

User's Manual

PAGAN
Ultima III

STRIKE
COMMANDER

SYNDICATE
PLUS

WING
COMMANDER II

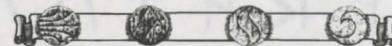
CREATIVE[®]
CREATIVE LABS, INC.

ULTIMA[®] VIII PAGAN[™]

THE CHRONICLE OF
PAGAN

A TREATISE ON THE GLORIOUS HISTORY OF THIS
FOREMOST SOCIETY

by
BENTIC, HUMBLE SCHOLAR AND STUDENT



There is little in the world more refreshing to me than knowledge. I remember in my youth hearing tales of legendary times, unexplored places and fantastic beasts. I constantly pestered my parents and instructors with an endless number of questions. How does this work? Why did they act in such a manner? Where can I find these plants? My thirst for information was – nay, still is – insatiable. I spent hours at a time investigating all I could about my surroundings. Unfortunately, as I realized early in life, I lacked much in the way of physical prowess, making exploration difficult. Imagine my pleasure when I discovered that not only did life itself teach me things great and wondrous, but the myriad ancient tomes could offer nearly as much. It was then that I elected to dedicate this humble life to filling my mind and library with all the knowledge I could. Thus, I humbly add these words to the collection of wisdom that already fills the multitude of bookshelves throughout the land. I hope my work may someday imbue the hearts of others with curiosity.



Bentic

Archaic Alphabet

A	B	C	D	E	F	G	H	I	J	K	L
𐌆	𐌇	𐌈	𐌉	𐌊	𐌋	𐌌	𐌍	𐌎	𐌏	𐌐	𐌑
M	N	O	P	Q	R	S	T	U	V	W	X
𐌒	𐌓	𐌔	𐌕	𐌖	𐌗	𐌘	𐌙	𐌚	𐌛	𐌜	𐌝
Y	Z	TH	EE	NG	EA	ST					
𐌞	𐌟	𐌠	𐌡	𐌢	𐌣	𐌤					

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INSTALLATION

Welcome to *ULTIMA VIII – Pagan*. This section includes quick installation instructions for users more familiar with the process, and a detailed, step-by-step guide to installing the game. If you experience any difficulty, consult Troubleshooting. To avoid compatibility or memory problems, please take a moment to confirm that your machine matches the system requirements. Remember, you may safely stop and return to the previous menu by pressing **Escape**.

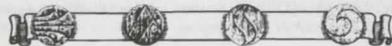
Note: *Ultima VIII Pagan CD has been fully tested with the Double Space disk compression utility that shipped with MS-DOS version 6.0. Performance will decrease due to increased hard disk access. We cannot guarantee the compatibility of our games with other disk compression utilities.*

QUICK INSTALLATION

Note: If you are running a disk cache such as *SMARTDrive* prior to installing, you need to disable it to insure a clean installation. Refer to your documentation or make a system boot disk as described in *Optimizing Your System* to disable this cache. This only affects the installation of the game. *SMARTDrive* will work normally during gameplay.

1. Turn on your computer and wait for the DOS prompt. Some machines boot directly to *Windows*, or a different shell environment. Be sure to exit *Windows* (or other shell program), and install directly from the DOS command prompt (C:\>).
2. Insert the disk into your CD drive.
3. Type the name of your CD drive followed by a colon, then press **Enter**.
4. Type CDULTIMA8, then press **Enter**.
5. Type INSTALL ENGLISH press **Enter**. (To install *Ultima VIII CD in French*, type INSTALL FRENCH. To install in *German*, type INSTALL GERMAN.
You must completely delete and re-install if you decide to change languages. All of your saved games to that point will be lost—they are not transferrable.)
6. When prompted, follow the installation program.
7. To begin play, type U8 at the game's directory and press **Enter**.

For details, see **Installation Options**.



SYSTEM REQUIREMENTS

Computer. *Ultima VIII CD* requires at least an Intel 486 or 100% compatible system, MS-DOS version 5.0 or higher, MS-DOS CD-ROM extensions version 2.1 or higher, and a VGA video card.

Hard Drive. You must have a minimum of 35 free megabytes on your hard drive to install and play this game.

Mouse. *Ultima VIII CD* requires a Microsoft or 100% compatible mouse using Microsoft software driver version 7.0 or higher, Logitech software driver version 6.0 or higher, or 100% compatible software driver.

