:

    - ❖ Radiant Blue (press CTRL 5)

    - ❖ Cornflower Blue (press CTRL 6)

    - ❖ Black Market (the default profile, press CTRL 7)

    - ❖ Shoulder of Orion (red/yellow, press CTRL 8)

    - ❖ Green Sentinel (press CTRL 9)

Some useful commands:

- **F1** cycles through three panel opacity settings
    - o Sometimes when a bright light is shining behind a side panel it's hard to read. Just press F1 and the text will be easier to read.
    - o A second press of F1 makes the panels transparent (useful when you're exploring and have the HUD dimmed)
    - o A third press returns the panels to normal opacity

- **F5** dims the HUD (5 levels)

- **F6** dims the cabin/cockpit lighting (5 levels)

- **SHIFT F1** disables the mod. A second press disables the mod on the panels but not the HUD. A third press restores the mod to both the panels and the HUD.

- **CTRL ALT E** activates Explorer Mode in some exploration ships (Phantom, AspX, DBX, Anaconda, but also the Cutter and Krait Mark II). Exploration Mode will also turn off the HOTAS panel in most ships (the colourful panel when you look down towards your legs)

- **CTRL ALT W** removes the white objects from the radar. This is useful in Combat Zones during which the radar can become cluttered with materials and wakes.

Some settings can only be configured inside your **Startup-Profile.ini**, which is covered in the next section.

5. Creating your Start-up Profile

Here we will learn to create a Start-up Profile that loads when Elite starts.

There are two profiles we need to configure:

- Our HUD colour options (configured in **Startup-Profile.ini**)
- Our Panel colour options (configured in **XML-Profile.ini**)

Configuring the Panel colours is detailed in the document **EDHM v1.5 XML Profile Guide**

The modding software 3Dmigoto doesn't come with an inbuilt ability to view or save settings on the fly, so we need to make changes to several initialisation files (.ini files) to tell the mod which colours to load when Elite starts.

HUD Colour Options

Before you set your colours, have a browse through all the colour options that are detailed in the file: **EDHM-1.5-Catalogue.pdf** (in the **elite-dangerous-64** folder).

Elite Dangerous HUD Mod v1.5 Key Binds and Colour Options

Key Bindings

Element	Default Key Bind	Register (stores the value)
Side Panel Opacity Boost	F1	x111
Disable Mod / Panels	SHIFT F1	x100, x157
Lighting Dimmer	F6	w103
Lighting Colour	CTRL F6	x103
Lighting Colour (reverse)	ALT F6	
Lighting Style	SHIFT F6	z115
HUD Dimmer	F5	y100
Common Group Colour	CTRL F5	x104
Distributor Colour	ALT F5	y108
Shield Colour	F2	z105
Radar Colour	F4	y106
Signature Bar Colour	SHIFT F4	w106
HUD Panel Lines (upper)	CTRL F4	y104
HUD Panel Lines (lower)	ALT F4	z104
Combat HUD CHUD Colour	CTRL F2	x105
CHUD Type	SHIFT F2	y105
Analysis HUD Colour	ALT F2	y113, z113
XML CHUD/A HUD Toggle	CTRL ALT X	w113
Hologram colour	F3	y101
Hologram Type	CTRL F3	x101
Hologram Dimmer	ALT F3	z101
Targeting Reticle Colour	F7	x107
Environment Object Colour	CTRL F7	y107

The first page shows you a summary of the default KeyBinds.

For example, press **CTRL F6** to cycle through the cabin lighting colours.

Press **F2** to cycle through the shield colours, and so on, for all the other HUD elements.

All these keybinds can be changed or removed after you become familiar with the colours.

As you cycle through the colours, you can look at the relevant page in the catalogue to see what the colours are called. The modding software (3Dmigoto) doesn't have an option to display the current setting on-screen so most CMDRs count the key presses until they become familiar with the colours and their names.
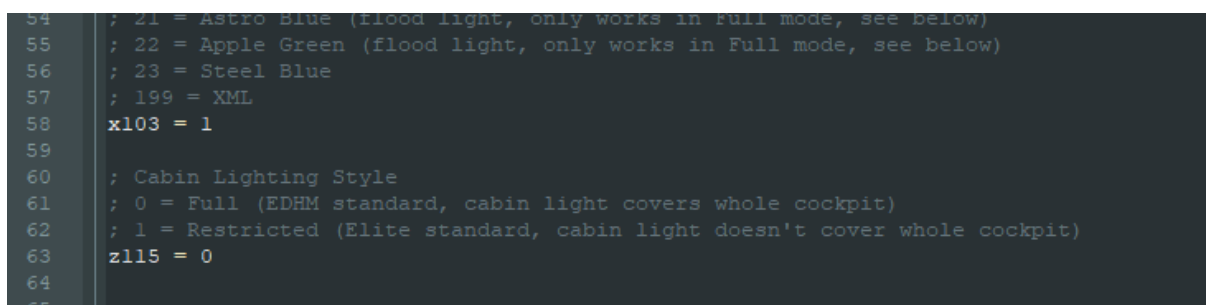
After you've experimented with the colours on different elements, let's create your first Start-up Profile.

A useful editing tool: NotePad++

I highly recommend using a good text editor – the regular Windows notepad is pretty bad for editing. Instead, try the free Notepad ++ (https://notepad-plus-plus.org/downloads/)

If you use Notepad++ then I also recommend the Obsidian or Bespin themes. Select the Settings menu option: Style Configurator, then Select Theme: Obsidian (or Bespin).

Now when you open an .ini file you'll have highlights on the numbers you need to edit. For example,

```
54    ; 21 = Astro Blue (flood light, only works in Full mode, see below)
55    ; 22 = Apple Green (flood light, only works in Full mode, see below)
56    ; 23 = Steel Blue
57    ; 199 = XML
58    x103 = 1
59
60    ; Cabin Lighting Style
61    ; 0 = Full (EDHM standard, cabin light covers whole cockpit)
62    ; 1 = Restricted (Elite standard, cabin light doesn't cover whole cockpit)
63    z115 = 0
64
```

But you don't have to use Notepad++, you can use regular old Notepad.

