

F/A-18E Super Hornet Configuration Editor

Options

The pages within the Configuration Editor, and the options each contain, are as follows:

General

This page holds miscellaneous options that do not fit into the other named categories. Options tend to relate to broad-ranging game elements rather than specific areas.

In-game Full Motion Video playback mode

Super Hornet contains a number of rendered animation sequences to enhance your enjoyment of the product. This option allows you to select between "full screen" (stretched to your screen size), "window" (normal 1:1 playback, 352 by 288 pixels) or "Disabled" (animations switched off). If the animations appear jerky when scaled to play at the size of your screen then we recommend that you select the "window" option. Select the "Disabled" option if you do not wish to play the animations.

In-game options

Mission planner: When checked, this checkbox allows the Mission Planner window in the Briefing Room (see Manual chapter 4) to be opened. If you prefer not to edit missions at all, disable this option.

G-Force effects: With this checkbox enabled, you will be vulnerable to the effects of gravity when you manoeuvre your aircraft (see Manual chapter 6). Disable the option to remove black-outs and red-outs.

Difficulty level

Selectable from 1 to 12. Drag the slider left and right to decrease and increase the game's difficulty level. As the difficulty level increases, the awareness, aggressiveness and accuracy of the enemy increases.

Avionics

This page lists various features that dictate whether certain avionics systems in the F-18 work in either a realistic mode, or a simplified mode. Disabling all the checkboxes gives a much more realistic representation of the F/A-18E avionics systems, whereas enabling the checkboxes makes the aircraft, and therefore the sim, much more accessible to the trainee. Enable any of the checkboxes to put the corresponding system into its simplified mode. The text alongside each checkbox explains the effect of enabling it.

The manual discusses the avionics as they function in their realistic modes, so here in the following list are the avionics systems that work differently in "simple" mode, what the checkbox changes, and the chapter where you can find full information on these systems:

Avionics option: Enable Master Arm switch on weapon selection

Enabled effect: If the Master Arm switch is in the 'Safe' position, it will automatically be switched to 'Armed' when you select a weapon. Without this option checked, you must perform this essential confirmation yourself.

Full details: Chapters 9 & 10

Avionics option: Radar activation when weight is off wheels

Enabled effect: The radar transmitter will be automatically turned on when your aircraft leaves the ground, saving you the workload of turning it on yourself.

Full details: Chapter 7

Avionics option: Automatic NCTR & IFF check upon air target acquisition

Enabled effect: When you acquire a target via the air radar modes, an IFF (Identification Friend or Foe) interrogation and NCTR (target recognition) scan will be automatically performed, always returning precise details of what the acquired target is, and whether it is on your side. Usually, these systems must be operated manually, and may not report accurate information depending on the circumstances in which you use them.

Full details: Chapter 9

Avionics option: Automatic flap adjustment for takeoff and landings

Enabled effect: The aircraft flaps will be automatically controlled at all times. Without this option checked, flaps only adjust automatically when set to AUTO mode within the standard flight envelope.

Full details: Chapter 6

Avionics option: Automatic 'fence check'

Enabled effect: It is standard operating procedure to turn the Electronic Warfare system on and off when you leave and enter carrier airspace. With this option set, this will be done for you.

Full details: Chapter 8

Avionics option: Enable auto-throttle while autopilot is active

Enabled effect: The autopilot and auto-throttle controller are two discrete systems within *Super Hornet*, but with this option set, throttle-control will be activated automatically when the autopilot is switched on.

Full details: Chapter 6

Avionics option: Enable assisted landings

Enabled effect: With this option enabled, everything you need to do in order to land is done for you, short of pushing the nose of the aircraft up, down, left and right! You airspeed, gear, flaps, hook, avionics options and displays is all handled automatically.

Full details: Chapters 6 & 8

Avionics option: Extended talk-down for carrier landings

Enabled effect: The Landing Signal Officer stationed on the carrier provides landing guidance to pilots flying the final three-quarters of a mile approach to the carrier. With this option set, the LSO will assist you from a much greater distance.

Full details: Chapter 8

Avionics option: Display waypoint information on HUD

Enabled effect: If the HUD display is not cluttered enough for your liking, set this option to have the current waypoint's altitude and speed (shown on the UFCD data display and the MPCD data page) repeated on the HUD, below the altitude and airspeed displays respectively.