Memory. *Ultima VIII CD* uses conventional RAM (base memory) and extended memory (XMS). You must have a minimum of 4 megabytes of RAM installed in your machine.

INSTALLATION OPTIONS

Installation Menu

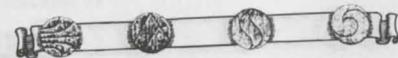
- Abort Installation
- Change Source Path
- Change Destination Path
- Change Sound Configuration
- Change Music Configuration
- Install

Ultima VIII CD will install without sound or music configuration unless you specify otherwise.

Use **↑** or **↓** to move the highlighter up and down.

Note: If you selected INSTALL FRENCH or INSTALL GERMAN in Step 4, on-screen instructions and selections will be in French or German, respectively.

- 1-4. Follow steps 1-4 in Quick Installation. If you have no sound card, skip to step 9.
5. Highlight CHANGE SOUND CONFIGURATION, then press **Enter**.
6. Check the default choice. Highlight the appropriate configuration, then press **Enter**.
7. Highlight CHANGE MUSIC CONFIGURATION, then press **Enter**.
8. Repeat Step 6.
9. If you wish to install to a drive or directory other than the default (C:\ULTIMA8), highlight CHANGE DESTINATION PATH, then press **Enter**. Backspace over the default destination and enter your new path.
10. Highlight INSTALL. Press **Enter**. The game is then copied and decompressed onto your hard drive.



The installation of the Speech Pack then begins.

If you do not want to install speech, press **[Esc]** and skip to Step 13.

11. If you installed the game to a directory other than C:\ULTIMA8, backspace over the default destination and enter that directory's path.
12. Highlight INSTALL, and press **[Enter]**. The speech files are then copied and decompressed onto your hard drive.
13. When the installation process is finished, make sure that you are in your Pagan game directory, then type U8 **[Enter]** to begin play.

CHANGING YOUR SOUND CARD CONFIGURATION

If you change from one sound card to another, you must reconfigure the sound card configuration for Ultima VIII CD. These changes also apply to your saved games.

Return to the drive and directory where you installed the game (default: C:\ULTIMA8) and type INSTALL **[Enter]**. This allows you to change the selections you made when you originally installed the game. Select CHANGE SOUND CONFIGURATION from the menu and follow the Installation Options Steps 5-8 listed above, then highlight INSTALL and press **[Enter]** to save your changes and return to the DOS prompt.

IF YOU HAVE TROUBLE INSTALLING...

If you have not already, please review the **System Requirements** for *Ultima VIII CD* to be sure your hardware setup and *Ultima VIII CD* are compatible.

Memory Requirements

Ultima VIII CD uses conventional RAM (base memory) and extended memory (XMS). You must have a minimum of 4 megabytes of total RAM installed in your machine. Of this memory, you must have at least 3,580,000 bytes (3496K) free XMS memory for Ultima VIII CD to run. An Expanded Manager driver (like EMM386.EXE) may be loaded but it must be configured for no EMS memory. Consult your memory manager's documentation and Optimizing Your System (below) for more information. This will allow you to load necessary drivers into upper memory and load Ultima VIII CD. If you are unsure about these different types of memory, consult your DOS manual.

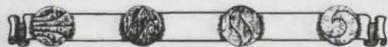
To find out how much DOS, XMS and EMS memory your computer has available, use the DOS MEM command. From the DOS prompt, type: MEM **[Enter]**.

When the memory information is displayed on the screen, look for the following listings:

* LARGEST EXECUTABLE PROGRAM SIZE

This number indicates how much DOS conventional memory is available. You must have at least 460,800 bytes (450K) listed here.

* TOTAL EXTENDED (XMS) OR TOTAL CONTIGUOUS EXTENDED



This is the amount of extended memory in your computer. You must have at least 3,580,000 bytes (3496K) listed here.

* BYTES FREE OF EMS OR FREE EXPANDED (EMS)

This is the amount of expanded memory configured for your system.

- If you have a 4 megabyte machine, you must not have this line.
- If you have a 8 megabyte or more machine, you may have this line as long as it reads 4,194,304 or less bytes (4096K).

OPTIMIZING YOUR SYSTEM

If you are experiencing problems running *Ultima VIII CD* or do not have enough memory, it might help to create a separate boot disk and decrease the number of memory resident programs (TSRs) you have loaded.