Choosing your colours

We are going to begin by editing the file **Startup-Profile.ini**, which is in the **EDHM-ini** folder (which is in the **elite-dangerous-64** folder)

Open **Startup-Profile.ini** in a text editor.

Have a quick look through the file and you'll see the same elements that were listed in the **EDHM-1.5-Catalogue.pdf**

For each element, you'll see a list of colours preceded by a designated number. You will use that number to tell the mod which colour you'd like to load.

So for example, let's look at the Cabin Lighting Colour (near the top of the file):

```
29   ;--------------------------------------------------------------
30   ;   ** Ambient Cabin Lights ** [CTRL F6]
31   ;--------------------------------------------------------------
32   ; Cycle through lighting colours with CTRL F6
33   ; Set x103 value (1, 2, 3, 4, 5, etc) for your favourite lighting colour
34   ; 1 = EDHM Blue
35   ; 2 = Tie Fighter Red
36   ; 3 = Orange
37   ; 4 = Feldgrau
38   ; 5 = Apple Green
39   ; 6 = Federation Green
40   ; 7 = Aqua / Cyan
41   ; 8 = Light blue
42   ; 9 = Aisling Blue
43   ; 10 = Yellow Submarine
44   ; 11 = Dark Violet
45   ; 12 = Electric Purple
46   ; 13 = Tyrian Purple
47   ; 14 = Brown 1
48   ; 15 = Saud Kruger Brown
49   ; 16 = Standard Elite Orange
50   ; 17 = Bi-colour Blue,Pink
51   ; 18 = Christmas Green
52   ; 19 = White
53   ; 20 = Hot Pink (flood light, only works in Full mode, see below)
54   ; 21 = Astro Blue (flood light, only works in Full mode, see below)
55   ; 22 = Apple Green (flood light, only works in Full mode, see below)
56   ; 23 = Steel Blue
57   ; 199 = XML
58   x103 = 1
59
```

This code block tells you:

> ➢ The name of the element you are modding (Ambient Cabin Lights)
> ➢ The keybind you can use to cycle through the colours (CTRL F6)
> ➢ A list of all possible colours the cabin lighting can take
> ➢ At the bottom there is a variable / parameter (x103) that the mod interprets as 'Cabin Lighting Colour'
> ➢ Followed by the colour designation (1)

Say, for example, you wanted *Tie Fighter Red* cabin lighting.
In the list of colours, the designated number for *Tie Fighter Red* is **2**.

So at the bottom we edit the value of *x103 = 1*, and replace it with **x103 = 2**

Now when you load Elite the cabin lighting will be red.

And that's exactly the process we follow for every element in **Startup-Profile.ini**

If you can do one, you can do them all!

But let's run through one more example to be sure you understand the process.

Next we'll change the colour of the shield.

Scroll down to the Shield Colour code block:

```
131    ;--------------------------------------------------------------
132    ; ** Shield colour ** [F2]
133    ;--------------------------------------------------------------
134    ; Cycle through shield colours with F2
135    ; Set z105 value (1, 2, 3, etc) for your favourite shield colour
136    ; 1 = Red gradient
137    ; 2 = Green gradient
138    ; 3 = Blue / Pink
139    ; 4 = Yellow / Green
140    ; 5 = Yellow / Red
141    ; 6 = Light Pink / Dark Pink
142    ; 7 = Blue Rims
143    ; 8 = Green Rims
144    ; 9 = Xiba shield by Xiba2k4
145    ; 10 = Purple
146    ; 11 = Camo
147    ; 12 = Christmas
148    ; 13 = Kaos shield by Franc Kaos
149    ; 14 = White
150    ; 15 = Aisling Blue
151    ; 16 = Original Elite (blue)
152    ; 17 = Invisible (good for shieldless builds)
153    ; 18 = Riptide (light bluish-green)
154    ; 19 = Pine Glade / Medium Spring Bud (yellowish-green)
155    ; 20 = Airlock Blue
156    ; 199 = XML
157    z105 = 10
158
```

Again, you'll see the keybind, the list of colours, and at the bottom is a new variable (**z105**) and the currently selected colour designation (10).

Say for example, we would like a shield that really stands out, so let's use the Xiba shield.
On the list we see the Xiba shield is number **9**.

At the bottom we edit the variable z105 = 10, and replace it with **z105 = 9**

Hopefully this process isn't too difficult to understand. Next we'll learn how to change the values in **Startup-Profile.ini** and load your changes without having to re-start Elite. This will allow you to experiment with different colour combinations without ever leaving Elite.

6. Activating 3Dmigoto Dev Mode to reload your changes in-game

The modding software 3Dmigoto allows us to make changes to an .ini file and then reload Elite (with the new changes) without exiting. This is very useful when you're experimenting with different colour combinations and you'd like to see which combinations work well together.

It's very simple to activate Dev Mode, but Elite must not be running.

To activate Dev Mode:

In Windows Explorer, navigate to the **elite-dangerous-64** folder, and locate the file:

EDHM-DevMode-ON.bat

Double-click this file and you will be greeted with a DOS screen (green text) that tells you Dev Mode will be activated.

And that's it, Dev Mode is now activated.

When you load Elite you will see green text at the top and bottom of the screen. Don't worry about what this text means as it's only useful for people who develop mods.

Now that Dev Mode is active, whenever you make a change to a colour designation in **Startup-Profile.ini** you can press **F11** to instantly load that colour change in-game.

Also, you can hide the green text by pressing the decimal button (.) on the NUMPAD.

