

AIR WARRIOR II.



AIR WARRIOR II.



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ACKNOWLEDGMENTS

In creating the cockpit images for *Air Warrior II*, the artists at Kesmai worked from photographs of the historic aircraft. We wish to thank the following organizations and individuals, who generously gave our photographers access to their planes, or who provided old pictures and other materials. We also wish to thank those organizations who helped us anonymously.

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Cavanaugh Flight Museum, **Dallas, TX**

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Sopwith Camel

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EAA Air Adventure Museum, **Oshkosh, WI**

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Lone Star Flight Museum, **Galveston, TX**

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Spitfire MK XIV

F4U Corsair

P-38 Lightning

P-40D Tomahawk

RAF Museum—**Hendon, England**

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Junkers Ju 88

F2B Brisfit

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Hawker Hurricane

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INTRODUCTION TO *AIR WARRIOR II*

Strap into a Messerschmitt, a Mustang or some other WWII-era plane. Roll down the runway and into cyberspace. The dots you see on the blue horizon are other modem pilots jacking in from locations all over the world. The missions are fun, and the realism is unsurpassed. ...Air Warrior is proof that online gaming has come of age.

- Time Magazine, The Best of 1996, Dec. 23, 1996

Welcome to *Air Warrior II*, the most advanced and realistic air combat simulator available for the personal computer. Whether you are a veteran of simulated (or actual) air combat or a new recruit, *Air Warrior's* features will offer you challenging, thrilling experiences both online and offline.

Air Warrior reinvented online multiplayer gaming nearly 10 years ago by offering the first fully graphical, real-time air combat simulation open simultaneously to players around the world. Competing products have emerged over the years, but *Air Warrior* remains the favorite because of its rich and uniquely realistic game environment.

"Situational Awareness, or SA for short, is knowing what is happening around you at all times. This is VERY important. A pilot that flies around in a daze will soon find himself dead. Use your view keys! Make them your life! Always check your 6. Know where the bad guys are all the time. Fighting your own fight is simply this: making your enemies fight the way you want to fight, not the way they want to fight.

- Ghost Rider

INTRODUCTION TO *AIR WARRIOR II*

Players from across North America, Europe, Australia and Japan have enjoyed the excitement of meeting each other in simulated battle. They connect to each other through Kesmai's host computers, which are accessible through most of the major online service providers. No other air combat simulation offers such an extensive opportunity for real-time action against other human players; and no other game has developed such an interesting online community. This is a true multiplayer environment, in which hundreds of players interact, performing roles as diverse as their own interests.

With the introduction of *Air Warrior II*, you have maximum options for training and combat. A revolutionary artificial intelligence (AI) provides scaleable levels of challenge for offline play using the same software you will use for flying online—where the best sim pilots in the world test their skills. Some characteristics of the game will vary between offline and online play, but once you have learned the basics of flying the aircraft and maneuvering in combat, you should feel right at home in either environment. A modem-to-modem feature also has been added, enabling you to connect directly with another player by modem for one-on-one dueling.

This manual covers both the stand-alone and multiplayer features, though you will have access to the multi-user environment only if you use an online service that offers *Air Warrior II*.

THE *AIR WARRIOR II* EXPERIENCE

"A dogfight is a series of problems and solutions leading to the final position where guns are fired. There are several solutions to each problem, some are better, some are worse, and worst is usually fatal."

- Ho

The action in *Air Warrior II* focuses on the most important air battlegrounds in history: the European and Pacific theaters of the Second World War. You can also fly missions in World War I, and the Korean War.

INTRODUCTION TO *AIR WARRIOR II*

Although *Air Warrior II*'s combat takes place in a historical environment, it is not intended as a replay of World War II or any other specific conflict. The battle being waged in the game is happening now, using planes and weapons from past wars, over terrain representative of World War II's most hotly contested operational areas. You will fly over the mountains, forests, and farmlands in the European Theater of Operations or hunt the enemy over the blue expanses, islands and atolls of the Pacific Theater.

Much of the action in *Air Warrior II* involves dogfighting between fighter planes. To survive this sort of combat, pilots must develop considerable skill in controlling the aircraft. In addition, you can simulate larger actions involving bombing runs, troop transport, and the capture or destruction of enemy targets. In the multi-user environment, tanks and other vehicles are available for use in extended combat operations.

The simulated aircraft are built around detailed, historically accurate flight models taken from actual test-flight data. Cockpit interiors are based on photographs taken in the historic aircraft. Thus, each of the planes you fly will have performance and handling characteristics that are accurate and unique to that type of plane. As you fly, you will learn the historic strengths and weaknesses of these legendary war birds, and how to employ their distinctive traits to your advantage.

"...basically...the Cat has the turn rate comparable to the 38, but a better roll rate. Stallfitin' against a Ki is marginal... a P-38: 50-50... an F4 a good way to win, a 51 a sure thing <g>. The cat is big...blue, reasonably fast and maneuverable for its size. Armament is middle of the road, but its lethality holds up over most of its load. It holds a TON of gas, climbs well, and has decent dive performance. Its also quite durable...probably second in the game. You can easily run from a Zeke or dive or fight."

- Shaky Stick

INTRODUCTION TO *AIR WARRIOR II*

Even if you have never tried a flight simulator before, it is not difficult to learn *Air Warrior II*. You will need to practice controlling the plane before you go into combat, however, so a good starting place is to take a checkride from the Mission hangar. If you are eager to get in the air quickly, see the “Getting Started” Chapter of this manual.

AIR WARRIOR II FEATURES

Air Warrior II offers advanced features that are unique among air combat games. Choose from multiple screen resolutions: 1024 X 768, 800 X 600, and 640 X 480 are all supported in 256 colors. Experience advanced levels of flight realism: accelerated stalls, G effects, red-outs, blackouts, and uncontrolled spins. Enjoy the high-resolution artwork: up to 16 separate cockpit views from each aircraft or vehicle. No other air combat simulator offers as many realistic features.

There are several different ways to play *Air Warrior II*, whether you are playing offline or online. In the stand-alone game, you can take the aircraft or vehicles out for solo rides, you can fly missions and campaigns, or you can go into instant action, where dogfights likely will find you before you find them. In addition, you can set up a modem-to-modem duel by connecting to another player by modem. The multiplayer environment offers the additional feature of coordinated action among a unique and lively community of players.

HARDWARE REQUIREMENTS

Air Warrior II requires the Windows 95 operating system.

Hardware Requirements Are:

- IBM compatible Pentium processor, with local bus video (Pentium 75 or better recommended)
- At least 16 MB of memory
- Hard disk drive with at least 50 MB free space
- 2X CD-ROM drive

INTRODUCTION TO *AIR WARRIOR II*

- Direct X compatible video card capable of 640 X 480 resolution and 256 colors, with 512 K or more of video memory
- Mouse and joystick (planes can be flown with only a mouse, but a joystick is recommended)

Recommended Optional Equipment:

- Soundblaster-compatible sound card
- Dedicated game port
- Throttle and rudder controls
- Multifunction joystick, such as ThrustMaster FCS, CH Pro, etc.

NAVIGATING THE *AIR WARRIOR II* ENVIRONMENT

The interface for *Air Warrior II* takes over your entire screen. Though it uses the Windows 95 operating system for communication between your computer and the game, it usually keeps the familiar elements of Windows 95 in the background.

The interface is easy to use. While in flight, the game's images and sounds will give you the kind of feedback a pilot's instruments (and his own senses) normally would supply. You will use this information as you control the aircraft with the keyboard, mouse, and/or joystick. Non-flight functions can easily be selected with the mouse by clicking on controls called "hot spots," which are built into the game's graphic images. Another control option is a system of pop-up menus, activated by clicking the right mouse button.

In this manual, "click" and "double-click" refer to the left mouse button. Use of the right mouse button or the right and left buttons together is less common; when these actions are called for, they will be described explicitly. When you are not in the cockpit, the right mouse button is used to access the pop-up menu system.

INTRODUCTION TO *AIR WARRIOR II*

Controls and Informational Aids

The interface for *Air Warrior II* includes the following controls and informational aids:

The Main Airfield Screen

Air Warrior II always opens to a screen representing a World War II era airfield. From there, you can navigate to the game's various setup and flight areas.

The Guide

As an aid to new players, *Air Warrior II* contains a system of informative text boxes called "The Guide." These instructions appear each time you enter a new game area, and they describe the locale and the actions you can perform there. If you feel you do not need it, you can disable "The Guide" in the setup area under User Preferences – or in "The Guide" dialogue itself.

On-Screen Help

Press <F1> from any game area to access an extensive help system. While in flight, <F1> brings up a list of available commands.

Hot Spots and Tool Tips

Hot spots are areas of the screen you can click on with the mouse to navigate through the game. As you move the mouse over the non-flight screens in *Air Warrior II*, hot spots will be indicated by labels called tool tips, which pop up to show you the "clickable" active areas. When over a hot spot, the cursor changes from a pointer to an airplane shape.

In the main airfield, for example, the tool tip labeled "Setup" appears as you pass the mouse over the Setup hangar. Click here to go to *Air Warrior II*'s setup area. To display tool tips for all the available hot spots on the active screen, press <ALT>. In Setup, you may set *Air Warrior II*'s hot spots to show all the tool tips all the time.

Pop-up Menus

Press the right mouse button on any non-flight screen to pop up a menu where you may access the Setup

INTRODUCTION TO *AIR WARRIOR II*

area or Help system, or exit from *Air Warrior II*. Other specific functions also are available in the pop-up menus, depending upon where you are in the game.

Game Areas

From the main airfield, you can navigate to all the *Air Warrior II* areas. Press <ALT> to display all the tool tips, indicating the main airfield controls. The game's areas include:

Setup Hangar

From the Setup hangar, all functions of *Air Warrior II* setup are available. These include adjustments to your control devices, the flight interface, and sound.

Mission Hangar

The Mission hangar is where you will start for much of your stand-alone use of the game. Here, you may take a solo checkride in one of the aircraft or vehicles, or go out on combat missions and campaigns.

Missions are organized actions in which you participate with a game-generated flight group; they are designed to be completed in a single *Air Warrior II* session and cannot be saved. Campaigns are groups of missions, which you may save and complete over the course of multiple sessions.

Instant Action

Instant action is another area you use offline. Here, you will fly into battle for dogfighting "against the computer."

Gun Camera Films

Go to the "Film" area to play recorded "films" of game sessions. *Air Warrior II* comes with a selection of gun camera films; also, you can record your own flights for later review.

Modem-to-Modem Tower

From the modem-to-modem tower, you can setup and run duels with another player.

INTRODUCTION TO *AIR WARRIOR II*

Fly Online Multiplayer

Click on any of the three planes flying above the main airfield to go to the multi-user environment. To use this area, you must be connected to the Kesmai host computers through an online service provider. This area is disabled if you are playing offline.

When you play online, the skies you've flown in the stand-alone environment become filled with people looking for unwary prey. Online players may participate as individuals, or as part of a squadron made up of other pilots. A player may fly as a fighter pilot or may choose to serve as a bomber pilot, bombardier, or bomber gunner. Players also may crew ground-based vehicles such as a tank or flak gun. The multiplayer environment also offers a dueling mode, in which players can challenge other online individuals or groups to airborne duels.

The multiplayer environment differs in some details from the stand-alone game. See Chapter 4 for more information on online play.

THE MISSION EDITOR

Air Warrior II comes with an editing program for creating your own offline missions, or briefings for online missions. The Mission Editor is an installation option when you install *Air Warrior II* on your computer, and it operates independently from the game. See Chapter 6 for more information on using the editor.

HELP IN *AIR WARRIOR II*

In addition to this manual, an extensive help system is available from any non-flight screen by pressing <F1>. From the cockpit, <F1> will display a summary of the flight controls.

After you first install the game, a helpful pop-up system called "The Guide" will be enabled to give you additional information as you navigate through the various areas of

INTRODUCTION TO *AIR WARRIOR II*

Air Warrior II. You may turn off “The Guide” when you feel it no longer helps you.

Learning to fly the aircraft is a challenging and enjoyable process. If you are experienced with other flight simulators (or flying real planes), you should have little trouble flying in *Air Warrior II*. Beginning pilots may find it helpful to practice in solo flight, or select the Novice realism level and run some offline missions. Each player will find his or her best method for learning. In the online, multi-user environment, training sessions are held regularly. For more information, go to your online service provider's *Air Warrior* area.

INTRODUCTION TO *AIR WARRIOR II*

SETUP

From the main airfield, click on the *Setup hangar* to enter the *Air Warrior II* setup areas, or click the right mouse button to pop up a menu with setup options. Default settings will work fine in most cases, so if you don't know which choice to make, leave it alone for now. Setup may appear complicated when you are starting out, so don't feel you have to get it all right the first time. After you have used the game, you may want to revisit the setup areas and make further adjustments.

In the Setup hangar, there are three main setup areas: Aircraft Setup, Sound, and User Preferences. As on all non-flight screens, you may access help by pressing <F1>. When you are done, click on the Exit door to leave setup and return to the main airfield.

AIRCRAFT SETUP

Click on the mechanic's clipboard to access Aircraft Setup. It contains three areas: Controls, Realism/Difficulty, and Cockpit Display. Choices you make here will apply to all aircraft you fly, though you may go back and revise the settings any time you like.

Aircraft Controls

Click on CONTROLS to open a window where you can select and calibrate the hardware devices you will use for your stick, throttle and rudder controls. Select the names of your control devices from the drop-down lists; after you have made a selection, a picture of the device will appear in the appropriate box. If your specific device is not listed, choose the generic option. If this does not work, or if you

SETUP

do not have a special control device, then accept the default settings. In the default setup, you would use the mouse as your stick control, the keyboard/mouse as throttle, and keyboard as rudder.

If you are operating with the mouse and keyboard, no further control setup is required. Click on CLOSE to save your changes and return to the mechanic's clipboard. If you have selected other flight control devices, you must calibrate them. Click the TEST AND CALIBRATE button at the bottom of the selection window.

Test and Calibrate Aircraft Controls

The actions you will take in the calibration area will depend upon the particular control devices you have selected. You will receive instructions on the screen.

Note: Some joysticks and other hardware devices require you to load software or to complete other preliminary setup procedures. If the software driver for your joystick is not present, *Air Warrior II* will display an error message; exit the game and load the software before proceeding. Most devices are easy to install in Windows 95, using the Add New Hardware icon in the Windows Control Panel. For more information, consult your hardware manual, or refer to Appendix A of this manual for a list of supported equipment and notes on their setup.

Calibrate Stick, Throttle or Rudder

In the calibration window, click on stick, throttle or rudder to begin an automatic calibration sequence for the selected device. Follow the prompts to complete the process. If special calibration software is required for your control device, or if you have selected the mouse and keyboard as controls, calibration will be disabled.

When the stick calibration process is finished, you will see a green cross in the middle of a black test screen. If the cross is in the center of the black screen, and moves appropriately to joystick movement, the calibration is okay. If the cross is not in the center of the screen, then you should run the calibration again.

SETUP

If the cross moves without any joystick movement, you should calibrate again and, perhaps, increase the damping or deadzone as described below. The black band below the black joystick test window serves the same purpose for rudder calibration. After you've calibrated your rudder you should see a green line in the middle of this black band. If the line favors one side of the band or another, recalibrate. If it's unstable with no rudder control applied, you may need to increase damping or deadband.

Deadbands

Use the *deadband* sliders to set how much you must move your controls before they have a noticeable effect. Increasing the deadband setting is useful if you have problems with the controls drifting.

There are separate *deadband sliders* for the joystick and rudder pedals. Move the slider to the left to reduce the deadband, with the minimum setting being zero. Move it to the right to increase the setting, up to a maximum of 20 percent of the control's full movement. If the stick's green cross or the rudder's green line moves when you are not applying a control input, move the slider to the right until the indicator is still.

If you have a stick with a hat switch, an additional indicator will appear in the stick calibration window. Look to the upper right of the joystick test box for a small black box with a green square in the center. When you move the hat around, the green square should turn into a line, pointed in the direction in which you have moved the hat. Also, check the green line for the rudder when you move the hat. If it moves, then increase rudder deadband still further.

Damping

Some control devices may not provide steady inputs to the computer. The *damping slider* helps smooth out jerky or erratic control behavior. Use the default setting at first, but increase damping if you experience jittery controls. This setting affects all control devices equally.

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Scale Stick Inputs

Joystick movements are defined by their axis: Moving the stick from side to side is a *roll axis* movement, and back-and-forth is a *pitch axis* movement. Many players find that reducing pitch axis sensitivity helps during high-speed, high-G maneuvers. Click on SCALE STICK INPUTS to adjust the game's sensitivity to pitch axis movements. Mouse users will find that it works best to reduce the sensitivity to below 50 percent (33 percent is the default). You may want to experiment with sensitivity levels to find a setting that suits your playing style.

Stick sensitivity is represented on a graph, which will change as you make adjustments. If you do not intend to fly in full realism, then you probably will want to use the default sensitivity setting. The speed of the action in increased realism usually demands a reduction in sensitivity, especially for small stick movements.

To make an adjustment, click the selection button for one of the following two methods:

Standard Setting – controlled by the realism slider

The *realism slider* is designed to approximate the correct sensitivity setting for various degrees of game realism. Move the slider all the way to the right for the best control characteristics in full realism – especially for blackouts and spins. With the slider at the full left position, response to the stick will be more direct; abrupt movements at this level of sensitivity may cause erratic control inputs.

Custom Scaling

Custom scaling offers you a more precise control over the stick sensitivity curve by allowing you to directly manipulate the graph. To customize stick sensitivity, drag a portion of the line up or down. To manipulate the graph with the keyboard arrow keys, use left/right to select a segment of the line, and up/down to move it.

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Key Mapping

The Key Mapping box is primarily a diagnostic tool, displaying button assignments for control devices such as the joystick, throttle or rudder.

For example, when you press Button 1 on your throttle control, the Key Mapping box will indicate the equivalent keyboard input for the function controlled by Button 1. If the button is set for Start Engine, then the “keymapped” key for that function (the number 8) will be displayed. For a complete listing of keyboard key functions, see the Command Reference accompanying this manual.

Realism/Difficulty

Choose one of the three settings in the Realism area at the bottom left corner of the mechanic's clipboard. Your choice here will set the level of difficulty for play in the stand-alone, offline environment only. Realism in the online environment is set automatically by the host computer.

The three settings here are Novice, Veteran and Ace. At the Novice level, flight is slowed to half normal speed (although your airspeed indicator reflects full speed), and all the realism features are disabled. Veteran level is similar to Novice, except that flight proceeds at the regular speed. Ace level has all the realism features enabled.

Realism features include:

Buffeting

In actual flight, turbulence is created when your angle of attack (the angle at which your wings meet the relative wind) is too high, thus disrupting the smooth flow of air over the wing's surface. When *buffeting* is applied, your display will shake to indicate maneuver-induced turbulence.

Stalls

A stall occurs when the aircraft's angle of attack (angle between the chord of the wings and the direction of the relative wind) is too high to sustain

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airflow sufficient to produce the lift need to hold the plane in the sky. Although commonly associated with low airspeed, a stall can occur at any speed. Under relaxed realism in Air Warrior we prevent high speed stalls - accelerated stalls - by preventing you from reaching a critical angle of attack at speed. Under full realism (Ace level offline) there are no such programmatic restrictions.

Spins

If a stall occurs while the plane is maneuvering, it may begin to auto rotate in the stall and spin. The fundamental requirements of a spin is that the aircraft is in a fully stalled and uncoordinated state.

Lethality

The higher the realism level, the closer the aircraft's firepower will approach realistic potency. At the Novice level, the lethality of guns, as well as ammo loads, are increased significantly. Kills can happen very suddenly at the higher realism levels too, but you have to get close to your target, and be accurate with your gunnery, to achieve them.

G (Gravity) Effects

The human body is accustomed to one G: the normal force of the earth's gravity. Dramatic maneuvers create G forces that can be many times the force of gravity. If you pull more than six positive G's for a sustained period of time, blood will be drawn from the brain, causing a blackout. Negative G's do the opposite, forcing blood into the head; if the G force is severe, the effect is called a "red-out." At realism levels of Veteran or above, blackouts and red-outs are enabled.

