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SYSTEM REQUIREMENTS

Supported OS: Windows® 98/Me/XP/2000 (only)

Processor: Pentium® III or AMD Athlon™ 1 GHz (Pentium 4 2.4 GHz recommended)

RAM: 512 MB (1 GB recommended)

Video Card: DirectX® 9 compliant w/64 MB RAM (128 MB recommended)
(see supported list*)

Sound Card: DirectX 9 compliant

DirectX Version: DirectX 9 or higher (included on disc)

CD-ROM: 4x CD-ROM or better

Hard Drive Space: 1.1+ GB

Multiplayer: Broadband Internet connection

***Supported Video Cards at Time of Release**

ATI® Radeon™ 7000/8000/9000/X families

NVIDIA® GeForce™ 256/2/3/4/FX/6 families

Matrox Parhelia™

Intel® GMA 925X/915P/915G chipsets

Laptop models of these cards not fully supported. These chipsets are the only ones that will run this game. Additional chipsets may be supported after release. For an up-to-date list of supported chipsets, please visit the FAQ for this game on our support website at: <http://support.ubi.com>.

NOTICE: This game contains technology intended to prevent copying that may conflict with some CD-RW, DVD-RW, and virtual drives.

INSTALLATION

INSTALLING PACIFIC FIGHTERS™

Start your computer's operating system.

Insert the Pacific Fighters CD into your CD-ROM drive. The Autorun menu should appear and start automatically.

Note: If the Autorun menu does not automatically appear, double-click on the My Computer icon on your computer, and then double-click the icon that corresponds to your computer's CD-ROM drive. The Autorun menu should now start. If the file directory on the CD-ROM comes up instead, find the Setup.exe icon and double-click on that.

Click the Install Pacific Fighters button. The CD will walk you through each step of the installation process.

After you have finished installing the game, you can select Pacific Fighters from your computer's Start menu or double-click on PF.exe in the installed directory. Either will start the game.

Note: IL-2 Sturmovik, IL-2 Sturmovik: Forgotten Battles, and Pacific Fighters are not compatible when playing online.

UNINSTALLING PACIFIC FIGHTERS

In order to uninstall Pacific Fighters, press your computer's Start button and navigate to the Pacific Fighters program group. Click on the Remove Pacific Fighters link. This will begin the uninstall process.

Note: If you've installed Pacific Fighters on top of the IL-2 Sturmovik: Forgotten Battles Ace Expansion Pack, ALL these products will be uninstalled. If you've added patches, add-ons, and other user-made content such as aircraft skins, custom missions and campaigns, or music and sounds, you may need to delete those files manually.

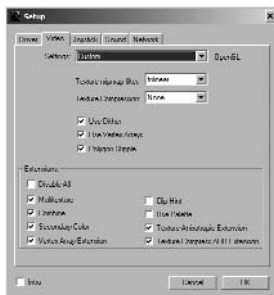
HARDWARE SETTINGS

Once installation is complete, the Setup program starts automatically. This program enables you to select the correct settings for your video driver, video card, and sound and input devices. In order to do this, you need to know at least the basic types of hardware installed on your PC.

VIDEO SETUP

DRIVER: DRIVER AND VIDEO MODE SETUP

These settings are similar to the internal Video Modes dialog.



VIDEO: VIDEO DRIVER ADJUSTMENT

This adjusts the game for correct operation with the appropriate driver. OpenGL/DirectX settings are defined separately. It is recommended that the latest video card drivers be installed.

If you should have any problems, check your driver settings in Windows. These can be found in Control Panel/Display Properties/Advanced.

If the game locks up or if the screen refreshes very slowly, check that other 3D applications or games (OpenGL/DirectX) start up and function properly. We advise against overclocking your video card or processor, or using non-standard settings for them. Otherwise, uninterrupted game functioning is not guaranteed!

Settings: Drop-down menu for video-card selection and setup.

The following are special options in the Settings menu for detailed video-driver adjustment:

- **Safe:** Operating mode with minimum demand on the driver (the lowest quality and speed).
- **Default:** Operating mode with average demand on the driver.
- **Custom:** Detailed adjustment (at your own risk).
- **Texture mipmap filter:** Regulates quality of texture filtering.
- **Texture compression:** Saves considerable memory (the highest quality is obtained with S3TC).

- **Polygon stipple:** Emulates shadow transparency in the absence of a stencil buffer.
- **Dither:** Controls dither mode for 16-bit modes.
- **Use vertex arrays:** Reproduces geometry via vertex arrays.
- **Disable API extensions:** Forbids the use of video-driver extensions.
- **Multitexture:** Can be used for multitextures.
- **Combine:** Improves texture combining.
- **Secondary color:** Can be used for fog and lighting.
- **Texture anisotropic extensions:** Enables anisotropic texture filtering.
- **Texture compress ARB extension:** Enables S3TC compression.

VIDEO MODES: CHOOSING VIDEO MODES



Driver: Choose between DirectX and OpenGL drivers. Choose the driver for your video card that renders the best speed and quality.

Resolution: Choose the screen resolution and color depth. Low resolution (e.g., 800x600x16) is recommended for earlier video cards; 1024x768x32 and higher should only be used on newer cards. This setting has the greatest effect on quality and frame rate.

Windowed/full screen: Switch the main game display between windowed or full-screen mode. Only full-screen mode is currently recommended.

Attempt stencil buffer: Utilize stencil buffer. The stencil buffer is used to make shadows translucent, etc. It mostly works in 32-bit modes. It often produces a dramatic drop in the frame rate on a number of older video cards. Recommended for GeForce3.

Apply: Apply new settings and return to the previous menu.

Back: Return to the previous menu.

VIDEO SETTINGS: GRAPHIC SETTINGS

This dialog box is used to define quality and efficiency. Results depend on the video settings in the Pacific Fighters setup (i.e., maximum quality is achieved with maximum video settings and when your video card supports a maximum number of options).

Simple: Move to simplified settings.

Very low/low/medium/high/excellent settings: Choose overall quality.

Apply: Apply new settings.

Back: Return to previous menu.

Custom: Go to detailed settings.

Visibility distance: Visibility distance for objects.

Objects lighting: Quality of object lighting.

Objects detail: Detail of objects.

Landscape lighting: Landscape lighting and shadows from objects.

Landscape detail: Landscape detail (forest/trees/terrain/geometry).

Cloud detail: Cloud visualization distance (you can prevent their complete shutoff in network play).

Perfect mode of landscape detail using custom settings: Special quality mode currently used for high-polygon-count models of landscape and special hardware shader effects (water, trees, etc.). Only for shader feature-compatible hardware like GeForce3+, Radeon 8500+ (latest WHQL drivers recommended). Be sure to turn on 32-bit color and depth modes with 8-bit stencil.



NOTES ON FLICKERING AIRFIELDS

If you experience flickering airfields when they are viewed from high altitude, try the following.

Open the conf.ini file and add the following two lines to the OpenGL section there (or modify the existing lines if they already exist):

```
[Render_OpenGL]
```

```
PolygonOffsetFactor=-0.15
```

```
PolygonOffsetUnits=-3.0
```

NOTES ABOUT TREES

For the highest-quality trees to render on your machine you must meet the following requirements: video card with no less than 128 MB of RAM, and BIOS AGP memory (aperture size) set to no less than 128 MB. Recommended video cards for the option are GeForce 4, GeForce 5600, ATI Radeon 9700, and newer.

To see the high-res trees in towns, make sure you're running the game in Perfect mode. In the conf.ini file in the section [Render_OpenGL] change the following line:

```
Forest = 2
```

to

```
Forest = 3
```

To disable the trees, change the parameter back to 2.

Note: The highest-quality graphics setting for trees is highly dependent on your graphics card's capabilities, and is only supported with the latest graphics drivers from the manufacturer. If you have less than 128 MB of RAM on your video card, expect blinking triangle artifacts to appear on NVIDIA cards; on ATI cards, you may see trees rapidly change their color and/or shape as you approach them.

WATER

(These additional features will only work on ATI 9500 and GeForce FX and later video cards that support Shader 2.0.)

We've added the following new user options to the conf.ini file, which control the water quality:

- **Water = 0:** Fastest water, without ground reflection.
- **Water = 1:** Normal water; ground and cloud reflections, cloud shadows.
- **Water = 2:** Perfect water; same as Water = 1, plus wavy ground reflections and weather-dependent wave types.



Master Volume: General level of volume for all sources.

Objects Volume: Relative sound effects volume.

Music Volume: Relative music volume.

Voice Volume: Relative volume of voice messages and network telephone.

MUSIC PLAYBACK

Music in the game is activated via the Play Music switch in the Sound Setup/General menu.

The music volume is adjusted using the Music Volume control in the General menu.

Turn the music on or off for any given gameplay episode in Sound Setup/Music menu:

Play Takeoff Tracks: Play music during takeoff.

Play In-Flight Tracks: Play music while in flight.

Play Crash Tracks: Play music when damaged.

You can add music files at your own discretion via Samples/Music/Directory. The music should be in Windows WAVE-file, MPEG 1.3 format. The files for playback are chosen at random.

NETWORK VOICE COMMUNICATION

Tune the network telephone in the Sound Setup/Radio menu:

Voice Communication: Enables the telephone.

Mic Input Level: Adjusts the level of input from the microphone.

Transmit Mode: You can choose between two modes of telephone transmission via the Transmit Mode pop-up window:

- **Voice Activated** – Transmission will be enabled automatically when a microphone signal is detected.
- **Voice-Activated Sensitivity** – Allows you to adjust the input signal.



Press to Talk: In this mode, transmission is enabled by pressing a button, which you can define in Controls (Controls/Misc/Radio Mute key. By default – F12).

Test: You may also test your microphone using the Test button. An indicator will alert you to the arrival of transmissions and display the Mic Input Level.

Voice Volume: Adjust the volume using the Voice Volume switch in the Sound Setup/General menu.

Selecting a Channel: You can select a channel for communication in the chat window. Only players using the same channel can hear each other. If you enter "." (dot) in the text-box window, a list of channels will appear at the bottom of the screen. You can use this list to select your desired channel by pressing the up and down arrows or by entering the channel number. The channel number and name are followed by the number of players in that channel (indicated in brackets). The current channel is highlighted in a different color and has a "*" symbol.



ADJUSTING THE SOUND IN WINDOWS

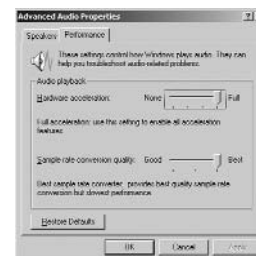
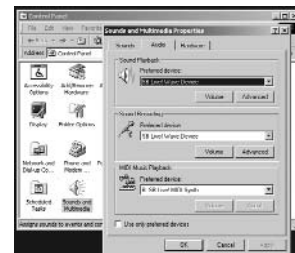
DirectX sound settings in Windows can be found in the Control Panel/Sounds and Multimedia/Audio dialog box. (Sounds and Multimedia may simply be called Sounds in some versions of Windows.)

To adjust the sound hardware acceleration, choose Sound Playback/Advanced (see below).

If you have several sound devices installed (for example, a chip on the motherboard and a separate card), choose the one you prefer in the Preferred Devices list and select the Use Only Preferred Devices option.

In addition to this dialog box, your sound card may have additional adjustment options.

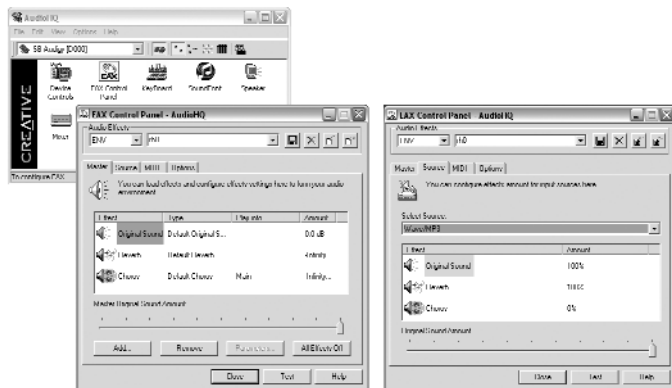
Choose the sound device you are using in the Speakers dialog box.



Choose the Hardware Acceleration/Full position of the switch in the Performance dialog box. If this creates problems with the sound, select Basic Acceleration or, as a last resort, Emulation Only.

TROUBLESHOOTING

Incorrect Sound: If you experience any problems with hardware acceleration, please make sure that your sound card is properly configured, as in-game sound depends on EAX™ settings. For example, if you have a Creative Labs sound card (Live or Audigy), check the EAX Control Panel settings as shown in the images below.



No Sound: Make sure the sound is not switched off in the Sound Setup/Audio menu. Make sure the volume is not muted in the Sound Setup/General menu.

No Music: Make sure the volume is not muted in the Sound Setup/General menu and that music is selected in the menu.

No Network Voice Communications: You can hear other players' messages in Windows NT 4.0, but in most cases, you can't talk. This does not hold true for Windows 2000. Make sure your telephone is switched on (see above).

JOYSTICK SETUP

Pacific Fighters supports a vast range of joysticks by different manufacturers. Select Use Joystick in the setup program. Press the Properties button and make sure that the joystick drivers have been installed and work correctly with your joystick. If the setup program detects your joystick's Force Feedback feature and displays it, you can enable or disable this feature. Read about other features and the control settings in the Controls section of this manual.

AIR COMBAT TACTICS

A fighter pilot's goal is rather simple: Find enemy planes and destroy them before they can do any damage.

However, once you look deeper into air combat, you will realize that it's not that simple. The short phrase above actually assumes four things:

1. You notice the enemy in time.
2. You can get into firing range.
3. The enemy is destroyed by your gunfire.
4. You live to tell about it.

Each one of these tasks is complicated enough in itself; together, they make success questionable at best. Let's look at each task in a little more detail.

FINDING THE ENEMY

This is difficult, as your eyes are your only instrument for finding the enemy. You have to be on constant lookout for enemy planes, from the moment you take off to the moment you land.

GETTING CLOSE

It's not always a good idea to head straight for the enemy as soon as you notice them. It's better to take the time to profit from sighting the enemy early and put yourself in the most advantageous position for attack. Take some time to gain some altitude and air-speed while flying parallel to the enemy. Even if the enemy planes are fighters and they're heading straight for you, spend some time preparing for combat while they're outside the firing range.