When you're finished experimenting and choosing your colours, please make sure you turn Dev Mode OFF because it can reduce FPS when active (hiding the green text is not the same as turning Dev Mode off).

To de-activate Dev Mode:

In Windows Explorer, navigate to the **elite-dangerous-64** folder, and locate the file:

EDHM-DevMode-OFF.bat

Double-click this file and again you will be greeted with a DOS screen and green text indicating Dev Mode is now off.

The Dev Mode reload feature is very useful so please become comfortable turning it on and off.

7. Other options in Startup-Profile.ini

While most of the options in **Startup-Profile.ini** refer to colour or dimming/brightness choices, there are various other options you can learn about here.

1.   Toggle XML on Combat Mode HUD and Analysis Mode HUD

```
205   ;-----------------------------------------------------------------
206   ; ** Toggle XML for CHUD & A-HUD ** [CTRL ALT X]
207   ;-----------------------------------------------------------------
208   ; Use XML for CHUD and A-HUD (0 = NO, 1 = YES).
209   ; For technical reasons we cannot mix EDHM CHUD/A-HUD colours with
210   ; XML CHUD/A-HUD colours (it causes glitches with some combinations)
211   wl13 = 0
```

We will discuss how to load an XML profile in the **EDHM 1.5 XML Profile Guide**, but this toggle lets you choose if you would like your Combat Mode HUD (CHUD) and Analysis Mode HUD (A-HUD) to take the colours of your XML profile or a specific colour you choose.

2.   Toggle white objects on the radar (under Radar settings)

```
312
313   ; Turn off white-coloured objects on the radar (materials, wakes, etc).
314   ; Toggle with CTRL ALT W or set the value for xl15 below
315   ; 0 = White objects OFF, 1 = White objects ON
316   xl15 = 1
317
```

When fighting in a Combat Zone, after some time the radar can become filled with white objects, such as materials from destroyed ships and wake signals.

You can toggle this setting with the keybind CTRL ALT W, or set it to OFF or ON in **Startup-Profile.ini** (you can still toggle the setting with the keybind even if you set this to OFF)

3.   OwnCarrier Highlight colour on Nav Panel

```
466   ; OwnCarrier Highlight on Nav panel colour
467   ; Note: A custom XML will modify this colour.
468   ; Base colour refers to the colour on orange Elite panels.
469   ; Set zl22 value for your favourite OwnCarrier Highlight colour
470   ; 1 = Green
471   ; 2 = Blue
472   ; 3 = Red
473   ; 4 = Pink
474   ; 5 = White
475   zl22 = 1
476
```

If you own a carrier you will know how frustrating it can be to locate your own carrier in a busy system. This setting allows you to choose the colour of your OwnCarrier text on the left-hand Nav Panel. Please note, the XML will modify your colour choice, so it's best to try them all in Dev Mode.

4.   Custom Text Colour

Apart from the three common text colour settings (white, cream, XML), you can also create your own text colour. Please note, on the panels the text colour will be filtered by the panel XML, and there is no way to avoid this.

To choose your own text colour, first set **w116 = 4**

```
426   ;---------------------------------------------------
427   ; ** Text Colour **
428   ;---------------------------------------------------
429   ; Set w116 value for your favourite text colour
430   ; 1 = White
431   ; 2 = Cream
432   ; 3 = XML
433   ; 4 = Custom (see values below)
434   w116 = 4
435
```

Setting w116 to 4 activates the next setting, which are the Red, Green, Blue values of the text colour, but in decimal format. Although the colour channels in Elite can be very idiosyncratic, the text colour follows a standard RGB approach, approximately.

```
440   ;---------------------------------------------------------------------------
441   ; ** Custom Text Colour **
442   ;---------------------------------------------------------------------------
443   ; If Text Colour (w116) is set to 4 then you can choose your own text colour.
444   ; Please note, if you use XML on the ship panels, the XML shader will overlay
445   ; the text and modify the text colour. There is no way to prevent this from happening.
446
447   ; Here you can set the Red, Green, Blue values of the text
448   ; Normal Range of values: 0.0 to 1.0
449
450   ; Red
451   x116 = 0.0
452
453   ; Green
454   y116 = 1.0
455
456   ; Blue
457   z116 = 0.0
458
```

To convert from decimal (as above) to standard RGB values, multiply the decimal by 255. And to convert from standard RGB to decimal, divide by 255.

So in the example above, we have RGB(0,255,0), which is a very strong green. It's best to experiment with the RGB values in Dev Mode so you can reload your changes in-game without exiting.

If you need any help obtaining a particular colour, please ask on the Elite forums:

https://forums.frontier.co.uk/threads/elite-dangerous-hud-mod-edhm.557033/

5.   Orbit lines and Gravity Well lines brightness

```
505
506    ; Orbit Lines Brightness. Try 0.05 or 0.1 for very dim lines. Turn off with 0.0
507    y117 = 0.3
508
```

```
522
523    ; Gravity Well Lines Brightness (Normal range 0 to 1). Set to 0 to turn them off.
524    w117 = 0.1
525
```

The brightness of these lines have an unusual range, with most of the action occurring between 0 and 0.5

The default settings will produce quite bright lines under some circumstances, so if you prefer dim lines try values of 0.1, 0.05, or even 0.03

6.   Space dust/snow in normal flight

```
566    ;------------------------------------------
567    ; ** Space Dust (in normal flight) **
568    ;------------------------------------------
569    ; 0 = Space dust OFF, 1 = Space dust ON
570    z121 = 1
571
```

A frequently requested feature is the ability to turn off space dust in normal flight (not supercruise). It's the dust or snow that flies past you while moving, and setting **z121 = 0** turns OFF the space dust.

Please note, many CMDRs use space dust to assist with orientation and vector in *Flight-Assist Off* mode, so if you're training in FA-Off I recommend leaving space dust ON.