CONFIGURING THE FLIGHT INTERFACE

The right side of the mechanic's clipboard lists your choices for configuring the flight interface. Select one of two choices for the *airspeed indicator*, and then click in the lower section of the clipboard to open a window where you can complete the *cockpit display* setup.

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Airspeed Indicator

The two choices are INDICATED and TRUE. *True airspeed* displays the plane's speed (measured in knots, where 1 knot = 1.14 MPH) through the air. While this method may be helpful for calculating time and distance on long flights, it is not as useful in combat maneuvering. *Indicated airspeed* is adjusted for the density of air at the altitude you are flying; this gives a more accurate picture of potential flight performance, adjusted for the thinner air at high altitudes.

Most pilots prefer to use indicated airspeed, which is the default setting. Jets also have a digital Mach meter in their airspeed indicators. This meter tells you when you have exceeded the speed of sound (Mach 1).

Cockpit Display

These options govern the look of the in flight portion of the game.

Detail Level

Detail level settings adjust the appearance of the ground terrain as it is visible from your cockpit. You may reduce the amount of terrain detail visible in the *Air Warrior II* environment to match the game to the processing speed of your computer. Begin with the default MEDIUM setting; if you experience erratic displays, switch to LOW detail. If your computer performs well at the default setting, try the HIGH setting. Choose the CUSTOM option to open a selection window where you can decide which detail elements will be used. Detail levels also can be adjusted during flight (see Chapter 5: The Flight Interface).

Cockpit

The *cockpit options* adjust the appearance of your in-flight cockpit. You may set full, realistic cockpit views, partial views with obstructions removed, or no cockpit art (gray shapes only). The default is FULL. The more cockpit art you display, the smaller the screen area that must be updated each second. Thus, although it's

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perhaps counterintuitive, full cockpit art produces higher frame rates than the partial or none options.

Gunsight

"I have found that the better I shoot, the less I have to maneuver.

- Gray Eagle

The gunsight offers you three options. You may set it up as a LEAD COMPUTING SIGHT, a BORESIGHT, and you may turn the TRACER option on and off.

A *lead computing sight* (LCS) features a pipper, or floating diamond, which indicates where your bullets will go. LCS sights compute fire control information in relation to the aircraft's movement and other factors. In *Air Warrior II*, you may select the color of the sight and you may set the FIXED option, which locks the pipper into a single position, making it similar to the boresight. The default gunsight is the LCS, set as black.

The *boresight* is a fixed centerpoint in your gunsight. It shows where you bullets would go if you were flying straight, pulling no G's and making no maneuvers. You may also select a color for your boresight.

Tracers are visible bullets, placed intermittently in the ammo belts to show your gunfire as a visible stream. They are very helpful in helping you adjust the amount of lead you have pull to focus your bullet stream on a target. You may set the color of your tracers - ideally you should select the color most visible to you in relation to the inflight environment. Tracers are enabled by default.

Instruments

Select either the ARTIFICIAL HORIZON or the STICK BOX indicator. An *artificial horizon* shows your orientation in relation to the ground. A *stick box* indicates how much stick control is being applied at any given moment. The stick box is most useful for

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inexperienced pilots, and is essential if you are flying with the mouse. It is the default.

Track

The *tracking* options govern how other planes will appear on your radar screen and tactical display. When an aircraft is within radar range, an icon will appear on the radar screen to show its relative position, and a matching icon will appear on the tactical display at one side of the radar screen, with a readout of the plane's distance from you.

You may choose whether aircraft will be represented as ICONS or as NUMBERS, and whether the display will be in NORMAL or REVERSE video. Icon display is the default, in normal video.

Enable Flashes When Hit

This enables/disables a red flash effect when your aircraft is hit by gunfire. It is on by default.

Country Colors

A-land, B-land and C-land refer to nationalities used in the online multiplayer environment. Offline, two country colors are used. You may adjust the countries' colors to make identification easier, particularly if you have difficulty differentiating the default colors.

Plane Shape Caching

This governs the way the detailed, 3D shapes of other aircraft are handled in flight. Loading all shapes at the start of a mission consumes memory but provides a seamless transition in appearance as aircraft get closer to you. Load common planes loads the shapes of aircraft you would expect to encounter in the terrain you are flying in. Load at minimum vis is the most memory efficient of the options. Plane shapes will only be loaded when they get close to you. The drawback is that you may experience a brief slowness of frame rate at the moment the shape is loaded.

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SOUND CONFIGURATION

Click on the loudspeaker in the Setup hangar, or use the right mouse button pop-up menu, to go to the Sound Setup area.

The Sound Setup window contains two slider controls to set the general volume level. The Sound Effects control adjusts sounds you will hear in your plane during flight, while the Incidental Sounds control affects ambient noises in the various *Air Warrior II* rooms and other non-flight screens. After you have made a volume setting, you can check it by using one of the Test buttons next to the sliders. If you have a stereo sound card, some sounds will be rendered in stereo for spatial effects. Mono boards will play all sounds, but without stereo.

In addition to the volume settings, you may choose which sounds will be active during your game sessions. Incidental Sounds may be turned on and off by selecting the appropriate button. The default setting is on. For in-flight sound effects, you may select from three options: ALL SOUNDS ON (default), ALL SOUNDS OFF, and CUSTOM.

Selecting the CUSTOM option opens an additional configuration window where you can turn on specific sounds and set their volume individually. Use the SET ALL button to select all sounds; your custom volume settings will not be affected. CLEAR ALL deselects all sounds, also without affecting the volume controls. The slider control for Max. Audible Distance sets the number of yards at which you will hear sounds generated by other planes in your flight environment.

USER PREFERENCES

Click on the filing cabinet in the Setup hangar, or use the right mouse button pop-up menu, to go to the User Preferences area. The User Preferences window is arranged in three pages, labeled File Locations, Flight Window Resolution, and Interface. Click on the appropriate tab to access one of the pages.

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File Locations

Air Warrior II sets up a directory structure during installation for all essential components of the program. The main directory and subdirectories are listed on this screen. These include locations for sound files (\sound), interface art (\dibs), plane art (\art), films (\films), support files (\support), and missions (\missions). The “temp” directory normally will be the one listed in your Autoexec.bat file, in the line that starts “set temp =”. *Air Warrior II* is used to store temporary files such as newly created gun camera films. Normally you would not need to specify different directories or subdirectories. If you change the location of these files, however, you need to note the changes here.

The correct drive letter for your CD-ROM drive should appear in the box labeled “CD-ROM location.” If the drive is not correctly identified, then select the DISABLE CD-ROM SEARCH box.

Flight Window Resolution

There are four framed areas on the Flight Window Resolution page. In addition to setting the in flight *screen resolution*, you may set *view caching options*, *screen modes allowed*, and *view optimization*.

Screen resolution - In Flight

The setting you make here determines the resolution of your flight window. Select from the three resolution settings, depending upon the capability of your video card and monitor. If your computer has fewer than 16 megabytes of memory, the display will work more smoothly at lower resolutions. Non-flight screens in *Air Warrior II* will be displayed at whatever resolution you have chosen in the Windows control panel. You may not set the flight window resolution higher than your Windows control panel setting. The default in flight screen resolution is 640x480.

View Caching

In addition to the forward view, *Air Warrior II* allows you to look out from the cockpit in 12 different directions. Holding down the left arrow key while in

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flight, for example, will change from the forward view to a left side view.

The *view caching* feature is designed to increase the smoothness and speed of the display by storing in memory the fixed elements of some or all of the available alternate views. Thus, for example, when you call for a side view, the game will not have to read from the disk to get the picture of the cockpit from that view. The game will cache the views you use the most, up to the maximum number you set.

To use this feature, select the ALLOW VIEW CACHING box. For *Maximum number of Views Cached*, select a number from the drop-down list. If your computer has fewer than 16 megabytes of memory, view caching may cause a reduction in the smoothness of the display; if so, set view caching to a smaller number or disable it. The default setting is disabled.

Screen Modes Allowed

When you are flying *Air Warrior II*, you may switch among three modes of viewing the world around you. **Normal mode** (the default) shows the full instrument panel, radio text buffer, and, when other aircraft are nearby, the maximum possible icons for tracking the positions of those aircraft. Normal mode might also be called *situational awareness mode*, as it is useful in assessing your combat situation. **Combat mode** expands the view window at the expense of some of the tracking icons. It also hides the instrument panel, providing the same information in compact, non-graphical form at the sides of the screen. You will see Altitude, Heading, Speed and Gs; press the <Tab> key to see Fuel, Ammo, Throttle setting and Climb rate. As the name suggests, this mode may be the best compromise for effective dogfighting.

Full screen mode, also known as *close combat mode*, expands the out-the-window view to fill the entire screen. You will not see anything coming into the text buffer, and you will see the distance to other planes, but no identification. You will have a minimal instrument cluster, showing airspeed, altitude, Gs and heading. This mode is

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most useful for close combat, when you really don't have time to pay attention to anything but nearby aircraft.

In setup, you may choose to enable either NORMAL MODE ONLY, NORMAL and COMBAT MODES, or ALL MODES. In flight, you will always start in NORMAL mode. If enabled, F6 will take you to COMBAT mode, F7 to FULL SCREEN mode. F5 will take you back to NORMAL mode.

Screen modes are different from cockpit detail levels (from the mechanic's clipboard, under Cockpit Display, you may choose Detail). While the options in that window allow you to change the realism of your plane's appearance from the cockpit, this is independent of screen modes.

View Optimization

Make a selection under View Optimization for the screen mode you intend to use most intensively. Active options depend on your choice of screen modes allowed, including OPTIMIZE NORMAL MODE, OPTIMIZE COMBAT MODE, or OPTIMIZE FULL-SCREEN MODE.

When you are starting out with *Air Warrior II*, you probably will want to see the instrument panel, and thus you will rarely use combat or full-screen modes. In this case, the best setting for View Optimization will be OPTIMIZE NORMAL MODE; this is the default setting. If you find you are using the other modes frequently, you may consider changing this setting. You will see that the appearance of the cockpit view will change, depending upon your selection. If you have optimized for normal mode, for example, then the artwork will have to be stretched in full-screen mode, with some visible degradation of quality.

Keep in mind that higher-resolution images use more of your computer's memory, and thus may affect the smoothness and speed of the display. If you have less than 16MB of RAM, you probably will want to use the OPTIMIZE NORMAL MODE setting.

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Interface

Tool Tips

Tool Tips are the text labels that indicate the function of interface hot spot controls in the non-flight screens. You can turn them off, have them display constantly, or have them display when your mouse pointer lingers over a hot spot for a specified period of time. Remember that even if you disable the Tool Tips' automatic function, you can display all the labels on the current screen by holding down the ALT key.

Other interface adjustments available include the following:

Language

Select your user language from the drop-down list. The default setting is the language you have selected in your Windows 95 setup.

Show Guide

The game will show on-screen help messages when you enter a new area. This feature is useful for beginning players, as is enabled when you first run the game.

Show Scores After Flight

Clear Text Buffer Between Rooms

These options refer to *Air Warrior II's* online multi-user environment only. Show Scores, turned on by default, enables/disables a display of your score after each online mission. In offline play, scores are displayed on the debriefing screen after missions. Clear Text Buffer refers to communication between online players, does not appear in offline play. Its default setting is off. See Chapter 4 of this manual for more information on the multi-user environment.

Show Cockpit Art Warnings

When you select an aircraft, *Air Warrior II* displays artwork to represent the view from the cockpit. If you have not installed all of the art files, the game may not find the file it needs for your plane selection and will use a generic artwork. Checking the SHOW COCKPIT ART WARNINGS box will enable a message box to

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tell you when the game finds that an art file is missing. The default setting here is on.

Performance

Here you can set a target minimum frame rate the game will display in flight. If your frame rate dips below the value you set, the program will automatically reduce terrain detail level to bring performance up to your specified setting. Reducing detail has limits, however. While *Air Warrior II* will make every effort to produce your desired frame rate, the setting you enter here is no guarantee that this is the frame rate you will have in the game.

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PLAYING *AIR WARRIOR II*

This Chapter covers the basics of playing *Air Warrior II*. All of the functions described in this chapter are available in the stand-alone, offline environment. With the exception of modem-to-modem duels, the same functions also are usable in the online, multi-user environment – though for reasons of economy, you normally would disconnect from your service provider if you did not want multiplayer action.

Starting out, you may want to play single missions and campaigns to learn to control the aircraft before entering the multiplayer fray. On the other hand, you may want to jump in and learn from other players. The *Air Warrior* community has always been friendly and helpful to new players. The multi-user environment works a little differently from the offline game, due to the here-and-now, real-time nature of multiplayer interaction. *Air Warrior II* functions that require a connection to the Aries host computers through an online service are described in Chapter 4: Playing in the Multi-user Environment.

GAME BACKGROUND

Players experienced with previous, online versions of *Air Warrior* will find that the stand-alone environment in *Air Warrior II* presents a somewhat different setting for game action. The European terrain has been made more specific, and the identification of nationalities will reflect the actual combatants in your selected era and region.

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Terrain

The *Air Warrior II* offline single mission terrains are designed to suggest the European or Pacific landscape, though they are not exact representations of those regions. They are carefully designed to offer a variety of combat opportunities while creating an equal balance between the combatant countries. Europe appears as a land of mountains, lakes and rivers, with widely dispersed airfields and facilities. The Pacific contains islands in an ocean setting, with some airfields based on ocean-going aircraft carriers. Airfields and other landmarks carry names representing actual locations from the historical conflict where you choose to set the action. Offline campaigns, however, are set in a terrain that is a more exact representation of Europe.

Anti-aircraft artillery may be active from some ground facilities: It is controlled by the game when you fly in missions and campaigns, or in *instant action*. *Air Warrior* players generally refer to these guns as “ack.” Acks appear as small black turrets near airfields and certain production facilities. There are also a few acks on mountain tops – these installations have a long range, but are vulnerable to gunfire.

Theater of Operations

Your selected era and region is called a *theater of operations*. In the stand-alone environment, you will fly for one of the national forces that was part of the historical conflict in that theater. Your choice of aircraft will depend upon the national identity you select for your game session. You will discover that each theater calls for a different type of action. The available theaters and forces include:

| | | |
|-----------------------|-------|----------------|
| World War I, Europe | ----- | Germany |
| World War I, Europe | ----- | Allies |
| World War II, Europe | ----- | Axis |
| World War II, Europe | ----- | Allies |
| World War II, Pacific | ----- | Axis |
| World War II, Pacific | ----- | Allies |
| Korean War | ----- | United Nations |
| Korean War | ----- | North Korea |

PLAYING *AIR WARRIOR II*

THE MAIN AIRFIELD



Air Warrior II always displays the main airfield when you enter the game. It depicts an airfield in World War II Europe. *Hot spots* on the main airfield will send you to any of the game areas; as on any non-flight screen, hold down the <ALT> key to show all available hot spot images. To exit the game, click on the Jeep to the left of the hangar labeled Setup.

INSTANT ACTION

Click on the German aircraft in the foreground of the main airfield to enter an *instant action* mission. In instant action, you will find yourself in the air immediately, and in the thick of battle. It's you against the world, as *Air Warrior II* sends enemy planes against you. These missions vary as to the type of plane you will fly, and the opposition you will face. They are a good way to pass a few memorable moments when you don't have time to get involved with a full-blown mission or campaign.

Flying the Plane

As in a solo ride, all flight controls are active in instant action. Choices you have made in the Setup area will affect the flight interface. For more information on Setup,

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see Chapter 2. For more information on the flight controls, see Chapter 5: The Flight Interface. From any flight screen, press <F1> for a list of key controls for the aircraft.

THE MISSION HANGAR

Click on the Mission hangar to participate in organized missions and campaigns or to take planes or vehicles out for solo rides.

THE OPERATIONS ROOM



Choosing a Theater of Operations

The first time you click on the Mission hangar from the main airfield, you will see a theater of operations selection screen. You can choose from among Allies and Axis in World War II Europe or Pacific, World War I Germany and Allies, or the UN and North Korea in the Korean War. The next time you enter the Mission hangar, you will go to the Operations Room for the side and setting you last chose. Single missions are available in all theaters; campaigns are available in World War II Europe.

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From an Operations Room, you can select a different theater by clicking on the map table in the center of the room. This brings up the theater selection screen.

Aircraft and Vehicle Manuals



Click on the Aircraft Manual or the Vehicle Manual to open a full-screen reference about the available aircraft or vehicles in your selected theater. Each aircraft or vehicle manual is displayed as an open book, and will open first to a table of contents. To see more information on a particular plane or vehicle, click on its name in the list.

The reference section on each plane or vehicle is arranged in several pages. Choose from one of the tabs at the top of the screen to see technical data and performance specifications. At the left you will see pictures of the equipment, from three views; click on one of the images to enlarge it to full-screen (hit <ESC> to return to the manual, or right-click for a menu and select BACK). In addition, each reference section offers an animated 3-D view of the plane or vehicle. Drag the mouse in the picture to rotate the image, or use the controls to the right of the picture.

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To turn to the next section of the manual, click on the forward and back arrows in the lower right corner. Or go back to the Table of Contents by clicking on Close.

Reviewing the aircraft reference manual before flying will help you to become familiar with the various planes' characteristics, and how they stack up against other types.

Solo Rides

From the Aircraft Reference, bring up the plane of your choice and click on the keys at the bottom of the screen to take for a solo flight. A *checkride* is a solo flight, without combat, in one of the *Air Warrior II* aircraft. Taking a checkride is a good way to learn the feel of the various aircraft and improve your skills as a pilot. For ground vehicles, the equivalent solo ride is called a test drive.

At the start of your solo ride, you will find yourself in the cockpit, on the ground. You must start the engine and use the aircraft or vehicle's controls to take off (or drive). To return to the reference manual screen at any time from the cockpit, press <ESC+ e>, followed by <ENTER>. All aircraft controls and instruments are active during a checkride flight. For more information on controlling your aircraft or vehicle, see Chapter 5: The Flight Interface. The keyboard and numeric keypad functions for flight control are listed in the Command Reference accompanying this manual; or press <F1> from the cockpit for an on-screen list.

Choices you made in the main Setup hangar also will be active during your solo ride. These may affect the appearance of some of the aircraft or vehicle controls, and the operation of some parts of the game interface. See Chapter 2: Setup for more information on making these adjustments.

Custom Solo Flight Settings

If you wish to choose an airfield other than the default selection, adjust your fuel load, or put bombs on a fighter aircraft, click on the keys with your right mouse button.

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MISSIONS AND CAMPAIGNS

In the stand-alone environment, you may participate in organized *missions*, in a flight group made up of computer-generated drone pilots. Pick your mission or campaign, get your orders and then fly in large operations such as bombing runs over enemy territory. Your role in the mission will vary; you may be flying with a group, leading a group or, if you've experienced success over many missions in a campaign, you may have command over several groups. Single missions must be completed in one game session; you cannot save an incomplete mission and finish it later.

If you would like to write missions of your own, use the Mission Editor – a separate program supplied with *Air Warrior II*. See Chapter 6 for more information.

A group of missions, following a larger strategic plan, is called a *campaign*. You probably won't be able to finish a campaign in one game session, so *Air Warrior II* allows you to save partially completed campaigns when you exit. Campaigns eventually will be available in all theaters; in this release, however, they are available only in World War II Europe.

You can select a single mission or campaign by clicking on the appropriate chalkboard in an Operations Room. This will present you with a list of available missions or campaigns. Theaters that do not offer campaigns will display only the missions chalkboard.

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The Missions Chalkboard



Click on the mission chalkboard to open a list of single missions available in your selected theater. Click on the MORE and BACK hot spots at the bottom of the screen to see more choices, or to page back toward the top of the list.

Select a mission name from the chalkboard to bring up detailed orders for that mission. ACCEPT the orders to go on to the Briefing Room (see below); or DECLINE to go back to the missions chalkboard. If you're running the interface at the higher resolutions, you can move the mission orders board to the side, and select various missions on the mission board. As you do this the mission orders board will reflect you selections on the mission selection board. This is probably the most efficient way to examine several missions quickly.