If you are up against enemy bombers, however, you must often trade surprise for speed. What good is coming in unnoticed if the enemy has time to bomb their primary objective? This is especially true when defending your carrier. All considerations should be thrown out the window, and placing that bomber in your crosshairs and pressing the trigger should be your only goal in life.

If the situation is less urgent, relax. The bombers are slow targets, and they're not going anywhere. Get above them, gain some airspeed, and position yourself for an accurate firing pass while you're well outside the range of their defensive guns.



Same goes for enemy fighters. If you are defending friendly bombers, head straight for the enemy and prevent them from attacking the bombers. If you are not defending anything, then gain some altitude and airspeed and try to cool down your engine, if you can, to prepare it for the stress of dogfighting.

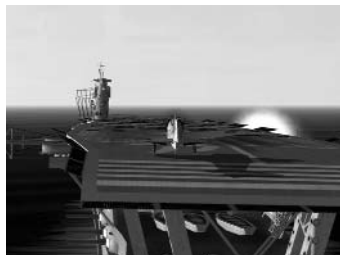
DESTROYING YOUR TARGET

This is the most difficult part of air combat. Even the most qualified marksman lying on the ground with a scoped rifle can miss a fixed target. Now imagine firing at a small, maneuvering target hundreds of meters away, while both you and the target are flying at 300 miles per hour.

It's not impossible, but it is very difficult. Many young pilots return from their first missions with empty ammo stores, but not a single hit on an enemy aircraft. Only constant practice and unwavering confidence can help you score your first combat kill.

GETTING OUT

Success in this task depends largely on how well you fared in the previous three. If you missed an enemy target in the first stage, you risk getting shot out of the sky by an unseen opponent. If you came in clumsily and ended up in the midst of an enemy formation, you're as good as dead. And if you missed your target when you fired at it – you have yet another angry pilot in pursuit.



Summary:

- **There is no skill more important to a pilot than destroying his target.**

All the aerobatic wonder-moves in the world are of no use if you can't get a kill when the time comes. All that matters in combat is being able to get in quickly, shoot, and get out even more quickly. If you can't destroy your target, you're no good as a fighter pilot.

- **Always look for the enemy!**

Most shot-down pilots never saw what hit them. Whether you're by yourself or with a hundred others, never stop looking around!

- **Protect Your Mates!**

Whatever you do, destruction of enemy aircraft is always secondary to protecting friends. No enemy target is as important as the life of your mate!



DESTROYING YOUR TARGET

There are two main parts to this task: maneuvering for the kill, and shooting the enemy down.

Maneuvering for the kill has been the topic of many hefty books; we cannot possibly explain it in sufficient detail within this manual. However, the main principles remain simple:

- You must keep your guns on your target long enough to destroy it.
- You should never hesitate to act on a hunch, however unconventional it may be. All tactics were invented by pilots in the heat of a dogfight. A fighter pilot who does everything by the book becomes predictable, and therefore vulnerable. Fight using your brains, and always improvise!

AERIAL GUNNERY

Many factors work against you when you fire.

First of all, your bullets don't fly in a perfectly straight line. Your plane shakes in the air, your guns recoil and twist, Earth's gravity pulls the bullets toward the ground, and the air slows them down. All of these things combine to create something called bullet dispersion. A bullet stream from one machine gun at 50 meters will fit into an area 50 times as small as the same bullet stream at 500 meters. This makes long-range fire extremely difficult. Keep in mind that bullets lose power over distance. Using the same example, a bullet at 50 meters can puncture light to medium armor, but at 500 meters it may even bounce off human skin.

Secondly, many targets you encounter will be armored. However, no airplane has the same thick armor all over. Even the heaviest armored airplane has some weak spots, where just a few hits can be enough to bring it down.

Gunnery Practice Suggestions:

- Set up flights of friendly bombers in the Quick Mission Builder.
- The larger your target, the better. The B-17, B-24, and B-29 bombers are great targets for beginners, and the B-25 and G4M Betty are ideal for the next step.
- Slow the game down with the [key when you're ready to fire. This will help you learn to aim and maneuver.
- Don't worry if you're firing at friendly planes. Because they are friendly, their defensive gunners don't fire back at you.
- Once you begin to hit your targets easily, set up the same large targets as hostile. Try shooting them down as they take defensive action and fire back at you.
- Only after you're sure you can destroy an enemy bomber, try to go against fighters. It takes a great deal of skill, patience, and determination to shoot down an enemy fighter.
- The most common mistake young pilots make is firing from too far away. You have limited ammunition in your plane, and there's nothing worse than expending all your



cannon shells when you're 500 yards away and then running out of ammo just as you are in a perfect firing position. If you're not sure you can hit your target, don't press that trigger!

- Review the track of your flight afterwards. Analyze your performance, find mistakes, and correct them in your next mission.

Summary:

• Know your enemy's weak spots.

Learn the capabilities of all enemy planes: their blind spots, defensive fire arcs, and performance relative to your aircraft. Only by setting your strengths against your enemy's weaknesses can you be effective in combat.

• When you think you're too close – get closer!

Bullet dispersion and power loss mean that long-range shots are ineffective, unless you are very lucky. Press the trigger only when you're sure to hit your target with every bullet! Since this is only possible from point-blank range, open fire when your target fills your whole windscreen.

• Practice!

It would be nice if following these principles could guarantee you a kill every time you press the trigger. Unfortunately, it isn't so. Prepare to miss a lot. Only by dedication and taking a steady, structured approach to training can you become a true ace.

As noted above, it's impossible to cover all aspects of aerial combat in one section. We will not attempt to do that; rather, we'll show some common situations and try to illustrate the most fundamental principles of fighter vs. fighter combat. We will only cover one-on-one scenarios here. Multiple-aircraft engagements are extremely complicated, and success in them is directly based on your ability to win one-on-one engagements.

Most critical to a pilot's survival is his airspeed. If you're slow, you can't maneuver well and you can't escape enemy attacks. The worst position for a fighter is low and slow, chugging along at tree-top level. When you're there, all you can do is cross your fingers and pray. At all times during an engagement, climb! This should become your strongest instinct, to gain altitude whenever you have a chance. Stay above your opponent, and you will hold the advantage.

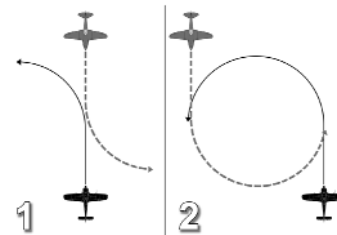
We will assume the most common scenario: You and the enemy notice each other from a distance at the same time, and are going straight for each other's throats.

Correctly approaching during this stage is key to your success or failure. No amount of skill can guarantee you a kill in a pure head-on pass, and we would not recommend leaving this to chance. Committing to a head-on attack is like tossing a coin in the air to determine who gets shot down.

However, you can greatly increase your odds even before the initial pass is completed. Look at this diagram, illustrating the importance of separation between your flight paths:

In case one, the two fighters approach head-on, and both choose to turn left. It will be at least two full turns before one can possibly get his guns on his target.

In the second case, the fighters pass each other at a diameter of exactly one turn circle. This brings them onto each other's tails very rapidly.



We recommend the following approach path: fly straight towards your enemy. When you're about three or four firing ranges away, quickly break away until you're almost in range, and then turn back on a path parallel to your enemy's. Of course, flight path separation does not need to be horizontal; it can be vertical as well, or both.

You can increase your odds even more by executing something called a lead turn. Unlike in the diagram above, you turn before you pass your opponent. If a lead turn is executed correctly, it can get you on your opponent's tail in as little as half a turn circle.

After the first pass, everything depends on relative skill! Know your plane's capabilities, and respect your adversary. If your plane turns better than the enemy's, follow him into a turn and try to catch up with him as soon as you can. Forget everything else: chop your throttle, drop your flaps, even your gear! If your plane is faster than the enemy's, climb up to where he can't follow you, and then dive down with your guns firing!

Summary:

• Speed is life.

There is no more important principle in combat than this one.

• Your first burst should be your only burst.

"Spray and pray" will only amuse your opponent. Make every shot count!

• Stay alert!

Where there's one enemy, there are always more nearby! When you're lining up on that perfect pass, look behind you and check for your target's wingman.

Do you think you're getting there? Great – it's not all that complicated, is it?

WHAT TO DO IN CASE OF DAMAGE

Sooner or later, it's bound to happen – unless, of course, you've activated the Invincibility option in the Difficulty Settings menu. You will be hit by enemy fire, flak, machine guns, or cannons, and your plane will be damaged. You will notice that maybe the steering isn't working properly, that the engine sounds strange, or maybe you'll even see black oil splattered on the windscreen. At any moment, your engine could stop, burst into flames, or even explode. What can you do? Well, that depends.



The first thing you should do is to get a clear idea of how serious the damage actually is and who perpetrated this awful deed. It goes without saying that this analysis has to take place quickly, as an enemy fighter may be moving into position right behind you. If this is the case, then you have unfortunately already made the serious mistake of not paying attention! Try to escape your pursuer with defensive maneuvers if the damage to your plane will let you. Perhaps you can swerve your way out of danger or even shoot your opponent down.

Whatever action you take, you should make certain that you pay close attention to your instruments, in particular the displays for oil pressure, engine temperature, and coolant. What do these displays tell you? Is the engine temperature rising? If so, the engine could give up the ghost at any moment. Hopefully, you are still flying at an adequate height. Cut back on the throttle to take the pressure off the engine a little and make a flat descent in order to maintain speed. Just in case, you should keep an eye out for a suitable place to make an emergency landing and make preparations for bailing out. Pull out all the stops in trying to get back to base. Good luck!

If the plane can only be controlled with difficulty, you may have been hit in the hydraulics system, or the wires of your steering mechanisms may have been damaged. The control surfaces themselves may also be damaged. Try setting course for your home airfield – you can forget about combat for the time being and try to make it back to base. Steer carefully, because if you end up stalling you may not be in a position to do anything about it.

If you manage to make it back in a somewhat-battered plane, you must make sure that your landing gear is still working before trying to land. Pay attention to the monitoring lights and switch to an external view via the F2 key if necessary. If the landing gear cannot be lowered automatically, you may have to do it manually. Make sure that you are familiar with the appropriate keys (see the Training section of this manual). The landing flaps may also be damaged. If this is the case you will touch down at a higher speed – be careful! And pay more attention next time, ok?



ENGINE AND CREW MANAGEMENT

CONTROLLING MULTI-ENGINE AIRCRAFT

When flying a multi-engine aircraft, you have the option of controlling its engines separately. You may choose which engines you wish to control using the Engine Selection keys found in the Controls menu. Your current engine controls (e.g., throttle, prop and mix positions, radiator setup, etc.) apply only to the engine(s) you have selected. Note that if you have enabled the Separate Engine Start key in the Difficulty settings, you

will not be allowed to start all of the engines simultaneously and will have to select them for ignition one by one.

ADVANCED ENGINE CONTROLS

The engine control routines have been reworked and expanded for Pacific Fighters; you now have more detailed control over your engines, with more realistic feedback. However, some tasks (like the engine start-up procedure) remain simplified and can usually be performed with a single keystroke.

Throttle Control: Notice that on many aircraft you may push the throttle farther than Combat Power mode (100%) to force your engine into the War Emergency Power (Emergency) mode (up to 110%). Note that there is no Power 110 keyboard shortcut, so you'll have to use the Increase Engine Power control key (keyboard + by default) to gain War Emergency Power (Emergency) when controlling throttle with the keyboard.

Emergency Power: Many aircraft modeled in the game have special systems allowing an engine to gain advanced performance over a short period of time (as in the notorious nitrous oxide injection system). The principles of operation vary for these systems, but for all aircraft that are equipped this way, their systems may be engaged using the Boost (WEP) On/Off control button.

Supercharger Control: High-altitude engines are equipped with superchargers or turbochargers of different design. While many of these are automatic, others have manual controls. In aircraft with manual controls, you have to use Supercharger Next Stage and Supercharger Previous Stage to adjust the supercharger gear as your flight altitude changes. Most of the chargers are two-stage, and only require shifting up one gear when passing altitude at around 2,500 meters. Note: This function will not work for planes that have fully automatic pitch or superchargers with multiple stages.

Mixture Control: Most of the engines allow the pilot to adjust mixture richness manually. While the nominal position of this control (Auto Rich) should provide normal engine operation in all flight configurations, some input may be required at high altitude or when the engine has taken damage in battle. It is common to use increased (Full Rich) setup during takeoff or as a means of emergency power.

Radiator Control: Pacific Fighters has advanced radiator control. In Advanced Engine Controls difficulty mode, you now have five cowl or radiator-flap positions to provide more accurate control. Plus, on certain aircraft, you may put the radiator flap in automatic mode.

Propeller Pitch Control: You can control propeller pitch with the numerical keys, setting them to a specific value, or by using the Increase Propeller Pitch and Decrease Propeller Pitch control keys for a more convenient and accurate propeller control.

Fixed Propeller: Some older airplanes found in the game are equipped with simple fixed-pitch wooden propellers. Those, of course, have no automation or control, and require no pilot input.

Variable Pitch Propeller: These propellers have variable airscrew blade incidence. In this case, Propeller Pitch Control directly affects the airscrew blade pitch and needs to be adjusted constantly as the airplane's speed changes. Note that setting the blade pitch too low may result in the engine over-revving.

Some aircraft used to have special equipment providing automatic propeller control; however, the pilot could input changes of pitch and adjust blade angles manually whenever necessary.

Constant Speed Propeller: The most advanced, yet most common propellers in WWII-era aircraft were constant speed propellers. With these, the pilot uses the Propeller Control to set his desired engine RPM, while the propeller governor attempts to maintain the set RPM.

Aeromechanical Screw: This type of airscrew balances aerodynamic forces and propeller inertia to maintain optimal blade incidence. It requires no input from the pilot.

Propeller Feathering: Some propellers allow you to "feather" the blades – or turn the blades parallel to the airflow to reduce drag. This becomes essential when an engine fails in-flight.

Magneto Control: Piston-aviation engines use magnetos to drive the spark plugs. There are two magnetos, left and right, and normally both operate. However, you may set the active magneto using the Magneto Next and Magneto Prev. control keys, or switch them off to shut down the engine.