7.   The blue-green overlay on DSS scanned planet and rings

```
572    ;--------------------------------------------------------------------------------
573    ; ** DSS Green / Blue overlay on scanned planets and rings **
574    ;--------------------------------------------------------------------------------
575    ; The green / blue overlay will always be ON while using the Detailed Surface Scanner (DSS)
576    ; Hotspots will always be ON while in supercruise and analysis mode (as per default Elite)
577    ; This does not fix the long-term bug in Elite where Hotspots sometimes don't appear
578    ; Setting to OFF will remove the green / blue overlay while the DSS is not active
579    ; (0 = OFF, 1 = ON)
580    w123 = 1
581
```

After using the Detailed Surface Scanner (DSS) on a planet and rings, there will be a green-blue overlay forever on that planet when you are in Analysis Mode and supercruise.

Setting **w123 = 0** will turn off the green-blue overlay on DSS scanned planets in supercruise, but the overlay will still be present when you activate the Detailed Surface Scanner.

Please note, this setting will not turn off Hotspots, nor fix the Hotspot bug in un-modded Elite (on rare occasions, hotspots can randomly disappear in un-modded Elite).

8.   Dirty streaks on the canopy windows

```
583  [Present]
584  ;----------------------------------------------
585  ; ** Dirty streaks on canopy windows **
586  ;----------------------------------------------
587  ; You can turn off the dirty streaks on the
588  ; canopy windows if you prefer a 'cleaner' look :)
589  ; (Streaks OFF = 0) (Streaks ON = 1)
590  y112 = 1
591
```

When flying near a Star/Sun you will probably notice the canopy window has dirty streaks.

Set **y112 = 0** to remove the dirty streaks.

9.   Explorer Mode

Although this setting isn't included in **Startup-Profile.ini**, it's worth mentioning here.

Explorer Mode can be toggled with the keybind CTRL ALT E (which can be changed, see the next section on changing keybinds).

Explorer Mode turns off all internal lights in a set of exploration vessels, such as the Phantom, Anaconda, AspX, DBX, and also the Cutter and Krait MkII. It allows you to focus on the views outside the ship. Explorer Mode will also turn off the lights on the HOTAS keyboard panel in most ships (the bright panel when you look down towards your legs).

10.   Experimental Settings

In **Custom.ini** (in the **EDHM-ini** folder) are a set of shaders I haven't incorporated into the main mod yet, but are frequently requested so I decided to include them for modding 'enthusiasts'.

In the Experimental Settings you can:

- **Remove Space Fog:** This is the cloudy grey background against the starfield. Turning space fog off makes space look very black, **but unfortunately also turns off all nebulae and distant objects in the skybox** (such as the Andromeda galaxy). This setting is only useful under specific circumstances, such as taking photos or making a video, where you prefer the background to be very black.

- **Remove the Haze in large starports and on planets:** This setting will remove the layer of haze that causes a low-contrast effect in starports and on planet surfaces.

- **Enhanced Starfield:** This setting works well with space fog removed and clean canopy windows. The Enhanced Starfield slightly increases the brightness of dim stars, applies a mild multi-colour effect depending on the star's distance, and reduces the halos around some stars. Note: These effects are subtle in 2D but possibly too strong in VR. Also, the Enhanced Starfield only works in the Bubble.

8. Changing the set of key bindings from Full to Essential (reduced)

As you become more familiar with EDHM and Dev Mode, you will stop using the keybinds to cycle through the various element colours.

At that stage you'll probably want to remove many of the keybinds to free-up your keyboard.

A file is provided to swap the 'Full' set of keybinds to a greatly reduced 'Essential' set of keybinds.

The keybinds in the Essential set include:

- ➢ HUD Dimmer
- ➢ Cabin Lighting Dimmer
- ➢ Panel Opacity Boost
- ➢ Explorer Mode
- ➢ Remove white objects from the radar
- ➢ Kill switch (disable mod)

- To swap to the Essential set of keybinds:

  In Windows Explorer, navigate to the **elite-dangerous-64** folder, and locate the file:

  EDHM-Keybinds-Essential.bat

  Double-click this file and you will be greeted with a DOS screen (green text) that tells you the Essential Set of keybinds will be activated.

- You can also swap back to the Full set of keybinds by double-clicking the file:

  EDHM-Keybinds-Full.bat

9. Working with Keybinds (changing, deleting and adding keybinds)

The keybinds for EDHM are stored in the folder:

..\elite-dangerous-64\EDHM-ini\KeyBinds

Inside that folder you will see three files:

- ➢ KeyBinds.ini
- ➢ KeyBinds-Essential.txt
- ➢ KeyBinds-Full.txt

The mod reads whatever keybinds are present in **KeyBinds.ini**

The other two files are repositories for the Essential set of keybinds, and the Full set of keybinds.

We will work on the file **KeyBinds.ini** for modifying and deleting keybinds, and **Custom.ini** if you wish to add new keybinds.

Important Note: Please be aware if you run either of the Keybind swap files (described in the previous section), anything you modified or deleted in **KeyBinds.ini** will be erased. Please backup your **KeyBinds.ini** before running either of those keybind swap files.

Disabling / deleting a Keybind

If you would like to disable or delete a keybind, open the file **KeyBinds.ini** in a text editor.

Scroll through the code and locate the keybind you want to disable.

For example,

Say you want to disable the keybind for the Kill Switch, because you love the mod so much and never want it disabled 😊

In **KeyBinds.ini** the relevant block of code is:

```
90   ;---------------------------------------------------------------------------------
91   ; Kill switch (temporarily disable the mod on the front HUD or Panels or both)
92   ;---------------------------------------------------------------------------------
93   ; Use SHIFT F1 to cycle between (HUD OFF Panels OFF), (HUD ON Panels OFF), (HUD ON Panels ON)
94   [keyToggleKillSwitch]
95   Key = shift F1
96   type = cycle
97   x100 = 0,1,1
98   x157 = 0,0,1
```

You will notice the lines of code beginning with a semi-colon ; are "greyed-out". This is because the modding software 3Dmigoto does not read any line that begins with a semi-colon.