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The Campaigns Chalkboard



If campaigns are available in your chosen theater of operations, a Campaigns chalkboard will appear in the Operations Room. Click on it to open a list of available campaigns, which appear in white at the top part of the chalkboard. Saved campaign sessions are listed in yellow below; a checkmark will appear next to available campaigns that have been previously played and saved.

Navigate the campaign list just as you would the single missions chalkboard. Use the MORE and BACK hot spots to scroll through the list, and click on one of the available or saved campaigns to bring up a further description of the campaign orders. After selecting a campaign, click ACCEPT to go on to the Briefing Room, or DECLINE to go back to the campaign chalkboard. If you're beginning a campaign, or if your character died during the last mission of an ongoing campaign, you will be prompted for a character name for yourself.

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The Briefing Room



After you have accepted your orders for a mission or campaign, you are taken to the Briefing Room for a briefing. Click on the Next Waypoint and Previous Waypoint hot spots to go through the flight path you're assigned to follow. Orders for each waypoint will appear on the chalkboard to the right of the mission map. In campaign missions you can also, if you hold a command position in the campaign make flight assignments, as described below.

The purpose of the briefing is to give pilots (including you) their group assignments for the coming action. Playing in the *Air Warrior II* stand-alone environment, you will fly your missions alongside drone pilots supplied by the game. These pilots are assigned a place in the flight group, and fly the same type of aircraft from among the planes used by your national force. The group will leave from an airfield assigned by the mission orders, though most missions will begin in the air.

Group Orders

In the lower right hand side of the screen is a list of groups participating, on your side, in the mission. In campaigns, there may be many more groups flying for your country in the mission, but the ones shown in the

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briefing are directly relevant to your mission. When you click on a group, their waypoints are displayed on the map, and their orders are displayed on the chalkboard. Navigate through the group's orders using the PREVIOUS WAYPOINT and NEXT WAYPOINT buttons.

Assigning Aviators to Groups



As noted above, if you have a command position in a campaign, you have the option to assign aviators to groups under your command. To get a roster of available aviators, click on the roster hot spot to the left of the group list. Then click on a group to bring up a list of slots in that group. To assign an aviator from the roster to a slot on a group, click on the aviator's roster entry and hold the mouse button down. You'll notice that your cursor changes to a pencil. Now drag the aviator to the group slot you wish him to occupy.

An alternate way to make the assignments is to right-click on a pilot's name. The pop-up menu will contain the Assign to Group option that places the highlighted name on the clipboard in "drag and drop" state.

Back to the Briefing Room

When you have finished making group assignments, save your group list by clicking on CLOSE at the

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bottom of the chalkboard or clipboard. *Air Warrior* will send you back to the Briefing Room.

To Fly Your Mission

After accepting your group assignments and returning to the Briefing Room, click on FLY to begin your mission, or EXIT to return to the Operations Room.

Time Compression

Some missions, particularly in campaigns, may require significant time in transit, such as across the English Channel, before you have contact with the enemy. In these cases you can accelerate how quickly mission time passes by using the plus (+) key to speed time up, and the minus (-) key to slow time down. It's usually best to be on autopilot when you speed time up significantly, however, or you can find your plane out of control in a hurry.

Skiping Waypoints

In a variety of situations, such as after combat, especially if you're out of ammo, low on fuel, or suffering from battle damage, you may wish to skip one or more waypoints. To skip a waypoint, use <ctrl> F1. It's usually a bad idea to skip escort rendezvous waypoints.

Commanding Your Pilots

On most missions, except the first few missions of some campaigns, you are in command of a group. In some missions, particularly if you experience success in the later stages of a campaign, you may be in command of more than one group. You can issue orders to pilots under your command. The three major orders are attack, either bombers or fighters, escort, or return to base. If you don't specify which type of enemy to attack, your pilots will attack the nearest enemy aircraft. The following commands only work if you are in command of one or more groups. The attack or escort commands only work if your group can see the enemies you wish them to attack, or the planes you wish them to escort. Where a group ID is specified, this is the 3 character identifier, typically the first 3 characters of a group's inflight callsign (icon). This 3 character ID also appears in the mission briefing. All

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commands begin with an apostrophe and are sent when you hit the enter key.

'flight, attack [bombers, fighters]

Tells your group to attack the specified type

'flight, land

Tells your group to head back to base and land

'flight, escort [group ID]

Tells your group to escort the specified group

The same commands apply to sections or other groups under your command, as follows:

'section, [attack, land, escort]

tells half of your group to perform the specified action

'[group ID], [attack, land, escort]

tells a group under your command to perform the specified action

These flight or section orders can be abbreviated as follows:

'faf same as 'flight, attack fighters

'fab same as 'flight, attack bombers

'fl same as 'flight, land

'saf same as 'section, attack fighters

'sab same as 'section, attack bombers

'sl same as 'section, land

Scoring missions and campaigns: The Debriefing Chalkboard

At the end of every mission, a debriefing chalkboard appears. On the right, you will see your numerical scores, and on the left a few notes describing the outcome of your mission. Click on Exit to go back to the Operations Room, Next Mission if you wish to play the next mission in the campaign, or Replay if you want to try the mission again.

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Saving campaign missions

If your completed mission is part of an extended campaign, a SAVE option will appear on the debriefing chalkboard. Saving serves to preserve your game state as of the moment the mission ended. This is something you generally want to do before you end your game session, unless you were not especially satisfied with your last mission.

GUN CAMERA FILMS

Like real fighter planes, *Air Warrior* aircraft come equipped with gun cameras, enabling you to record and play back “films” of your flights. Reviewing films of your battles is a great way to learn what you are doing right or wrong in combat.

Viewing Films

Several sample films are supplied with *Air Warrior*. Viewing them can give you an immediate taste of air combat, even if you are inexperienced in controlling the aircraft. The viewer allows you to manipulate playback by changing the speed, the view and other factors. It even lets you enter the film, and take control of the plane.

PLAYING *AIR WARRIOR II*

To open a film for viewing, click on the Film sign just beneath the control tower in the main airfield. A Windows dialogue will help you to search for the film file you want. *Air Warrior* films are saved to the Films directory in the Airwar folder, and have a *.cam filename extension. After you have selected a film, click on PLAY.

Commands During Playback

Once the film is running, you may control playback with the following commands:

- F1 Help – opens a list of flight control keys (same as during normal flight).
- F3 Rewind to the previous break point.
- F4 Fast-forward to the next break point.
- Decrease film playback speed – maximum is 1/10 normal speed.
- + Increase film speed – maximum is 10x normal speed.
- F8 Enter the film – you can control the plane and shoot at other aircraft, but the other filmed participants will follow their recorded flight paths. The film will end after the same elapsed time. Your control will end when the film comes to a break point; resume control by again pressing <F8>.
- F9 Creates a camera plane to follow your original, recorded route and maneuvers after you take control of your plane in film playback.
- p Pauses the film.
- n External view mode – allows you to view the action from outside your plane. Use normal, in-flight view keys or your joystick or mouse to look from various angles. This works in flight too, but don't forget to use "x" to turn on autopilot first.
- [Zoom in.
-] Zoom out.

PLAYING *AIR WARRIOR II*

Making Films

To activate the gun camera during flight, press <9>. Press <9> again to stop the camera. You may start and stop the camera as many times as you like during a mission, to capture the particular moments you want to record. Stopping and restarting the camera will mark a break point on the film.

Saving Films

During a flight session, films automatically will be named as temporary files with sequential numbers (for example, Film0000.cam, Film0001.cam, etc.). The temporary name and the available film length will be displayed on the screen when the camera is started. You can turn the gun camera on or off several times during a mission. When you exit flight, you will be prompted whether you wish to save the film. If you do not save it, it will be overwritten during your next game session.

MODEM-TO-MODEM PLAY: DUELING BY MODEM



Modem-to-modem play involves a duel between two players in smaller versions of either the Europe or Pacific terrains, connected directly to each other by modem or

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across a network. Duels conducted in this way resemble the online dueling available when you are connected to the Aries host in the multi-user environment. Some features of a modem-to-modem session are similar to those used in other multiplayer sessions: nationality, for example, offers three country choices: A, B, and C. Refer to Chapter 4 of this manual for more information on playing in the multi-user environment.

To begin a modem-to-modem game session from the main airfield, click on the M2M (modem-to-modem) control tower. Here you will find 3 hotspots:

Flight Setup

Sets up the dueling parameters and allows you to place a call to another player. Use this the first time to initiate a modem-to-modem session with another player.

Place Call

Initiates a call to another player. Use this once the dueling parameters have been setup in a previous dueling session (assuming you want to play with the same dueling parameters).

Wait For a Call (Receive Call)

Waits on a call from another player. Once the connection is established, you will be given an opportunity to fine tune the dueling parameters before starting flight.

Starting a Modem-to-Modem Session:

The Flight Setup Window

Clicking on FLIGHT SETUP will open the Modem-to-Modem Setup window. Here you may set the parameters for the duel before connecting with your opponent. The window is divided into two sections: "You" (settings for yourself) and "Your Opponent" (settings for your opponent). If you are the player initiating the call, you must enter setup information for both players; your opponent will have a chance to accept or modify the terms of the duel later on.

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Once the parameters are set, click on the ACCEPT button to proceed and establish a connection with your opponent. Once connected, your window will be disabled until your opponent either accepts the parameters of the duel (by clicking on the FLY button), or until the parameters are modified and control is passed back to you (by your opponent clicking on the ACCEPT button). In the case where the parameters are modified, you will have the chance to examine the parameters again and either modify or accept them. When FLY is pressed by either you or your opponent, the duel begins.

Below is a description of all the controls in the Flight Setup window:

Start

Your selection of a starting position sets the location of the aircraft at the start of the duel. Usually you'll want to start a duel in-flight. Set the altitude (in feet) and the distance from the opponent (in yards). In-flight duels begin over a lake, with the exact location selected at random by *Air Warrior II*.

If the plane is to take off from the ground, you must select an airfield. Choose from the available fields shown on the map.

Continuous Battle

With the Continuous Battle box checked, the duel will continue until one of the players quits by hitting the <ESC+e><ENTER> key combination. If one of the players dies, the battle will begin anew from the starting locations after a five-second pause.

Theater

Select either Europe or the Pacific as the location of your duel. You will still have access to all *Air Warrior II* aircraft, regardless of which theater you choose. All theater selection does is determine the terrain you'll see while dueling.

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Plane

The PLANE button opens a screen with four options: World War II, World War I, Jets, or Vehicles. When you have made a choice, a second screen will display the available planes (or vehicles) in silhouette. Make a selection (or press <ESC>) to return to the Modem-to-Modem Setup window. Select an aircraft for yourself and one for your opponent. To see if he's paying attention, give yourself a Mustang, give him a jeep, and begin the duel at 5000 feet.

Realism

Select either Relaxed or Full realism for your duel. The latter enables all realism features, including spins, blackouts and accelerated stalls. For a more complete explanation of the difference between relaxed and full realism see Chapter 2.

Accept, and Fly Buttons

Press the Accept button to initiate the call to your opponent. FLY is disabled during the initial setup process.

After the modem (or network) link is established, the Modem-to-Modem Setup window will be displayed to both players so they can negotiate the terms of the duel. The player receiving the call will have control of the screen first; when this player has accepted or modified the terms, control will pass back to the initiating player before it can begin. After both players have accepted the terms of the duel, and have both selected FLY, the duel begins. If you decide you want to modify the terms of the duel during flight, press the <ESC+e><ENTER> key combination. Both players will go back to the Modem-to-Modem Setup window.

Making the Connection

As the initiating player, you may start the connection process by accepting the terms you have established in the Modem-to-Modem Setup window. Or click on the red phone to connect with a previously established setup.

PLAYING *AIR WARRIOR II*

If your computer is on a network, your next step in making the connection will be to choose a connection type. A drop-down list will appear on the screen; make your selection. Once the connection type is set, the screen will display the *phone clipboard*, where you may choose an established opponent by name or enter the information *Air Warrior* needs to connect to an opponent who is not already listed. If your computer is not on a network, you will go straight to the phone clipboard from the Modem-to-Modem Setup window.

The Phone Clipboard

If you are using a modem connection, you must enter a valid phone number and baud rate for your opponent. If you are calling an established opponent, his or her name will appear in a list. Simply select the name and click on PLACE CALL. Your opponent must be ready to receive the call by having placed *Air Warrior II* in auto-answer mode on his or her machine. See below in Chapter 3.6.4 for more information on receiving the call for a modem-to-modem session.

Other options from the phone clipboard include:

Manual Dial

Enter a phone number here and then click on PLACE CALL to put *Air Warrior II* in terminal mode. You will exit the setup area and go back out to the control tower, where you can “talk” to your opponent using text buffers at the bottom of the screen. For more information on using the text buffers, see Chapter 4.4: Conversing in the Multi-user Environment.

OK and Cancel

OK will save any information you have entered and send you back to your previous screen: either the control tower or the Modem-to-Modem Setup window. CANCEL works like OK, except that it does not save any information you may have entered on the phone clipboard.

PLAYING *AIR WARRIOR II*

Receiving a Call

Click on the RECEIVE CALL hot spot (the radio in the control tower) to place *Air Warrior II* in auto-answer mode. If your computer is on a network, you will need to choose a connection type, just as you would when placing a call. Then enter a name and five-character Custom Player ID (CPID) for yourself. The text buffers will appear at the bottom of the screen with the text: "Waiting for Incoming Call." If you want to cancel auto-answer mode before making a connection, click on the EXIT sign in the control tower.

When the call comes in, you will see the text: "Establishing a Connection." On a successful connection, both players will see the Modem-to-Modem Setup window, which now serves as a negotiation screen.

Ending the Duel

If either player presses the <ESC+e><ENTER> key combination during flight, both will return immediately to the Modem-to-Modem Setup window.

ENDING A FLIGHT AND EXITING THE GAME

In the stand-alone environment, you can end any flight by pressing <ESC + e>, and then <ENTER>. You should normally wait until you are on the ground to end an offline mission as you will usually get a lower score for a sortie aborted in flight. Flights also end when you are shot down, or crash your aircraft. If you bail out of the aircraft, the flight ends when you touch down on the ground. You must end a flight before you can exit the game.

What happens at the end of your flight depends on what type of flight it was and how it ended:

Instant Action

At the end of these missions, you will go back to the main airfield.

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Checkrides and Test Drives

At the end of these solo rides, you will return to the Aircraft or Vehicle Reference manual.

Missions and Campaigns

At the end of a mission, you will see the Debriefing Chalkboard that displays the mission's outcome and your score. From there, you may select REPLAY to run the mission again, or EXIT to go back to the Operations Room. If your completed mission is part of an extended campaign, you also will have the choice of continuing by selecting NEXT MISSION, or saving the game state for future use by selecting SAVE.

CLOSING *AIR WARRIOR II*

From any non-flight screen, you can exit the game by using the pop-up menu system. Right-click anywhere on the screen, and then click on EXIT AIR WARRIOR. From the main airfield, you also can use the Jeep hot spot to exit the game.

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"One of the interesting differences between Air Warrior and real life is that in AW you get to benefit from your fatal mistakes. Real pilots, of course, took their newly-learned lesson with them to their graves. The impact of this is that there is a much larger percentage of "combat-hardened" flyers around, much more so than would have been found in the real show".
- Anvil

The multi-user environment is available to players who connect to the *Air Warrior* host computers through an online service provider. This unique game environment offers multiplayer air combat, in which people from all over the world compete nightly in simulated aircraft from World War II and World War I. You can become part of the growing *Air Warrior* community by connecting and playing online, using the *Air Warrior II* software.

Included on your CD are two software front ends for online game play. At the time of this writing, *Air Warrior* for Windows is being played on AOL, CompuServe and Earthlink. Very shortly, *Air Warrior II On Line* will be launched on all three services, beginning with CompuServe. Some of the features discussed in the online section apply to *Air Warrior II On Line* only.

INTRODUCTION TO MULTIPLAYER AIR WARRIOR

Old friends of *Air Warrior* will feel right at home in the multi-user environment of *Air Warrior II*. If your introduc-

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tion to *Air Warrior* has been through the stand-alone environment, however, you will find that the world is organized differently in the multiplayer area. Here, combat organization and mission command are handled almost exclusively by the players; the role of the *Air Warrior* software is not to create game scenarios, but to support the action the players work out among themselves.

Play in the multi-user environment is set in one of several *arenas*. Each arena refers to a theater of operations and a level of difficulty. Your arena selection sets the realism level—either relaxed or full realism—and difficulty levels for the various arenas are controlled at the host computer. The realism level of multi-user arenas should not be confused with realism settings you have made in Setup. Difficulty-level adjustments in Setup apply only to stand-alone play.

Countries and national forces in the multi-user environment do not correspond to historical combatant nations of the wartime era they represent. Instead, there are three countries: Country A, Country B, and Country C. Though players and game administrators sometimes create special scenario events with a historical context, the multiplayer environment of *Air Warrior II* does not normally identify your role in the game with any actual places or events. Players from any country have access to all planes and vehicles used in their era and region.

Many players develop online characters for themselves and play out this persona—or multiple ones—over the course of time. This role-playing aspect is the defining characteristic of the online multi-user environment. Multiplayer action is happening now. Players interact there in real time. Thus, the historical context of World War II or other conflicts becomes a backdrop for the action you will create in a present-tense game reality.

"There is no honorable way to kill a bogie. Just get it over with anyway you can!"

- Ketchup (winner of the 1996 Air Warrior Convention
Head-to-head Dueling Competition)

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OPENING THE GAME IN THE MULTI-USER ENVIRONMENT

To enter the multiplayer *Air Warrior* environment, you first must have an account with an online service that offers the game. As of this writing, CompuServe, America Online, and EarthLink offer multiplayer *Air Warrior*, with availability on Prodigy expected very soon. On CompuServe, use GO and the keyword AIRWAR. On AOL, the keywords are AIR WARRIOR. On either of these services, click PLAY on the main *Air Warrior* screen to launch the game. The first time you enter the game, you will be prompted to provide the location of your *Air Warrior* program. On EarthLink, launch *Air Warrior* from your web browser. Specify KLAUNCH.EXE in your *Air Warrior* directory as a helper application. Your online provider can offer help in making a successful connection to the game.

Online, after *Air Warrior II* is launched by clicking on the play button or icon, you will find yourself at the main airfield, as you do in the stand-alone environment. All of the game areas available off-line from the main airfield will be available to you online, except the head-to-head area; your modem will be occupied with the online connection, and so you will not be able to dial out to another player directly.

"Do not black out! Do not Red out. Do not Spin. Watch the Gee meter all the time and do not pull so hard that you buffet and reduce your turning rate! Do not forget to check your six!"

- Ketchup

What is different online is that the multiplayer area will be available. Access this area by clicking on any one of the planes flying above the main airfield airfield.

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MISCELLANEOUS FEATURES AND TRAPS IN ONLINE PLAY

You can expect your time online to go smoothly, but there are a few possible problems you should be aware of. For one thing, be careful you don't shoot down your friends!

"...the good stallfighters are flying on the edge in fights much of the time, and part of their skill (most) is an ability to hug the edge better than their opponent. Other successful Air Warriors get the majority of their kills through SA. It's the art of the drop - accessing the situation and knowing how to set your guns upon the guy who's not ready for you. You don't have to ride the edge to do that."

- Blue Baron

Friendly Fire

Remember that your bullets can damage friendly aircraft. If you shoot down two friendly planes within 24 hours, your country will no longer allow you to carry live ammunition. Your status is reduced to *persona non grata* (PNG). You may either defect to another country or wait 24 hours for your PNG status to be reset.

Distance Distortion

Be aware that distance information in your rear view is not always accurate. This is an important point to remember when someone is on your tail. Depending upon your speed and that of your pursuer, the reported distance may be longer than actual distance. At high speeds, you usually should subtract 200-400 yards from the distance you see on the screen; this is an inevitable feature of network play.

Network Delay Effects

At the heart of multiplayer online gaming is your connection to the host computer that moderates the Air Warrior environment. Your computer is in constant communication with the host. All player connections are not equal; some experience greater latency between transmissions to and from the host than others.

