Chimera *build -572 (50 alpha)*

A feature-rich mod for Halo Custom Edition

Chimera is a mod for Halo Custom Edition which contributes a wide variety of essential features to enhance or fix Halo. This documentation should assist in setting up Chimera while hopefully providing more useful information than what a forum post may bring.

What is Chimera?

Chimera is a mod that adds many enhancements and fixes to Halo Custom Edition. Many things that were not thought to be possible are present in Chimera, such as interpolation. **Note that this is not an exhaustive list.**

Here are features that are automatically enabled:

- Fast loading - This provides a speedup to Halo's startup time, similar to HAC2's map cache.
- Aim assist fix - This enables and fixes aim assist for gamepad users.
- Automatically enable the console - Enable console without `-console`.
- Console fade out fix - Fixes the fading out issues with the console at high frame rates.
- Console history enhancement - Opening the console re-shows messages that had faded out.

Here are some of the features which can be turned on:

- Interpolation - *chimera_interpolate* and *chimera_uncap_cinematic*
- Granular mouse sensitivity - *chimera_mouse_sensitivity*
- Widescreen fix - *chimera_widescreen_fix*
- Sniper HUD fix - *chimera_widescreen_scope_fix* and *chimera_sniper_hud_fix*
- Retail map compatibility - See *Retail Map Compatibility* (requires Monolith)

There are also some aspects of Halo you can turn off:

- Pointless gametype indicator - *chimera_block_gametype_indicator*
- Unwanted mouse acceleration - *chimera_block_mouse_acceleration*
- Obstructive loading screens in multiplayer - *chimera_skip_loading*
- Annoying server messages - *chimera_block_server_messages*
- Laggy vSync - *chimera_block_vsync*
- Blurry scopes - *chimera_block_zoom_blur*

Chimera also has some features with Xbox users in mind:

- HUD kill feed - *chimera_hud_kill_feed*
- Safe zones - *chimera_safe_zones*
- Simplified score screen - *chimera_simple_score_screen*
- Split screen HUD - *chimera_split_screen_hud*

Requirements

Chimera supports Halo Custom Edition version 1.10. If you use an older version of the game or use the retail version, no guarantees can be made on how stable or compatible Chimera will be.

As for hardware, not every PC hardware configuration can be tested, as the number of possible PC configurations which could affect how well Halo may run with Chimera may quite possibly be in the trillions. Instead, I can only give you a more conservative estimate on what should be able to run the game with at least 900p 60 FPS, maximum settings, with chimera_interpolate set to 6.

Type	Part	Release Year
Operating System	Windows 7 or newer Linux with Wine 3.0 (free)	2009 2018
CPU	Intel: Intel Core 2 Duo E8400 (3.0 GHz) or better AMD: AMD Athlon II X2 250 (3.0 GHz) or better	2008 2009
Graphics	Nvidia: NVIDIA GeForce 9400 GT AMD: ATI Radeon HD 4550 Intel: Intel HD 3000	2008 2008 2011
RAM	4 GB	2000 (DDR release date) Circa 2012 (mainstream)

Most PCs built within the past five years match or exceed these specifications.

Why these requirements?

The Intel CPU is a mid-ranged CPU from the year 2008, and the AMD CPU is a mid-ranged processor from the year 2009. "Mid-ranged" is relative to the year 2009, as these processors are slow by today's standards. These CPUs are from an era where Intel and AMD had similar IPC, and at 3.0 GHz, they should perform identically and easily handle a modest level of chimera_interpolate.

For graphics, the NVIDIA GeForce 9400 GT was released in 2008. The ATI Radeon HD 4550 was released in around 2008. These low end GPUs were low end even when they were released, and they were nothing compared to NVIDIA GeForce 9800 GTX or ATI Radeon HD 4850 from their respective times. These processors are low-end, but Halo, a game from 2001, is not graphics-intensive. chimera_interpolate does not directly add GPU load but, rather, it takes better advantage of it.

As for the RAM, while Halo does not consume very much RAM (only a few hundred MB at most), having at least 4 GB ensures that your operating system will run optimally. A 4 GB upgrade is not expensive for most PCs. At this time, one can easily pick up 4 GB for ~$15 for DDR2 and ~$30 for DDR3. As for DDR4 RAM, prebuilts rarely, if ever, have less than 4 GB.

If you use an unsupported software or hardware configuration, please do not report bugs.