Full details: Chapters 6 & 7

Avionics option: Show only enemies on the radar DDI display

Enabled effect: Particular radar modes usually show all the objects they are capable of detecting. However, set this option to restrict the radar to displaying only enemy target returns.

Full details: Chapters 9 & 10

Virtual Cockpit

The page lets you set up the virtual cockpit view mode to your liking. The virtual cockpit is a fully three-dimensional environment with dynamically updating texture-mapping, however, converting the various cockpit displays into 3D textures then mapping them to the relevant 3D displays puts quite a high workload on the CPU and graphics system.

Use the list of checkboxes to select the named cockpit features. Those that are unchecked will not be dynamically updated when you switch the virtual cockpit view.

The final option on this page concerns mouse control within the virtual cockpit view mode. Set or clear the checkbox depending how you want the virtual cockpit view to respond when you move the mouse up and down to look around it.

Visual Detail

This page lets you customise the level of 'eye candy' (special visual effects) your machine can support.

Afterburner effect

This option determines whether you see the afterburner 'flames' when you turn up the afterburners.

Clouds

Depending upon your hardware, displaying the cloud layer in the sky may result in your view from the cockpit being somewhat jerky. If this is the case, disabling this checkbox will give a smoother display.

High-res FLIR/MAV/SLAM image

These three options control the appearance of the in-cockpit infrared video feeds provided by the FLIR, and the AGM-65F *Maverick* and AGM-84E SLAM weapons. With the options disabled, the video signals are displayed in 'rough' low-resolution to help framerate. If you have power to spare, however, enable the options for smoother, high-resolution displays.

Lens flare

The lens flare effect simulates light from a bright object bouncing around inside a camera lens. You'll see this when the sun or moon is on-screen (or just off the edge of it), and when similarly bright objects are visible.

Missile trails

This checkbox allows smoke trails from missiles to be displayed. It is independent of the 'smoke & steam effects' checkbox below. So, if you wish, you can still see missiles a little more clearly even if you've turned off the other smoke effects for performance.

Landscape on ground mapping radar

When enabled as usual, the option allows the radar's Real Beam Ground Mapping mode (MAP) to display its radar map image. If you have performance problems though, you may want to uncheck this option; it will prevent the map being processed and displayed, but you will still see fixed targets on the ground.

Nightvision blindness

Your nightvision goggles can 'white-out' if they are overloaded by bright ambient light. Disable this option if you don't want this to happen.

Shadows

Check this box to add shadows to all of Super Hornet's fixed and moving objects. Shadows add greatly to the feeling of depth and 'solidity' that buildings and vehicles project, but can have a performance impact on slower machines.

Ship wakes

Some nifty texture manipulation lets us simulate the wakes of churned water that are left behind seaborne vessels. You can save the processing and memory this requires by disabling this feature.

Smoke & steam effects

This effect extends to graphical details such as catapult steam on the carrier deck, and smoke & soot from chimneys. Missile smoke is handled by its own checkbox.

Specular highlights

This graphical technique simulates light sparkling off reflective surfaces such as metal and glass. You might want to turn this feature off if performance on your machine is poor.

Vapour trails

This effect refers to the trails of condensation left behind high-altitude jet aircraft and the vortices or 'contrails' that stream from the tips of aircraft control surfaces when high angles of attack cause large disturbances in the surrounding air.

Water splash effect

Objects and debris that fall into water cause splashes and surface perturbation in *Super Hornet*, just as in real life. You can disable this visual effect to reclaim a little texture memory and processing overhead.

Weather effects

Leave this option enabled to see weather effects such as lightning, and reduced visibility caused by rain and snow.

Display

Use this page to choose the specifics of *Super Hornet's* display. Note that some options on this page *cannot be changed from within* Super Hornet. Options affected will be greyed out.

Display adapter

This selection box lists all the available, suitable display adapters (graphics cards) installed inside your machine. Most machines will only list one (the primary display adapter), but if you have added extra cards for better graphics performance, you should be able to select them here. You should always choose the most powerful and full-featured of your available display adapters; the choice also affects the screen resolutions available in the next option.

Super Hornet can use all display adapters that support *Direct3D*, and that provide at least the following basic functions:

- 256x256 pixel textures
- SETCOLORKEY DirectX function

Display resolution

This selection box lists various screen resolutions in which you can choose to run *Super Hornet*. The number of resolutions offered, and their exact dimensions, will vary depending upon the selected display adapter. Technical notes on display resolutions can be found in *Performance Tips*, below.