Extinguisher Control: A number of aircraft, mostly large multi-engine planes, had built-in fire extinguishers in the engine compartment. On aircraft equipped with extinguishers, you may fire them on selected engines using the Fire Extinguisher control key. However, this isn't guaranteed to put out the engine, and the extinguisher has only a limited number of charges.

MANNING MULTI-CREW AIRCRAFT

Pacific Fighters includes several types of multi-crew aircraft. One type is level bombers, which the user needs to operate with bombsights. Here is the general information for such planes.

SINGLE-PLAYER

You may change positions within your aircraft using the Pilot or Gunner Position key (C by default). You can also assign up to 10 control keys (Jump to Cockpit #N) in the Controls menu to make navigation in multi-crew aircraft quicker: pressing a Jump to Cockpit #N button puts you directly into that position.



When you leave one cockpit for another, the computer AI usually takes control of the position you have left (i.e., it flies the plane when you man the rear gun and operates the rear gun while you control the plane). You may disable this option using the Toggle Level Autopilot button. In this case, you'll have to toggle the computer AI controller manually for any and every position you jump into. This enables you to control your aircraft (using your joystick) and operate a gun turret (using your mouse) at the same time.

MULTIPLAYER

Most of the single-player cockpit navigation and AI automation options work in Multiplayer mode. However, some restrictions apply.

In Multiplayer mode, navigation and flying autopilot cannot be engaged, leaving the responsibility of flying the aircraft to the human players. In Co-op mode, players who have taken gunner seats in the Briefing menu may only jump to gunner positions in their aircraft. However, the pilot of the plane can move to any cockpit of his choice (although he still is responsible for controlling the aircraft).

USING THE BOMBSIGHTS

To operate the bombsights, you must define the bombsight control keys in the Controls menu. These control keys are specific to certain bombsight models, and not all of them apply to all models.

Some bombers in Pacific Fighters are equipped with bombsights that automatically drop bombs when the aircraft reaches the ideal position as defined by the settings you input into the sight. Other level bombers use a more primitive bombsight type, which does not provide a high degree of accuracy and requires you to manually hit the bomb-release switch. Please refer to the Readme file for detailed information on the variations in bombsights installed in our flyable bombers.

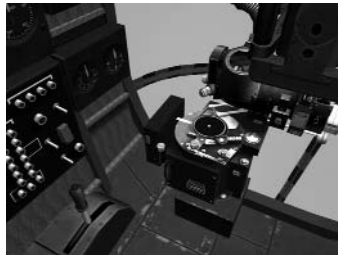
USING THE SIMPLE BOMBSIGHT

Prior making the bomb run, bombing altitude and aircraft speed must be entered into the bombsight. The true distance from the target to the plane can be entered using the Increase Bombsight Altitude and Decrease Bombsight Altitude keys. Input the plane speed using the Increase Bombsight Velocity and Decrease Bombsight Velocity keys. Note that the true (not indicated) airspeed must be set (it can be obtained from the speed gauge when in No-Cockpit View mode).

Use the Toggle Gunsight control key (Shift+F1 by default) to lean to the bombsight lenses. The intersection of the central vertical line and the horizontal curved line form a crosshair. The bombardier must release the bombs manually when the target is under this intersection.

USING THE ADVANCED BOMBSIGHT

Before you make the bomb run, the bombing altitude and aircraft speed must be entered into the bombsight. The true distance from the target to the plane can be entered using the Increase Bombsight Altitude and Decrease Bombsight Altitude keys. The plane speed is entered using the Increase Bombsight Velocity and Decrease Bombsight Velocity keys. Note that the true (not indicated) airspeed must be set (it can be obtained from the speed gauge when in No-Cockpit View mode).



After the bombsight is set up, the bombardier has to acquire the target with the bomb-sight crosshair. Tap Toggle Gunsight (Shift+F1 by default) to lean to the ocular. Use Increase Bombsight Distance and Decrease Bombsight Distance to adjust the bomb-sight viewing angle to the full-forward position (85 degrees) and scan the horizon for the bomb run target. The crosshair automatically stabilizes and levels within 30 seconds, but tilting the aircraft throws out the sight tuning – the bombsight turns off the crosshair lightning, and you have to level the plane and wait for the sight to recover and stabilize again; the crosshair lightning then switches back on.

After starting the bomb run, a plane may not be banked more than 4.5 degrees or the bombsight will lose stability. Only slight adjustments in direction are allowed.

Use the Increase Bombsight Distance and Decrease Bombsight Distance keys to adjust the crosshair position. When the crosshair is on target, turn on targeting computing using the Toggle Bombsight Automation control key. The bombsight will begin tracking the target. Be sure that the target remains within the reticle cross, and correct the crosshair movement with the Increase Bombsight Velocity and Decrease Bombsight Velocity keys if necessary (you may not use the Increase Bombsight Distance and Decrease Bombsight Distance keys for this). The bombs drop automatically when the plane reaches the proper position for a bomb drop.

ADDITIONAL FEATURES

CARRIER-BORNE AIRCRAFT

Aircraft which take-off from and land on aircraft carriers usually have two unique features that land-based aircraft do not have: arrestor hooks and folding wings.

Arrestor hooks are what actually allows you to come to an abrupt stop on the carrier deck without falling over the other side. If your aircraft is equipped with an arrestor hook, it will automatically be extended when you lower your gear, and retracted when you raise it.

Folding wings are used to minimize the space an aircraft takes, and thus pack more planes into the carrier's limited hangar space. You will need to bind a key in the Controls section to the Wings Fold command in order to use the feature. Pressing the key alternates between folding and unfolding your aircraft wings.

Since detailed hangar management is not modeled in Pacific Fighters, operating folding wings serves little functional purpose in the game. However, note that when large

numbers of aircraft start on the carrier deck, those in the rear start with their wings folded up. If you did not start in the lead flight, check your wings. There's nothing more embarrassing than taking off with your wings in the Up position.

OPENABLE CANOPIES

Most of the new aircraft in Pacific Fighters allow you to open and close their canopies. You will need to bind a key in the Controls section to the Open Canopy command in order to use the feature. Pressing the key alternates between opening and closing your canopy.

Opening the canopy increases visibility somewhat, but it also creates drag and thus reduces your plane's performance. We highly recommend entering combat with your canopy closed.

NOTE: If you use the standard Bail Out command (Ctrl+E by default) when your canopy is open, the canopy will not be have to be jettisoned and thus in most cases the bail out will happen somewhat faster.

INDIVIDUAL PAINT SCHEME OF AIRCRAFT, SQUADRON INSIGNIA, AND NOSE ART

When playing Pacific Fighters, you can use your own paint schemes for all the aircraft you use. In online games these paint schemes will be observed by all the other players who are playing with you.

Individual paint schemes are created using Void.bmp files that are placed in the directories corresponding to each aircraft.

For example, in the Paintschemes/Skins/A6M2 directory, load the Void.bmp file into the image editor and paint it as you like. You can assign the completed BMP file a name of your choice. Save it in Windows BITMAP 256-color format. Copy the completed BMP file into the directory corresponding to your chosen aircraft.



If you want to create a new squadron insignia for your favorite squadron, follow the instructions below. Note that not all aircraft in Pacific Fighters display squadron insignia.

1. Create a 64x64 or 128x128 pixel squadron insignia using your favorite image editor.
2. Save it in Windows BITMAP 256-color format.
3. Copy the completed file in the Paintschemes/Regiments directory. You can use a filename of your choice, for example, the name of your squadron.
4. Using Windows Notepad, create a text file without the .txt extension with a name corresponding to that of your graphics file. You can also copy the filename from those included in the list of existing files and rename it. Specify the country and the name of the squadron in this file. We recommend using one of the existing files from our list to see how the information is stored in order to avoid mistakes:

- **country** = US (country, a standard double-letter international abbreviation such as US, JP, GB, etc.)
- **id** = ZZ (squadron identification, two characters, used for some bombers)
- **gruppeNumber** = 1 (group number, only used for German aircraft)
- **short** = VMF 214 (short/abbreviated name of the squadron)
- **info** = Black Sheep Squadron - USMC (full name of the squadron)

If you want to create new nose art for your own or AI aircraft (Allied planes only), follow the instructions below:

1. Create a 512x256 pixel nose art graphic using any image editor.
2. Save it in Windows BITMAP 256-color format.
3. Copy the completed file to the Paintschemes\Noseart subfolder of your Pacific Fighters directory. You can use a filename of your choice.

From the Mission Briefing multiplayer menu or Advanced Settings in the Quick Mission Builder, select Arming and choose your new paint scheme, squadron insignia, or nose art before you take off. After that, you will fly with the new paint scheme on your plane. If other players online have their Skin download option set to On, they will all be able to see your aircraft's new paint scheme.

INTEGRATED FPS METER

This feature is activated and deactivated via a console command. To bring up the command console, press the "~" key to bring up the chat window, then the ">" key to enter the console mode.

The command syntax is:

`fps [START|STOP] [SHOW|HIDE] [LOG <sec>]`

The START or STOP keys are used to make the meter start or stop working. When stopped, the meter prints out the FPS statistics accumulated up to that point.

SHOW or HIDE indicates whether to show the FPS stats in the upper part of the game screen.

LOG sets the interval (in seconds) at which the FPS stat will be printed. LOG 0 disables printing. To start accumulating stats silently, use `fps START HIDE LOG 0`. You now may use `fps STOP` to view your average FPS.

ADDITIONAL ADVANCED FEATURES

If you like, you can use additional features, such as:

- No subtitles for pilots' voices.
- No pilots' voices (radio chatter).
- No HUD text messages and warnings.
- No lens flare effects.



- Invert mouse control Up/Down for the rear gunner's position.

How to use them:

1. Using the Windows Notepad, open the `conf.ini` file located in your Pacific Fighters folder.
2. Find the string `[game]` and in it, set the number next to the text variable to your desired value. The only acceptable values are 0 and 1.
 - **NoSubTitles** = x (Subtitles for pilots' voices; 1 = none, 0 = all)
 - **NoChatter** = x (Radio chatter; 1 = none, 0 = all)
 - **NoHudLog** = x (HUD text messages and warnings; 1 = none, 0 = all)
 - **NoLensFlare** = x (Lens flare effects; 1 = none, 0 = all)
3. Find the `[rts_mouse]` section. Here, you can invert the mouse for the rear gunner position (0 = normal, 1 = inverted).
5. Once you have finished your changes, save the `conf.ini` file and start the game.

MUSIC IN PACIFIC FIGHTERS

Sound files should be standard Windows RIFF files (with the `.wav` extension), however, the data format should be MPEG - layer 3, 44100Hz, stereo. You can create such files using various widely available converters. Please be sure the file is in the correct format and has the correct extension; otherwise, it may not play correctly.

You can change music supplied with IL-2 in the intro and the Main Menu. You must copy the new files with the corresponding names into the following directories:

- **Samples\Music\Intro** – Sounds in intro (File name - `intro.wav`).
- **Samples\Music\Menu** – Sounds in Main Menu (depends on the country chosen).

Files for the menu should have the corresponding name:

- **us.wav** – For the Allied side.
- **ja.wav** – For the Japanese side.

If you like, you can also play Pacific Fighters accompanied by music during the actual missions. Choose your favorite music, convert it to the specified format and copy the completed music files into the game folders. The music files played while playing the game should be placed into the following directories:

- `samples\Music\TakeOff` – while taking off.
- `samples\Music\InFlight` – while flying.
- `samples\Music\Crash` – after your plane has crashed.

Except for intro music and in the Main Menu, you can have several music files in each directory. These are played at random. In this case, the file name is unimportant.

TRAINING

This section is intended for beginners who are getting acquainted with flight simulators for the first time. Each training mission is built in such a way that during the flight demonstration, text explaining the pilot's actions appears on-screen.

Even if you are not new to flight simulations, we still recommend looking through the training mission at least once. Many features in Pacific Fighters, especially those dealing with carrier ops, are unique to this game.

The missions are arranged by country and sorted by difficulty level. The easiest tasks to master are at the top, and the lessons get more complex as you go down.

BEFORE YOU START

A brief list of options appears in the Main Menu. The most important of these are:

Pilot Roster: Here you can create (or choose) your pilot for different modes of the game.

Single Mission: Single Mission mode is for missions that do not anticipate career growth.

Pilot Career: Campaign mode. In this mode, your hero accomplishes one task after another, keeps his battle statistics, regularly updates his equipment, and receives ranks and awards over time. In a word, he fights.

Multiplay: Multiplayer mode.

Quick Mission Builder: Quick generator of random missions. We'll take a closer look at the way it operates below.

Full Mission Builder: Mission editor. Just like the Quick Mission Builder, it creates missions, but here the user controls the entire process of creation. It is a more complicated instrument, but also a more powerful one. Please see the Full Mission Builder section at the end of this manual.

Training: Missions for beginners.

Play Track: Pacific Fighters enables you to create tracks. In other words, everything that you accomplish during your task is recorded. This menu option allows you to play back these tracks.

View Objects: Here you can take a close look at all 3D objects modeled for the game and find detailed information on the fighting abilities of military equipment.

Controls: Here you can reassign control buttons and create your own configuration.

Credits: It would be very nice if you pressed this button at least once, out of curiosity.



Hardware Setup: Here you can adjust the settings pertaining to your hardware. With this option, you can optimize your computer's performance by determining the rate of program operation versus the detail of the 3D images.

Difficulty: Includes various realism-related settings. The level of realism in this flight sim can become a problem for beginners. Even fans are divided about this – what some think quite appropriate is deemed unfair and unrealistic by others.

Exit: Quitting the game; sometimes, it is necessary.

Now let's consider each menu item in more detail.

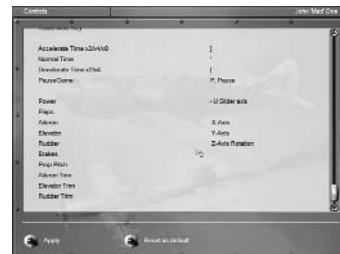
PILOT ROSTER

Pacific Fighters can store information on several virtual pilots simultaneously. When you press the Create button, a new entry appears in the list of personal files. All you have to do is enter a full name and call-sign by clicking in the corresponding fields. Record as many pilots as you like, and then select one by clicking on his name and pressing the Select button. After that, you will be returned to the Main Menu, where the chosen pilot will appear in a special indicator. All individual control settings will be preserved.