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One result is a phenomenon known as "warping," where planes seem to change positions suddenly. Hitting a warping target is difficult, to say the least. When your target begins to freeze and then warp to another position, keep in mind that the target itself is still flying normally, though it appears erratic on your screen. Try to visualize the target's true flight path and anticipate its position. The Air Warrior software employs smoothing code to minimize this effect. Nonetheless smoothing is, at best, an intelligent guess; if the host's updated position report is significantly different from an aircraft's actual position, it will warp to its current position.

To evaluate the status of your online connection while flying, type <ESC + d><ENTER>. If the delay value is 2 or greater, you may see warp motions. Reconnecting with your service provider may improve your connection.

KESMAI/ARIES POLICIES

Game Reset

Scores in online arenas are reset every three weeks. When the game is reset, all game elements return to their undamaged, default states. The ownership of airfields and other terrain will go back to the game's starting configuration, and players' scores will go to zero. Resetting the game is necessary to keep it competitive and interesting for all players.

Cheating

Creative hackers sometimes figure out how to cheat in computer games, by devising functions and advantages not intended by the game designers. In most cases, hacking simply reduces the challenge that the game presents to the cheating player.

In the multi-user environment of *Air Warrior II*, however, an unfair advantage for one player could ruin the game for others. Any player found to be using a version of *Air Warrior* that has been altered will be banned permanently from online play. Elaborate detection schemes are used to check for altered software when you enter the

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multiplayer environment, and so players are advised to refrain from modifying their software, even if the changes seem benign.

Remember to be courteous to other players. They are people, too – on the other side of the screen! In a competitive game like *Air Warrior II*, emotions can run high at times, but this is no excuse for disrespectful or unsportsmanlike conduct. Players who direct obscene, harassing, or abusive statements at other players will receive a warning to stop such behavior. They will be banned if they repeat the offense.

GOING ONLINE

Your first stop in the multi-user area will be the Arena Selection screen, from which you must choose an arena for your session.

This screen will show you a list of the active online arenas, how many players are there, whether an arena features relaxed or full realism, and the era and region it represents. To join a friend who is already online, click the FIND USER button at the bottom of the screen to see which arena he is currently in. You will need to know his Air Warrior Custom Player ID (CPID), described below.

If you are inexperienced with flying the simulated aircraft, you should choose a relaxed-realism arena. *Relaxed realism* is approximately equivalent to Veteran level in the stand-alone environment, while *full realism* is equivalent to Ace. As in the stand-alone environment, full realism features increased weapons power, as well as control factors such as buffeting, blackouts, red-outs, and uncontrolled spins.

In the multi-user environment, full realism attracts the most seasoned, competitive, and downright lethal simulation pilots in the world.

"One major thing I've noted, the old yank and bank definitely don't work here. You cannot hope to just

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follow your opponent around, hoping to cut inside his turns or loops. You have to think FAST in 3 dimensions, and maneuver to put yourself at a point in space that will allow you to get a shot at your opponent. This requires you to project where the opponent will be X moments in the future."

- Rapier

The atmosphere in full realism causes even some experienced players to prefer relaxed realism when they are looking for more of a game and less of a combat simulation.

Highlight the arena you want, and click on GO TO ARENA. You will enter the Officers Club for that arena. From the Officers Club, you may always return to the Arena Selection screen by clicking on the Exit door.

Entering User Information

The first time you enter the Officers Club, you will be prompted to supply user information. This data stays on record at the Aries host for use each time you return. You may change the information at any time from the Officers Club by clicking on the flight jacket seen on the table in the lower right corner of the screen.

You must supply the following information:

Handle

Choose a nickname, or "handle." This will be your name in the game. It must be no longer than 32 characters, and may include letters and numbers. *Air Warrior* does not test for unique handles, and so you could meet another player with the same name. Don't be surprised if other players abbreviate your handle when they use it in communications. If you do not enter a handle for yourself, the game will assign you the generic name "New User."

Players tend to be creative with their names; they often try to use the name to help establish the character of their game persona. Sometimes, players

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who belong to squadrons add identifying letters, or even rank insignia, to the end of their names.

Custom Player ID (CPID)

Your CPID will be displayed as your “call sign” to identify you for radio and intercom conversations. It should be five characters long, of numbers and letters only. To make identification easier, it is helpful if your CPID relates somehow to your handle. All CPIDs must be unique, so be ready to supply alternate choices if your first selection is already in use. The game will assign you a CPID randomly if you do not enter one for yourself. If you want to accept the random CPID, click on USE RANDOM ID.

E-mail Address

Your e-mail address will be displayed so that other players can communicate with you when you are not logged in to the game.

When you have finished entering your user information, click OK to go back to the Officers Club.

AIR WARRIOR II ROOMS

The Officers Club is just one of the various rooms where pilots in a given arena can spend time between flights. There, they can meet, talk, and exchange information. Some rooms also have specific functions in the game. From the Officers Club, click on the appropriate door to go to other rooms, or use the Exit door to go back to the main airfield.

The following rooms are available in all arenas:

The Officers Club

After you select an arena, your next stop will always be the Officers Club. This is the main “conference area” for the arena, where players can meet informally. Here you can view the Player Roster, change your user information, and even change countries. Several adjoining Officers Club rooms are available from Officers Club #1,

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for private conferences. To access one of these rooms, click on the door labeled OFFICERS CLUBS, and select a new room from the pop-up list.

Be aware that pilots from all three countries will be present in the Officers Club. A spy wearing dark glasses and a trench coat is also present. Click on the spy to open a menu from which you may choose a new country affiliation. Once you have changed country, you must keep that affiliation for 24 hours before you can change again.

Headquarters (HQ)

Each country has its own headquarters, which is accessed from the Officers Club. Here, countrymen can discuss strategies, plan combat air patrols, and form squadrons. Each HQ contains the following elements:

Kill Board

The *kill board* lists the scores for all players currently in the arena, by category: as a fighter pilot, bomber pilot, or as crew member of a bomber or vehicle. Squadron and country scores are posted as well. Scoring information is zeroed out every three weeks when the game is reset.

Situation Map

Each HQ and ready room contains a *situation map*, which appears on the table in the center of the room. Click on the image of the map to open the Situation Map window on the screen. You can zoom in and out on the map by clicking the magnifying glasses (+ or -) at the bottom of the screen, and you can scroll through the map using the arrow icons. The map is divided into sectors 12 nautical miles across.

Counter icons may appear in each sector of the map to indicate the approximate numbers of friendly and enemy planes in the area. A small red square in the upper left corner of a sector means that an enemy plane is present there, though the exact position of the plane is not given. Yellow squares signify friendly planes, and larger squares indicate 10 aircraft. You

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can use the situation map to gauge the relative strength of friendly and enemy forces in a given area.

You also use the situation map to select an airfield from which to fly. It shows all airfields, coded by the color of the country that owns them. Airfields not owned by your country, but which may be captured, are shown in red; damaged fields belonging to your country will be in yellow. To display information about a particular airfield, click on it once. Double-click the airfield if you want to fly out of it – you will proceed to the Ready Room for that airfield.

Strategic Summary

Another situation map feature is the *strategic summary icon*. Click on it to open the Strategic Report window, which gives you a comprehensive list of all countries' total sorties, victories, losses and bombing strikes for the entire evening's action. It also tells you the status of your country's strategic facilities.

Mission Assignment

The simplest way to get into the action is by selecting the *Mission Assignment hotspot*. Click on it to choose a simple mission, issued by the host. Your choices are:

- Tactical: the host selects as the target a building or type of building that needs to be destroyed at a given airfield.
- Defensive: you're assigned a field that needs defending, but is not currently overwhelmed by the enemy.
- Offensive: you're assigned a field that is defended, but not so well defended that attacking it would be suicidal.

You will be given basic orders, field assignment, and plane assignment. Fly the suggested route, and you're almost certain to find the action.

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After Action Reports

To get a text description of recent online combat, click the *After Action Reports hotspot*. You'll then get a summary of the outcome of recent air battles and bombing strikes.

Ready Rooms

Selecting an airfield from the situation map places you in the Ready Room for that airfield. In the Ready Room, you may confer with other players, choose an aircraft or vehicle, and begin combat. You also may assemble a bomber or vehicle crew, or exit back to HQ. More detailed information on aircraft or vehicle selection may be found later in this chapter. The Ready Room has a roster and situation map available; double-click on any active, available airfield on the map to travel to that field's Ready Room. Each Ready Room has an adjoining Briefing Room and Radio Room.

Briefing Room

A Briefing Room is available from any Ready Room. It can serve as a secure location to plan missions, and to hold squadron briefings before launching a mission. Pilots for the mission will have the opportunity to get the information they need, discuss it, and proceed quickly to flight.

On-screen tools in the Briefing Room enable Briefing Officers to modify or create missions as they meet with their flight groups. As a Briefing Officer, you may also upload a plan of action created off-line with the *Mission Editor*, which is supplied with *Air Warrior II*. This separate program is designed to be an effective tool for producing online briefings as well as off-line missions.

Radio Room

One Radio Room is available from the Ready Room at each airfield. There, you may communicate with players in your country's aircraft and vehicles, and in other airfield Radio Rooms. You also may communicate with any players in the arena, regardless of country, whose

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radios are tuned to Channel 1. Enter the Radio Room by clicking on the radio in the Ready Room. Leaving the Radio Room returns you to the Ready Room.

You may establish two-way communication with any other radio belonging to your country, if both are tuned to the same channel. (The words “channel” and “frequency” are used interchangeably here.) To enable communication, pilots should coordinate frequency assignments with both ground and flight personnel before departing. If a pilot takes off without having agreed on a specific channel for communication, you can contact him by calling on Channel 2, which will reach all planes belonging to your country.

Tuning the Radio

Click on the image of the radio to open a dialogue box in which you may enter a new channel.

For more detailed information on using the radio can be found toward the end of this chapter.

FUNCTIONS COMMON TO ALL ROOMS

Some elements are found in most *Air Warrior* rooms. They include:

Rosters

Player rosters are present in the Officers Club, HQ and Ready Rooms. Each Roster Board lists the players currently in that arena, along with their location. If a player is a member of your country, you will also see the aircraft they're currently using. Roster information changes frequently, so you occasionally should use the REFRESH button to update the screen.

Player List

In all rooms except Radio Rooms, a player list appears at the right side of the screen. This list shows the CPID, handle, and current country affiliation for all players in the room. In the player list, the players' names normally will be sorted by alphabetical order. Right-click on the list to

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access the pop-up menu if you would like to select sorting by handle, by ID or by country.

You also can access "Player Information" or "Player Score" from the player list pop-up menu. Player Information shows the selected player's user information. Player Score displays the selected player's scores in several categories. You also may view a player's score by clicking on the SCORE button in the Player Information window.

Group List

In all rooms except Radio Rooms, a group list appears at the bottom right corner of the screen. It designates players in the room with whom you can communicate as a group. The default group "All" includes everyone in the room; if you direct your communication to that group, everyone will "hear" what you have to say. Other groups can be assembled as desired by dragging players' names into a group list.

Doors

Each room is equipped with doors to other rooms, indicated by labels. The Exit door will return you to your previous room.

Text Areas

At the bottom of the screen you will see two text areas: the *text buffer* for incoming messages, and a single-line *outgoing message* area, where you can enter your outgoing conversation. The text buffer area is equipped with a scrolling tool that allows you to scroll back and review the previous 500 lines of text.

In addition, text can be captured and stored for later off-line reference, and player files can be uploaded to the host computer via the text buffer area. The text buffer area can be switched to fill the entire screen by pressing the F2 key.

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CONVERSING IN THE MULTI-USER ROOMS

Flexible communication and informal conversations are important parts of the *Air Warrior II* multi-user environment. Upon entering any room, you are immediately placed in communication with everyone present, via the "ALL" group in the group list, located at the lower right corner of the screen. To "talk" to other players, compose your message in the outgoing message area, and then press <ENTER> to make yourself "heard." Your message will be received in the other players' text buffers. It will look something like this:

Blue Baron to all: So, what's it to ya?

The ALL group

With the default group ALL active, your message will appear in the incoming message area of all the other players in the room.

In a room with only two or three other players, this mode of conversation works fine. Talking to the ALL group, however, is like talking out loud to everyone in a room. As the room gets crowded, you may become a nuisance to players who are not interested in what you have to say. To "keep your voice down" and converse privately with just a few people at a time, you may create private groups.

Creating a Private Group

To speak privately to one player, select the player's name on the player list and drag it to the group list. The player's name will appear in a new entry ("Group 1," for example) in the private group area of the group list. Another method would be to right-click on a name on the player list to access the pop-up menu. Select Group Ops, and then click on CREATE GROUP. Either way, the player's name on the private list will be automatically highlighted. Any messages you send while their entry is highlighted will go to that player only.

To resume conversation with everyone in the room, reselect the ALL group. If you wish to return to your private conversation, go to the group list and highlight the

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name of your single-player group. By default, any private group you create is temporary; the group designation disappears once you leave that room.

To include more than one player in your new group, hold down the <CTRL> key as you click on each of the names you want to add. Then drag the list of names over to the Group List, or right-click for the pop-up menu, select Group Ops and click on CREATE GROUP. To speak to everybody in your new group, highlight its name on the group list. Messages you send while the group is highlighted will go to all group members. You may add names to an existing group by highlighting the group and then clicking on the player to be added, while holding down the <CTL> key. If another player adds you to one of his groups, a new group listing will automatically appear in your Group List area.

You also can add players to a group by their player CPID instead of using their name. This feature is useful for adding players who are not presently online, as their names will not appear on the player list. Right-click on the group for the pop-up menu. Select "Group Info" and click on ADD; then enter the CPID(s) of the player(s) you wish to add to your private group. You may also remove players from private groups using the Group Info menu item.

Permanent Groups

In some cases, you may want to create permanent groups, which will not disappear when you leave the room. This is particularly useful if you belong to a squadron – you may want to speak privately with members of your squadron in a public area such as the Officers Club. To make a private group permanent, right-click on the group to access the pop-up menu. By default, the Temporary Group item will be checked. Click to de-select it, thus making the highlighted group permanent.

Deleting Groups

To delete a group, highlight it and right-click to access the pop-up menu. Select Group Ops and click on DELETE GROUP.

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Using the Text Buffer

All conversation and messages displayed in the text buffer area are saved (up to 500 lines) so you can review them later. Use the scroll bars to look forward and backward through the saved text.

You may choose to clear the contents of the text buffer area each time you change rooms. On any non-flight screen, right-click for a pop-up menu. Then select Setup, and User Preferences. Go to the Interface page, and then check the box labeled "Clear Text Buffer Between Rooms." All text in the text buffer area will now be cleared each time you move from one room to another. To disable this option, return to the User Preferences window and deselect it.

You may prefer to increase the size of the text buffer to full screen when you are involved in an extended conversation or conference. To toggle between the normal display and a full-screen buffer, use the F2 key, or right-click in any room for a menu, and click on TOGGLE TEXT BUFFER SIZE.

Capturing Message Text

Messages in the incoming message display may be reviewed online or captured and saved to your hard disk for review later. To save to disk, right-click on the incoming message area for a pop-up menu, then click on CAPTURE. A dialogue box will prompt you for a directory path and file name for the capture file.

Click OK to place a checkmark next to CAPTURE in the menu, indicating that the capture function is active. All subsequent messages will be recorded in the specified file. To stop capturing text, return to the menu and click on CAPTURE again to remove the checkmark. You may turn the capture feature on and off any number of times during a game session; each time you turn it on, you will be prompted for a file name. If you write to an existing file, you have the option of overwriting or appending to the existing text.

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Uploading User Files to the Host

If you need to deliver prepared orders to a group, or you want for any reason to direct a prewritten text to other players online, you may upload a standard ASCII file to the *Air Warrior* host. The file can be no longer than 2 KB in length. After you upload the file, the text will appear to whichever players you were set up to talk to when you started the upload. If your selected group list is ALL, for instance, all players will receive the text; select another group to limit its distribution.

To upload a file, right-click on the incoming message area for a pop-up menu, and then select UPLOAD. A dialogue box will prompt you for the location of the file on your computer. Click OK to upload the file, or CANCEL to end the operation without uploading.

COUNTRIES AND AIRFIELDS

The three countries in the *Air Warrior II* multi-user environment are named Country A, Country B and Country C. Within any arena, each country has equal resources: roughly the same amount of territory, the same number of airfields and other facilities, and access to the same aircraft and equipment. No country in the online game represents an actual nation from any past conflict.

The Multi-User Terrain

The terrains of Europe and the Pacific are designed to suggest the appropriate geography, without referring specifically to any real locations. Europe's landscape includes mountains and rivers, with scattered airfields and other facilities. The Pacific contains islands in an ocean setting and features a centralized, neutral atoll that is always up for grabs. In addition, special terrains are sometimes made available at the host.

Production Facilities

In the multi-user environment, production facilities take on a strategic importance they do not have in the stand-alone game. Bombing operations that disrupt production and supply systems will have an effect on the success of

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your combat operations. Various other ground structures, such as bridges and capital cities, can be destroyed by bombs, but their destruction is of little strategic importance in the game.

Anti-Aircraft Batteries

Anti-aircraft artillery, referred to as Triple A, AAA or, more commonly, as ack, is controlled by the *Air Warrior* host computer just as it is in the stand-alone environment. Acks appear as small black turrets near airfields and certain production facilities. There are also a few acks on mountain tops – these installations have a long range, but are quite vulnerable to gunfire.

Airfields

All countries have at least one main airfield and, depending upon the theater, they have two or more secondary fields as well. For countries in the Pacific theater, some of the secondary fields are ocean-going aircraft carriers.

For the last 10 years *Air Warrior* airfields were identified by country and number. In *Air Warrior II*, however, all airfields, aircraft carriers, and vehicle garages are named after notable *Air Warrior* players from the past and present. Hence, some of the fields, such as Assassin or Grok, may seem oddly named. Unfortunately, few players chose their callsigns based on how suitable they would be as terrain feature names.

Original Terrains - Europe and Pacific

These are small, special purpose terrains with one main airfields per country, and two or three secondary fields. Although ample for the earlier days of *Air Warrior*, current demand has outgrown these playing fields for the most part. Airfields, aircraft carriers, and vehicle garages in these terrains are named after players who date back to the very first *Air Warrior* campaign in 1987.

Expanded Terrains - Europe and Pacific

These were designed for 100 players or more, and have fields, facilities, and carriers named after players who began their *Air Warrior* careers in the early 1990s.

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Campaign Terrains - Terra Fencer and Oceania

Not all *Air Warrior* online play takes place in open arenas. Regular historical scenarios and special events are conducted, and these are often played in campaign terrains. Terra Fencer is for European campaigns, and Oceania serves the same function for the Pacific. In the former, field names are taken from *Air Warrior* players who participated in some of the first large scale AW historical scenarios; in the latter many of the islands, ships, and terrain features are modeled after their real life counterparts, such as Guadalcanal, Pearl Harbor, and Savo island. Other fields and ships have numbers, and will eventually be named after notable players in the future.

Capturable Airfields

Most *Air Warrior* airfields and vehicle garages are capturable online. You need to knock out the control tower and drop troops (the number of troops required varies, depending on the arena) to capture a field. Also, it's a good idea to knock out the anti aircraft guns as well because they will shoot your troopers.

Vehicle Garages

Vehicle garages, as the name implies, are places where you begin an online mission in a vehicle rather than an aircraft. Vehicles are available at all other airfields as well, and also on aircraft carriers (though, of course, their travel is limited to the ship).

SQUADRONS

For many online players, squadrons are an essential part of the game. In some cases, they define a theme and a style of play for a group of pilots; but, generally, an *Air Warrior* squadron is just a loose collection of people who enjoy flying together – usually at a scheduled time, one night of the week. Squadrons are limited to 32 players.

There are no easily defined rules for joining squadrons, because each has its own attitude toward recruitment. Some will recruit anyone, while others are more selective. One thing is certain: You cannot play *Air Warrior*

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online for very long without receiving an invitation from at least one squadron.