Therefore, if we start a line with a semi-colon we can add comments and text, and 3Dmigoto will skip over those lines.

Therefore, we can use that technique to 'comment out' the active parts of the code block, thereby disabling the keybind.

If we put a semi-colon ; in front of the all the lines of code in this code block we end up with:

```
90   ;---------------------------------------------------------------------------------
91   ; Kill switch (temporarily disable the mod on the front HUD or Panels or both)
92   ;---------------------------------------------------------------------------------
93   ; Use SHIFT F1 to cycle between (HUD OFF Panels OFF), (HUD ON Panels OFF), (HUD ON Panels ON)
94   ;[keyToggleKillSwitch]
95   ;Key = shift F1
96   ;type = cycle
97   ;x100 = 0,1,1
98   ;x157 = 0,0,1
```

Save the file and reload Elite (press reload [**F11**] in Dev Mode, or restart Elite).

Now the keybind for the Kill Switch is disabled.

You can also completely delete the code block and it will have the same effect, but I prefer reversible / non-destructive solutions where possible.

You can disable any keybind using this method.

Modifying / changing a Keybind

It's very simple to change a keybind.

1. Open the file **KeyBinds.ini** in a text editor

2. Locate the keybind you wish to change

For example, say we want to change the keybind for **Explorer Mode**,

from CTRL ALT E

to the 0 (zero) key (on the main keyboard, not the NUMPAD)

```
235    ;-------------------------------------------------------------
236    ; Explorer Mode (Phantom, Krait Mk2, Anaconda, AspX, DBX, Cutter)
237    ;-------------------------------------------------------------
238  ⊟[keyToggleExplorerMode]
239    Key = CTRL ALT E
240    type = cycle
241    z108 = 1,0
242
```

You can see the keybind is defined by:

Key = CTRL ALT E

So we can change that to:

Key = 0

```
235    ;-------------------------------------------------------------
236    ; Explorer Mode (Phantom, Krait Mk2, Anaconda, AspX, DBX, Cutter)
237    ;-------------------------------------------------------------
238  ⊟[keyToggleExplorerMode]
239    Key = 0
240    type = cycle
241    z108 = 1,0
242
```

Reload/restart Elite, Explorer Mode will now be toggled when you press '0'

Valid keys for Keybinds

Here is the list of valid key codes that can be used for keybinds:

Main Keyboard	Valid usage in Keybinds.ini
A to Z	A to Z
1 to 0 numerical keys	1 to 0 numerical keys
F1 to F12	F1 to F12
Minus (-) or underscore (_)	OEM_MINUS
Plus (+) or equals (=)	OEM_PLUS
Period (.) or (>)	OEM_PERIOD
Comma (,) or (<)	OEM_COMMA
Colon (;) or (:)	OEM_1
Question mark (?) or (/)	OEM_2
Tilde (~) or (`)	OEM_3
Open brace ({) or ([)	OEM_4
Pipe (|) or (\)	OEM_5
Close brace (}) or (])	OEM_6
Quotation mark (") or (')	OEM_7
Tab	TAB
Backspace	BACK
CAPS LOCK	CAPITAL
Space bar	SPACE
Enter key	RETURN
Insert key	INSERT
Delete key	DELETE
Home key	HOME
End key	END
Page Up key	PRIOR
Page Down key	NEXT
Arrow Up	UP
Arrow Down	DOWN
Arrow Left	LEFT
Arrow Right	RIGHT
Pause key	PAUSE
Menu key	APPS
Scroll Lock key	SCROLL
NUMPAD / NUMLOCK ON	
Numpad 0 to 1	NUMPAD0, NUMPAD1, etc
Numpad *	MULTIPLY
Numpad +	ADD
Numpad -	SUBTRACT
Numpad /	DIVIDE
Numpad .	DECIMAL

MOUSE BUTTONS	
Left mouse button	LBUTTON
Right mouse button	RBUTTON
Middle mouse button	MBUTTON
X Button 1	XBUTTON1
X Button 2	XBUTTON2
MODIFIER KEYS	
CTRL (either left or right)	CTRL
Left CTRL	LCTRL
Right CTRL	RCTRL
ALT (either left or right)	ALT
Left ALT	LALT
Right ALT	RALT
Shift (either left or right)	SHIFT
Left Shift	LSHIFT
Right Shift	RSHIFT

Using Modifier Keys

You can use a modifier key to add extra keybind options to single key:

For example,

CTRL P (CTRL + P)

LALT P (Left ALT + P)

You can also add multiple modifiers:

CTRL ALT P (CTRL + ALT + P)

[*continues next page*]

Special Modifier Commands

Say for example you have the following keybinds in your **KeyBinds.ini**

P :   Explorer Mode

CTRL P :   Cycle shield colour

ALT CTRL P :   Cycle lighting colour

When **ALT CTRL P** is pressed, the modding software 3Dmigoto cannot differentiate between:

P, **CTRL P**, and **ALT CTRL P**

So all three commands will be executed. And we don't want that to happen.

In this situation we need to tell 3Dmigoto to limit the keybinds to specific keys.

We can add the **NO_MODIFIERS** command to execute a single key only:

For example,

NO_MODIFIERS P (will execute the command only if the P key is pressed without modifiers)

We can also exclude certain modifiers by prefixing the modifier with **NO_**

For example,

NO_ALT CTRL P

This command will only execute if **CTRL P** is pressed, but not **ALT CTRL P**

Creating a new keybind

There aren't many elements or options in EDHM that don't already have a keybind, but let's say you'd like to create a keybind that swaps between two Night Vision colours, light blue and yellow.