CONTROLS

As mentioned above, this reassigns the controls. The Controls menu is a rather long menu that can be scrolled through using the slider on the right. The left side of the menu includes a list of actions (e.g., Release the Chassis); the button initiating the action is indicated on the right (in this example, it is G). If, for some reason, you find that you are not satisfied with the default settings, click on the field where the button is indicated. The field will subsequently be surrounded by a gray frame, and you only have to press the hotkey (or alternatively a mouse/joystick button) that you want to use instead.



You might decide that the previous settings were better. We have devised a Reset to Default button for this purpose, which immediately returns the configuration to its default status.

To adjust HOTAS (Hands-On Throttle And Stick) controls, perform the actions described above with one difference: after you have clicked on the axis you want to assign for your HOTAS, move your preferred device slightly in the corresponding direction.

If you want to quit the menu, press the Apply button. All the changes you made will be activated immediately.

ADDITIONAL IN-GAME JOYSTICK SETTINGS

Find and press the **Hardware Setup** button in the game's **Main Menu**. You are now in the **Hardware Setup** menu. Press the **Input** button. Here you can set up the following features for your joystick:

- Dead Band is used to set a dead zone where small movements of the stick will cause almost no reaction. This feature can be helpful if you are playing a flight simulator for the first time or have the old type of joystick. If you are an experienced flight simmer, we strongly recommend that you set Dead Band in the left position or very close to the left position.
- Filtering allows you to set a digitized filter if your joystick has problems with adequate reaction.
- You can select basic joystick axes and change their profiles by using Fine-Tuning in the special table to adjust the stick reaction curve. Some joysticks need fine-tuning, but most work correctly with our default settings. You can select the axis for fine-tuning in the left combo box.
- To enable or disable the Force Feedback feature, set the Force Feedback switch to on or off.
- If you find that our initial settings were more appropriate than your changes, press the Default button. All the settings will revert to default status.
- Press Back to quit this menu. Any changes made will be applied automatically.

RECOMMENDATIONS

For those who experience difficulties controlling aircraft with the default joystick profile (axis sensitivity curves in the Input menu), we provide sensitivity curves that we found more suitable for most of the modern input devices.

To set up the curves, go to the Input menu under the Hardware Setup in the Main Menu, and adjust the values according the following chart:

Pitch:

0 5 10 17 25 33 43 54 71 100

Roll:

0 3 7 15 25 35 50 66 84 100

Yaw:

0 8 19 29 39 51 62 75 86 100

CAUTION: PAUSE MODE

If you continuously stay in Pause mode (using the P key) for a very long time during a mission (at least 10 minutes or more), the game's performance may be slower once you restart it. The only workaround for this issue is to exit the game and restart Pacific Fighters.

VIEW OBJECTS

There are a lot of 3D objects in the game. When you choose this menu, you immediately access the next menu where all the objects are divided into classes.

- **Aircraft:** All aircraft.
- **Tanks:** Not just tanks, but also self-propelled artillery vehicles.
- **Ships:** Warships, submarines, and fishing vessels.
- **Vehicles and Artillery:** Towed vehicles and artillery.

Having chosen any of the above-mentioned objects, you directly access View mode. Here the list of objects falls into two categories, divided by nationality. Make your choice via the Select Country drop-down menu.

Now choose what you want on the left side of the menu. Once you have done so, a description of the object appears in a large window. By pressing the View button in the lower right corner, you can display its 3D image. You can zoom in or out on this image by pressing the left mouse button. You can also rotate the image by moving the mouse in any direction.

After examining the object, you can return to its text description using the same button (the description under the button will change to Text).

To quit View mode, press the Back button.



PILOT CAREER (DYNAMIC CAMPAIGN MODE)

There are two kinds of campaigns in Pacific Fighters – static branched and dynamic. Static-branched campaigns are simple, pre-designed campaigns that are not affected by your actual performance. Missions in these campaigns are created in the Full Mission Builder and then united into a campaign. You can design a static campaign to your taste and imagination, and take on a mission that is exactly as you want it to be.



Dynamic campaigns are created automatically by our dynamic campaign engine. You select your nation, a squadron, and the planes that you want to fly in every operation. You decide when you want to join the war. After that, the first mission in the campaign is generated and offered to you. When you finish the mission, the results will be processed and another mission generated – and so on, until the end of the war. Missions in dynamic campaigns will never repeat, because the conditions, targets, time of day, weather, opposition, and almost everything else are determined randomly.

In any operation, your forces will advance or retreat. The front line moves historically, but you can speed it up or slow it down to a limited degree. If you destroy an object, it will stay destroyed for whatever time is determined by its nature. Every destroyed plane, friendly or hostile, reduces the total number of planes of this type, making their appearance less likely. Lost trains and transport columns will affect the supply rate. If you kill or capture an enemy ace, he will not appear in future battles.

One of the most important features in Dynamic Campaign mode is your squadron. Every pilot has a name, photo (it is possible to replace the default photo with your own or your friends' photos), rank, medals, sorties, and kills. His skill level is defined by combat experience. Pilots can be killed, captured, promoted, awarded, or transferred. Your losses are replaced, but new pilots will likely have little or no combat experience. Your squadron has a limited number of combat-ready planes, and below a certain point, you have to fly shorthanded until resupplied.

You can choose to play any time between 1941 and 1945.

You can choose a career for any of the major players in the Pacific theater of operations, join a land or carrier-based squadron, and fly fighters and many types of bombers.

Every career consists of campaigns (Midway, Palau, Okinawa, etc.). A typical campaign consists of approximately 30 missions, and a career includes multiple campaigns for up to 250 total missions or more.

Once you have entered Campaign mode, choose your country and the level of difficulty. Note that you will not be able to change the settings later; you can only view them.

When you choose the Pilot Career option in the Main Menu, you access the Campaign Manager (provided that you have saved campaigns – if these are not available, you should create a new one; we will explain how to do this below).

For each campaign, you will immediately see the class of aircraft that will be flown in the campaign, the national affiliation and military rank of the main character (informa-

tion on each country's ranks can be found in the Readme), the number of awards and completed missions, as well as the level of difficulty.

You can access more detailed information about the level of difficulty by pressing the Roster button.

The Roster button provides detailed information on how the campaign proceeds – how many and which enemy targets were destroyed, the awards received, and how many aircraft the player lost in fighting. That info is available for all pilots listed in the roster (see below).

The lower panel has four buttons:

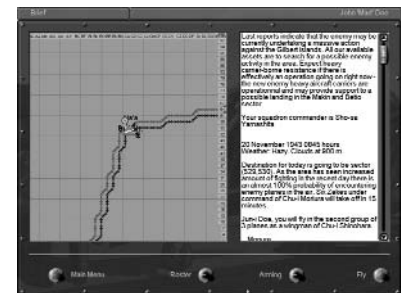
- **Back:** Return to Main Menu.
- **Delete:** Delete selected campaign.
- **New:** Begin new campaign.
- **Load:** Load selected campaign.

STARTING A NEW CAMPAIGN

If you enter a new campaign, you should indicate:

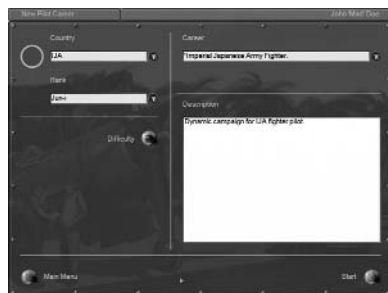
- **Country:** The country for which you will be fighting.
- **Rank:** Depending on your rank, you will receive more or fewer planes under your command. Further promotion and demotion are possible (not to mention the possibility of being sentenced to death or sent to a penal battalion).
- **Career:** Here you choose what to become – bomber, ground assault, or fighter pilot. Some of these options may not be available for all countries and campaigns, as planes of that type may not have been historically available.
- **Difficulty:** The level of difficulty now and for the whole campaign.

Tip: Before embarking on your pilot career, read the sections Receiving the Task, Arming Your Plane, and Using Commands to Give Orders to AI Pilots (Comms).



Now you type your place of birth and select the period from which you prefer to start. You may start from any date within the war – your career will continue until the end of the war.

Generate: Press this button to generate the campaign.



Every campaign starts with a historical briefing.



At the end of a campaign, you'll be shown a summary evaluating your squadron activity, successes, and losses, as well as a historical summary.



Every mission ends with debriefing, and you'll be able to see your route and every event in the mission on a map.



Roster: Press this button to look at the list of pilots. A file of every pilot that left your squadron because of transfer, capture, or death can be seen, along with his whole career.

Pilot Profile: Select a pilot from the list using your mouse and then press this button. You'll enter the Pilot Profile menu.



In the Pilot Profile menu, you may read more info about the selected pilot and view his awards (click on the image of the current award, if present).

Note: You may change the photo of the pilot if you wish. The name of the file is displayed under the picture of the pilot. You may find this file in the folder DGen>de (or other subfolders fi, hu, ru1, ru2, ru3. The name of the folder corresponds to the country that you selected in the campaign).



Your own missions are recorded in your pilot's logbook.



During missions you can be attacked by enemy aces. The list of aces can be modified in the corresponding folder of the game, and you can use custom skins.



But the ace was not lucky.



STATIC CAMPAIGN MODE

Dynamic Campaign is the main campaign mode in Pacific Fighters, but Static Campaign mode is also available for those who want to play it. Here is its brief description for those who want to download or make their own static-branched campaigns.

The first thing you do after entering Campaign mode is choose your country and the level of difficulty. Everything here is like Dynamic Campaign mode.

When you choose the Pilot Career option in the Main Menu, you access the Campaign Manager (provided that you have saved campaigns – if these are not available, you should create a new one; we will explain how to do this below).

For each campaign, you will immediately see the class of aircraft that will be flown in the campaign, the national affiliation and military rank of the main character, the number of awards and completed missions, and the level of difficulty.

You can access more detailed information about the level of difficulty by pressing the View Difficulty button.

The View Career Statistics button provides detailed information on how the campaign proceeds – how many and which enemy targets were destroyed, the awards received, and how many aircraft the player lost in fighting.

The only differences between this and Dynamic Campaign mode are in a couple of menu buttons and menu features:

- There are no Roster or Pilot Profile menus for each pilot.
- There are different statistics menus, and awards only go to players.

Tip: As in Dynamic Campaign mode, before embarking on your pilot career, please read the sections Receiving the Task, Arming Your Plane, and Using Commands to Give Orders to AI Pilots (Comms).

RECEIVING THE TASK (MISSION BRIEFINGS)

Here you will get to know your route and destination and choose the weapons for your plane. You are advised to read the text concerning the task right away – it is located on the right.

THE MAP

Your route is indicated on a map. You can scroll around the map by pressing the left mouse button and moving the mouse in any direction.

The map has several scales. You can switch between them by pressing the right mouse button; the scale increases to the highest value before scaling back down.

The route is determined by a series of waypoints. There are several types:

- **Takeoff:** A square with a picture of a plane taking off. It determines the airdrome from which your aircraft will start the flight.
- **Turn:** A circle with a point in the middle. Here your aircraft will have to change its course.
- **Attack:** A triangle with a picture of a bomb. This point is set on target; it is where you perform your task.
- **Landing:** A rectangle with a picture of a diving plane. In reality, it does not dive, but prepares for landing. This is where, provided everything is fine, you will conclude your task and land again on the airdrome.

From here, you can adjust the following settings:

- **Difficulty:** Press this button to activate a menu with different realism options. We will deal with these settings in more detail a bit later.
- **Arming:** Choose the guns for your combat task.

After you have read the task and gone through the corresponding preparations, you can press one of the following:

- **Fly:** Proceed directly to fulfilling the task.
- **Back:** Return to the Mission menu.

ARMING YOUR PLANE

Or planes, to be more precise. In many cases, you will have to command someone – and correspondingly determine the loadout of your subordinates.

Later, if you become a commanding officer during your single mission or campaign, you can change your flight loadout (the name of the aircraft or a group of aircraft is emphasized in red) or that of the whole squadron. It is easy to discover what you have the authority to do – just click on the Weapons window in each of the aircraft groups (each flight has a corresponding window). If you are given the option of choosing something else, you are free to do so. However, we offer optimal armament and loadout for this mission by default.



AIRCRAFT CUSTOMIZATION

(Arming in other menus)

This function allows you to change several parameters, which can be defined during armament:

- Convergence:** Generally speaking, gun and machine-gun shots are not directed parallel to the axis of the shooting aircraft at all. This convergence can be modified; everything depends on your preferences. It should be pointed out that no matter whom you command, this operation can only be performed on your own aircraft.
- Rocket Delay:** All rockets (except armor-piercing rockets) have two fuses – a contact and a time fuse. Here you can set the time when the fuse will snap into action; possible delay can be up to 10 seconds.
- Bombs Delay:** Sometimes you have to bomb at very low altitude, which puts you in danger of being hit by the blast of your own bombs. To prevent this, you can adjust their fuses so that they explode after a small delay, giving you just enough time to leave the zone of destruction. The delay can be set anywhere from 0 (instantaneous explosion) to 10 seconds.
- Fuel Quantity:** If the flight is going to be short, you can save on fuel. It goes without saying that too much economy in this area can lead to sad consequences.
- Aircraft:** This function works only for multiplayer Dogfight mode and Quick Mission Builder (advanced setup). You may select any of the listed aircraft. In addition, in Quick Mission Builder, you may set the skins for every single aircraft in every flight group without manual edit and without using Full Mission Builder.
- Country:** This function works only for multiplayer Dogfight mode and Quick Mission Builder (advanced setup). You may change the country for which you will fly and the corresponding markings.
- Regiment:** This function works only for multiplayer Dogfight mode and Quick Mission Builder (advanced setup). You may select among available regiments (emblems) for your corresponding country.
- Skin:** Change the skin (camouflage scheme). This works in all modes.
- Pilot:** Here you may change the skin of the pilot's face and the skin of the flying suit separately.
- Markings:** If you switch this one off, then you get no numberings and no country markings on the skin of your plane. It only works for all planes in the flight simultaneously. It's a useful function if no paint scheme is useful for you and you'd like to paint manually over your own skins.



Note: It is easy to determine whether you can change the settings – just click on the window. It's possible that in campaigns, single missions, and cooperative missions, you can't change the aircraft, country, and regiment in that window, but you can change

them in multiplayer Dogfight mode and in Quick Mission Builder. The program is designed this way to free up more RAM; we use the same window design for all single-player or multiplayer modes.