Forming a Squadron

Any player in *Air Warrior* who is not currently enrolled in a squadron may form a squadron of his own. When you form a squadron, you become the squadron leader by default, though leadership can be transferred later.

To form a squadron, simply issue an invitation to another player. He or she must be affiliated with the same country as you, and you both must be in the same room when the invitation is made. To issue the invitation, right-click on his name in the player list, and select INVITE TO SQUADRON. A dialogue box will open on the other player's screen, informing him of the invitation and giving him the opportunity to accept or decline.

If the invitation is accepted, you will receive another dialogue with a reminder to name your squadron.

MISSION BRIEFINGS IN THE MULTI-USER ENVIRONMENT

Mission briefings in the multi-user environment take place in the Briefing Room, which you must enter from an airfield Ready Room. Online briefings differ from the stand-alone version in that other players are involved. The meeting will be conducted by a Briefing Officer (BO), who will give the assembled pilots their orders for the coming action. Typically, the pilots attending the briefing would be members of an established squadron.

Entering the Briefing Room

Click on the Briefing Room door to open a list containing the descriptions of briefings in progress and the names of the Briefing Officers. Select your briefing from the list to move into the room. To open a new briefing, click on NEW BRIEFING; this action will make you the Briefing Officer for that meeting (NEW BRIEFING will be the only choice if no other briefings are going on at the time). You will move into the Briefing Room after you have typed a

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name for the briefing. The maximum length for the name is 60 characters.

Open and Closed Briefings

By default, briefings are closed to all but preregistered pilots. The BO will select the group for the mission, though he also may choose to open the meeting to others. The open or closed status of the meeting is indicated in the list of ongoing briefings when you click on the door.

Selecting an open briefing, or one that you are registered for, will move you immediately into the room. If you select a closed meeting, the BO will be prompted that someone seeks entry. He still may turn you away, but he has the option of allowing you to enter. Before you can move into the room, however, you will receive an update on the contents of the briefing. Under any circumstances, when you enter a briefing that is in progress, you will receive an update.

The Briefing Room Screen



The Briefing Room will have the same general appearance for all players in the meeting, though the BO will have additional controls with which to manage the briefing. The following elements will appear in the room:

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Briefing Officer

Unless you are the BO yourself, click on his image to “raise your hand” when you want to speak. The BO’s player list will indicate that you have your hand raised. To lower your hand, click on him again.

Situation Map

The BO can manipulate this 4x3 scale situation map. All players in the room can see his changes.

Scroll Arrows

Scroll the situation map by clicking on the arrow buttons.

Zoom Hot Spots

Zoom in and out on the situation map with the plus (+) and minus (-) buttons.

Toolbar

Provides controls you may need during the briefing. The BO will have a more extensive selection of tools to use.

Light Switch

The BO may turn off the lights to dim the room. When the lights are off, only the BO or pilots recognized by him may speak. The default condition is with the lights on, when anyone may speak.

Incoming and Outgoing Message Buffers

The BO always has use of both text areas, while pilots attending the meeting have only an incoming message buffer. They can send outgoing messages only if they have been given control by the BO.

Exit

Click on EXIT to go back to the Ready Room.

Briefing Officer’s Toolbar

The Briefing Officer’s toolbar enables him to create or modify the mission.

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Pointer Tool

Deselects any selected tool and returns the cursor to its normal state.

Waypoint Insertion Tool

Inserts a waypoint.

Group Tool

Adds a group to the mission.

Door

Toggles between an open door for open briefings, and a closed door for closed briefings.

Map/Briefing Mode Tool

Toggles between the map and briefing icons to represent whether a map view or text view is displayed in the briefing drawing area.

Load Mission

Opens a standard Windows dialogue, which the BO may use to select and upload a saved mission file (with file name extension *.msn) from your hard disk. All players in the briefing room will see it.

Upload Mission

If the BO makes changes to the mission in the Briefing Room, he must upload it manually to make it visible to the other players. Press this button to update the pilots in the room.

Save Mission

Saves the current mission to disk.

Player List

As the Briefing Officer, your screen also will contain a player list, with which you can drag and drop players into the flight groups you have created in your prepared mission. The BO will have a set of wings next to his own name on the list. Right-click on a pilot's name to access a menu for the following actions:

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EJECT

Expels the pilot from the briefing.

TRANSFER

Gives control of the briefing to that pilot.

RECOGNIZE

Enables a pilot with his “hand raised” to speak. Pilots who are allowed to speak will have a green light next to their name on the player list.

Group List

As the Briefing Officer, you may assign pilots to flight groups by a process similar to that used to create other groups: by dragging and dropping pilots’ names into group lists. Each flight group has several important properties, including its name, the type of plane it will fly, fuel and bomb loads, and starting and ending airfields. You can edit these parameters by right-clicking on a group in the list and selecting Group Info. To edit waypoints for the group’s role in the mission, right-click on the group’s name and select Waypoint Properties.

AIRCRAFT SELECTION

“There ain’t no badder silhouette than that of a P-38...”

- Kato

To choose an aircraft, click on the three-view aircraft silhouette display on the wall, or on the *select aircraft folder* lying on the table. A selection screen will open, displaying silhouettes of all available aircraft – planes not available in your arena will be grayed out. Click on a plane to select it, or press <ESC> to return to the Ready Room without making a selection.

After you have selected a plane, you may set the load – in fuel and bombs – your plane will carry. Medium and heavy bombers will have their bombs loaded automatically, but for fighter planes that can carry bombs, you must set the load within the aircraft’s limits. A dialogue

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box for this purpose will open on the screen. If you have selected a crew-served bomber, the dialogue will ask whether you want to broadcast a request for a bomber crew.

To proceed into flight or to build a crew, click on OK to return to the Ready Room. Click on CANCEL if you wish to abandon the aircraft selection process and return to the Ready Room.

VEHICLE SELECTION

To choose a vehicle instead of an aircraft, click on the *vehicle selection folder* on the table next to the situation map. Vehicle selection works just like aircraft selection: click on your vehicle's silhouette, or press <ESC> to abandon the selection process and return to the Ready Room.

After selecting a vehicle, you may set the fuel load and broadcast a request for crew members. When you are finished, click OK to return to the Ready Room to assemble a crew and go into action. Click on CANCEL if you wish to abandon the vehicle selection process and return to the Ready Room

FORMING A CREW

As pilot of a crew-served bomber or vehicle, you should fill the crew positions before entering combat. To do so, you must be in the Ready Room. You may depart from the airfield after you assemble a full crew complement, or you may leave at any time with as few crew members as you think you can get away with.

You may invite people personally to join your crew, but, usually, it is easiest to broadcast a crew request during the aircraft or vehicle selection process. Direct your request to everyone in the Ready Room, or to everyone from your country who is not in flight. You can move to another Ready Room after you've signed on crew members. However, only those crew members who in are the Ready Room with you when you decide to enter combat will be loaded into your bomber or vehicle.

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ENTERING COMBAT

Once you have selected an aircraft or vehicle – and assembled a crew, if necessary – you may proceed directly into combat. Click on the door labeled “Airfield” to exit the Ready Room. You will find yourself at the controls of the aircraft or vehicle you have selected, ready to take off.

BOMBER OPERATIONS

Bombers are an important element in *Air Warrior* missions. In addition to the pilot, these aircraft carry other crew members as gunners and as bombardier. In the multiplayer environment, the various crew positions will be filled by other players. As pilot, it is your job to assign these positions, though crew members can move around in the plane in-flight.

Crewing a Bomber

After you have chosen a plane and broadcast a request for a crew, your next job is to assemble the people you need to complete your mission. To identify you as a bomber pilot, a bomb icon will appear next to your name in the Ready Room player list.

You may invite a player to be part of your crew by right-clicking on his name in the player list, and selecting ASK TO JOIN YOUR BOMBER CREW. The player will receive a pop-up message box informing him of the invitation. He may select the JOIN or NO THANKS button in reply. Players who want to be on your crew may right-click on your name and select a crew position from the pop-up menu. You will receive notification in a similar message box, where you may accept or decline the offer.

After you have made your first crew selection, your screen will change to a view of the aircraft, with crew positions active as hot spots. The player list and the message buffer will remain active. As prospective crew members accept, their names will be marked in red on

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the player list, and you may drag them to open crew positions. You cannot accept more names than there are crew positions on your aircraft. Names of players who have been placed in a crew position will change from red to green.

Click OK when you have finished assembling your crew. You will return to the Ready Room, where you may click FLY. If you have not assigned all of your accepted crew members to positions on the aircraft when you go back to the Ready Room, they will be assigned automatically when you enter flight.

Moving Around a Bomber

With the exception of the pilot, who may jump only to the bombardier position, crew members can jump to other positions on the bomber, so long as someone does not already occupy that spot. This can be useful if you have run out of ammunition at a gunner position. Use the following command keys (followed by <ENTER>):

ESC + j[position] Jump to another position on the bomber (crew only).

ESC + z Move from the pilot's seat to the bombardier position. Repeat (ESC + z) to return to the pilot's seat.

Bomber Controls

Using the Intercom and Radio

In a bomber, you may use the radio as an intercom. Preceding a radio message with an accent mark (') directs it exclusively to other people on the bomber.

TURRET AND GUN CONTROLS

Turrets with auto-turret movement are controlled by your mouse or joystick. Auto-turrets can also be controlled, laterally, using rudder pedals. Manual turrets are controlled by the keyboard, though you can still use your joystick or mouse for fine aiming control. How quickly the turret moves depends on the extent of your control

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deflection. For example, if you deflect your joystick to the full extent of its travel, the turret will move faster than if you applied less deflection. When using your mouse as your primary controller, the right button fires the gun. You can toggle between your mouse and joystick in-flight. The following keyboard command keys are used to operate manual turrets:

| | |
|----------|--|
| a | Rotate turret left |
| d | Rotate turret right |
| e | Move guns up |
| c | Move guns down |
| ESC + oj | Toggle control between joystick and mouse (follow with <ENTER>) |

Gun Positions, Depending Upon the Bomber, Are:

| | | | |
|-------|-------|--------|--------|
| Upper | Lower | Tail | |
| Chin | Ball | LWaist | RWaist |

Other In-Flight Commands

| | |
|-----------|--|
| <ESC + a> | Open/close bomb bay doors (follow with <ENTER>) |
| b | Drop half your bomb load |

From the Bombardier Position:

| | |
|---|----------------------------------|
| x | Switch autopilot off/on |
|] | Increase bombsight magnification |
| [| Decrease bombsight magnification |

DROPPING YOUR BOMBS

Using the Bombsight – Medium and Heavy Bombers Only

Air Warrior's level bombsight is patterned after the famous Norden Bombsight from World War II. It allows the bombardier to control the plane during a bomb run and it computes where your bombs should land, given your altitude and velocity. You do not have to lead the target with this sight; just drop your bombs when the crosshairs are on it.

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Moving from the pilot's cockpit to the bombardier's position switches on the autopilot. You can switch it off if you choose by hitting the <x> key, but generally you want to make only slight adjustments to your course on a bomb run. If you've set yourself on a good bomb run angle before moving to the bombsight, you should need only apply rudder controls to line up your target.

When bombing from medium to high altitudes, you probably will need to employ magnification to see your target and line it up. To reduce bomb spread from high altitude, try slowing to near stall speed just before dropping. Be sure to open the bomb bay doors (using the command <ESC + a + ENTER>) before trying to drop your bombs, and remember to close them afterward; open bomb bay doors create considerable drag.

Dive Bombsight

Air Warrior employs a bit of post-World War II technology for dive bombing: the Continually Computing Impact Point (CCIP). This sight appears as an X where your pilot's gunsight normally would be; its color will match the one you have chosen for your lead computing (LCS) gunsight.

Like any bombsight, it shows you where your bombs would land if released. However, if you enable the CCIP, you will rarely see the figure X, because if you dropped a bomb in most normal flight situations, its impact point would be below you. Thus, to use the CCIP, you have to be flying at an angle and speed that will place your bomb's impact point in front of you.

Dive-Bombing Commands

Most fighters can carry at least one bomb; the Mustang, Lightning, Thunderbolt, Hellcat, and Corsair can carry two. If you want to configure a fighter as a dive bomber, you must do it from a Ready Room. Make sure the bombs are loaded before you enter the aircraft.

The plane you choose as a fighter bomber is generally a matter of experience and personal preference. Keep in mind that you'll probably be flying it as a fighter at some point in the mission and, even if you don't, dive bombing

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usually pushes an aircraft to its performance and maneuverability limits.

In-Flight <ESC> Commands (follow with <ENTER>):

ESC + sd Enable dive bomb sight

ESC + a Arm bombs

ESC + sg Enable fighter gun sight

In-Flight Command Key:

b Drop a bomb if bombs are armed

Arming Bombs

You have to arm your bombs before you can drop them.

Use the command <ESC + a><ENTER>.

DIVE BRAKES

In *Air Warrior*, four fighters are equipped with dive brakes: F4U Corsair, P-38 Lightning, F-86, and MiG-15. On all except the F4U Corsair, you deploy them by holding down the <spacebar>. The dive brakes stay deployed until you release the <spacebar>. The P-38's dive brakes are actually a specialized flap designed to modify the airflow over the wings and restore pilot control at speeds above 375 knots. Corsairs used their landing gear doors as dive brakes. Hitting the semicolon key <;> opens them, and hitting it again retracts them.

Keyboard Dive Brake Controls:

; (semicolon) Raise/lower dive brakes on F4U Corsair

Spacebar Raise/lower dive brakes on P-38 and jet

VEHICLE OPERATIONS

In addition to aircraft, *Air Warrior* offers the following vehicles for use by any player:

- T-34 tank
- Flakpanzer IV Whirlwind anti-aircraft weapon

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- Willys Jeep
- Supply truck

All except the supply truck are equipped with armaments. Most of the command keys are similar to those in aircraft.

Selecting and Crewing a Vehicle

Select a vehicle from an airfield Ready Room, as you would an aircraft. Difference is that you'd first select the vehicle folder, rather than the aircraft folder, on the table.

The T-34, Flakpanzer and Jeep can all use multiplayer crews consisting of a driver and gunners. It is possible for one player to operate a crewed vehicle, but cannot drive and fire at the same time. The vehicle will maintain whatever course and speed the driver had it set to before he jumped to another position.

Broadcasting a Request for a Crew

A vehicle crew is assembled by the same procedure as for a bomber crew. Start by issuing a request for crew members at the end of the selection process – broadcast your request to everyone in the Ready Room, or to everyone in your country who is not in flight. You may move to another airfield's Ready Room after you have signed on crew members; however, only those crew members who are in the new Ready Room with you when you decide to enter the vehicle will be loaded into your vehicle with you.

Signing On

To indicate that you are a crew leader, a steering wheel icon will appear next to your name on the Ready Room player list. A player who wishes to serve on your vehicle can open a list of available positions by right-clicking on your name. When he or she makes a selection, you will see a dialogue box indicating the request, which you may accept or decline. When all positions are filled, click on the BEGIN MISSION button, or click on the AIRFIELD door, and you and your crew will be loaded into your chosen vehicle, ready for combat.

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Moving Around a Vehicle

Crew members, including the vehicle driver, can jump to unoccupied positions on the vehicle. This is useful if you have run out of ammunition at a gunner position. Use the following command keys (followed by <ENTER>):

T-34 Tank

ESC + jg Jump to main gun position

ESC + ju Jump to upper machine-gunner position

ESC + jh Jump to hull machine-gunner position

ESC + jd Jump to driver position

Flakpanzer IV

ESC + jg Jump to anti-aircraft gun position

ESC + ju Jump to upper machine-gunner position

ESC + jd Jump to driver position

Jeep

ESC + jg Jump to machine gun position

ESC + jd Return to driver position

Vehicle Controls

Vehicles are driven with key commands and the joystick or mouse. In most instances, the mouse will provide the best control. You must be in the vehicle's driver position to steer, shift gears, etc.

Steering

A small steering wheel is indicated on the instrument panel, and it will rotate when you are steering with the mouse or joystick. Use the compass for specific directional information. Switch between mouse and joystick control with the following command keys followed by <ENTER>:

ESC + oj

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Shifting Gears

Air Warrior vehicles feature three-speed transmissions with a reverse gear. The engine and transmission behave as in real life: You must achieve the correct engine RPM when shifting, or the engine will stall. No clutch action is needed. Shift gears in a vehicle with the following command keys:

Numeric Keypad

| | |
|---|--|
| 9 | Upshift one gear |
| 7 | Downshift one gear |
| * | Shift to neutral from forward or reverse gear; shift to reverse from neutral |

Keyboard

| | |
|---|--|
| d | Upshift one gear |
| a | Downshift one gear |
| s | Shift to neutral from forward or reverse gear; shift to reverse from neutral |

Throttle

The throttle works the same as in *Air Warrior* aircraft. Avoid extended periods of operation with the RPM indicator in the red zone.

| | |
|-----------|-------------------------|
| c | Increase throttle by 7% |
| SHIFT + c | Full throttle |
| v | Decrease throttle by 7% |
| SHIFT + v | Minimum throttle |

Using the Intercom and Radio

As in a bomber, the radio in a vehicle can be used as an intercom, by preceding your message with an accent mark ('), usually found immediately to the left of the number 1 on the keyboard.

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Each of the following vehicle communications commands is followed by <ENTER>:

ESC + t + [channel #] Tune to a radio channel in-flight

/ [radio message] Broadcast on the radio channel you're tuned to

' [radio message] Broadcast on channel 2

' [radio message] Broadcast over the intercom to other crew members

Troop Transport

For successful capture of an adversary's airfield, between eight and 24 troops must be placed there, depending on whether you're trying to capture a forward field or one deep in enemy territory. Paratroop duty is handled by the *virtual troopers* provided by the host computer; actual players do not sign up as paratroops.

Initiate troop transport in the Ready Room by selecting a C-47 transport plane. The paratroops are automatically loaded onto the plane when you select it. Use the dialogue box to specify fuel load. C-47s carry no bombs, so specifying bomb load is not necessary.

After coordinating radio frequencies, click on the Ready Room's airfield door to enter the aircraft. You can now take off and fly the transport to its target airfield. An airfield must be prepped before the troops are dropped; after prepping, the troops must arrive within 30 minutes. (See on-screen Help for information on prepping an airfield for capture.) The virtual troopers will refuse to jump out of the plane if you do not have 500 feet of altitude.

As the pilot, you will specify when each of the paratroops is to jump. In effect, you use the intercom to order each of your troops to hit the silk. The command key sequence (using the accent mark ['']) is as follows:

*go + <ENTER>

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Repeat this command until all eight troops have jumped. You must drop your paratroops within about one-half mile of the airfield for them to be able to seize it.

USING THE RADIO

Keyboard-generated "radio" communications are an important aspect of play in the *Air Warrior II* multi-user environment. Actual voice communications are not yet supported, but full communications capability is provided by the keyboard. You may radio from ground to air, air to ground, or from plane to plane. In addition, crew members in bombers and other vehicles may use the radio to communicate with each other over a non-broadcast intercom.

Radio Channels

Using the radio may seem confusing at first because there are several ways to broadcast. Three sets of radio channels are defined in *Air Warrior*, enabling players to communicate with: (1) everyone in their online environment; (2) everyone aligned with their country (A, B, or C); or (3) selected countrymen on semi-private channels. These radio channels are defined as follows:

Channel 1

Channel 1 is the one open channel that all countries can hear. Your radio is automatically tuned to this channel when you begin your mission. Even though Channel 1 is an open channel, you still must tune to it as you would any other channel if you want to receive messages on it.

Channel 2

Channel 2 is the open channel for a particular country. Each country has its own separate Channel 2, and members of a country will receive radio traffic on this channel regardless of which channel they are tuned to.

Channels 3 Through 999

Each country has channels 3 through 999 available and, as on Channel 2, radio traffic on these channels

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can be exchanged only by members of a particular country. Unlike Channel 2, you must be tuned to one of these channels to receive it. The purpose of Channels 3 through 999 is to allow a group within a country, such as a squadron on a coordinated mission, to communicate privately. Before flight, pilots should coordinate radio channel assignments with other players they're flying the mission with.