Visual range

Selectable from 3 to 22 nautical miles. Move the slider to specify how far you can see into the distance and when ground features become visible. *Super Hornet* uses a 'distance haze' effect to obscure the division of ground and sky, so the lower your visual range is set, the closer this haze will be to you. The setting plays a large part in determining how smoothly *Super Hornet* runs on your computer. The faster your PC, the further you will be able to set the visual range. If you have a relatively slow PC then we recommend setting a low figure before experimenting with higher ones.

Micro-texture detail

Super Hornet uses 'micro-textures', textures within textures, to allow the graphics engine to layer in more detail as you move closer to particular surfaces. Use this slider to specify how detailed the texturing should get, and thus how much of your machine's time is spent calculating and drawing that detail.

Mipmaps

MIP-mapping is a technique employed to help stop the 'shimmering' of moving textured objects the further they recede into the distance. Mipmaps are multiple copies of textures, each smaller than the last, that are used to texture map a surface as it changes in size. These different *levels* of the texture provide more choice when selecting elements of the texture to determine the best-looking pixels to draw to the screen.

You can choose from three levels of MIP-mapping:

None

Only one level of texture is held in memory and pixels can be selected only from this. Textured surfaces are likely to shimmer as they move at a distance.

Bilinear

Uses the nearest level of texture to the actual size desired and selects the pixels to draw from a sample of those on the texture level.

Trilinear

Uses the two texture levels nearest to the actual size desired (one bigger, one smaller) and selects pixels by sampling those on *both* texture levels.

Trilinear MIP-mapping looks best, but requires the most processing power and memory for textures.

Oh, and why 'MIP'? It stands for *Multum in Parvum*, Latin for "many in one".

Model Detail

On this page are a number of sliders that let you tune the level of detail you wish to have for *Super Hornet's* drones, or game objects. The F-18E Super Hornet and the USS Ronald Reagan aircraft carrier are both examples of game objects.

The first slider affects the detail of your own aircraft. Whilst the carrier is the largest and most 'polygon-consuming' object in *Super Hornet*, your F-18 is the most intricately modelled, detailed and textured. This results in a beautiful aircraft model, but a quite processor-intensive one, so you can use this slider to determine how detailed you want your aircraft to be. Of course, this only controls the visual appearance of the 3D model itself, and is unrelated to the complexities of the flight model, avionics, etc. If you don't plan to spend much time viewing your aircraft from the outside, or want to get a little bit of extra speed if you do, turn this slider down.

The other sliders control the distances at which the *level of detail* (LOD) of certain objects changes. When you're close to objects, you usually want to see all their details, however, as they recede into the distance it is pointless to keep this detail, and a reduced-detail model can be used to help keep the framerate up. This is what the LOD distance controls.

You can set the LOD distance for the USS Ronald Reagan, the F-18 wingmen, and for all other game drones.

Sound

The distinct groups of sound effects in *Super Hornet* each have a volume slider that you can adjust here. Drag the slider to the volume level you require; when positioned fully left, that sound group will be disabled. The three selectable groups are:

Music

Background music on the front-end menu screens.

Audio FX

Refers to the various in-flight sound effects, including those generated by aircraft and other vehicles, weapons, and also all in-flight speech.

Also included on this page is a checkbox that allows you to enable support for **Hardware 3D Sound**. *Super Hornet* usually calculates 3D sound effects (directional sound, Doppler effects, 4-speaker Surround, etc) by itself, but enable this option if you have a soundcard capable of processing these effects using its own hardware. Doing so will help the performance of the sim.

Make sure that your 3D soundcard supports at least 16 buffers before selecting the Hardware 3D Sound option. If it does not, check to see if a newer driver for the card is available.

Controllers

The options on this page allow you to use your currently configured controllers with *Super Hornet*, or to force the game to ignore them if you wish.

Here, you can enable or ignore your main joystick, your throttle or dual/split throttle controller and your rudder pedals.

About

Finally, the **About** page provides the *F/A-18E Super Hornet* credits roll.

Performance tips and technical information

It was easy in 'the old days'. Not so long ago, if your computer had a fast processor, then you got fast games, it was that simple. Now, though, there's more to it. True, a fast processor will always help, but you're just as likely to need a good, fast graphics card, or lots of quick RAM, or a good motherboard, or - more likely - a compatible combination of all three to get the best out of your machine.