USING COMMANDS TO GIVE ORDERS TO AI PILOTS

In all modes – Single Mission, Pilot Career, and Quick Mission Builder – you can and sometimes should take the opportunity to command from wingman to squadron.

To quickly master the basic commands, you should train in the Quick Mission Builder and create different mission variants with varying quantities of friendly aircraft (from 2 to 16) and a small number of enemy aircraft. Although not all opportunities for such commands can be tested in the Quick Mission Builder, the skills you can acquire here will come in handy when you play in Pilot Career mode.

By default, the Tab control settings button activates communication (comms) between player and AI pilots. The principle is very simple: after pressing the Tab key, a list of commands corresponding to 1–0 on the keyboard appears on the screen. Most of the orders or requests have additional submenus, where the list of orders or requests corresponds to actual tasks. They, too, correspond to keys 1–0 on the keyboard; by selecting and pressing them, you will get a response from the AI pilots.

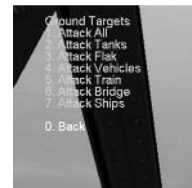
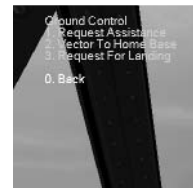
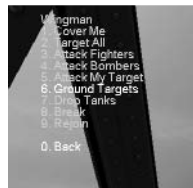
If you get no reaction, this may be a result of an incorrect order or an incorrect time of order. For example, friendly planes that do not belong to your flight, group, or squadron will never follow your orders. Another example of an incorrect order is when you try to issue an order for bombers to attack fighters. They may try to do it, but with an awful result for the bombers (you will usually get such a situation only in Quick Mission Builder or if a user incorrectly designs a mission). A third example of an incorrect order is if you try to give an order to rejoin when some of the planes are very busy with the enemy. Their reaction to your order may cost them their lives.

So, train yourself thoroughly on orders for AI pilots and their groups! Good training will bring you great success in Pilot Career mode.

Note: Many Japanese planes, especially in early war missions, are not equipped with radios. Therefore, you will not be able to send radio commands to your squadmates or hear any radio chatter during the mission.

SPECIAL FEATURE

To eliminate the game subtitles appearing on-screen for pilots' voices:



- **Vulnerability:** Invulnerability could not be a more standard option. If this option is deselected, you become invulnerable. Congratulations! The invulnerability option only works if enemy shells or shots hit your aircraft. If you hit the ground, your aircraft will still self-destruct.
- **No Map Icons:** If this option is enabled, the icons on the map do not appear.
- **No Minimap Path:** If this option is enabled, your path does not appear on the flight map.
- **No Speed Bar:** If this option is enabled, the speed bar in the bottom-left corner of the screen disappears.

QUICK MISSION BUILDER

This is not an editor, but a generator, to be exact. You feed in the necessary parameters and a mission is generated for you, which you execute immediately. This mode can be extremely useful in preparing for online combat, since losing to a computer is less embarrassing.

When you choose the Quick Mission Builder option from the Main Menu, you access a new menu with the following items:

- **Select:** This option allows you to choose the country for which you will be playing. Click the button to switch over from red star to black cross – these symbols should speak for themselves.
- **Your Flight:** Indicate the number and characteristics of your wingmen.
- **Friendly:** Enter information on the other flights that will be fighting on your side.
- **Hostile:** Enter information on the flights that will be fighting against you.



You can also set the following parameters for each flight:

- **Num:** The number of aircraft in the flight, ranging from 0–3, with your own flight as the only one that cannot be set to 0. Of course participating in a battle requires one to be at least in the general vicinity of the battlefield. So your own flight should have at least one unit – you.
- **Skill:** Select the class of pilots.
- **Aircraft:** Choose the planes for the flight.
- **Loadout:** Select the battle armament for the mission.
- **Map:** Determine where the action will take place.
- **Altitude:** Decide the altitude at which the action will start.
- **Weather:** Enter your desired weather.

- **Time:** Enter the time of day. These last two factors – weather and time of day – can exert considerable influence on the development of your operation.
- **Situation:** Indicate which of the parties will have a tactical edge over the other:
 - **Disadvantage:** You start at a lower altitude than the enemy.
 - **Advantage:** You start at a higher altitude than the enemy.
 - **None:** You and your enemy begin at the same altitude.
- **Target:** Select the type of ground target (or leave it out if you want to).
- **Defense:** Here, you can either include ground anti-aircraft defense or leave it out.

Once you have selected your settings, you can save them and load them later using the Save and Load buttons respectively. Then, press the Fly button – and start your flight.

If your intentions change, you can always hit the Back button and return to the Main Menu.

SPECIAL FEATURES

Advanced Setup Window: In this window you may set additional parameters for your flight or enemy. The main feature of this window is that you may change the skins for each aircraft, including AI aircraft. This setup works in the same manner as arming your plane (see the Arming Your Plane section of this manual).

Aircraft: Here you may select any of the listed aircraft that do not return to the main Quick Mission Builder screen. This window defines how many aircraft will be in flight.



MULTIPLAYER

Pacific Fighters offers two main options for working on live targets: via the Internet, or through a LAN. The choice is made in the Multiplayer Mode settings menu (accessed via the Hardware Setup item in the Main Menu).

Hitting live targets is not necessary, though. Pacific Fighters offers two multiplayer types:

- **Dogfight:** A fight between live opponents.
- **Cooperative:** Cooperative fulfillment of a mission, where the part of opponent or ally can also be played by AI (computer-controlled aircraft or vehicles and other ground objects).

Having chosen Multiplayer in the Main Menu, you access a new menu with the following options:

- **Join Server:** Log on to the existing server.
- **Create New Server:** Create a new server.
- **Main Menu:** Return to the Main Menu.



LOGGING ON TO THE EXISTING SERVER

After choosing the Join Server option, you have two options:

1. Enter the server address in the Server Address field.
2. Search for all servers available using the Search for Local Servers command (for more information, read the Readme file in Windows: Start Menu > Programs > Ubisoft > Pacific Fighters> Read me).

The result of the search will be a list of servers with the following parameters:

- **Address:** Server address.
- **Name:** Server name (if it was set on the server).
- **Ping:** Indicator of each server's connection speed. The lower the value, the higher the speed (and this is exactly what you need).
- **Users:** The number of players logged on to the server.
- **Type:** Type of game (Dogfight or Cooperative).

You should choose a server from the list and press the Join button. You can also interrupt the process and return to the Main Menu with the help of the Back button.

Note: You can only join an existing Cooperative server before the game begins. However, you can connect to a Dogfight server at any time.

CREATING A SERVER

At minimum, you need a 28.8K modem connection to your ISP for acceptable Internet play performance.

Before launching the server, you need to detect your server IP. Do this by running the command IPCONFIG.

- Win98 > run Programs > Dos prompt > type IPCONFIG and read the IP ADDRESS.
- Win2000 > run Programs > Accessories > Command Prompt > type IPCONFIG and read the IP ADDRESS.

Send this IP address to your friends.

For network play, launch the Pacific Fighters integrated server. You must choose Multiplayer in the Main Menu, and then Create New Server. After that, you can proceed to the following items:

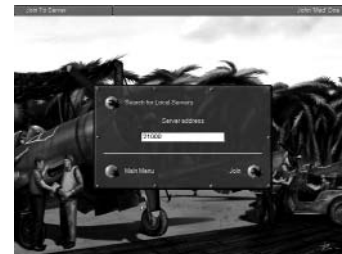
- **Name:** Enter the name of your server.
- **Description:** Here you can list the map, time, weather, and other conditions and settings you wish to use. Clients will see this string before the connection and decide which server to choose.
- **Game Type:** As mentioned previously, a Dogfight is air combat between live enemies. Cooperative stands for cooperative mission fulfillment.
- **Max. Players:** The maximum number of players on a server, which ranges from 2 to 32 in a Dogfight or up to 16 in Cooperative. Naturally, a larger number of players makes more serious demands on your hardware.
- **Password:** Use this item if you want to create a game only for people you know. Multiplayer sessions can be locked with a password to keep stray gamers away. To change your password, press the Change button.

Once you have set the above parameters, click the Create button and your server will be created. The next step is choosing your mission. You can load any standard mission or a mission you created with the built-in mission editor. In either case, all mission data will be sent to the clients.

After the mission has loaded, you can change the Difficulty settings. This can only be done on the server. Clients get these settings from the server, and so they all have the same Difficulty settings.

You then have to decide the home base and equipment for the host and clients.

Press the Fly button to begin play.



AFTER CONNECTING

Dogfight: Before you press the Fly button, you should choose the aircraft you wish to fly (press Arming) and set the Convergence, Delay, and Fuel Quantity, as described in the Single-Player section. The difference lies in the fact that here you can take a look at everything and change the aircraft's camouflage (if other skin variants are available), the face of the pilot, the nationality, the regiment, the number of your plane, and more. (See additional features in the Readme file in Windows: Start Menu > Programs > Ubisoft > Pacific Fighters > Read me.)

When you are through with these operations, go back to the previous menu, and on the map, choose the home base from which you prefer to start playing (whether you start from home base or in the air above it depends on the server's Difficulty settings).

Cooperative: In this mode you are taken to the "waiting hall," where everyone gathers and waits for the mission. The mission is then chosen (this is done from the server) and all agreements between the players are set. For these purposes, you can use a built-in chat or voice chat.

You should choose an aircraft or gunner seat (if available) that has been previously agreed upon with other players. The gunner/pilot seat you have chosen will be shown to you and the other players before the start of the mission. You will also see all free or occupied aircraft at this time.

When everything is settled and chosen, press the Fly button. The mission starts from this point for all players connected to your server.

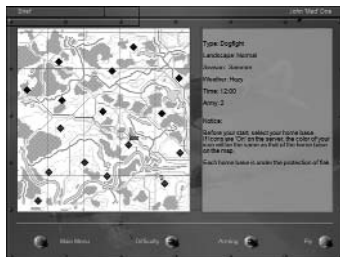
Note: All the Difficulty settings can only be set on the server. Other players can read them by pressing the Difficulty button, but cannot change them. Thus, the same level of difficulty is set for all players.

TROUBLESHOOTING

Some PCs may have several connection devices or some rare Internet software. In rare instances the game may be unable to recognize the active device and IP address you are using to connect to the Internet. To get around this problem, proceed as follows:

1. Start il2setup.exe and select the Network section.
2. Make sure you have selected the right connection type (it must correspond to your connection device).
3. In the IP combo box, select the correct IP address (read the manual on how to detect IP addresses).
4. In the Port field, enter the number used by your port between 1000 and 65000. By default, it is 21000. This port is very important if you use firewall software. Firewall software should be configured for this port.

Note: If you play via the ubi.com™ Game Service, two ports are used: the one you defined (or default), and a second one with the default number +10 (e.g., if you define 21000 as your default, 21010 would become your second port).



CHAT IN MULTIPLAYER

Chat works all the time and in all the Multiplayer menus, except when you are just beginning to set up the server or to connect.

After connection in any Multiplayer menu, you can activate chat by pressing the button that you defined in Controls. In flight, press this button or press the M key (which displays the map by default), and click the mouse button on the chat window.

In chat, you can type messages:

- To all players.
- To your army. (Your army is defined by airfield color and icons, if icons are selected in the Difficulty settings.)
- To any online player.

To send a message to all players, type the message, and then press Enter. The program subsequently prompts you to select a recipient for the message. Select ALL and press Enter.

To send a message to your army, type the message and then press Enter. Then, as above, the program prompts you to select the recipient of the message. Select MY_ARMY and press Enter.

You can also send messages to any player. To do so, you need to know the player's correct nickname. Type the message, select the free text line, and type the player's correct nickname (call sign) before pressing Enter.

To find out the nicknames of all of the players, type the following in the message line:

>user

Then, press Enter. You will see the nicknames of all players currently playing the game.



OTHER CHAT FEATURES

Preset Messages: Another important feature of chat is that you can preset certain messages that you may use often, which saves time.

To do this, activate the chat window, select the line below the chat line using the cursor keys, and type your message (for example, "Break Left," "Break Right," etc.). To send this message without having to type it out again, activate chat, select the message using the cursor keys, and press Enter. Then select the recipient (see above). If you need to make corrections or replace the old preset message with a new one, use the Delete and Backspace buttons.

Resize or Move Window: You can resize the chat window or move it using the mouse.



VOICE CHAT IN PACIFIC FIGHTERS

Voice chat is controlled by the radio console command.

To activate this console, type ">" in the chat window. The command is thus entered as follows: >radio [arguments...]. To cancel the console, press Delete.

- **radio TEST [on/off]** – Activates the voice chat test. You can hear the signal from your microphone having come through codec. You can also adjust the mic's input. The other players cannot hear anything.

Example: >radio TEST on

- **radio LEVEL [value from 1.0 to 5.0]** – Voice activation level from which transmission begins. The higher the level, the greater the input volume needed to start the transmission.

Example: >radio LEVEL 1.3

- **radio LATENCY [value from 0.2 to 2.0]** – Value of the signal reception delay (in seconds) required to compensate for incoming data irregularities. If the sound has dropouts or makes unwanted noises (which is usually the case with a slow connection), you must increase this value.

Example: >radio LATENCY 0.5

- **radio CODEC [lpc or hq]** – Creates the form of speech coding that will be implemented on the channels you create. The lpc codec provides you with a low-speed data flow (about 800 bps) but has very poor sound quality. This codec is used on two basic channels – COMMON and ARMY – and is also used by default on the new ones created by players. The hq codec has a high data flow (about 8000 bps) and high sound quality, but it can only be used if you have a good connection (faster than 38K) or a LAN. You can only have one codec type per channel.

Example: >radio CODEC hq

- **radio AGC [on/off]** – Automatic microphone adjustment. It is switched on by default. If you experience problems with the microphone, you can switch it off.

Example: >radio AGC on

You can find out about the current settings after entering a command without a parameter, e.g. radio CODEC.

ROGERWILCO

To start using RogerWilco, you need to switch in-game voice chat off by setting [?] 'AudioInput' to 'None' in the Sound menu of the il2setup program.

SPECIAL FEATURES

SPEED BAR COMMAND

The server hosting an online game now has the ability to disable the so-called Speed Bar – the digital information displayed in the bottom-left corner of the screen. The command syntax is:

speedbar [SHOW/HIDE]

If you don't want players connected to your server to use these digital instruments, enter "speedbar HIDE".