For example, if a C-land pilot is broadcasting on Channel 175, only C-land pilots tuned to Channel 175 can hear him. If he broadcasts a message on Channel 2, every pilot in C-land will hear his message no matter which channel their radios are tuned to. If he broadcasts a message on Channel 1, it will be broadcast to all players whose radios are tuned to Channel 1, no matter which country they are affiliated with.

If you need to contact a pilot who has taken off without coordinating specific frequencies, you can use Channel 2. The call will be received by all of your country's Channel 2 radios in the arena, and so it is courteous not to overuse the open channel. You may distract one of your countrymen while he is involved in combat.

Broadcasting On the Radio

Using the radio during battle can be hectic since it requires typing.

Tuning to a Different Channel

When in flight, you can tune your radio by entering the following keyboard command:

`<ESC> + t + [channel #] <ENTER>`

There will be a brief delay while the channel changes. To broadcast a message on the channel your radio is tuned to, begin the message with a slash (/). You can broadcast on Channel 2, no matter which channel your radio is tuned to, by beginning your message

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with an apostrophe ('). To send a radio message after typing it, press <ENTER>.

Bombers and Vehicles

In a crewed bomber or vehicle, the radio also can be used as an intercom heard only by crew members. To send an intercom message, precede it with the accent symbol ('), usually found on the keyboard to the left of the number 1.

Radio Rooms

From Headquarters or an airfield Ready Room, you can go into the Radio Room by clicking on the image of the radio. There you may communicate with pilots in the air. When you enter the Radio Room, you are automatically tuned to channel 1. To tune to a different frequency, click on the radio and enter the appropriate keyboard command.

Identifying Radio Transmissions

In-flight radio messages are formatted, to a limited extent, to give you information about their origin. Channel 2 communications are preceded by an asterisk (*) and the sender's Custom Player ID (CPID); intercom messages from crew members are formatted with parentheses surrounding the player's CPID; messages from players on the ground show their full handle in front of the message.

Message formatting does not differentiate between the open Channel 1 and country-specific traffic on Channels 3-999. Both contain the sender's player number, followed by his message, with no added identifying cues. This is not as confusing as you may think. You cannot hear messages on Channels 3-999 unless you're tuned to one of those channels; and if you're tuned to a channel other than 1, you cannot hear Channel 1. Thus, for instance, if you are tuned to your country's Channel 69, you can be sure that all radio messages beginning with just the player number and the message also were broadcast on Channel 69.

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Formatting Examples

As an example, a message from a friendly pilot on Channel 2 would look like this:

*MUSKE: Is that you in the 109, Blueie?

If he were broadcasting over the intercom on a bomber, it would look like this:

(MUSKE): How did I get here?

If he were broadcasting on a country's channel other than 2, it would take this form:

MUSKE: What are you doing back in A-land?

Over Channel 1 it would look the same as if he were broadcasting on any other tuned channel besides Channel 2.

MUSKE: FEED ME!

And if he were broadcasting from a Radio Room, the message would look like this (if his handle were Stiletto):

-)-STILETTO—: Goodnight all!

Because people cannot identify on which channel a Radio Room message has been broadcast, it is a good idea to provide that information when you use the radio from the ground.

-)-STILETTO—: (on 2) Poof!

Colored Radio Messages

You often will see radio messages in the country color of the player sending them. This means that the player is within the maximum radar range of your position. If radar range is set, for example, to 17,000 yards, then all the colored radio messages you receive have been broadcast within a radius of 17,000

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yards of your position. This does not mean, however, that the player's aircraft will necessarily also appear on radar, since altitude and other factors affect the radar's ability to pick it up.

Summary of Important Radio and Intercom Commands

Type these commands in your outgoing message area, and press <ENTER> to execute them:

| | |
|-------------------------|---|
| /tune [radio channel] | Tune to a radio channel from a conference or briefing room. |
| ESC + t [radio channel] | Tune to a radio channel while in flight. |
| / [radio message] | Broadcast on the radio channel you're tuned to. |
| ' [radio message] | Broadcast on your country's main radio channel. |
| ' [radio message] | Broadcast over your bomber or vehicle intercom to crew members onboard. |

DUELING IN THE MULTI-USER ENVIRONMENT

"Do the unexpected... though not just for the sake of novelty."

- anonymous

While you are online and not in an aircraft or vehicle, you may challenge other players to a duel, either one-on-one or as a group.

Any number of players can join in a duel as long as they have all accepted the dueling invitation from the same person. If you receive an unexpected invitation to duel, check the roster and find out where the player issuing the challenge is located. When offering to duel other players, it is best to do so from an Officers Club, where you can meet and arrange the terms of the duel.

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To issue a challenge, right-click on another player's name in the player list, and select DUEL from the pop-up menu. Your opponent will see a dialogue asking him or her to accept or reject the challenge. Accepting the invitation places all members of the duel in *dueling mode*. You will share the same arena space with the regular players, but you will not see them and they will not see you.

Duelists will hear Channel 1 radio traffic from the arena, and damage previously inflicted on the terrain and facilities will be present. Players engaged in a duel are not limited, however, to the aircraft normally available in that arena; thus, they can do battle in planes that have never encountered each other in the actual skies. For example, Zeros can duel Spitfires despite that these planes do not normally fly in the same theater. You cannot fly a bomber in a duel.

Ending a Duel

When you land and exit your airplane – or crash, bail out, or get shot down – you leave dueling mode. To continue the duel, you must go through the invitation and acceptance process again. If you decide to end a duel before the end of your flight, you must land and exit your plane before returning to arena play; otherwise, you will remain in dueling mode, and everyone else will be invisible to you (and you to them).

Duel Communications

If you fly a duel with several players and need to communicate with the pilots on your side, be sure to agree on a particular radio channel beforehand. Your opponents will hear all communications on Channel 2, as well as on Channel 1. The results of duels apply to your arena score, and the rules for country defection also apply to duels: If you defected as part of your duel, you may not return to your original country affiliation for 24 hours.

SCORING

Go to your country's Headquarters and inspect the kill board to get the current scores for your arena. Scores are reset every three weeks.

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Individual Scores

In the online environment, *Air Warrior II* assigns scores for accomplishments in fighter combat and bombing. Scoring is weighted to reward pilots who survive their missions.

In a fighter, for example, you must land successfully to get full credit for shooting down another aircraft. If you get shot down, you will get only one-quarter of the points you would have earned if you had survived. Bailing out over friendly territory is worth one-third credit, and ditching your plane (landing on something other than a runway) in friendly territory is worth one-half. You always receive more points for kills over enemy territory. In addition, you will receive more points per kill if you survived your previous mission. This bonus grows as the number of survived missions increases.

Bomber scoring follows the same pattern of credit – based on how your mission ends – but the survival-streak bonus does not apply. Bombing missions always take place over enemy territory, so there is no bonus for strikes over hostile lands.

Squadron and Country Scores

A squadron's score is simply the cumulative score of all members of a squadron. Similarly, the score for a country is the sum of all its pilots' scores.

ENDING AN ONLINE FLIGHT

As in the stand-alone environment, an online flight ends when you land and exit your aircraft. If you fail to land safely, it ends when you get shot down, crash, or touch down on the ground after bailing out. At the end of your flight, your player score will be displayed on the screen. You may disable the score display in the Setup area: Go to User Preferences, and select the Interface tab.

Where you go after the end of your flight will depend upon the following factors:

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Shot Down or Bailed Out

If you bail out or are killed over friendly territory, you will go to the Ready Room of your country's nearest airfield. If you are over enemy territory, you will be returned to your country's Headquarters. In either case, you may re-enter combat as soon as you wish.

To bail out, use the key combination <ESC + p><ENTER>. You will be in free-fall until you enter the same keystrokes again, to pull the ripcord. Since you will still be in the thick of arena play as you descend, you will not be safe from enemy fire. Therefore, you may wish to delay pulling the ripcord if you bail out at a high altitude. Be sure to pull before 500 feet.

Landing Successfully

After a successful landing at a friendly airport, you must bring the plane to a complete stop on the ground before you can exit the plane. Type <ESC + e><ENTER> to go to that airfield's Ready Room.

Landing anywhere else is known as ditching; after stopping the plane, use the same <ESC + e><ENTER> command to exit the aircraft. If you ditch on friendly territory, you will return to the Ready Room of the nearest friendly airfield. If you ditch in enemy territory or land at an enemy airfield, you will be returned to your country's Headquarters.

EXITING THE GAME

To exit the game, return to the Officers Club and left click on the Exit door. You will return to the Arena Selection screen, from which you may go back to the main airfield. To exit directly from any non-flight screen, right-click and select EXIT AIR WARRIOR from the pop-up menu.

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The graphical interface for *Air Warrior II* is designed to be intuitive enough that you will have little trouble learning to use it. In the flight screens, though, the controls can be a little complex; refer to this manual or on-screen Help as you learn to use them. The Command Reference that accompanies this manual will be a useful guide to keystroke commands and other, non-graphical controls in the game.

THE COCKPIT

The instrument panel in all of *Air Warrior II*'s aircraft is essentially the same, though various elements will be included or not, as appropriate. The panel resembles one from a plane of the World War II era. World War I aircraft do not have controls for features that came later in history: Landing gear are not retractable, for instance, and there are no wing flaps. Vehicles operate similarly to the planes; refer to the Command Reference for specific keyboard commands.

You have some choice as to which instruments you will see on the panel. Refer to Chapter 2: Setup for more information on selecting the *artificial horizon* or *stick box*, and other options. You may even make the instrument panel disappear, using alternate *screen modes*; this feature can be useful to reduce your distractions in combat.

Looking out from the cockpit, you will see parts of the plane's exterior. These images are styled from actual photographs of the real aircraft. For example, if you are

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flying a twin-boom P-38, you will see an engine nacelle on each side of your cockpit. This assumes that you have loaded the entire library of *Air Warrior II* images; if you have not (perhaps to save space on your hard drive), you will see generic artwork instead. Your plane will fly the same, though, no matter what it looks like.

As with the instrument panel, you may adjust detail levels in your view from the plane. For more information, see Chapter 2: Setup.

Instrumentation

You will see the following instruments on your panel.



Altimeter

This indicates how far above the ground you are flying. The second, minute and hour hands show tens, hundreds, and thousands of feet, respectively.

Airspeed Indicator

You may select indicated airspeed (airspeed adjusted for air density), or true airspeed. The speed is given in knots (nautical miles) – a knot equals 1.14 miles. Jets have an additional digital Mach meter in the airspeed indicator. Mach 1.0 is the speed of sound.

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Stick Box or Artificial Horizon

These indicators give you information about control inputs you are making with the stick. You can choose to display one or the other, but not both of these indicators.

The stick box is most useful for inexperienced pilots, and it is essential if you are using the mouse as your stick control. When you move the stick, the stick box indicates how far you have moved from the center position. Some experienced players prefer the artificial horizon, which shows your aircraft's attitude relative to the horizon.

Vertical Speed Indicator

This shows your rate of climb, displayed in thousands of feet per minute.

Accelerometer

This instrument tells you how many positive or negative Gs you are pulling. In normal, level flight, it will read 1 G, which is simply the normal force of gravity.

Compass

The compass indicates the direction you are traveling.

Rudder Control

This shows how much rudder you are applying.

Warning Lights

Lights will warn you for stall, loss of oil pressure, or excessive engine speed (rpm).

Your engine could suffer oil starvation due to negative Gs or prolonged inverted flight. Apply positive Gs to restore oil pressure. Oil pressure also can be lost permanently due to battle damage.

Stalls occur your angle of attack exceeds the limit that can sustain flight at a given airspeed. Try to lower the nose to reduce your angle of attack. In an accelerated stall (stalled condition at higher than level stall speed)

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reduce stick deflection to recover. If the stall results in an uncontrolled spin, push the stick forward, apply rudder in a direction opposite the spin, and cut throttle.

Throttle Lever

The indicator box above the lever shows what percentage of full throttle you are applying.

Flaps Indicator

This shows how far you have your flaps deployed. Flaps settings will vary by plane type. Some, such as the P-51 Mustang, have four flap positions; others, such as the Spitfire, have only two – fully up or down. Some planes allow you to deploy flaps at any speed, while others restrict their use to speeds below 160 knots. Refer to the Aircraft Manual in the Mission hangar for more information about using the flaps on your selected aircraft.

RADAR

"In AW, both sides (strategy/tactics) are important to killing an living to tell about it. Strategy (SA), along with a healthy dose of patience will get you to positions where the target is dead, he just doesn't know it yet;-). To me, the most important factor here is learning to read the radar, and then figure out which dots are which. "

- Vossman

Understanding how radar works in the game is an essential skill. *Air Warrior* does not use radar resembling the equipment World War II era pilots had in their aircraft. During most of the Second World War, pilots received verbal descriptions of radar information over the radio from stations on the ground. In *Air Warrior II*, however, each pilot can access a combination radar-and-map display. It shows what the ground-based radar for the pilot's home country is receiving, and what the terrain below looks like.

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NOTE: In offline campaigns, particularly on the Veteran or Ace levels, radar is often disabled by the campaign designer. In some campaigns you will receive radio reports of enemy activity, as pilots did in the actual war.

Reading the Radar Screen

Radar is based at each individual airfield's radar tower. Its range is set by the game and is the same for all airfields in the arena or theater – usually about 17,000 yards. Planes flying below 200 feet cannot be detected by radar in most cases. This can be adjusted online to a higher or lower minimum altitude.

Radar Map and Grid

Press <F10> from any flight screen to bring up the radar/map display. There you will see a map of the nearby terrain on a grid representing sectors 12.5 miles wide. These sectors are charted and fixed. As you move across sectors, the map and grid move, with your position marked as a cross in the center. Airfields are labeled on this map, and no matter which direction you fly, the top of the screen is always north. You may zoom in or out of the map by using your keyboard's bracket keys <[> or <]>.

Plane Counters

When you are using *Air Warrior II* in the online multi-user environment, the radar/map display may show colored boxes in the upper-left portions of some sectors. These are plane counters, indicating how many enemy and friendly aircraft are in that sector.

Tracking Icons

If an aircraft is within range of your country's radar, and also is within 17,000 yards of your plane, it will appear on your screen as a tracking icon. Planes also can be displayed as numbers instead of icons, and in normal or reverse video, depending upon your choices in Setup. See Chapter 2 of this manual for more information on making this adjustment.

The tracking icon will appear in two places: On the tactical display - the black border to the left and right of

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your radar screen, you will see an indication of the aircraft's distance from you, and its position relative to your heading. On the map, the plane's position will be displayed as a short line, colored to reflect its nationality. If your country's radar has been destroyed or you are flying out of radar range, tracking icons will not appear. In full realism online play, or offline play at Veteran or Ace levels, radar range may be shortened or radar may be turned off entirely.

NOTE: The radar map reflects the cockpit view mode you have selected. Thus, in combat (F6) or close combat (F7) cockpit view modes, you will not get the complete radar map information you would get in situational awareness view mode (F5).

Radar View Range

In a target-rich environment, plane counters become less important. It can be more valuable to simply follow the flow of the action nearby. Shortening the radar's view range helps you cut down the clutter. To do so, zoom in and out using the bracket keys <[> and <]>.

Setting Radar-Bias Modes

You can track a maximum of 12 planes on the radar at once. Biased view modes allow you to choose which 12, of many planes in the area, will appear.

Setting biased view modes is much like sending a radio message. You type a slash (/) followed by an asterisk (*) and the mode: ru (radar unbiased), re (radar enemy), rb (bomber biased), or rf (radar friendly).

You may find these settings helpful or not. Most *Air Warrior* pilots never change their radar from the default mode, which is radar unbiased.

In unbiased mode, you will see the 12 aircraft closest to you, no matter if they are friendly or enemy planes. If you select enemy-biased mode, and there are more than 12 nearby planes, enemy planes will receive first priority for display. In friendly-biased mode, the display priority shifts

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to show you nearby aircraft from your own country. Bomber-biased mode will give display priority to bombers, whatever their country affiliation.

For example, let's say there are 16 planes within range of your radar: eight enemy and eight from your country. In unbiased mode, the nearest 12 aircraft will show up on your radar, regardless of nationality.

If you set your radar to enemy-biased mode, your radar will track all eight enemies, plus the nearest four friendlies. On friendly-biased mode, all eight friendly planes will appear on your radar screen, along with the nearest four enemy aircraft.

Bomber-biased mode is useful when flying cover for a bombing raid, or when intercepting incoming enemy bombers. In bomber-biased mode, if 16 planes are in radar range and eight of them are bombers (either friendly or enemy), the radar display will show all of the bombers, plus the four nearest non-bomber aircraft, regardless of nationality.

Important Radar Commands

| | |
|-----|--------------------------|
| F10 | Turn radar screen on/off |
| [| Zoom in |
|] | Zoom out |

Command Lines (follow with <ENTER>):

*/*ru* Unbiased radar/icon mode (default)

*/*re* Enemy-biased mode

*/*rf* Friendly-biased mode

*/*rb* Bomber-biased mode

KEYBOARD AND KEYPAD CONTROLS

In-flight control functions of *Air Warrior II* may be controlled from the keyboard or from the numeric keypad at the right side of the keyboard. Keyboard and keypad

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controls are not always the same, so refer to the correct list when you want to see what a particular key does.

Most of these functions also can be assigned to buttons and switches on *Air Warrior*-compatible control devices, such as multifunction joysticks. For specific information on supported devices, see Appendix A of this manual.

In-Flight Keyboard Commands

These commands work strictly from the keyboard, not the keypad:

| | |
|-----------|--|
| 8 | Start/stop engine |
| 7 | War Emergency Power (WEP) |
| ; | Raise/lower landing gear (raise/lower dive brakes - gear doors - on the F4U Corsair; deploy them below 225kts) |
|] | Decrease LCOS range 100 yards. Increase the level bombing bombsight magnification |
| [| Increase LCOS range 100 yards. Decrease the level bombing bombsight magnification |
| c | Increase throttle by 7% |
| SHIFT + c | Full throttle |
| v | Decrease throttle by 7% |
| SHIFT + v | Minimum throttle |
| 9 | Turn gun camera on/off |
| f | Fire guns |
| b | Bomb release |
| SPACEBAR | Wheel brakes (dive brakes on the P-38 and jets) |
| 1 | Full view range (all objects visible) |
| 2 | Medium view range (default view – all but the most distant objects are visible) |

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- 3 Short view range (only objects within a few miles can be seen)
- 4 Combat range (only immediate objects appear, and horizon shading is disabled)
- 5 Abridged range (shows no terrain detail whatsoever)

Cockpit View Modes

- F5 Situational awareness view – all instruments, tracking icons, and range-reporting icons are visible.



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- F6 Combat view mode – in this mode some tracking and range- reporting icons visible, as well as instrument information, in text form. You can toggle which instrument readouts you get by using the tab key.



- F7 Full screen combat view mode - this expands the view window to full screen, for close combat, without working gauges or range reporting icons. You do get tracking icons, however. This is useful in a close, turning dogfight.