Do not delete your AUTOEXEC.BAT or CONFIG.SYS files from your hard drive – without them, your computer will not function.

Creating a Floppy Boot Disk

To create a separate boot disk, insert a blank high density disk in your A: drive. From the DOS prompt, type: FORMAT A:/s **[Enter]**.

Modifying CONFIG.SYS

When the DOS prompt returns and the format is complete, type:
EDIT A:\CONFIG.SYS **[Enter]**.

When the new screen appears, determine which memory management system you are using (if any) from those listed below and type the commands shown under that system:

CONFIG.SYS without EMS driver

```
FILES=40  
BUFFERS=35  
DEVICE=C:\DOS\HIMEM.SYS  
DOS=HIGH  
SHELL=C:\DOS\COMMAND.COM /P
```

CONFIG.SYS using EMM386.EXE (EMS with DOS 5.0, 6.0, 6.2, Windows 3.1) on 4 megabyte system

```
FILES=40  
BUFFERS=35  
DEVICE=C:\DOS\HIMEM.SYS  
DEVICE=C:\DOS\EMM386.EXE NOEMS RAM  
DOS=UMB  
DOS=HIGH  
SHELL=C:\DOS\COMMAND.COM /P
```



CONFIG.SYS using EMM386.EXE

(EMS with DOS 5.0, 6.0, 6.2, Windows 3.1) on 8 megabyte system or larger system

```
FILES=40
BUFFERS=35
DEVICE=C:\DOS\HIMEM.SYS
DEVICE=C:\DOS\EMM386.EXE 1024 RAM
You cannot exceed 4096K of total EMS for Ultima VIII CD to work properly.
DOS=UMB
DOS=HIGH
SHELL=C:\DOS\COMMAND.COM /P
```

CONFIG.SYS using EMM386.EXE with DoubleSpace and DOS 6.0/6.2 on 4 megabyte or larger systems

```
FILES=40
BUFFERS=35
DEVICE=C:\DOS\HIMEM.SYS
DEVICE=C:\DOS\EMM386.EXE NOEMS RAM FRAME=E000 /T=B000-B7FF RAM
DOS=UMB
DOS=HIGH
SHELL=C:\DOS\COMMAND.COM /P
DEVICEHIGH=C:\DOS\DBLSPACE.SYS /MOVE
```

Exiting CONFIG.SYS

After typing these lines, you should exit and save your file. Do so by typing:

```
[Alt] [F]
[X]
[Y]
```

Modifying AUTOEXEC.BAT

Next you need an AUTOEXEC.BAT file on your boot disk, type:

```
EDIT A:\AUTOEXEC.BAT [Enter].
```

When the new screen appears, type:

```
PROMPT $P$G
PATH=C:\DOS
C:\MOUSE\MOUSE.COM
Your mouse driver may load differently. See Mouse Setup for more info.
SET COMSPEC=C:\DOS\COMMAND.COM
C:
CD\ULTIMA8
U8
```

Exit and save your file.



To Use Your New Boot Disk

Turn your computer off, insert your new floppy boot disk in your A: drive and turn the computer back on. The boot disk should run and automatically take you into *Ultima VIII CD*.

Mouse Setup

Be sure that you are using a 100% Microsoft-compatible mouse driver – a Microsoft version 7.0 or higher mouse driver is preferable. If you are using a boot disk, this driver must be loaded within your boot disk configuration. Since the command line may differ from mouse to mouse, consult your hard drive's AUTOEXEC.BAT by typing at the DOS prompt: TYPE C:\AUTOEXEC.BAT. Look for your mouse driver line and copy it into your boot disk's AUTOEXEC.BAT, replacing the mouse driver line (C:\MOUSE\MOUSE.COM) that we suggest above.

Consult your mouse user's guide for more detailed instructions on loading the mouse driver for your computer.

Disk Cache Setup

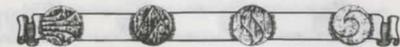
If you have more than 4 megabytes of RAM on your machine, you can load SMARTDrive (a disk caching program) after installing *Ultima VIII CD*. We recommend that you allocate 1024K of memory to the disk cache. We also recommend using the SMARTDrive versions from Windows 3.1 or DOS 6.0. If you decide to install SMARTDrive, you will need to add the following line to the beginning of your AUTOEXEC.BAT file (you may need to change the path on this line depending upon where your disk cache program is located):

```
C:\DOS\SMARTDRV.EXE 1024 C (the final letter being the drive where you installed Ultima VIII CD).
```

Note: Though other disk cache programs may work with *Ultima VIII CD*, we cannot guarantee their compatibility with this software.