Getting started

Getting Chimera set up is easy and

Chimera can be obtained from https://chimera.opencarnage.net. Chimera comes in a .7z file which may require 7-Zip (http://www.7-zip.org) if on Windows or p7zip (http://p7zip.sourceforge.net/) if on Linux. Some Linux distributions may already include the ability to open .7z archives without any additional software installation.

Once extracted, Chimera is easy to install. Simply copy chimera.dll into your Controls directory (located in your Halo Custom Edition folder) then start Halo.

Chimera directory structure

When you first start Chimera, Chimera will create a directory in Documents\My Games\Halo CE (or wherever you specified -path) and this directory will contain these files:

```
\chimera                  (directory)         Root directory
   \chimerainit.txt       (.txt file)         Initialization
   \chimerasave.txt       (.txt file)         Initialization (settings)
   \lua                   (directory)         Lua root
      \global             (directory)         Global Lua scripts
      \map                (directory)         Map Lua scripts
```

The *chimera* folder is where Chimera's configuration is stored. This is important so you do not have to re-enter commands on startup.

chimerainit.txt and chimerasave.txt

Inside the *chimera* folder are also two files: *chimerainit.txt* and *chimerasave.txt*. These files do the same thing on startup: they feed Chimera commands into Chimera's command parser. They also are the same format. However, the difference is that *chimerasave.txt* is overwritten by Chimera as commands are used and is executed after *chimerainit.txt*, effectively overriding it. *chimerainit.txt* can contain comments (prefixed with #) and can also be distributed to other people.

You can also put *chimerainit.txt* in the root directory of Halo (that is, the same folder that contains haloce.exe). This will be executed even sooner than the *chimerainit.txt* file in the *chimera* directory.

Lua scripting

Chimera also supports Lua scripting. Scripts in the *global* folder are loaded on startup. They remain permanently loaded unless the user uses chimera_reload_lua. Scripts in the *map* folder is loaded when a map is loaded and unloaded when a map is unloaded. Scripts may also be contained inside of map files. *A Lua scripting section will be added to this documentation in a future date.*

Retail Map Compatibility

Chimera can enable Halo Custom Edition to load retail Halo maps. This feature requires a small amount of setup in order to be enabled:

1. Install Monolith and copy Chimera into the mods folder.
2. Create a folder *chimera* in your maps folder. Make sure you have write access to this folder.
3. Copy your retail (Halo PC) *bitmaps.map* and *sounds.map* files into this folder. ***Make sure you COPY them; these files WILL be deleted.***
4. Copy any maps you wish to run with Halo Custom Edition into your Halo Custom Edition Maps folder.
5. Start up Chimera. Chimera will patch the *bitmaps.map* and *sounds.map* files in the *chimera* folder, replacing them with *ce_bitmaps.map* and *sounds.map*, respectively. Halo Custom Edition will then load these files.

Once finished, you will be able to run maps (such as the original Halo: Combat Evolved campaign) without having to convert them with a program such as Combustion.

Notes

If you want to play the Halo: Combat Evolved campaign, there are other ways to do this than this way:

- Moses's Refined Campaign: http://forum.halomaps.org/index.cfm?page=topic&topicID=50277
- SPV3 (requires installing stuff like a launcher): https://www.reddit.com/r/halospv3/
- Converted maps (scattered around on Halo Maps): http://hce.halomaps.org/?nid=386

Replacing any multiplayer maps may prevent you from joining servers with those maps. Chimera does NOT allow you to join retail servers regardless of if you are using a retail map or a Custom Edition map.

Commands

Chimera has a variety of commands at your disposal. For organization, these are grouped into categories. You can also list these commands with the *chimera* command.

Uncategorized

These commands are primarily for configuring the Chimera client itself rather than Halo. As such, they are not in any sort of category.

Command	Description
chimera	This command is the commands directory for Chimera. Syntax: *chimera* - Display version and a list of command categories. *chimera <category>* - Display a list of commands in a category. *chimera <command>* - Display help for a command.
chimera_chat	Send a chat message. Syntax: *chimera_chat all <message> - Send a message to all players.* *chimera_chat team <message> - Send a message to your team.* *chimera_chat vehicle <message> - Send a message to your vehicle.*
chimera_reload_lua	Reload all Lua scripts. Syntax: *chimera_reload_lua*
chimera_verbose_init	Get or set whether *chimerainit.txt* or *chimeraname.txt* commands should output messages. Syntax: *chimera_verbose_init*

Debug

These commands are primarily for assisting map developers or modders.