A good, fast CPU is particularly important for *Super Hornet*. Even if you have a blisteringly fast 3D accelerator, the CPU must still calculate the positions of all the graphics, as well as conduct a full-scale war! *Super Hornet* does not use the "3Dnow!" CPU instructions developed by chip-manufacturer AMD, so the sim will generally exhibit better performance on a machine with an Intel CPU than on a machine equipped with an AMD processor.

Also beneficial is texture memory. This is memory on your graphics card, not the stuff plugged into the motherboard, so the more memory your graphics card boasts, the more data it can hold ready for use. *Super Hornet* uses the recent DirectX advancements in dynamic texture-swapping when it runs out of texture memory, but this means that performance can be hit as textures are shuffled backwards and forwards within your machine.

Display resolutions

Many of today's high-performance graphics cards are optimised to work better in high-resolution screen modes. Despite the fact that 'more work is being done' in a large screen mode (there are far more pixels to draw, after all), these optimisations can still make the cards operate far faster (or, at worst, no slower) at a resolution of, say, 1024 x 768 pixels, than at the default 640 x 480 pixels. Experiment with screen resolution and see what works best for your system, you may be surprised to find that you can use a bigger screen resolution than you thought.

One further note about screen resolutions is that *Super Hornet* uses a 'Z-buffer', to aid in the depth-sorting of objects on screen. The Z-buffer consumes a certain amount of memory from your display adapter, therefore if the card does not have a great deal of on-board memory, certain high-resolution screen modes will not be available for selection in the Display Resolution box, even though your card is usually capable of working in these modes.

Effective graphics-performance trade-offs

If you find that *Super Hornet* is unable to perform satisfactorily on your system, then you need to start turning off some of the sim's more 'processor-intensive' graphical features. Here are some suggestions of features to disable, listed in order of the best performance boost for the least graphical loss:

Visual range

As explained earlier, the visual range distance governs how much terrain and sky is shown before the distance haze swallows it up. However, because your field of view is basically an ever-expanding cone, much more terrain must be calculated and drawn at long distances in order to fill the large expanse of your field of view. Ironically, although masses more work is being done to draw the extra terrain, it is so far away, and often viewed at such a flat angle that you can hardly see any details anyway!

If you turn down the visual range, maybe five or ten miles from the maximum, you will gain a lot of performance for perhaps the same number of screen-pixels-worth of terrain graphics. The higher framerate usually offsets the effect of the artificially enclosed environment.

Specular highlights

This is a visual effect used to produce realistic 'shininess' from materials like metal and glass. The direction of light rays from the local light source (the sun, for example) are calculated and the angle at which they strike a particular surface is determined. This information, together with the colour of the light source and the position of the observer, are used to calculate a modification to the colour of the individual pixels of the surface being illuminated.

As you can imagine, all of this takes some time to work out, but in *Super Hornet* provides nice highlights along the metalwork of aircraft fuselages and other vehicle bodywork, glints from cockpit glass, and other similar highlights. Turn these off to regain some processing time and, unless you enjoy sightseeing, you may not notice very much difference.

The MPCD map display

This feature is turned on and off by a pushbutton in the cockpit (described fully in chapter 7 of the manual). The map is a scaled and rotated rendering based on the data that generates the warzone maps that you see in the Briefing Room. This map can be quite intensive to process, especially when zoomed out to show a large area, so leaving it turned off could be a preferable option. All MPCD symbology is displayed regardless of the status of the map.

Object levels of detail

The sliders provided on the Model Detail page let you bring closer the range at which objects are drawn at their fullest level of detail. The more complex an object is, the more time must be devoted to calculating its shape and drawing it on screen, so if you can make do without seeing every handle, flange and protuberance until you're very close to its owner, then your overworked CPU will thank you for it.

There are many other individually selectable options within *Super Hornet*, most of which affect the performance of the sim in very small ways or, in some cases, negligibly. It is always worth experimenting, however, to see what effects you are willing to sacrifice to gain some extra framerate. It is unfortunately true that some hardware combinations will perform some tasks better than others, or worse, and that some combinations of visual effects will impact upon certain hardware, and not on others. Experiment with the options to find a balance that is right for you and your hardware.