Installation Fails

In the unlikely event that the installation fails, an error message should tell you the nature of the problem. See **Troubleshooting** for solutions to some common problems.



QUICK REFERENCE

MOVEMENT

<i>Careful Step</i>	Small arrow/right-click
<i>Walk</i>	Medium arrow/right-click-and-hold
<i>Run</i>	Long arrow/right-click-and-hold
<i>Standing Jump</i>	Medium arrow pointing in desired direction/click both buttons
<i>Running Leap</i>	Long arrow/right-click/and-hold to get a running start, left-click to jump
<i>Jump & Grab</i>	Stand beneath object/short arrow/click both buttons

MOVEMENT

<i>Move/Throw Object</i>	Left-click-and-hold objecting drag "ghost" to new position
<i>Use/Talk</i>	Double-left-click on item/person
<i>Open Display</i>	Double-left-click on expanded display
<i>Close All Displays</i>	[Backspace]
<i>Open Inventory & Statistics</i>	Double-left-click on your character
<i>Open Backpack</i>	Double-left-click on the backpack in your display

COMBAT

<i>Draw Weapon/Combat Stance</i>	Double-right-click on Avatar
The following can only be done from Combat Stance.	
<i>Swing Weapon</i>	Double-left-click
<i>Kick</i>	Double-right-click
<i>Advance</i>	Right-click with arrow pointing in attack direction
<i>Block</i>	Left-click or left-click-and-hold
<i>Retreat</i>	Right-click with the arrow pointing in retreat direction
<i>Sheathe Weapon</i>	Double-right-click (on Avatar)

DIARY (Load/Save Game, Music or Sound On/Off, Change Name)

<i>Open/Close Diary</i>	[Esc]
<i>Open Category</i>	Left-click on category
<i>Make Selection</i>	Left-click on selection
<i>Save Selection</i>	Type in your selection, press [Enter]

KEYBOARD COMMANDS

[C]	Draws/Sheathes your weapon	[Esc]	Opens and closes your diary
[Alt][H]	Changes the "handedness" of the mouse	[Backspace]	Closes all open displays
[I]	Opens your backpack	[Alt][X]	Quits the game
[O]	Opens Options screen	[Ctrl][V]	Displays the version number of <i>Ultima VIII</i>
[Z]	Opens your equipment and stats display		

PLAYGUIDE

STARTING THE GAME

To play *Ultima VIII Pagan*, go to the drive where it is installed. If it is in your C: drive, type C: **[Enter]**. Then go to the directory containing your game. If you chose the default directory, type CD\ULTIMA8 **[Enter]**. Start the game by typing U8 **[Enter]**.

The Beginning...

Watch the introduction to *Ultima VIII* and learn what the Guardian plans for you. When it is over, a diary appears and you should type in the name you wish to use while visiting Pagan. Press **[Enter]** to begin playing the game.

INTRODUCTORY WALKTHROUGH

Ultima VIII is primarily mouse-driven

- Your hands and eyes are controlled by the left mouse button.
- Your feet are controlled by the right mouse button.

In addition to the mouse commands, there are some keyboard shortcuts to simplify frequently used commands. If you wish to reverse the controls of your mouse, press **[Alt][H]** – all following commands referring to the *right* button will then be controlled by the *left*, and vice versa. See **Quick Reference** for other shortcuts.

ON PAGANS AND PENTAGRAMS

pentacle – n. a five-pointed figure, composed of five straight lines interlacing to form a starlike shape. It was a popular design in medieval art, and was given a mystic significance by astrologers and magicians.

pentagram – n. a pentacle; also, any figure of five lines.

pagan – n. a follower of a polytheistic religion (as in ancient Rome).

Ultima VIII Pagan is a fantasy role-playing game designed solely for entertainment purposes. The game's setting involves a confrontation with the classic mythological Elemental Titans and their polytheistic worshippers. In the game, the terms pentagram and pagan were selected for their relevance to the storyline and setting. ORIGIN wishes to imply no additional connotations for the words and concepts defined above. (Definitions from Webster's New Universal Unabridged Dictionary and Webster's Ninth Collegiate Dictionary.)