Command	Description
chimera_budget	Get or set whether to show or hide various budgets. Options: 0: Off 1: On (Modded budgets if a mod is installed such as HAC2) 2: On (Stock budgets) Syntax: *chimera_budget [0-2]*
chimera_devmode	Get or set whether or not to enable Halo's developer commands. Syntax: *chimera_devmode [true/false]*
chimera_player_info	Show player information. Syntax: *chimera_player_info*
chimera_tps	Get or set tick rate. This value cannot be set below 0.01. Syntax: *chimera_tps [ticks per second]*
chimera_wireframe	Get or set whether or not to enable or disable wireframe mode. This will not work while in a server. Syntax: *chimera_wireframe [true/false]*

Enhancements

These commands exist to enhance your gameplay experience.

Command	Description
chimera_auto_center	Get or set how auto centering of vehicles should behave. Options: 0: Broken stock behavior 1: Fixed behavior 2: Disable automatic centering Syntax: *chimera_auto_center [0-2]*
chimera_block_letterbox	Get or set whether or not to block the letterbox effect in cinematics. Syntax: *chimera_block_letterbox [true/false]*
chimera_block_mo	Get or set whether or not to disable multitexture overlays. This feature is intended to fix the buggy HUD on the stock sniper rifle, but multitexture overlays may be used correctly on some maps. Syntax: *chimera_block_mo [true/false]*
chimera_block_server_messages	Get or set whether or not to block inbound server messages. Syntax: *chimera_block_server_messages [true/false]*
chimera_block_zoom_blur	Get or set whether or not to disable the zoom blur. Syntax: *chimera_block_zoom_blur [true/false]*
chimera_block_mouse_acceleration	Get or set whether or not to block mouse acceleration. Note that some mice may still exhibit some mouse acceleration. Syntax: *chimera_block_mouse_acceleration [true/false]*
chimera_disable_buffering	Get or set whether or not to disable buffering. This may improve input latency. Syntax: *chimera_disable_buffering [true/false]*
chimera_enable_console	Get or set whether or not to automatically enable the console. Unlike most other features, this feature is enabled by default. Syntax: *chimera_enable_console [true/false]*

chimera_gamepad_vertical_scale	Get or set whether or not to scale gamepad vertical sensitivity. Syntax: *chimera_gamepad_vertical_scale [value]*
chimera_mouse_sensitivity	Set the horizontal and vertical mouse sensitivities. Values less than 1 do not work properly if mouse acceleration is enabled. Syntax: *chimera_mouse_sensitivity [<horizontal> <vertical>]* *chimera_mouse_sensitivity [<false>]*
chimera_show_spawns	Get or set whether or not to show spawns. Syntax: *chimera_show_spawns [true/false]*
chimera_skip_loading	Get or set whether or not to skip the multiplayer loading screen. Syntax: *chimera_skip_loading [true/false]*
chimera_uncap_cinematic	Get or set whether or not to remove the 30 FPS framerate cap in cinematics. This may result in objects jittering during cutscenes if chimera_interpolate is not enabled. Syntax: *chimera_uncap_cinematic [true/false]*

Fixes

These commands fix various problems with Halo. Some fixes, such as the magnetism fix and the descope fix, are enabled by default and have no commands to disable them.

Command	Description
chimera_aim_assist	Get or set whether or not fix aim assist for gamepads. This feature is on by default. Syntax: *chimera_aim_assist [true/false]*
chimera_sniper_hud_fix	Get or set whether or not to fix the sniper HUD. This may not work on protected maps. Syntax: *chimera_sniper_hud_fix [true/false]*
chimera_widescreen_fix	Get or set whether or not to (mostly) fix the HUD. Note that this will break the HUD if you are using any other widescreen fix. Settings: 0: Off 1: On 2: On (center HUD) Syntax: *chimera_widescreen_fix [0-2]*
chimera_widescreen_scope_fix	Enhance an existing widescreen fix by also fixing the scope mask if it's not fixed. Syntax: *chimera_widescreen_scope_fix [true/false]*

Interpolation

Interpolation smoothes out object movement at higher framerates, increasing the game's fluidity.