We are going to place new keybinds in **Custom.ini** to keep user created options separate from the main mod.

Structure of the keybind code

Every keybind follows the same structure, and once you understand the structure you can create a keybind for anything.

This is a typical keybind structure:

[keyToggle-KeybindName]
Key = <your keybind>
type = cycle
<parameter name> = <cycle options>

And here's a real-life example, the keybind to cycle through reticle colours:

```
139    ; Cycle through targeting reticle colours with F7
140    [keyToggleReticleColour]
141    Key = no_modifiers F7
142    type = cycle
143    x107 = 1,2,3,4,5,6,7,8,9,199
```

The **[keyToggle-KeybindName]** must start with the words 'keyToggle', but after that you can add any identifying text you want.

So, for our Night Vision example, we'll add the title:

[keyToggle-NightVision-Blue-Yellow]

Next is the '**Key =**' command, which tells the mod which key press will activate the colour change (please see the table in the previous section for a list of valid key names)

In our Night Vision example, we'll bind the colour change to the '**Pause**' key. We don't want any modifiers on this key (CTRL, ALT or SHIFT) so we'll add the **NO_MODIFIERS** prefix

Key = NO_MODIFIERS PAUSE

[continues next page]

The next line is always:

type = cycle

So that's easy. (Note there are other options for this line but we don't use them in this mod)

Finally, our bottom line is probably the most difficult to understand for newbies.

The **<parameter name>** refers to the alphanumeric designation we have chosen for a particular element (Night Vision colour is one element). Every element in the mod has its own unique alphanumeric string, and you can find most of the alphanumeric strings in **Startup-Profile.ini**

So let's open up **Startup-Profile.ini** in a text editor and look for the section that specifies the Night Vision Colour:

```
475    ;----------------------------------------------
476    ; ** Night Vision **
477    ;----------------------------------------------
478    ; Set x112 value for your favourite night vision colour
479    ; 1 = Light Blue
480    ; 2 = Yellow
481    ; 3 = Red
482    ; 4 = Green
483    ; 5 = Light Green
484    ; 6 = Light Purple
485    ; 7 = Pink
486    ; 8 = Original Elite Green
487    x112 = 1
488
```

Here is the Night Vision block of code in **Startup-Profile.ini**. It lists the colour options, the designated number for each colour option, and at the bottom is the unique alphanumeric code **(x112)** the mod uses to specifically target the Night Vision colour.

So **x112** translates to "Night Vision Colour".

And next we need to specify the values x112 can take.

Since we want Light Blue (1) and Yellow (2), we can tell the mod to cycle between these two colours by adding them into the keybind after the parameter name, with a comma separating each possible colour option:

x112 = 1,2

If we wanted the keybind to cycle between Light Blue, Yellow and Pink (7), we would add:

x112 = 1,2,7

Now we add all that information back into the code block.

When we assemble all this information using the structure specified previously, we get:

[keyToggle-NightVision-Blue-Yellow]
Key = NO_MODIFIERS PAUSE
type = cycle
x112 = 1,2

And that's it! We now copy that code block and paste it into the bottom of Custom.ini:

```
58    [keyToggle-NightVision-Blue-Yellow]
59     Key = NO_MODIFIERS PAUSE
60     type = cycle
61     x112 = 1,2
62
```

Reload/re-start Elite.

Now when you press the **PAUSE** key the Night Vision will cycle between Light Blue and Yellow.

Multiple options under one keybind

You're not limited to just a single colour change for one keybind. Say for example, you want the shield to be Blue when the night vision is Light Blue, and you want the shield to be Yellow when the Night Vision is Yellow.

If we look up the alphanumeric code for Shield Colour in **Startup-Profile.ini** we see it is **z105**.

An Aisling Blue shield has the designated number (15), and a Pine Glade (yellow) shield has the designated number (19). So we simply add that information into our code block, and it becomes:

[keyToggle-NightVision-Blue-Yellow]
Key = NO_MODIFIERS PAUSE
type = cycle
x112 = 1,2
z105 = 15,19

Overwrite the previous code block in **Custom.ini** and reload/re-start Elite.

Now whenever you press the **PAUSE** button, the Night Vision and Shield colour will change to Blue, and on the next press of the **PAUSE** button the Night Vision and Shield colour will change to Yellow.

Please note, if you add multiple alphanumeric codes for multiple elements, each line needs to have the same number of colour options or the process will get out-of-sync.

What you have learned here is the basis of creating a 'Profile'. A Profile loads several dozen parameters with a single key press, and we will discuss Profiles in the next section.

10. Hotkey Profiles

A Hotkey Profile is a single keybind that changes many elements. We learned how to create a keybind with multiple elements in the previous section, and a Hotkey Profile expands on this idea.

Five demo Hotkey Profiles are included with EDHM, and they include:

- ❖ Radiant Blue (press CTRL 5)

- ❖ Cornflower Blue (press CTRL 6)

- ❖ Black Market (the default profile, press CTRL 7)

- ❖ Shoulder of Orion (red/yellow, press CTRL 8)

- ❖ Green Sentinel (press CTRL 9)

You can switch between profiles by pressing the relevant keybind.

The Demo Profiles are stored in the file:

..\elite-dangerous-64\EDHM-ini\DemoProfiles\DemoProfiles.ini

If you open that file in a text editor you will see a familiar keybind structure (as discussed in the previous section), but also a long list of parameters under the keybind that specify the colour for every element in the mod.

In the **DemoProfiles** folder you will also see a bunch of subfolders with the names of each demo profile.