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Keypad – Flaps and Rudder

| | |
|-----------|---------------------------|
| * | Center the rudder |
| 7 (home) | One notch of left rudder |
| 9 (pg up) | One notch of right rudder |
| 1 (end) | Raise flaps one position |
| 3 (pg dn) | Lower flaps one position |

Keyboard – Flaps and Rudder

| | |
|---|---------------------------|
| s | Center the rudder |
| a | One notch of left rudder |
| d | One notch of right rudder |
| < | Raise flaps one position |
| > | Lower flaps one position |

Function Keys – in-Flight

| | |
|-----|---------------------------------------|
| F1 | Help screen |
| F2 | Replace view with text buffer |
| F10 | Turn radar screen/map view on and off |

Radar Map Display

These apply only when viewing the radar map display:

| | |
|-------------------|----------|
| [(left bracket) | Zoom in |
|] (right bracket) | Zoom out |

Escape Key Commands

For these commands, press the following keys, followed by <ENTER> :

| | |
|---------|---|
| ESC + a | Arm bombs |
| ESC + d | Gives you the round trip time between your computer and the host in seconds (online only). A value of D=0 means that the round trip time is less than one second. |

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| | |
|-------------------|--|
| ESC + v | Variance - gives you information on the quality of your connection to our host over time. As with ESC d, this applies to online play only. |
| ESC + e | Exit the plane. When online, you must be on the ground and stopped for this to work. |
| ESC + p | Parachute from your airplane. You must hit <ESC + p> again to pull the ripcord. |
| ESC + sd | Switch on the CCIP dive-bombing sight. |
| ESC + sg | Switch to gunsight. |
| ESC + z | Switch to level bombing sight (medium and heavy bombers only). |
| ESC + oj | Toggle flight control between joystick and mouse. |
| ESC + ol | Turns long terrain labels off/on in the overhead radar map. |
| ESC + on | Turns terrain labels off/on completely. |
| ESC + om | Turns off/on enforcement of minimum specified frame rate. |
| ESC + w | Where am I command. Tells you what sector you are in and what sector you began in. |
| ESC + os | Turns inflight sounds off/on. |
| ESC + od | Turns on frame rate counter. |
| ESC + t[channel] | Tune your radio to the specified channel (This is for online play only. See Chapter 4 for more information on radio procedures.) |
| ESC + j[position] | Move to another position on bombers or crewed vehicles. Available positions depend on the bomber or vehicle selected: |

<T>ail

<U>pper

<L>ower or Left Waist, depending on the bomber

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<C>hin or copilot, depending on the aircraft

all

<N>ose or navigator, depending on the aircraft

<R> Right Waist

<G>un (jeep, tank, or flakpanzer)

<D>river (to go from gun back to driver's position)

<P>ilot (offline missions only)

<H>ull (hull gun in tanks or flakpanzers)

VIEWS

Both the keypad and the keyboard are used for viewing from different angles.

Keypad View Keys

Many keyboard controls can be used right from the keypad.

| | |
|-----------------|--------------------------------------|
| 8 (up arrow) | Look forward |
| 4 (left arrow) | Look left |
| 5 | Straight up view |
| 6 (right arrow) | Look right |
| 2 (down arrow) | Rear (mirror) view |
| 0 (INS key) | Look down, but only into the cockpit |

Combination Views – Keypad

You can combine two or more keys for angle views. For example:

| | |
|-------|-----------------|
| 8+5 | Forward/up view |
| 0+6+2 | Down/right/back |
| 4+0 | Down/left |

Dozens of combinations are possible. Experiment while flying to find your favorites. Note: *Air Warrior II* may not provide appropriate artwork for some of the more

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unusual view combinations. In these cases, the outline of your aircraft will appear as a plain gray shape.

Keyboard View Keys

| | |
|---|--------------------|
| G | Look forward |
| H | Look left |
| J | Look down |
| K | Straight up view |
| L | Look right |
| M | Rear (mirror) view |

The two- and three-key combinations (as on the keypad) are available here, too.

THE MISSION EDITOR

Included with *Air Warrior II* is a simplified version of the Mission Editor used at Kesmai to create offline missions. If you are looking for new challenges, try your hand at game design by writing new *Air Warrior* missions.

WHAT YOU CAN DO WITH THE MISSION EDITOR

The Mission Editor is a powerful tool for creating missions for *Air Warrior*. With it, you can set the era, forces, flight groups, aircraft and vehicles engaged in your mission scenario, as well as the waypoints and targets on the mission map. The many properties settings for each of the mission elements enable you to generate the text for the preflight briefing, set scoring priorities, and generally fine-tune your design. You also can use the Mission Editor to create mission briefings for the online multiplayer environment.

This version of the Mission Editor is limited to *single mission* scenarios. You will not be able to create extended campaigns.

INSTALLING AND LAUNCHING THE MISSION EDITOR

The Mission Editor will be installed automatically when you install *Air Warrior II*, if you choose the full installation. It is installed to the same directory as *Airwar.exe*. The Mission Editor is a separate program from the game software, however. The installation program will create an

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icon for it, which you may use from the Windows 95 Start menu, or the My Computer window.

Opening and Saving an Existing Mission File

Air Warrior missions are saved with an *.msn filename extension. Only missions using this file format can be opened with the Mission Editor. To open an existing file for editing, select the Open icon in the toolbar, or click on OPEN in the File menu. Then use the standard Windows dialogues to find the file you want. Mission files normally reside in the \Missions subdirectory of the Airwar folder.

Saving your work is done just as it is in most Windows programs. To save an existing file under its original name, select SAVE from the File menu, or click on the Save icon in the toolbar. SAVE AS will prompt you for a new name and location. The Mission Editor will ask you for verification before allowing you to replace or delete any existing data.

Creating a New Mission File

After you have selected NEW from the File menu, the Mission Editor will display a dialogue box in which you may enter a descriptive name for your new mission. You may change the name later, or leave the box blank and enter a name at another time. This name does not need to match the file name under which the mission will be stored.

The dialogue contains two drop-down list boxes – one for the point of view, and the other for your mission's theater of operations. If you have chosen a World War II force in Europe, then select from among the large, small, campaign, or historic European terrains. For a World War II force in the Pacific, you can choose the large or small Pacific terrains, or the far larger campaign Pacific terrain. For the World War I era, use the "Europe WW I" theater. You also must set the Mission Type as either an Off-line Mission or an Online Briefing. You may upload a briefing created with the Mission Editor for use online. For more information on uploading a mission briefing, see Chapter 4: The Online Multi-User Environment.

THE MISSION EDITOR

THE MISSION EDITOR INTERFACE

If you are familiar with other Windows programs, you should have little trouble learning to use the Mission Editor. Its appearance resembles a typical Windows drawing or word processing program in that it opens with an empty frame, which you can resize to suit your needs.

In addition to the main frame, the program uses the following window forms:

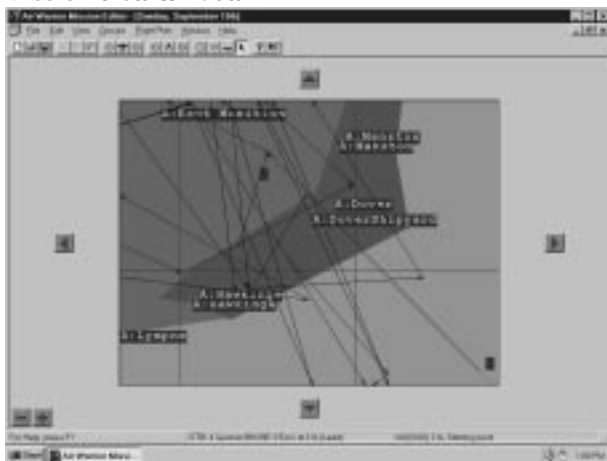
- Mission view
- Mission Properties window
- Group Properties window
- Waypoint Properties window

The interface also includes a standard Windows menu bar, a toolbar, and a status bar at the bottom of the screen displaying the names of the selected group and waypoint. Most of the toolbar and menu choices are self-explanatory, and will not be covered here in detail.

If you would like the various Properties windows to remain open on the screen at the same time as the Mission View map, select the KEEP checkbox that appears on each Properties page. Then drag the Properties window to the side and click in the map area. Both the Properties window and the map will be updated as you make changes in the mission.

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Mission View Window



The Mission View is the basic mission editing map. On the map, you may set the *starting point* location, as well as the positions of waypoints and targets. If you change the size of the main frame while the Mission View window is open, the map will resize itself as large as possible, without changing the ratio of height to width. The Properties windows can be opened from the Windows menu.

Mouse Functions

Much of your interaction with the Mission View window will be with the mouse. Some mouse functions will always work the same:

Scroll

Click on an empty area in the map and drag the mouse. The map will scroll.

Zoom

Press both the left and right buttons together while moving the mouse up or down. The map will zoom in or out.

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Properties

Right-click on an object to open the Properties window for that object.

Some mouse functions will vary according to the editing map's four modes of operation. The mode will change when you edit the mission starting point, the primary or secondary target, or a waypoint:

- Edit mode

The Mission View window will always open in *edit* mode, allowing you to move the mission's starting location, and move or delete waypoints and targets. Click on an object in the map to select it. You may drag the object to a new location. If no object is under the mouse pointer, nothing happens.

- Select Starting Point mode

Every group must have a starting location. *Select starting point* mode is used to change the starting location for the selected group, and is set when you click on STARTING POINT in the Flight Plan menu. While in this mode, click in the map to select the starting point. After you have chosen a starting point, the Mission Editor returns automatically to edit mode.

- Select Primary/Secondary Target mode

Click on PRIMARY TARGET or SECONDARY TARGET in the Flight Plan menu to place the Mission View in the *primary* or *secondary target select* mode. Click on an object in the map to select it as the primary or secondary target. Choosing a target returns the Mission Editor to edit mode.

- Insert Waypoint mode

Enter *insert waypoint* mode by selecting PREVIOUS WAYPOINT or NEXT WAYPOINT in the Flight Plan menu. Click on a blank area of the map to insert a waypoint, and assign it the next number in

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sequence. If you click on an existing waypoint, that waypoint is selected and can be dragged to a new location. The Mission View window will remain in this mode, allowing you to create or edit waypoints, until you manually select another mode.

The Edit Menu

The Mission Editor's Edit menu gives you the ability to cut and paste groups, waypoints and flight paths between missions. The CUT SPECIAL and COPY SPECIAL commands offer various options for reading selected mission elements into a special clipboard. Use PASTE SPECIAL to insert the selected element into another mission, or to replace an existing element.

Other Mission View Controls

The following controls are always available during mission editing:

Scroll Buttons

The arrows surrounding the map will scroll up and down, or side to side.

Zoom Buttons

The plus (+) and minus (-) button will zoom in and out on the map.

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Mission Properties Window



In the Mission Properties window, you will set many of the basic characteristics of your mission. The window has five pages: General, Briefing, Groups, Country-side and Scoring.

Mission: General Properties

Name

Your mission's name will appear here. It will match the name you assigned to the mission in the opening dialogue. You may edit it by typing in a new name.

Description

Type a short description.

Forces

Select an appropriate force name from the drop-down list for countries A, B or C. Only two countries may be assigned forces, and they may not be the same.

Player Role

Select the player's role in the mission.

Read Only Checkbox

This box will be checked if you have opened a mission that has been set as Read Only.

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Randomness Enabled Checkbox

Normally, *Air Warrior* will assign random values to some game elements; randomness can help keep the mission interesting in repeated play. Unchecking Randomness Enabled will disable all randomness in your mission and make it work in exactly the same way each time it is run.

Mission: Briefing

The Briefing page contains a read-only copy of your mission's briefing text, which is generated automatically from your entries on the map and the various Properties windows.

Mission: Group Properties

The Group page contains a list of all the flight groups participating in the mission. The maximum number of groups is twenty. For each group, the list displays the Group ID, the number of pilots in the group, country, plane type, starting point, and the player role setting from the Mission: General Properties page. Click in the list to select a group. Buttons on this page include:

New

Click on NEW to create a new flight group for your mission. The Group Properties window will open on a blank page, where you can set up the new group. NEW is disabled if your mission already contains the maximum number of groups.

Properties

Click on PROPERTIES to open the Group Properties window for the selected group. Double-clicking on a group's line in the list will also open its Properties window.

Delete

Click on DELETE to remove the selected group from your mission.

Mission: Countryside Properties

On the Countryside Properties page, you may set custom names for airfields used in your mission. The

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page contains a scrollable list of all airfields in your mission's theater of operations.

Mission: Scoring Properties

The Scoring Properties page contains a scrollable list of all "scoreable" mission events. Each entry includes values for the event's priority, its event type, and the associated mission element (group, target or waypoint). The player receives a score based on his or her completion of the event, in relation to the named group, target or waypoint.

Use the GO TO button to open the Properties window for the group, target, or waypoint element associated with the selected event. Double-clicking on an entry in the event list also selects GO TO.

Group Properties Window

Use the Group Properties window to set the characteristics of the flight groups operating in your mission. It can be accessed from the Windows menu or from the Mission Properties window. It has six pages: General, Crew, Start, Flight Plan, Targets and End.

Group: General Properties

Group

The selected group will be identified by its *group number*. To select a different group for editing, click on the up or down arrow to cycle through all the groups in the mission.

Name

Type a descriptive name for the group in the box to the right of the group number.

Group ID

Enter a three-character identifier for the selected group.

Number in Group

Click on the UP or DOWN arrow to select the number of pilots for the group. The range for each group is 1 to 10, with a maximum total of 20 for the mission.

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Nationality

Select a nationality from the drop-down list. Nationalities are listed by name. The choices in the list are based on the force assignments you have made on the Mission: General Properties page.

Plane Type

All pilots in one group must operate the same type of aircraft or vehicle. Select the type from the drop-down list, which will contain choices appropriate to the group's era, theater of operations, and force. The list also contains choices for random plane assignment as fighter, dive bomber, or level bomber.

Fuel %

Click on the UP or DOWN arrow to select a fuel load (in percent).

Bombs

Click on the UP or DOWN arrow to set the bomb load, up to the maximum limit for the plane type. This feature is disabled for planes that do not carry bombs.

Cargo and Paratroopers

Check Cargo if the group's planes will be carrying cargo. For aircraft that can carry cargo, either this or the Paratroopers box must be checked, but not both.

Formation

Select a formation pattern from the drop-down list.

Kill/Survival

Select from the drop-down list a kill priority for enemy groups, or survival priority for friendly groups.

Group: Crew Properties

Parameters set on the Crew Properties page will apply to human and simulated crewmen.

Skill

Select the group's skill level from the drop-down list.

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Morale

Select the group's morale from the drop-down list:

- Low
Will engage, but will disengage when not in the advantage.
- Coward
Likely to run when detecting an enemy.
- Average
Will engage and fight until low on fuel or ammunition.
- Insane
Always attacks, never gives up.

Attentiveness

Select from the drop-down list.

Player Participation

Select from the drop-down list. Options depend upon the player's role in the mission as set in Mission: General Properties.

Call Signs

Call signs are automatically assigned for each pilot when you create a group. They are listed here. You may select and edit any of the call signs in the list.

Group: Start Properties

A group's location at the start of the mission may be in-flight or at a specified airfield. The Start Properties page sets parameters that affect the starting location for the group.

Start

Use the Start selection buttons to choose an in-flight or at-airfield starting location.

Base Airfield

Select a base airfield from the drop-down list of all

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airfields with your group's force affiliation and in that theater of operations.

Reassignment Allowed

Select this box to allow random reassignment of the group to an alternate airfield.

Altitude

Type an altitude for in-flight starting location. Permissible values depend upon the plane type. This control is disabled for at-airfield starting locations and for vehicles.

Airspeed

Type an airspeed for in-flight starting location. Permissible values depend upon the plane or vehicle type. This control is disabled for at-airfield starting locations.

Position Approximate/Within

Check the Approximate box to allow random variation of the starting location. In the Within box, type a distance in miles to mark the radius of the area within which activation may occur. This feature is disabled for at-airfield starting locations.

Drone Activation

You may select one or both of the options for delaying the activation of drone groups:

Perimeter

With the Perimeter box checked, the group will not activate until another group is detected in its defined perimeter. Checking Perimeter will open a drop-down list where you may select a detection method. The second list may be used if you want to set a secondary detection method to add a measure of randomness to the group's activation.

Drone activation parameters are useful for limiting the number of active groups in the air. Instead of taking off all at once, groups can come into the action when they are actually needed.

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Earliest Time

Check the Earliest Time box to delay the group's activation until a specific elapsed time. Use the UP and DOWN buttons in the first time box to set the time for activation. You may enter a time in the second box to add a plus/minus randomness parameter.

Comments

The Comment here repeats the Comment set for the starting point in Waypoint: General Properties. You may edit it in either location.

Group: Flight Plan Properties

The Flight Plan Properties page sets the group's flight plan and objectives. It contains a scrollable list of all waypoints defined for the group. Each entry includes waypoint number, time, location and action. The location is specified as an airfield name for groups starting at-airfield, or an altitude for groups starting in-flight. Time indicates approximate mission time of arrival at the waypoint, in H:MM format. Click on an entry to select a waypoint for editing.

Add

Click ADD to place the Mission View window in *insert waypoint* mode. New waypoints are inserted after the selected one. ADD is disabled if the group already has the maximum number of waypoints, which is 16.

Go To

Click GO TO to open the Waypoint Properties window for the selected waypoint. Double-clicking in the list also opens the properties window.

Delete

Click DELETE to remove the selected waypoint. This button is disabled if the selected waypoint is the starting point or ending point.

Associated Group

Select a group from the drop-down list, which shows ID numbers of all other groups in the same force. This

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setting will be used, for example, by any “Rendezvous with Escort” or “Begin Escort” waypoints.

Group: Targets Properties

This page sets parameters for the selected group's primary and secondary targets. The Mission Editor is designed to display an error message if you make impossible settings. The following properties must be set for both the primary target and the secondary target:

Description

Enter a descriptive name for the target.

Target Type

Read-only text describes the specific target or region as defined on the map.

Waypoint

Read-only text indicates the waypoint associated with attack on the target.

Destroy/Protect

Select a Destroy or Protect priority from the drop-down list.

Add/Change

Click on ADD/CHANGE to place the Mission View in *insert primary/secondary target* mode. The button's label will reflect whether the target is currently defined.

Clear

The CLEAR button clears the target.

Intercept Preference

Select an Intercept Preference from the drop-down list, to determine what kind of opposition the group will seek. For example, a fighter group may be designated to engage with other fighters.

Group: End Properties

This page defines the End of Mission characteristics for

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the group.

Recovery Airfield

Select a Recovery Airfield from a drop-down list of all fields (with the same force affiliation) in the group's theater of operations. Check Return to Base Airfield if you want the group to always return to the field from which it took off.

Comments

The Comment here repeats the Comment entered in Waypoint: General Properties for the *ending point*. It may be edited at either location.

Priority

From the drop-down list, choose Recovery or Resupply priority for friendly groups, and Prevent Recovery or Prevent Resupply for enemy groups.

Deactivation (radio buttons)

Click on the appropriate button to specify conditions under which the group will be deactivated. Deactivation may not occur when expected if *Air Warrior* determines that the group is still participating in the mission.

As with the Delayed Activation property, Deactivation serves to limit the number of flight groups in the air when they are not needed.

Waypoint Properties Window

Use the Waypoint Properties window to set the characteristics of the various waypoints on your mission. It can be accessed from the Windows menu or from the Group: Flight Plan Properties window. It has two pages: General and Details.

The Mission Editor is designed to check the validity of entries for waypoint properties. For example, it will try to check that a waypoint is reachable from the previous one, and it will display a warning message when it finds incongruous entries. You still may save your work and

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continue after receiving the warning.

All missions must have starting and ending waypoints, which use special starting point and ending point actions. These special characteristics cannot be changed and are not available to other waypoints. The starting point always will have a time setting of 0 and *incidental reach/miss priority*. The reach/miss priority setting for the ending point will stand as the group's recovery priority.

Waypoint: General Properties

Waypoint

Click on the UP or DOWN arrow to select a waypoint number for editing.

Action

From the drop-down list, select the action the group will take when it reaches the waypoint. The action setting is sometimes called the *waypoint type*.

Altitude

Enter the altitude at which your group should approach the selected waypoint. Range is based on the plane type. This control is disabled for vehicles.

Airspeed

Enter the group's airspeed at the selected waypoint. Range is based on the plane or vehicle type.

Estimated Time

The estimated elapsed mission time at the selected waypoint is displayed in read-only text.

Reach/Miss

From the drop-down list, select a *reach priority* for friendly groups, or a *miss priority* for enemy groups.

Comment

Enter text to describe the waypoint in the mission briefing.

New

Click on NEW to place the Mission View in *insert*

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waypoint mode. New waypoints will be inserted before the selected waypoint. NEW is disabled if the group already has the maximum number of waypoints, which is 16.

Waypoint: Details Properties

The contents of the Details Properties page will vary, depending upon the waypoint type (or action), as set in the Waypoint: General Action property. It provides additional parameters necessary for defining waypoints of some types.

THE MISSION BRIEFING AND DEBRIEFING TEXTS

The descriptive text that players see in the Briefing room, as they cycle through waypoints, is generated from the Waypoint Properties. The debriefing text is generated by the *Air Warrior* program based on the events you have selected to define success or failure in the mission.