Command	Description
chimera_interpolate	Get or set the interpolation level. Interpolation smoothes out object movement between ticks, providing a substantial visual improvement. Higher levels incur greater CPU usage and may impact framerate on slower CPUs. Syntax: *chimer_interpolate [off/low/medium/high/ultra]*

Here is what each level of interpolation does:

	players	*weapon*	*equipment*	*projectile*	*scenery*	*machine*	*particles*	*cloth*
Low	B	C	C	███	███	C	███	Yes
Medium	B	B	B	C	C	B	Yes	Yes
High	B	B	B	B	B	B	Yes	Yes
Ultra	A	A	A	A	A	A	Yes	Yes

C = Interpolation (no rotation) (good)

B = Interpolation (with rotation) (better)

A = Interpolation (with rotation) and no distance optimization (best)

Visuals

These features offer some modifications for visuals such as HUD.

Command	Description
chimera_af	Get or set whether or not to enable anisotropic filtering. Syntax: *chimera_af [true/false]*
chimera_block_firing_particles	Get or set whether or not to block firing particles. Syntax: *chimera_block_firing_particles [true/false]*
chimera_block_gametype_indicator	Get or set whether or not to turn off the gametype indicator. Syntax: *chimera_block_gametype_indicator [true/false]*
chimera_block_server_ip	Get or set whether or not to hide the server IP. This may be useful for streamers. Syntax: *chimera_block_server_ip [true/false]*
chimera_block_vsync	Get or set whether or not to turn vSync off startup. Syntax: *chimera_block_vsync [true/false]*
chimera_set_resolution	Change Halo's resolution. Width and height can be either resolution in pixels or an aspect ratio. Syntax: *chimera_set_resolution <width> <height> [refresh rate] [vsync] [windowed]*
chimera_throttle_fps	Throttle Halo's framerate. Syntax: *chimera_throttle_fps [max FPS]*
chimera_vfov	Get or change your FOV by attempting to lock to a specific vertical FOV. This will distort your FOV if HAC2, Open Sauce, etc. are modifying your horizontal FOV. 1 defaults to 55.41 degrees, or Halo's standard FOV. Syntax: *chimera_vfov [VFOV]*

Startup

These commands modify aspects of Chimera's fast startup feature.

Command	Description
chimera_cache	Get or set whether or not to use a cache for fast startup. Syntax: *chimera_cache [true/false]*
chimera_cache_clear	Clear the cache. Syntax: *chimera_cache_clear*
chimrea_modded_stock_maps	Get or set whether or not stock maps will use hardcoded CRC32s. This may be required for some maps to work. Syntax: *chimera_modded_stock_maps [true/false]*

Xbox

These commands add enhancements that emulate or restore functionality from the original console release of the game.

Command	Description
chimera_hud_kill_feed	Get or set whether or not to emit kills and deaths messages as HUD text. Syntax: *chimera_hud_kill_feed [true/false]*
chimera_safe_zones	Get or set whether or not to emulate Xbox safe zones. Syntax: *chimera_safe_zones [true/false]*
chimera_simple_score_screen	Get or set whether or not to use a simplified in-game score screen. Syntax: *chimera_simple_score_screen [true/false]*
chimera_split_screen_hud	Get or set whether or not to use Halo's split screen HUD. Note: This may cause potential crashing issues on HAC2. Also, the health and shield bar is broken on stock Halo. Syntax: *chimera_split_screen_hud [true/false]*

Credits

These people were invaluable to the development of Chimera:

Kavawuvi	Mod development and creation; original documentation (Hi! It's me!)
Yumiris	Markdown documentation
Btcc22	Halo Anticheat 2 development; HAC2 was a source of inspiration for Chimera's development. HAC2's signature scanning code was also vital for Chimera's existence. Get HAC2 at http://blog.haloanticheat.com/
Oxide	Phasor development; Phasor had several useful signatures of Halo that proved useful for various things in Chimera. Get Phasor's source code at https://github.com/urbanyoung/Phasor
Wizard	His addresses and offsets file saved a lot of time finding things.
GoofballMichelle	Testing; help with interpolation
Tucker933	Hosting Chimera's download file and subdomain
StormUndBlackbird	News coverage of Chimera Discord: https://discord.gg/M6YfcE2 YouTube channel: https://www.youtube.com/user/StormUndBlackbird
Masters1337	SPV3; helped get Chimera a lot of attention. Check out SPV3 at https://www.reddit.com/r/halospv3/
MosesOfEgypt	Lots of math stuff
Halo 1 Hub **aLTis** **Devieth** **...and many others**	Testing

Links

Chimera on Open Carnage   https://chimera.opencarnage.net

Chimera Discord   https://discord.gg/ZwQeBE2

Chimera source code   https://github.com/Halogen002/Chimera