You can type in "speedbar SHOW" to restore the default settings and allow players to use the Speed Bar.

Event Logging

Any user participating in an online Cooperative game or playing in Single-Player mode may now have events logged into a text file. To enable this option, add an eventlog key under the [game] section in the conf.ini file. E.g.:

[game]

eventlog=coop.lst

In this case, all major activity will be logged into the coop.lst file, and may be reviewed later (i.e., with the help of the Notepad).

In addition, when playing a Cooperative mission, the current status of every player in the game is automatically logged into this file at the end of the mission (with score, kills, and dead/alive state), including players that left before the mission ended.

The AI unit names are their mission names and are basically intended for log-parsing software. The number in brackets after an aircraft name (i.e., r01011(0)) represents an individual crew member of the given aircraft (with 0 being the pilot, 1 the copilot or rear gunner, and so on).

ONLINE STAT MESSAGES

The server hosting an online game may set the level of detail of the server auto-generated stat messages. The level is set in the conf.ini file in the Pacific Fighters folder, in section [chat], in the autoLogDetail key. E.g.:

[chat]

autoLogDetail = 3

You can set the keys to the following options:

0 – Disables all stat messages.

1 – Only player-vs.-player kill messages are displayed.

2 – Player-vs.-player and AI-vs.-player kill messages are displayed.

3 – A lot of chit-chatting.

ICONS IN ONLINE GAMES

The server hosting an online game can now set the distance at which plane icons will become visible. The command syntax is:

```
mp_dotrange [FRIENDLY|FOE] [DEFAULT]
[COLOR <km>] [DOT <km>] [RANGE <km>]
[TYPE <km>] [ID <km>] [NAME <km>]
```

FRIENDLY or FOE keywords define which party the following parameters apply to – the aircraft of the viewer's army, or the aircraft of the hostile armies.

The following keys define the distance at which the appropriate icon is enabled:

- **COLOR:** The distance at which icons take the color of the inbound plane's army. Icons farther away will be drawn in gray.
- **DOT:** The distance at which the "dot" plane marker becomes visible.
- **RANGE:** The distance at which the distance measurement appears in the icon.
- **TYPE:** The distance at which the airplane model or model family becomes visible.
- **ID:** The distance at which the tactical number is visible.
- **NAME:** The distance at which the aircraft's pilot name is visible (if it is driven by a human pilot).

mp_dotrange DEFAULT restores the Pacific Fighters predefined icon setup.

mp_dotrange run without parameters prints the current icon setup ranges (which may be issued by both client and server).

TIMEOUT LIMITS AND AUTO-KICKING

There is a new [MaxLag] section in the conf.ini file. E.g.:

```
[MaxLag]
```

```
farMaxLagTime = 10.0
```

```
nearMaxLagTime = 2.0
```

```
cheaterWarningDelay = 5.0
```

```
cheaterWarningNum = -1
```

farMaxLagTime: Defines the maximum delay (in seconds) between packets received from a given client. A delay greater than this time is considered a "warp."

nearMaxLagTime: Defines the maximum lag time allowed for an aircraft in an endangered position, or when it is considered to be jeopardizing a hostile aircraft. Giving lower values is meant to address warping on purpose.

cheaterWarningDelay: Defines the time in which the system will refrain from taking action against a player acting out of bounds. This can be used to avoid issuing multiple warnings on one glitch.



cheaterWarningNum: Defines the number of warnings issued before kicking the player off. Setting a value of -1 disables auto-kicking.

ONLINE TIME-OF-DAY COMMANDS

The online host can change the time of day in the mission at any time while it is running. The command must be run from the command console. To view the command console, press the "~" key to bring up the chat window, and then the ">" key to enter the console mode.

The syntax of the Time-of-Day command is as follows:

```
tod [hour.minute]
```

Hours should be written in military format, i.e., 17 hours for 5 pm, 23 hours for 11 pm, etc. For example, to set the time of day at 6:30 am, run the following command:

```
tod 06.30
```

To set time of day to 10:15 pm, run:

```
tod 22.15
```

ONLINE SCORE – VIEWING AND LOG

When playing online, you may want to know your own rating or that of your opponent in the current dogfight. For this purpose, in the chat window, type:

```
>user
```

This table will be available in the file log.lst

In addition to the ">user" command you may press the Online Rating button ("S" by default) to quickly glance at the scores during a multi-player session.



ONLINE CAMPAIGN

The online campaign is a unique feature of the IL-2 Sturmovik – Pacific Fighters series. It is similar to Cooperative mode, but missions are generated sequentially, with date, time, and battlefield situation developing from one mission to another. Players' actions can influence the progress of the campaign, and top scores of players are kept.

STARTING AN ONLINE CAMPAIGN

Online campaigns have one host. The host starts the campaign, and the mission results and overall campaign situation are maintained on his machine. Other players can join, and from their perspective the interface is not different from a regular Cooperative campaign.

To start or continue the campaign, go to the Multiplayer menu, select Create New Server, and chose Campaign mode. Press the Load button.

You will see a list of available online campaigns. Those that haven't started yet are designated as new. Others are labeled "progress."

Select one of new campaigns.

Now you can select options for this campaign and generate the first mission. Depending on campaign type, you may have slightly different options.

CAMPAIGN TYPES

Campaigns may be historical or fictional, and can be Automatic or Host's Choice. Most campaigns are historical. The front line moves just as it did in the actual campaign. In fictional campaigns there are no default movements, only the players' actions.

In Host's Choice, the host selects for every mission specific plane types, their numbers, and squadrons. This is similar to Quick Mission Builder, except campaign missions and the overall situation develop dynamically from one mission to another.

In Automatic missions the host selects only the number of human players – for example, 4x4, 8x8, or 16x16. Planes will be placed depending on the historical frequency of different types. The numbers will be balanced for both sides.

When you generate the first mission of a campaign, you can select two options that will take effect for the duration of the campaign.

The first option is how quickly you want to progress. The campaign date will automatically advance after a certain number of missions. You can select this number when you start the campaign.

The second option is what happens in case of pilot death or capture. In Dead Is Dead mode, pilot death completely erases killed players' records and they must start from the beginning. In Immortal Warrior mode, death only leads to some losses in points, and their KIA/MIA counter increases.

PLAYING AND ENDING MISSIONS

When you enter the mission, you will initially see the common part of the briefing, which includes a general description, an evaluation of the tactical situation, and a list of the top pilots. To see your side's specific briefing, you must select a plane and then return to the briefing page.

The host may decide to end a campaign mission, as in Co-op mode. In addition, you can select two more conditions for mission termination before each mission. One of them is a timer. The other is the landing, bailing, or death of all players.

HOW MISSIONS ARE BUILT

For every mission there are two main target areas. One target is attacked by Red; the other, by Blue. Both areas are marked on your maps with the Recon icon. Each attacking group may have an escort, and another group of fighters may intercept enemy attackers. In Host's Choice campaigns, the host selects the number of these groups and the plane types in them. In automatic campaigns, the number of escort and intercepting fighters are random, but are balanced for each side. That is, if one side has six escorts and two intercept fighters, so will the other. There are no standard victory con-

ditions, so do not expect "Red won" or "Blue won" messages. Instead, the targets destroyed by each side will contribute to victory.

HOW YOU CAN INFLUENCE WAR

As in reality, ground troops – not air forces – move the front line in an online campaign. The direction of the main strike is historical, and when one side can gather sufficiently more forces at the front line, the town can change hands. The historical course of events is achieved by the number of troops that opponents received daily.

If there is no air force involvement, the game will provide the historical outcome. But ground troops can be affected by the air forces both at the front line and on the way there. Two towns located close to the front line are the main areas of ground confrontation. These are the points where both sides need reinforcements. A network of roads and railroads supplies these towns. Only a limited number of troops can pass through these roads and railroads, and that number can be further reduced by enemy strikes or by the enemy achieving air superiority over the node. If the capacity to carry troops is insufficient, some troops will be delayed.

The troops can also be destroyed both at the front and on their way there. The effectiveness of ground attacks can be increased if an attacker successfully completes reconnaissance missions over the area.

Losses in planes have twice the effect of ground losses. First, they change the air superiority situation over the town where they happen; second, they reduce the readiness of the airfield from which they originated. If readiness falls below a certain level, the airfield will lose part of its protection and can even be attacked by enemy AI during takeoff. This effect lasts for one historical day only, and the airfield can be repaired if transport planes deliver necessary materials.

STRIKE MISSIONS

In most missions, each side has a strike group that will attack the enemy. Quick missions provide AI planes for that task. In planned missions, opponents can independently select either AI or manned JABO, Stuka, IL-2, or He-111 attacks.

Destroyed tanks and artillery directly affect the number of troops. These strikes are most effective at the main point of attack, less effective in supply nodes, and even less effective in other towns. Destroyed trains and cars reduce the enemy's ability to deliver troops to the front. These strikes are most effective on supply routes, less at the front lines, and even less in other places.

RECON MISSIONS

Every now and then the automatic campaign generates a recon mission over a main strike area or supply route. The main group consists of two AI planes. If they successfully land, each one adds 10% to the recon level of the target town. If they do not land but are alive by the mission's end, they add 5%.

Recon level proportionally increases the effectiveness of strikes during the day on which this occurs. It has no lasting effect for the next day.

AIR SUPERIORITY

There is an accumulated counter of losses over every town during every day. A ratio of lost-to-killed planes defines local air superiority for a town. If friendly losses over a supply node or the front-line town exceed enemy losses, transport capability is proportionally reduced for that day only. It has no lasting effects. Recon missions can be requested in Host's Choice mode.

AIRBASE EFFECTIVENESS, ENEMY AI ATTACKS, AND TRANSPORT MISSIONS

Losses in planes during one day directly impact the effectiveness of the airfield from which they originated. If effectiveness falls below certain level, the airfield will gradually lose part of its AAA protection. If the level falls too much, sometimes an enemy AI plane may attack the airfield during takeoff. Also, if airfield effectiveness is low, a supply flight can be generated. A mission briefing will warn the receiving side about scheduled transport flights. Successful landing of these flights increases the effectiveness of the air base. This effect lasts for one historical day only; airfields are 100% effective at the start of each day.

CAMPAIGN AND PILOT'S PROGRESS

Every time a pilot completes a mission, he receives some points for it. These points depend on his role in the mission and destroyed targets. The points count toward pilot's rising in rank and his place in the top list. The list of the best pilots, with their sorties, kills, and KIA/MIA counts (for Immortal Warrior mode), sorted by points, is displayed in the next mission briefing.

Depending on the success of each side, the campaign may go differently than it did historically (or, in case of a fictional balanced campaign, the front line will move in a different direction). This fact is also reflected in mission briefings.

FULL MISSION BUILDER

It is high time we talk about the mission editor. This editor provides for the completely manual creation of missions, with thorough control over all the possible details. Its interface differs considerably from the game's general interface and operates predominantly with pull-down menus.

Remember that the editor can work both in 2D and 3D modes. 3D mode can be very useful for determining the exact position of ground objects. For instance, it allows the defense's tanks to use natural shelters effectively.

PULL-DOWN MENUS

FILE MENU

Used for loading necessary data, testing the results of your work, and saving. It contains the following options:

Load Map: Loads the map where the mission will unfold.

Load: Loads a previously saved mission.

Save As: Saves a created mission.

Play: Launches a created mission for testing. The mission must be saved beforehand.

Exit: Quits the editor.

EDIT MENU

As suggested by the title, this menu is designed for editing various mission parameters.

Conditions: This option activates a dialog box where overall conditions for the mission are set. These include the time of the day, weather conditions, and clouds.

Description: This activates a dialog box where all information related to the mission is edited, including its brief and full description and the text corresponding to the combat task.

Delete All: This command deletes all the objects you have created. It is very convenient when you have just finished creating a mission and want to start creating another one. If you use this option, it saves you the necessity of reloading the same map.

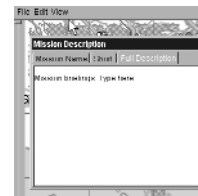
VIEW MENU

This menu is intended for manipulating objects. It contains the following menu items:

Landscape: This allows you to change the lighting on the landscape. Having set the optimal level, you can create a sharper contrast of all mission-related signs against the landscape. You can also choose to display or hide the landscape.

Destruction: This sets the initial level of building destruction in towns, cities, and settlements.

Brightness: Here you can adjust color brightness in the area of operation.



Brush Size: This adjusts the thickness of the “brush” determining the zone of destruction.

Destruction Level: This sets the level of destruction. The left position (bright green) represents no destruction; the right position (red) represents maximum destruction. By simultaneously using the mouse cursor and pressing the F key, you can color destruction zones on the map. In Destruction mode, you can also use the mouse to destroy any bridge in a given area. Just click the left or right mouse button on the bridge to destroy or recover that bridge. (This function only works only in 2D mode when you zoom into the object and center it on the screen.)

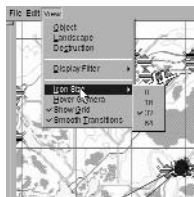
Display Filter: This menu item enables or disables the display of different types of objects. This is required to prevent a complicated picture from becoming overloaded with unnecessary icons.

Icon Size: This determines the size of conventional icons. It can be modified to reach an optimal correlation between icon readability and overall picture readability at different resolutions.

Hover Camera: This sets a fixed camera height in 3D mode, which aids your ability to see shifting objects.

Show Grid: This option shows or hides the reference grid.

Smooth Transitions: If this option is switched on, the transition from 2D to 3D is performed more smoothly.



OPERATIONS IN THE EDITOR

WORKING WITH THE MAP AND 3D LANDSCAPE

Switching between 2D and 3D Modes: Press Enter. This works when the zoom level is fully zoomed in.

Scrolling the Map in 2D Mode: Map scrolling can be done in two ways.

1. Using the vertical and horizontal scrollbars – the same way as any other scrolling in the Windows interface.
2. Using the cursor of the mouse with the left button pressed.

Landscape Navigation in 3D Mode: The cursor is the center of all movement; it remains in the center of the screen. Changing the direction of your glance against the cursor can be performed with the help of the mouse. Approaching/moving away is done by moving the mouse up and down without releasing the left button. The cursor itself can be moved using the mouse with the right button pressed. (Here the cursor does not change its position, but the landscape under it starts moving.)

Changing the Scale: If the scale is at 0.3 of the minimum, the map mode switches off and the editor turns to 3D relief representation mode.