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APPENDIX A

SUPPORTED FLIGHT CONTROLS

JOYSTICK DRIVERS

Although Air Warrior may be executed with only a mouse, a joystick is recommended to fly Air Warrior. To use a joystick in Windows, you need to install a joystick driver. For Windows 95, you will need the VJOYD driver, which is distributed with Windows 95.

WINDOWS 95

The required Windows 95 joystick driver, VJOYD, is provided with Windows 95, and will be installed when your sound card is auto-detected. Users of separate game cards may have to perform the installation manually by first removing the joystick (add/remove hardware option under Control Panel) and then adding the dedicated game card.

HOW TO SETUP YOUR DRIVER

The Windows 95 joystick setup is much more intuitive than in earlier versions of Windows. Go to the Control Panel and find the joystick applet. Normally you just select the option that most closely matches your hardware. One exception is the ThrustMaster FCS, and compatible sticks, which sometimes work better with the hat as a third axis, rather than as a POV switch.

It is important that you calibrate and test your joystick in the Control Panel. If it does not work there it probably will not work correctly in Air Warrior. If you are treating your FCS hat as a third axis, be sure to move it to all possible

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positions when it asks you to calibrate your throttle, odd as that sounds.

If you have a joystick, a throttle (or a ThrustMaster FCS or a Wingman Extreme), and rudder pedals, you have two 2-axis devices. Set-up joystick 1 and joystick 2 as 2-axis, 2-button joysticks.

If you have a joystick and a throttle (or a ThrustMaster FCS or a Wingman Extreme), you have one 3-axis device. Set-up joystick 1 as a 3-axis, 4-button joystick.

If you have only a joystick, you have one 2-axis device. Set-up joystick 1 as a 2-axis, 4-button joystick.

Do not use the ThrustMaster Flight Control System option. If you do, your hat switch will not work.

Do not check the rudder option. If you do this, rather than following the instructions above, your rudder will not work.

JOYSTICKS AND SOUND

There is a strong interdependency between the joystick and sound in Air Warrior. In particular, sound makes a significant impact on joystick calibration on most systems. It may be necessary to calibrate your joystick in Air Warrior even though you have already calibrated it in the Control Panel. This is usually just fine tuning, but it's always recommended.

If you calibrate with sound enabled, the joystick may go out of calibration in flight if you subsequently elect to disable sound. Likewise, if you calibrate with sound disabled, you will need to recalibrate if you later enable sound. Recognizing this problem, sound is playing in the joystick calibration screens, albeit at the lowest possible level, unless you've decided beforehand to disable sound. Players who have boosted the input gain on their sound cards will hear an aircraft engine running when

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they go to calibrate their controls. This is not a bug; it's not a feature either; rather, it's an odd necessity.

Game Ports

Most joystick vendors now recommend the use of a dedicated speed-controlled game card on fast PCs, such as Pentiums. If you use the game port on most typical sound cards, you may not be satisfied with the results. Common problems include excessive noise or an inability to sense part of the right or back movement of the joystick. The Air Warrior controls calibration attempts to compensate for such problems, but the best solution is to use the best hardware.

Dedicated Game Ports in Windows 95

Windows 95 often has problems with auto-detecting game cards. The usual symptom is the joystick buttons work but the joystick does not. One solution is to uninstall the driver for the game port on your sound card and manually install the driver for your game card using Add New Hardware.

Both ThrustMaster and CH Products have additional help on their web sites.

ThrustMaster

<http://www.thrustmaster.com>

CH Products

<http://www.chproducts.com>

JOYSTICKS

Generic 2-Button Joystick

The Generic 2-Button Joystick can be any standard joystick device with at least 2 buttons that are not programmed to send keyboard commands. Any other buttons or switches which are programmable will work normally; any other buttons or switches which are not programmable will be ignored.

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ThrustMaster XL

The XL is functionally equivalent to the FCS. See below.

ThrustMaster Flight Control Stick (FCS) or Pro Flight Control Stick (PFCS)

Castle Switch

The Castle Switch controls views. There are two sets of views, toggled from one set to the other by the pinkie switch.

- | | |
|-------|--|
| Set 1 | Forward: up/forward view Left: left view Right: look right Back: back view |
| Set 2 | Forward: up view Left: left/back view Right: right/back view Back: back/up view |

Thumb Buttons

The upper thumb button, near the castle switch, is your bomb release switch. The middle thumb button deploys dive brakes on planes equipped with them (P-38 Lightning, F4U Corsair, F-86, and MiG-15).

Trigger Button

The trigger button, as you might imagine, fires your guns.

The TM FCS in Windows 95

In Windows 95, the FCS hat may be treated as either a POV switch or as a third analog axis. Although the POV switch may seem to be the more obvious choice, you may find that it works better in Air Warrior as a third axis. Try this if you find that some of the views will not work.

CH FlightStick Pro

The FlightStick Pro has a trigger, 3 buttons, and a 4-way castle switch. It is not a programmable joystick.

The FlightStick also has a rotary throttle control. Select the Generic Throttle Control to use it.

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CH Combat Stick

The Combat Stick has 2, 4-way switches, 5 buttons, and a trigger. It is not a programmable joystick. Air Warrior currently supports only 4 buttons (including the trigger) and one 4-way switch. The trigger and any 3 buttons may be used when calibrating the 4 button functions. The top 4-way switch is normally used for view control, but you may choose either.

Used in conjunction with the CH Pro Throttle, this becomes a programmable joystick and all buttons and switches become available.

The Combat Stick also has a rotary throttle control. Select the Generic Throttle option to use it.

CH Fighter Stick

The Fighter Stick has 4, 4-way switches, a trigger, and three buttons. The 4-way switches are programmable using the CH utilities. The Fighter Stick also has a rotary throttle control. Select the Generic Throttle Control option to use it.

CH Force Feedback Stick

Not only does this stick have nearly every button under the sun, it also gives you rather dramatic physical feedback effects for various game conditions. When you set this stick up in Air Warrior you also have the option to enable/disable various feedback effects.

Gravis Firebird/Phoenix

The Phoenix is a fully programmable control system with a joystick, throttle, and rudder, two triggers, and 22 buttons. We recommend that you start with the programming in `airwar.phx`.

Air Warrior assumes that two controls are programmed as joystick buttons 1 and 2. Out of the box, the Phoenix has the lower and upper trigger programmed as joystick buttons 1 and 2, respectively. All other buttons should be programmed to keyboard commands.

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The throttle may be programmed to be analog or key mapped. Out of the box the throttle will be analog. Select the Generic Throttle Control to use the analog throttle.

The rudder may be programmed to be analog or key mapped. Out of the box the rudder will be analog. Select the Generic Rudder Control to use the analog rudder.

SunCom Raptor

This stick will operate with Air Warrior much the way the CH Pro does.

SunCom Talon

This joystick has 4 buttons, a 4-way castle switch, and a 4-way hat switch. The buttons may be treated as joystick buttons or mapped to the keyboard. The 4-position switches are strictly mapped to the keyboard.

Air Warrior assumes that the buttons are mapped to the keyboard (not joystick mode). You should use the key mapping test rather than the button test to verify their operation.

Follow the directions in the SunCom manual to program the Talon. If you prefer to use the buttons in joystick mode, select the Generic Joystick option.

The SunCom joysticks are not fully compatible with the ThrustMaster WCS-II or RCS.

SunCom Eagle

The Eagle is similar to the Talon but has expanded programmability. Use the SunCom utilities to program the Eagle.

Logitech Wingman Extreme

The Wingman Extreme has 4 buttons and a 4-way hat switch. It is not programmable. Functionally, it is a clone of the ThrustMaster FCS and is compatible with the WCS-II and RCS.

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Microsoft Sidewinder Pro

The SideWinder 3D Pro is a multi-functional controller with a joystick, view switch, throttle, rudder, eight buttons. The twist axis of the stick is the rudder control. It is not programmable. It supports three mode of operation: ThrustMaster emulation, CH FlightStick Pro emulation, and digital.

When used in ThrustMaster emulation mode, select an FCS and RCS. The throttle slider and four base buttons will not function. The view switch is a 4-way 4-position hat switch.

When used in CH FlightStick Pro emulation mode, select a CH FlightStick Pro, Throttle, and Pedals. The four base buttons will not function. The view switch is a 4-way switch.

When used in digital mode, select a Microsoft SideWinder 3D Pro, generic throttle control, and generic rudder control. Up to four of the eight buttons are currently supported by Air Warrior. Air Warrior currently treats the 8-way view switch as a 4-way switch.

THROTTLES

Keyboard/mouse

The keyboard and mouse are the default throttle control. Moving the mouse forward and back with the right button depressed will move the throttle, as will the C and V keys.

Generic Throttle Control

The Generic Throttle Control is any standard throttle input device. This could be a wheel or slider attached to the joystick, or a stand-alone device not discussed below.

ThrustMaster WCS-I (Weapon Control System Mark I)

The WCS-I is throttle designed especially for use with the FCS. This is purely a keyboard emulator and is not connected to the game port. This is not a programmable device.

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Since the WCS-I is not connected to the joystick or rudders, there should be no compatibility problems.

ThrustMaster WCS-II (Weapon Control System Mark II)

The WCS-II is a throttle designed especially for use with the FCS. It has 6 buttons and 1 rocker switch, all of which are programmable. Use the ThrustMaster utilities and the AW20WIN.ADV file distributed with Air Warrior to program your WCS-II. If the WCS-II is used with the FCS, red throttle rocker switch should be set to digital and the black hat rocker switch should be set to analog. When properly programmed, throttle movement will send keyboard commands and hat movement will be passed through normally. In this configuration the WCS-II will not show up as an analog throttle on the test and calibrate dialog, but you should see the key inputs.

The WCS may also be used with the FLCS. The WCS-II may also be used as a normal analog throttle. In this case, set the red throttle rocker to analog and the black hat rocker to digital. If you joystick is an FCS, you will have to create a new WCS-II programming file to program key commands for the hat. In this case you should select one of the generic stick types, rather than FCS, and you will not see the hat switch on the calibrate and test dialog.

The WCS-II makes up to three joystick buttons programmable. The trigger will be passed through normally but the other buttons will be programmed with key commands. Only the trigger will show up as a digital input on the calibrate and test dialog.

Some users prefer to cable their WCS-II to a second game port and the keyboard, so that it functions as a keymapped device but does not affect the operation of their stick and/or rudder pedals. This may be recommended if the other devices are not ThrustMaster products and may not be compatible with the throttle. In this case, you should select "keyboard/mouse" as your throttle option and program the WCS-II as you would for use with the FCS.

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The WCS-II is not fully compatible with the CH Pro joystick. If the CH Pro is connected to the joystick input on the WCS-II, the buttons and 4-way switch will not function correctly. The WCS-II may be used with the CH Pro only if it is used as a purely kemapped device, as described above.

The following are the WCS assignments. You can, of course, edit these if you wish by using the Thrustware that comes with the WCS.

Three Position Switch

Forward: radar view

Middle: normal cockpit view

Back: text buffer

Buttons 1-6

Button 1: start/stop engine

Button 2: autopilot

Button 3: raise landing gear

Button 4: raise flaps one notch

Button 5: lower flaps one notch

Button 6: gun camera on/off

ThrustMaster TQS (Throttle Quadrant System)

The TQS is a throttle designed exclusively for use with the FLCS. It has buttons, switches, and a track ball, all of which are programmable. Use the ThrustMaster utilities to program your TQS and FLCS.

The TQS can only be used with the FLCS, and requires an FLCS to function.

CH Throttle

The CH Throttle has a 4-position switch, a rocker switch, and 6 push buttons, all programmable. Use the CH utilities to program the Throttle.

CH Pro Throttle

The CH Pro Throttle has 4, 4-way switches and 4 buttons, all programmable. In addition, it makes the buttons on any CH Product joystick programmable. Use the CH utilities to program the Pro Throttle.

APPENDIX A

RUDDER PEDALS

Keyboard

The default rudder control device is the keyboard.

Generic Rudder Control

The Generic Rudder Control is any standard rudder input device. This could be a wheel or slider attached to a joystick, or a stand-alone device not discussed below.

ThrustMaster RCS (Rudder Control System)

The RCS is a rudder pedal system designed for use with the ThrustMaster joysticks and throttles.

CH Pedals

The Pedals are designed for use with the CH joysticks and throttles, but will work with most flight control devices.

CH Pro Pedals

The Pro Pedals differ from the standard pedals in that they have toe brakes. Air Warrior does not, at the moment, support the toe brake function of most CH pedals, mostly because the game allows you to steer on the ground with your rudder pedals rather than with differential braking.

APPENDIX B

COMMAND

REFERENCE

KEYBOARD CONTROLS - AIRCRAFT

Many keyboard controls can be used right from the keypad.

Keypad - Views

| | |
|-----------------|--------------------------------------|
| 2 (down arrow) | Rear (mirror) |
| 4 (left arrow) | Look left |
| 5 | Straight up view |
| 6 (right arrow) | Look right |
| 8 (up arrow) | Look forward |
| 0 (ins key) | Look down, but only into the cockpit |

Combination Views - Keypad

You can combine two or more keys to acquire various angle views. For example:

| | |
|-------|-----------------|
| 8+5 | Forward/up view |
| 0+6+2 | Down/right/back |
| 4+0 | Down/left |

Dozens of combinations are possible. Experiment while flying to find your favorites. Some of the more esoteric view combinations do not have artwork, and will show your plane as a gray outline.

Keypad - Flaps and Rudder

| | |
|----------|---------------------------|
| 7 (home) | One notch of left rudder |
| 9 (pgup) | One notch of right rudder |

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| | |
|----------|-----------------------|
| * | Centers rudder |
| 1 (end) | Raise flaps one notch |
| 3 (pgdn) | Lower flaps one notch |

Keyboard Controls

These controls work strictly from the keyboard, not the keypad.

| | |
|-------------------|--|
| 8 | Start/stop engine |
| 7 | War Emergency Power |
| Semicolon (;) | Raise/lower landing gear (raise and lower divebrakes on the F4U Corsair) |
| Right bracket (]) | Decrease LCS range 100 yards. Increase the level bombing bombsight magnification. |
| Left bracket ([) | Increase LCS range 100 yards. Decrease the level bombing bombsight magnification. |
| c (lower case) | Increase throttle by 7% |
| C (upper case) | Full throttle |
| v (lower case) | Decrease throttle by 7% |
| V (upper case) | Minimum throttle |
| 9 | Turns gun camera on/off |
| f | Fire guns |
| b | Bomb release |
| Spacebar | Wheelbrakes (divebrakes on the P-38 and jets) |

Terrain Detail Modes

| | |
|---|---|
| 1 | Full view range (all objects visible) |
| 2 | Medium view range (the default view - all but most distant objects visible) |
| 3 | Short view range (only objects within a few miles can be seen) |

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- | | |
|---|---|
| 4 | Combat range (only immediate objects will appear, and horizon shading will be disabled) |
| 5 | Abridged range (no terrain detail whatsoever) |

Cockpit View Modes

- | | |
|----|---|
| F5 | Situational Awareness Mode (full gauges, full tracking and range reporting icons) |
| F6 | Combat View Mode (partial gauges, reduced tracing and range reporting icons) |
| F7 | Close Combat View Mode (limited gauges, tracking icons only) |

Time Compression - Offline Only

- | | |
|---|---|
| + | Accelerate time, up to 10x |
| - | Slow the rate mission time passes, up to 1x |

Waypoint Commands - Offline Missions and Campaigns

- | | |
|-----------|-----------------------------------|
| <CTRL> F1 | Skip the upcoming waypoint |
| <CTRL> F3 | Disable/enable waypoint reporting |

DRONE COMMANDS - COMMANDING DRONES IN OFFLINE PLAY

The following commands only work if you are in command of one or more groups. The attack or escort commands only work if your group can see the enemies you wish them to attack, or the planes you wish them to escort. Where a group ID is specified, this is the 3 character identifier, typically the first 3 characters of a group's inflight callsign (icon).

/flight, attack [bombers, fighters] tells your group to attack the specified type

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| | |
|----------------------------|--|
| /flight, land | tells your group to head back to base and land |
| /flight, escort [group ID] | tells your group to escort the specified group |

The same commands apply to sections or other groups under your command, as follows:

| | |
|-------------------------------------|--|
| /section, [attack, land, escort] | tells half of your group to perform the specified action |
| /[group ID], [attack, land, escort] | tells a group under your command to perform the specified action |

These flight or section orders can be abbreviated as follows:

| | |
|------|-----------------------------------|
| /faf | same as /flight, attack fighters |
| /fab | same as /flight, attack bombers |
| /fl | same as /flight, land |
| /saf | same as /section, attack fighters |
| /sab | same as /section, attack bombers |
| /sl | same as /section, land |

KEYBOARD VIEW KEYS

| | |
|---|--------------------|
| G | Forward |
| H | Look left |
| J | Down |
| K | Straight up |
| L | Right view |
| M | Rear (mirror) view |

The two and three key combinations (like on keypad) are available here too.

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KEYBOARD FLAP AND RUDDER CONTROLS

| | |
|---|---------------------------|
| > | Lower flaps one position |
| < | Raise flaps one position |
| a | One notch of left rudder |
| s | Centers rudder |
| d | One notch of right rudder |

FUNCTION KEYS - INFLIGHT

| | |
|-----|---|
| F1 | Help screen |
| F2 | Replaces viewing or radar screen with text buffer |
| F5 | Normal Cockpit View Mode |
| F6 | Combat View Mode |
| F7 | Close Combat View Mode |
| F10 | Turns radar screen on/off |

ESCAPE KEY COMMANDS

Hit escape + the following keys to issue these commands.

| | |
|---|---|
| A | Arm bombs |
| D | Gives you the round trip time between your computer and the host in seconds (online only). A value of D=0 means that the round trip time is less than one second. |
| V | Variance - gives you information on the quality of your connection to our host over time. As with ESC d, this applies to online play only. |
| E | Exit the plane. When online, you must be on the ground and stopped for this to work. |

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| | |
|------------------|--|
| P | Parachute from your airplane. You must hit <ESC + p> again to pull the ripcord. |
| SD | Switch on the CCIP dive-bombing sight. |
| SG | Switch to gunsight. |
| Z | Switch to level bombing sight (medium and heavy bombers only). |
| OJ | Toggle flight control between joystick and mouse. |
| OL | Turns long terrain labels off/on in the overhead radar map. |
| ON | Turns terrain labels off/on completely. |
| OM | Turns off/on enforcement of minimum specified frame rate. |
| W | Where am I command. Tells you what sector you are in and where you began. |
| OS | Turns inflight sounds off/on. |
| OD | Turns on frame rate counter. |
| OJ1 | Turns on/off flight control debugging - shows you your controller hardware output values. |
| T[radio channel] | Tune your radio to the specified channel (This is for online play only. See Chapter 4 for more information on radio procedures.) |
| J[position] | Move to another position on bombers or crewed vehicles. Available positions depend on the bomber or vehicle selected: |
| t | tail |
| u | upper |
| l | lower or left waist, depending on the bomber |

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| | |
|---|---|
| c | chin or copilot, depending on the aircraft |
| b | ball turret |
| n | nose or navigator, depending on the aircraft |
| r | right waist gunner |
| g | gun (jeep, tank, or flakpanzer) |
| d | driver (to go from gun back to driver's position) |
| p | pilot (offline missions only) |
| h | hull (hull gun in tanks or flakpanzers) |

VEHICLE COMMANDS

Keypad

| | |
|------|--|
| PgUp | upshift |
| Home | downshift |
| * | shift into reverse - must be in neutral beforehand |

Keyboard

| | |
|------------|------------------------|
| s | shift to neutral |
| e | raise gun |
| c | lower gun |
| a | rotate turret left |
| d | rotate turret right |
| [| zoom tank gunsight in |
|] | zoom tank gunsight out |
| f | fire gun |
| <spacebar> | brakes |
| 8 | start engines |
| c | increase throttle |

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C full throttle

v reduce throttle

V cut throttle

<esc> j [position] jump to another position. Depending upon the vehicle, these positions may include:

d driver

g main gun

h hull gun

u upper gun