Open up the **Cornflower-Blue** folder and inside you will see three files:

- ➢ Startup-Profile.ini
- ➢ XML-Profile.ini
- ➢ Hotkey-Profile.txt

EDHM comes with the '*Black Market*' profile installed as default (purple/blue). The default profile (that loads when Elite starts) is specified by two files in the **EDHM-ini** folder: **Startup-Profile.ini** and **XML-Profile.ini**

If, for example, you really like the **Cornflower Blue** Profile and want Elite to load the Cornflower Blue profile every time Elite starts, then you can copy **Startup-Profile.ini** and **XML-Profile.ini** from the **Cornflower-Blue** folder and paste those files into the **EDHM-ini** folder, and overwrite the Black Market default files.

When you reload/re-start Elite you will now see the Cornflower-Blue profile instead of the Black Market profile.

Then, if you want to change back to the Black Market profile copy **Startup-Profile.ini** and **XML-Profile.ini** from the **Black Market** folder (inside the **DemoProfiles** folder) and paste those two files into the **EDHM-ini** folder.

If you want to free-up the keybinds associated with the demo profiles, double-click the file:

EDHM-RemoveDemos.bat in the **elite-dangerous-64** folder.

Doing so will free up those keybinds, but won't delete the demo source files.

Installing new profiles

Creating a new profile takes a long time, and can be a little complicated, so I've written a separate manual called **EDHM 1.5 XML Profile Guide**, that you can find on the EDHM GitHub or the Elite forums (second post):

https://forums.frontier.co.uk/threads/elite-dangerous-hud-mod-edhm.557033/

If you don't have time to make a new profile from scratch, you can download new profiles from the link above, and install them as a default theme (replace **Startup-Profile.ini** and **XML-Profile.ini** in the **EDHM-ini** folder) or alternatively you can install them as a Hotkey profile, just like the demo profiles (please see the section below).

New Hotkey profiles

You've previously learned how to install a new default profile (by replacing **Startup-Profile.ini** and **XML-Profile.ini** in the **EDHM-ini** folder), but say you want to add a profile that is only activated when you press a **Hotkey**.

Hotkey profiles are stored in the file:

MyProfiles.ini

in the **MyProfiles** folder (in the **EDHM-ini** folder).

Open **MyProfiles.ini** in a text editor and you will see it is currently empty.

In **MyProfiles.ini** you will paste new Hotkey profiles, either from the library on the Elite forums, from the **DemoProfiles** folder, or you can even share Hotkey profiles with friends.

Say for example you deleted the Demo profile hotkeys using the file **EDHM-RemoveDemos.bat**, but later decide you'd like to switch to the **Sentinel-Green** profile when flying your Federal Corvette.

Go into the Demo Profiles folder:

..\elite-dangerous-64\EDHM-ini\DemoProfiles

And then open the **Sentinel-Green** folder. Inside that folder you will see the file:
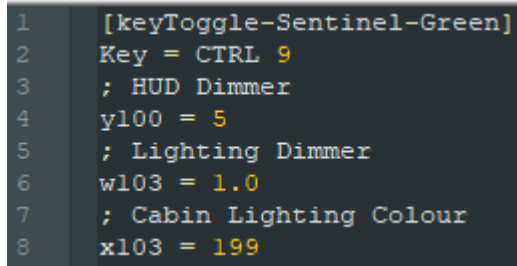
Hotkey-Profile.txt

Open **Hotkey-Profile.txt** in a text editor and you will see it contains a single keybind followed by many parameters.

Select all the contents of that file (CTRL A), copy (CTRL C), then open the file:

MyProfiles.ini

And then paste (CTRL V) into the bottom of **MyProfiles.ini**.

Now, scroll up to the top of the Profile you just pasted into **MyProfiles.ini** and you will see:


```
1    [keyToggle-Sentinel-Green]
2    Key = CTRL 9
3    ; HUD Dimmer
4    y100 = 5
5    ; Lighting Dimmer
6    w103 = 1.0
7    ; Cabin Lighting Colour
8    x103 = 199
```

The current Keybind is set to **CTRL 9**. Change the keybind to whatever you prefer.

Please refer to the table of valid keybinds in the section: **Valid key codes for Keybinds**

Save **MyProfiles.ini** and reload/re-start Elite, and you will be able to activate the **Sentinel-Green** profile whenever you like.

And that's it, you've installed a hotkey profile!

Note: 3Dmigoto doesn't have a way of re-loading default settings from **Startup-Profile.ini** except in Dev Mode, which you won't want to leave activated as it reduces FPS.

So I recommend adding your default profile into **MyProfiles.ini** so you can use a Hotkey to swap back to your default profile.

If, for example, your default profile is **Cornflower-Blue**, then repeat the same process as above, but copy the contents of the Cornflower-Blue **Hotkey-Profile.txt** (in the Cornflower-Blue folder) into **MyProfiles.ini**, set your preferred Keybind, and save the file.

I know it sounds a little complicated, but after you've run through the process a few times it's pretty easy.

If you have any questions about any of this you're welcome to contact me:
- reddit: psychicEgg
- discord: psychicEgg#9971
- Elite forums: GeorjCostanza

There are also plenty of veteran EDHM users on the Elite forums who will be happy to help you out.

https://forums.frontier.co.uk/threads/elite-dangerous-hud-mod-edhm.557033/

11. Known Issues

- The modding software *3Dmigoto* is not compatible with Steam overlay (and associated controllers). Therefore, many Steam functions such as screenshots and the music player may not function correctly. I didn't create 3Dmigoto so I have no control over compatibility with other software.

- Both ReShade and EDFX can work with EDHM according to some CMDRs. However, I don't run either software and cannot provide advice on how to get them to work together. Please post on reddit or the Elite forums if you need further information.

- When using the external camera or Holo-me, the coloured cabin lighting will contaminate the colour of the CMDR's skin and flight suit. Press SHIFT F1 to disable the mod while viewing your Commander in Holo-me.

- The Orange J bug. In the past, Elite sometimes decided to colour all the j's orange when running the game in high resolution. Only Raxxla knows why it did this. I believe this is fixed now, but if you still see an Orange J pop up then please let me know.