Here two means are used:

1. The scale can be changed using the vertical scrollbar on the left of the screen. To scale up, drag the scrollbar down.

2. When you move the mouse with the left button pressed and press Shift at the same time, a small frame appears on the screen. As soon as the button and the key are released, the editor will fit the field into the frame.

WORKING WITH OBJECTS ON THE MAP/LANDSCAPE

Setting the Chosen Object

First, select the object. Then move the cursor to a point on the landscape and press the left button and Ctrl at the same time (or just press Ins). The object will appear in the designated place.

Editing the Route of an Object

Once you have set the object, you can choose a route for it using turning points.

- A new turning point can be set in the same way as an object (see above).
- To choose a turning point, click on it; the turning point will become yellow.
- To set an interim turning point, you should choose one of the ready points on the route and press Ins, or, while holding down the Ctrl key, press the left button of the mouse. The new point will appear on the route in the middle of the segment between the chosen point and the one after it.
- To cancel a choice, press the right button of the mouse. A menu will appear right under the cursor. Choose Unselect; the yellow marks subsequently disappear and all points of the route become red.
- You can delete a chosen turning point by pressing the right button of the mouse and choosing Delete in the menu. The chosen point will be deleted. Deleting point number 0 annihilates the object.

OBJECT PARAMETER SETTINGS WINDOW

The parameters are divided into four main groups according to the category of the available object. All objects are divided into categories. A more detailed account of this division is provided below.

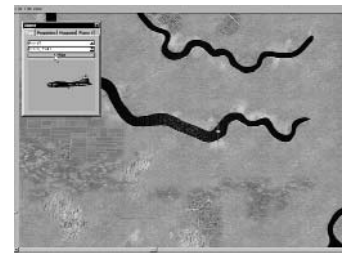
After you set the object category, you can choose it from the list and, if necessary, see its 3D picture (for this, press the View button). You can revolve it by clicking on it with the left mouse button.

When the picture appears on the screen, the View button changes to Hide. If you press it again, the 3D image will be deleted.

Here you can set the parameters related to each object. These depend directly on its category:

1. Aircraft or Air Object Category

Army: Here you set the side for which the selected object will fight. There are two variants: Red (the Soviet Union) and Blue (Germany). The choice is not bound to any specific type of object; you can make “Messerschmitt” carry red stars in your mission if you want to and vice versa.



Regiment: Here you choose the regiment, squadron, and flight. Each squadron can have up to four flights. Your choice influences the corresponding markings on the aircraft. Moreover, the same subdivision cannot be employed twice for two different objects.

Weapons: The list of possible weapons an aircraft can carry depends on its type. The Default variant means that only guns and machine guns are included. The None variant means that all weapons have been removed.

Fuel: Amount of fuel carried by each aircraft at the onset of the mission (as percentage).

Planes: The number of planes in a flight (ranges from 1 to 4).

Skill: Skill level of the flight pilots (ranges from 0 to beginner and 3 to ace).

AI Only: This check box allows you to set the whole flight as AI only, even if you have selected a plane that can be controlled by a player. The AI-Only feature is useful for the creation of Cooperative missions by limiting the number of players.

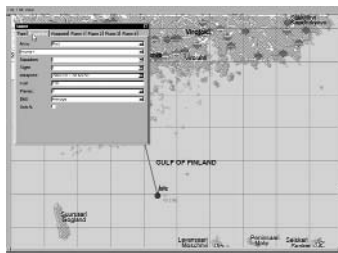
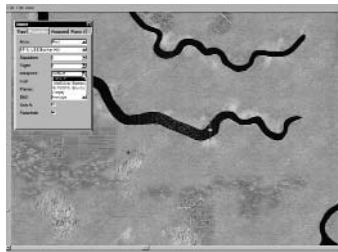
Parachute: As many Japanese airmen preferred to fly without parachutes, this option allows you to remove the parachute from any flight in your mission.

CAUTION: To prevent situations involving the incorrect behavior of AI-led aircraft, always comply with one rule – the aircraft controlled by the player should always be in the first flight in any squadron. It is also important to stay away from tasks that cannot be fulfilled (for example, assigning fighter tasks to bombers).

Tip: You can create a mission in which you are not going to participate directly at all. In other words, you don't select the Player option. In this case, you will find yourself in the observer position at the beginning of the mission, and you will be able to switch between views of different objects. To do this, press P right after the start of the mission to pause the game, and then find the appropriate position for viewing the action by switching between the different views (using the mouse with a combination of buttons: Next Enemy Chase View, Next Friend Chase View, Chase View, External View on Ground Target, External Padlock to Closest Ground Target, External Padlock on Air Target, External Padlock to Closest Air Target, Fly-by View, Next Enemy View, Next Friendly View, Wide View, Normal View, and Zoom View). You can also switch between views over and over again, choosing the most interesting moments of fighting both in the air and on the ground. After that, you can also record a track file and edit it later.

2. Armor, Vehicles, and Trains

These have no impact on the mission flow, and simply serve as scenery or targets.



3. Ships

In addition to setting up regular waypoints, ships also have the following setting under the Properties tab:

Skill: Set the ship gunners' gunnery skill to one of four levels. At the lowest level the gunners will rarely hit anything, and at the highest setting enemy planes will almost certainly be hit when they get within the ship's range.

4. Artillery

This listing includes both regular artillery and anti-aircraft guns. Artillery pieces can only have one waypoint and cannot move to a different location during the mission. They will, however, rotate to track their targets.

Artillery objects have the following unique settings under the Properties tab:

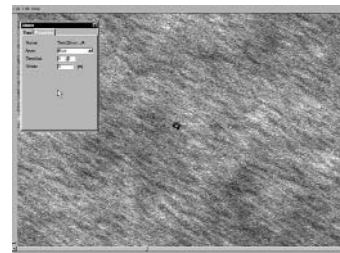
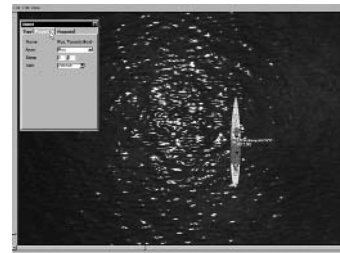
TimeOut: Set the AI gunners to not react to any enemy aircraft for the set number of hours and minutes. This is useful when setting up surprise attacks on their bases, such as at Pearl Harbor, and simulating the guns not being ready to defend themselves for some time.

RHide: Gunners will wait to fire at their target until it gets to the preset distance from them. This is useful for missions where the gunners' side is outnumbered, and will allow them to wait until they have a good shot at the target without revealing their position too early.

5. Waypoints

Here you set the parameters for a selected waypoint. As in the Chief Actor section, these depend to a large extent on the category of the object.

To make the choice of waypoints more convenient, we have placed Prev. and Next buttons on the Waypoints panel. If pressed, they activate the previous or next waypoint on the route. On their right, there is a sign that looks like A(B), where A is the number of the current point and B is the overall number of waypoints. Waypoint numbering starts from the 0.



Waypoint Parameters for the Air Category

Height: Waypoint height above the earth, in meters.

Speed: The speed at which the flight of planes should pass the point.

Time: The time at which the flight should arrive at the point. Changing the Time parameter affects the Speed parameter along the whole route and vice versa.

Type (of Activity): What the aircraft will be doing at the designated point. There are four options:

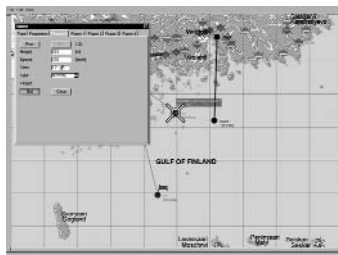
- **NORMFLY:** This is the default and indicates normal flight.
- **TAKEOFF:** The waypoint will be moved to the nearest airdrome.
- **LANDING:** In this case, the waypoint will also be moved to the nearest airdrome. If you place it manually at some point in the field, the aircraft will land there.
- **GATTACK:** This signifies ground attack.

Target: You can select the target in this mode. If you press the Set button, the cursor will switch into selection mode (you can cancel this by pressing the right mouse button). When the flight reaches the waypoint, it will try to attack the target. If you choose Ground Target, the type of activity will change into GATTACK.

Note:

1. For dive bombers, fighters with bombs, and fighter-bombers, you have to set target objects for the GATTACK point. Otherwise, they will attack the enemy object nearest to the waypoint, if they can find it.
2. For transports with bombs and level bombers, set the waypoint directly over the object that you would like to destroy, and then set GATTACK for that waypoint. Planes will drop the bombs in that area. (You must set the GATTACK waypoint without a target object!) Do the same if you use planes with paratroopers as loadout.
3. For dive bombers and fighter-bombers with bombs, the altitude has to be more than 1300 meters for dive bombing. Otherwise, they drop bombs as level bombers.
4. If you want any of the selected groups of planes with bombs to do level bombing, see item 3 above.
5. Don't set an altitude that is too low in bomb target areas for level bombers. They may be destroyed by their own bomb explosion.
6. Don't set the previous waypoint too close to the point of GATTACK. Planes won't have time to rejoin the right formation for the attack. Usually it is enough to set 7 to 10 km between these waypoints.

Tip: If you have difficulty setting GATTACK on a bridge or other objects/units, you need to center them on the map and use the zoom.



6. Plane1, Plane2, Plane3, Plane4

Here you set the following parameters and features for each of the aircraft in a flight.

Player: Select this if you are going to lead the flight yourself. Make sure that the planes in the flight are on the flyable list, i.e., can be piloted by the player.

In Single Missions where ranks are not envisaged, you are automatically appointed commanding officer. If the mission is created for Campaign mode, your rank and your career determine which plane in the flight you will fly.

Skill: Set the individual AI level for every aircraft in the flight.

Skin: You may change the skin (camouflage scheme) for each aircraft in a flight, including AI-only aircraft. The selected skin file will be shown in a window below its corresponding aircraft.

Pilot: As in multiplayer, you may change the skin of the pilot for each aircraft of the flight.

Markings: If the box is checked, then the game will use the standard system of markings for the aircraft, country, and numbering. If the box isn't checked, the planes will have no markings over the standard or user-made paint scheme (skin).

SPECIAL FEATURE: HOW TO ATTACH AIRCRAFT TO EACH OTHER

There are certain combinations of aircraft, such as the Betty bomber with the Ohka flying bomb, that start off attached to each other and then detach during the course of the mission.

1. Set all waypoints for the flight of the mother aircraft.
2. Set only one waypoint for child aircraft and locate the waypoint close to the first waypoint of mother ship.
3. Set the target object of the child's first waypoint to the mother ship's first waypoint.
4. Don't set any waypoints other than the first for the child aircraft. It will follow the plane automatically.
5. You can set these first waypoints for both planes in the air or on the ground (takeoff).

Note: These contraptions cannot land attached to each other. If you set the landing waypoint for one of the two planes, the child will disconnect and try to find an area for landing. When you carry out such missions, you should remember that only in the test flights can you get the right result and make sure the child does not land in a forest or a city, for example.

WAYPOINT PARAMETERS FOR ARMOR, VEHICLES, AND SHIPS

Time: Here everything is the same as in the Air category with just one exception – you cannot vary the object's speed. The object will do its best to arrive on time, but in the end, everything will depend on its maximum speed and the type of landscape.

Timeout: You can make a ground or sea object stop and wait for some time before it resumes movement.

Note: Setting Armor and Vehicles objects by roads or directly on roads that run in the direction of your next waypoints forces these objects to automatically continue their movement along these roads (except the main roads branching into smaller ones in towns and settlements where the correct movement of objects can only be set with a large number of waypoints, placed on the curves and turns of the streets).

Note: Units in the Ships category have simplified AI. They fully interact with the environment in modeled battles, but will never do AI-controlled maneuvers. So, you need to set all their waypoints manually in order to avoid collisions between ships and the beach. For example, if you model the attack of a torpedo boat, you should create the right trajectory of waypoints on the map to get the correct final picture of sea battle. For this purpose, use several static cameras placed in the battle area to watch the interaction between the ships running in the scenario in FMB, and then correct if necessary.

WAYPOINT PARAMETERS FOR TRAINS

Everything is much the same as in the previous cases, except that the trains do not stop on the route. There is no Timeout parameter for trains.

STATIONARY ARMOR, STATIONARY OBJECTS, STATIONARY AIRCRAFT, STATIONARY SHIPS CATEGORIES

Waypoints are not set for stationary objects. All stationary objects placed on the map and equipped with arming (except planes) will also take an active part in military operations.

Note: After you have set a stationary object, you should define its correct position in relation to other objects. For example, correct the direction of gunfire against the advancing enemy or correct the placement of the aircraft on the airdrome. To do this, click on the object with the maximum zoom in 2D mode and orient it in the right direction using the Right (Gray) Num Pad buttons.

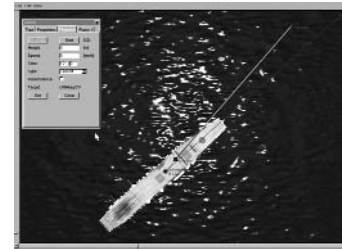
SPECIAL FEATURE

In the Stationary Object category, you may select the objects that are designated simply as object1, object2, etc. These objects are all buildings, bridges, and details that are used for the building of cities and rural places. You may use these to make your own scenarios with new cities, factories, etc. To define which object you want to use, simply use the Show/Hide window.

CARRIER OPERATIONS

In order to get aircraft to take off or land on aircraft carriers, you must follow these simple steps:

1. Set up the waypoints for the aircraft carrier.
2. Set up the first or last waypoint of the plane's flight next to the carrier; first waypoint for takeoff, and last for landing
3. In the Waypoint tab of the plane's properties, set the Type drop-down to either Takeoff or Landing, then set the target to the aircraft carrier.



You can set multiple groups of planes to simultaneously start on the carrier. However, the carrier deck may sometimes be too small to accommodate all the flights you've created. For example, an escort carrier simply cannot handle the same number of TBF Avengers as a much larger Essex-class. The flights that are unable to start on the carrier deck will start in the air above the carrier, flying at cruise speed.

You can set any plane in the game to take off or land on a carrier, but obviously not all of them are capable of the task. So don't be surprised if B-29s cannot take off from a carrier or P-51s cannot land on it, as they are not equipped with arrestor hooks.

Also note that the carrier's speed is very important for determining whether a plane can take off from it. Heavily bomb-laden aircraft, especially underpowered aircraft, may find it difficult if not impossible to take off from stationary or slow-moving carriers. To make their takeoffs easier, especially with a large number of planes starting on deck, always set the carrier's speed to the highest possible setting.

KAMIKAZE MISSIONS

Creating kamikaze flights is very simple. Any flight whose last waypoint is a GATTACK will ram itself into the designated target.

However, if you set up too many waypoints before the GATTACK waypoint, the planes may still decide to use regular attacks before ramming it. Therefore, it's recommended that you only give the kamikaze one waypoint before GATTACK. This will ensure that it attack the target on the first pass.

Note: If you do not want kamikaze bombers, make sure the planes have another waypoint after the GATTACK. If you fail to do this, you may end up with the bombers behaving in a completely unintended manner.

SETTING MISSION PURPOSES

This is also done using the window for setting object parameters. Choose your Target category in the Type section. During task editing, the parameter window consists of two sections: Type and Target. The purpose of the mission is placed on the map (or landscape) just like any other object.

TYPE SECTION

Below is the list of possible purposes:

Destroy: The object nearest to the designated waypoint receives the Destruction icon. The task is considered fulfilled if the marked object has been destroyed.

Destroy Bridge: The same as Destroy, only in this case the icon is placed exclusively on bridge-type targets.

Destroy Ground: An area of set radius is marked around the designated point. To fulfill the task, you must destroy at least half of the enemy objects within that radius. The size of the zone of destruction and the time interval are set in the Target section.

Escort: You must escort a group of planes and protect them from air attacks. The time interval within which you should escort them is set in the Target section.

Defense: You have to protect a ground object from being destroyed by enemy forces.

Defense Bridge: The same as Defense, but here only a bridge can be the focus.

Defense Ground: As with Destroy Ground, an area is marked around the designated point. To fulfill the task, you must preserve at least half of the ground objects in the area. The time interval within which you must defend the area is set in the Target section.

Recon: You have to fly above the waypoint at a distance not exceeding the set parameter and stay there for the set time period. The area size and time interval are set in the Target section.

Target Section

In this section you set the parameters of the task.

Priority

PRIMARY: The main task that you must fulfill for the overall success of the mission.

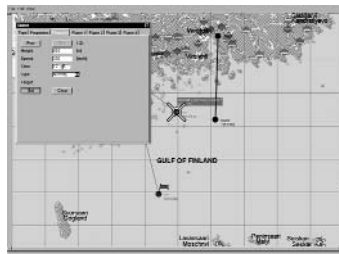
SECONDARY: An additional task. Fulfilling it is not compulsory, but if you do you will be rewarded later when the regular awards and promotions come about.

HIDDEN: A “secret” task that goes unsaid, which you can discover yourself in the course of the mission. This means that you have another chance to excel!

Note: You cannot set Destroy and Defense purposes as the Target for static and artillery units. You only can set them for Destroy Ground and Defense Ground.

Timeout

Some tasks have to be fulfilled before a set time has gone by. If you do not fulfill the task within the assigned period, you have failed. The Timeout field is used to indicate the time before which you should fulfill the task. This condition is activated when you choose Timeout.



In certain cases, it is impossible to set the time limit. This concerns Defense Ground, Defense Bridge, and Recon tasks.

Distance Bar

If the task involves an area, this parameter sets its radius.

Landing

This option only concerns tasks of Recon type. If placed, you have to land in the area indicated in addition to simply flying along this point.

Note: When you design your own missions, the following points become very important:

1. If you create a mission where you start on an airfield and plan to reach high altitude, you should set enough waypoints with the right trajectory or spiral curve so that the climb corresponds to the capabilities of the planes. It is also very important to give the right settings for AI planes. Use climb rate data for each plane from the View Object menu. To make sure that AI planes will achieve the given altitude, set the correct time between each waypoint so that planes can climb to the next altitude. We recommend that you set a realistic data climb rate on the low altitudes and two to three times less at altitudes higher than 4,000 meters. It is also very important to know that the first waypoint (at takeoff on the airfield) shows the direction of the takeoff – the icon on the runway border indicates the direction.
2. If the last waypoint of the aircraft flight is landing on an airfield, make sure that the previous waypoint was set at an altitude of not more than 200–250 meters and is at least 1.5 km before the final landing point in the direction of the landing glissade on the closest runway border (the icon shows the side from which the plane will land). If your flight was at high altitude, make sure you establish as many waypoints as are needed for a smooth dive to the point of the final approach. If you ignore this advice, we cannot ensure that your plane or the AI plane will not be damaged when diving from high altitudes at critical speeds. This is especially important for bombers!

STATIC CAMERA CATEGORY

Static cameras are placed the same way as Static Objects. The difference between the two lies in the fact that you can vary camera height, which enables you to observe both ground and sea objects and targets. The Static Camera option enables you to create missions that are beautiful and interesting to observe. It is specifically recommended that you use it in the following cases:

1. You have created an extremely interesting mission that you want to record as a track file and show to your friends as a film or post on the Internet so that other gamers can look at it.
2. A rather large-scale ground battle is taking place and you'd like to control your mission creation. Place enough Static Cameras without placing them over the whole battlefield. You should bear in mind that the Static Camera is also an object that reduces the overall frame rate.

Note: We recommend that you immediately place all created missions into corresponding directories. For example, if you have created a Single-Player mission, you should save it in a Single-Player directory. The folder corresponding to the country and type of the mission can be chosen in the same folder. If you have created a mission for Multiplayer, save it in a corresponding directory for Dogfight or Cooperative.

HOW TO COMBINE THE CREATED MISSIONS INTO A CAMPAIGN

All missions created for Campaign mode are combined by name or number in a special file. You can do this in one of two ways:

1. Linear – In this case you will proceed linearly through all the missions in a list.
2. Random – In this case, the scenario for the mission will be randomly built, i.e., a randomly branched scenario.

Example of a file for a linear scenario:

```
[Main]
Class il2.game.campaign.CampaignBlue
awards Class il2.game.campaign.AwardsUSfighter

[list]
F4U_1_1.mis
F4U_2_1.mis
F4U_3_1.mis
F4U_4_1.mis
F4U_5_1.mis
```

Example of a file for a randomly branched scenario:

```
[Main]
Class il2.game.campaign.CampaignBlue
awards Class il2.game.campaign.AwardsJAbomber

[list]
ZERO_1_1.mis ZERO_1_2.mis ZERO_1_3.mis
ZERO_2_1.mis ZERO_2_2.mis
ZERO_3_1.mis ZERO_3_2.mis ZERO_3_3.mis
ZERO_4_1.mis ZERO_4_2.mis ZERO_4_3.mis ZERO_5_3.mis
ZERO_5_1.mis ZERO_5_2.mis ZERO_5_3.mis
```

Note:

1. For randomly branched scenarios, you can set as many single scenarios as you want. It may be 1 or 100. In the last case, the program will randomly select one of 100 scenarios.
2. Do not forget that for each scenario that you would like to start randomly, you should use only one map for all scenarios starting at that point. This is necessary to track your successful destruction of ground objects, such as buildings and bridges, for the next mission scenario. Otherwise, the program will automatically

skip these changes of landscape.

The file is created using the Windows Notepad and is saved in the same directory as the missions. For example, folder Campaign > US (or JA) > Fighter. (If the folder Fighter was created earlier, you should manually create a new folder in the same directory and do it quickly, so as not to delete a previously created campaign. Use, for instance, "Fighter2," "Bomber2," "Fighter-Bomber," etc. Use Windows Explorer for this purpose. All single missions or campaign missions and all subdirectories should be stored in the Missions directory of the game root directory.) The file should be named campaign.ini and should not take any other name; otherwise, it will be useless. In addition, using the Windows Notepad, in the folder RU (or DE), you need to create or edit the all.ini file where you create or add the name of the new folder with missions for your own campaign.

Example of file all.ini:

```
[list]
Fighter
Bomber
Fighter-Bomber
```

Once everything has been done correctly, you can start playing the new campaign you have created; all actions are performed in the standard way. Simply choose the country for which you have created your pilot's career and for whom you have created a new career in the Pilot Career menu. You will find the campaign you have just created in the Career window.

Special Feature: B/W Intermission Tracks

To make a pre-recorded track file play as a B/W movie between missions in a given campaign, insert a link to it, preceded by a * symbol, into the [list] section of the campaign.ini found in the given campaign folder.

Example:

```
[list]
* Intros/Intro.ntrk
recon20.mis
* Intros/EndF4F.ntrk
recon21.mis
* Intros/EndG4M.ntrk
recon22.mis
```

Note: The code supports both types of tracks, but we recommend using only the online type of track (*.ntrk type).



HOW TO CREATE MULTIPLAYER MISSIONS

DOGFIGHT

For this Multiplayer mode, you should create spawn points and choose a corresponding color for them. Spawn points should only be located on airdromes. The chosen color will later be visible on the icon, indicating that it belongs to a certain army or airdrome.

CAUTION: You can only set stationary anti-aircraft mountings from ground objects and stationary ships from sea objects. If you ignore our recommendations and set something else, these will be automatically withdrawn from the scenario. We also advise you to steer clear of this to prevent the program from locking up or crashing.

Special feature: 'Home Base' Full Mission Builder feature for multiplayer dogfight missions

The Home Base object has the Aircraft tab in its properties. You may need to resize the Object window to see it in its entirety.

The aircraft listed in the Available pane will be available on that Home Base when online. You may add the planes to the Available list or remove them into In Reserve individually, or by category, such as Country of Origin, Year of Service, or Aircraft Type. Note that you can only operate on currently flyable aircraft.

COOPERATIVE

Here everything conforms to single-mission requirements: all AI objects available for single play can be used in Cooperative mode as well. Nevertheless, you must bear in mind the restrictions imposed by data transfer speeds via the Internet:

- The number of players in planes, including gunner seats, should not exceed 32.
- Do not overload your mission with a large number of AI objects. The communication channel may not be able to cope with it, causing the game to periodically hang up and prevent you and your friends from enjoying the fun.

We do not want to restrict you to a set number of AI objects, but the fewer you use, the better. A huge number of objects can be set at your own discretion and risk. You should determine the possibilities of your communication channel and those of your friends for gaming in Cooperative mode via the Internet. We highly recommend that you familiarize yourself with similar missions shipped with the game. For this purpose, load our missions in the Full Mission Builder and see how they are done.

Note: We do not recommend using maps with a large number of buildings in the cities (for example, Berlin, where over 500,000 houses are displayed on the map). The status of each house is regularly checked by the program and sent via Internet to other players. This can lead to noticeable online game freezes. Recommended cards include special cards for online play as well as Prokhorovka, which was initially modeled for not only single play, but also for cooperative play.

Special Feature: Cooperative or Dogfight Briefings

When you need to make restrictions for armies in briefings (especially important for cooperative missions), use some simple keywords that will help you program your briefing.

Begin by writing the common things, like conditions of weather, dates, etc. – any info that is the same for both sides. This part of the briefing will be displayed for all players (in both Dogfight and Cooperative missions) before the keyword line <ARMY NONE>.

Below <ARMY NONE> are restrictions for armies.

Here you may place a short brief for all armies that is displayed before you select your aircraft. It is possible to write nothing or to notify others to select their aircraft (in both Dogfight and Cooperative). All the briefs below are not shown before you select your aircraft. Once the aircraft or the position of multi-crew aircraft are selected, one of the briefs below will be displayed, depending on which side the aircraft was selected to play for. At the same time, the text that was there (<ARMY NONE>) will disappear.

</ARMY>

<ARMY RED>

Below <ARMY RED> you can write the briefing for the Red side.

</ARMY>

<ARMY BLUE>

Below <ARMY BLUE> you can write the briefing for Blue side.

</ARMY>

Note: Keyword lines are not displayed in the Briefing menu. Armies in keyword lines may be any color described in Full Mission Builder, so it is possible to use it not only for two armies, but for all 16 (in a Dogfight).

Here is a sample brief for a Cooperative mission:

Time 12:00

Clouds: 1,000 m

Map: Hungary

<ARMY NONE>

Select the aircraft or position of the multi-crewed aircraft:

</ARMY>

<ARMY RED>

Attack Me-210s near the city of...

</ARMY>

<ARMY BLUE>

Cover Me-210s

</ARMY>

HOME BASE FEATURES IN THE FULL MISSION BUILDER

The Home Base object has the Aircraft tab in its properties. You may need to resize the Object window to see it in its entirety.

The aircraft listed in the Available pane will be available on that Home Base when online. You may add planes to the Available list or remove them to In Reserve individually, or by category, such as Country of Origin, Year of Service, or Aircraft Type. Note that you can only operate on currently flyable aircraft.

By default, or when running a mission with Home Bases of a previous version, all flyable aircraft are available.

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UBISOFT CREDITS

Publisher: Ubisoft Entertainment

CEO:	Yves Guillemot
International Production Director:	Christine Burgess-Quemard
International Content Director:	Serge Hascoet
EMEA Director	Alain Corre
US Director	Laurent Detoc

3rd Party Project Management

EMEA Director of development:	Virginie Gretz
Executive producer	Stéphane Decroix
Producer	Fabrice Cambounet

Tests

Worldwide Tests Manager:	Eric Tremblay
Lead Tester:	Marc-Alexandre Plouffe

Testers:

Daniel Abel, Huynh Van Du Tran, Marius Ungureanu, Dany Ménard, Mathieu Ménard, Mathieu Benoit, Christian Chauvette, Olivier Gauthier

With the help of :	Emmanuel-Yvan Ofoé
Lead Tester Compatibility:	David Lévesque

Localization

Director:	Coralie Martin
Project Manager:	Loic Jacolin
Paperparts Localisation Manager :	Lise Gilbert
France:	
Translation/proofreading:	Cédric Tannay

Linguistic Testing: Bug Tracker

Germany:

Translation/proofreading: Partnertrans

Marketing

European Marketing Director: Florence Alibert

Brand Group Manager: Bénédicte Germain

Brand Manager EMEA: Hervé Perret

American Marketing Director: Helene Juguet

Director of Brand Management America: Karen Conroe

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Brand Development Manager : Isabelle Mallet

Marketing Game Manager : Guillaume de Butler

European Director of Marketing Strategy : Cyril Vermeil

Design Packaging & manual

Art Director Lee Ann Weber

Design Traffic Manager Ryan Molyenaux

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