12. Troubleshooting

i. The Broken Shader (orange distributor)

By far the most common issue reported is the broken shader (orange distributor bars).

And by far the most common reason is the GUI setting in graphics options.

Please ensure you set
DISABLE GUI EFFECTS = OFF

It should look like this:

DISABLE GUI EFFECTS	OFF

If this setting is already OFF, then it means something external to Elite is preventing your settings from turning this OFF, or you have other software preventing the mod from loading correctly (such as anti-virus software). Try excluding the **elite-dangerous-64** folder from your anti-virus software.

ii. FPS reduction

For many CMDRs this is the first game they have modded, and there are a few basic principles that need to be explained.

When we add a complex graphics layer to a game, consisting of about 40 extra on-screen elements, the FPS will drop. There's nothing we can do about that, it WILL drop. Some people get upset by this fact, modding is not for them.

Therefore, it's necessary to reduce your graphics quality settings if you wish to maintain your unmodded FPS.

I recommend you start with the following quality settings, then increase the quality until your FPS drops below an acceptable level (Press CTRL-F in-game to display your FPS, CTRL-F again to turn it off).

[Please see over page]

Please note: The FPS drops appear to be *relative*. Therefore, if you start higher with an unlocked maximum FPS it won't drop down as far:

To increase maximum FPS:
Vertical Sync OFF
Frame Rate Limit OFF

Recommended initial quality settings:
Shadow Quality OFF
Bloom OFF
Anti-Aliasing FXAA (off for 4K)
Supersampling 1.0
Ambient Occlusion LOW
FX Quality OFF
Volumetric Effects HIGH

These settings will maximise your FPS. *Shadows, Ambient Occlusion and Supersampling* have a huge impact on FPS, so increase them slowly.

The mod will reduce your FPS, and you need to adjust your quality settings to bring the FPS back up again. However, **the FPS drop with the mod should only be around 10%**.

iii. Stuttering or large FPS drops

If you experience stuttering that is more frequent than the usual Elite stuttering (for example, when an NPC drops into your instance, or sometimes when the planets/carriers load after a jump) then it means you probably have a system conflict with the modding software, 3Dmigoto.

Stuttering or large FPS are **NOT** experienced by many users of EDHM, and the current version has undergone extensive, sequential FPS testing in a variety of situations by a team of CMDRs.

To reduce the possibility of a software conflict with 3Dmigoto then it is highly recommended you disable:

- Overlays of any type (Steam, GeForce Experience, Discord, etc)

- Any unnecessary software that isn't required to run Elite.

  Load Task Manager and check if there are any unnecessary processes running in the background. 3Dmigoto is very sensitive to conflicts, so best to shut down anything you're not using while playing Elite (in the past I had an issue with adware interfering with the mod).

- Set your anti-virus to exclude the **elite-dangerous-64** folder (AVs often have a 'game mode' where certain folders can be excluded from scanning).

13. Credits

First and foremost, I would like to thank the Elite devs for making such an amazing space game – but more than that, it's a space experience and the closest we have to a simulation.

I was recently fortunate to catch interviews with Elite developers Dr Kay Ross and Gareth Hughes, and while listening to their conversations I realised David Braben has recruited some of the most intelligent people in the gaming industry. This mod stands on the shoulders of giants, and is just a thin layer of icing on the best space cake ever made. I have great respect for the devs, and this mod is an ode to their amazing work, and a testament to how much Elite has touched me personally.

There are also a few individuals to whom I wish to express my deepest gratitude.

CMDR Xiba2k4, we stayed up many late nights in June 2020 in the midst of the virus lockdown, communicating from one side of the globe to the other. And very very slowly we learnt about modding and the basics of HLSL coding. Cheers buddy!

DarkStarSword, the creator of 3Dmigoto. A fellow Aussie and one of the most knowledgeable coders I've ever encountered. DSS if you're reading this, thank you for 3Dmigoto, and I hope you will return to keep it updated as it's absolutely brilliant software. Maybe just a compatibility fix for Steam overlay? 😊

There are also many others who have contributed to EDHM, so this project is well and truly a group effort. A huge thankyou in no particular order:

CMDR Paulina Smith	CMDR BlueMystic (EDHM UI dev)	CMDR alterNERDtive
CMDR NateSomers	CMDR Sethiest	CMDR CptMarkHarlock
CMDR BlueBrr	CMDR [XtC]MrSly	CMDR Dragonfyre
CMDR Overcon	CMDR Nepomuk	CMDR Sloth of Doom
CMDR Old Duck	CMDR Nilt	CMDR SMcA
CMDR 5miley	CMDR breach_candy	CMDR Iron Golem
CMDR Saltok	CMDR SenorKarlos	CMDR DeadlyPliers
CMDR Croniat	CMDR Franc Kaos	CMDR Thiamine
CMDR Loopios7	CMDR Hudiny	CMDR Moose
u/haxborn	u/The_Gump_AU	

I'd also like to thank CMDR Exigeous for liaising with FDev to verify mod approval.
You can view Exigeous' YouTube channel here:
https://www.youtube.com/channel/UC0Rwxz4318EEQGHz_z58nVA

Thank you also to Down To Earth Astronomy for sharing the mod with the community:
https://www.youtube.com/channel/UCg3QI9rHzPgvR7KTKSCtPHg

14. Epilogue

I've been working on this mod in most of my spare time for the past nine months. I don't have a coding background (I work in healthcare and currently completing a PhD) so the progress has been slow, but now I dream in shader code 😊

But really, my knowledge is limited and I'm humbled by those who really know what they're doing.

In any case, my goal was to bring happiness and enjoyment to the Elite community, and I hope I have succeeded in that endeavour.

To all CMDRs, much respect,

o7

CMDR GeorjCostanza
u/psychicEgg