INTERACTION WITH PEOPLE AND ITEMS

Conversations

There is a kind fisherman standing nearby – you automatically get up and begin a conversation with him.

- Left-click on his text to continue, or you can wait until the text disappears. *To adjust the amount of time text remains on the screen, see **Diary: Options**, below.*
- Left-click on the phrase you would like to respond with. *Your possible responses are always in red, and can be identified by their bullets.*
- Click on the farewell keyword (usually GOODBYE, BYE, or something similar) when you are satisfied with what you have heard.
- When you want to begin talking to someone, double-left-click on that person.

Although conversations in *Pagan* do not halt the game, some scenes are important enough to move the center of the screen to the person or people with whom you are talking. When this happens, pay close attention to what is being said. You regain control as soon as the scene has run its course. Not all conversations are repeated, so pay close attention the first time you talk to anyone!

Using Objects and Containers

- Move to the basket to the right of the fisherman's bedroll by right-click-and-holding.
- Double-left-click on the basket. *The large display that appears shows what the basket contains. You open books by double-left-clicking, as well.*
- Left-click-and-hold on the bowl to pick it up. *You can't pick up items that are not close enough, or that are on the other side of something.*
 - blue pointer – you can place the object here.
 - blue cross hair – you can throw the object there.
 - red cross – you cannot pick up/release it because the location is either too far away or is obstructed. Releasing the button when the cursor is a red cross returns the object to its original position.
- Double-left-click on the display of the basket to close it.
- Pick up the basket and, for practice, toss it next to the two fish.
- Put the bowl in your backpack by dragging it over your character and releasing.

Be careful to check all containers carefully. Some have valuable items hidden beneath debris.



MOVEMENT

- Without pressing either button, move the cursor around the screen. *Notice that the mouse pointer has three lengths.*

Jumping

You can jump nearly half your height to climb taller objects – but you cannot climb some things such as most vegetation, sharp objects and the highest mountain ledges.

- When the arrow is short, try clicking both buttons simultaneously. *You jump in place. If there were a ledge or something overhead to grab, you would grab it and pull yourself up.*
- With a medium arrow (pointing any direction), try clicking both buttons. *You jump forward.*

Walking, Running and Running Leaps

The three arrow lengths represent speeds you get when you press the right mouse button.

- short* – makes a small, cautious step forward (a “careful step”).
- medium* – walks at a normal pace.
- long* – runs at full speed.

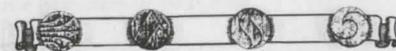
You move in the direction the arrow points.

- Move the arrow toward the upper right corner of the screen until it is medium length.
- Walk by pressing the right mouse button.
- When you find a brown dirt area, stretch your legs by moving the arrow to the far upper-left corner of the screen and press the right button.
- Click the left mouse button while you run. *On the next step you leap forward about twice your height. If you hold the right button as you leap across a chasm, you can grab the ledge on the other side. (See **Dangerous Terrain** to learn how to navigate wide gorges).*
- Follow the path until you come to stairs leading up to a wooden pier.
- Walk up the stairs and continue until the railing stops you.

Climbing and Careful Stepping

- While facing the rail, click both buttons to climb on the rail.
- With a short arrow showing, right-click to take a “careful step.” *You teeter, trying to maintain your balance. This is very useful when walking near cliffs – you won't accidentally walk off the edge.*
- Turn around and walk off the railing, back onto the dock.

You can fall a certain distance without damage, but from greater heights it become increasingly difficult to survive the experience. Falling more than two times your height is fatal.



COMBAT

Arming

- Examine the barrels near the dock until you find a dagger in a small box.
- Drag the dagger over your character and release it.
The dagger disappears.
- Double-left-click on your character.
The larger display shows what your equipment looks like in much greater detail. In your right hand you are now holding the dagger you just acquired. In addition to weapons, you can ready shield, helmets, body armor and leg armor by placing them on your character display. Everything else is carried in the backpack.
- Double-left-click on the backpack in the display.
- Place the dagger in your open backpack.
The dagger appears inside the pack. Objects inside the pack may be rearranged any way you like – they stay where you put them.
- Take out the dagger and drag it over the display of your character.
It appears in the right hand again.
- Close all expanded displays at once by pressing **[Backspace]**.

Unsheathing Your Weapons

- Enter combat stance by double-right-clicking on your character – this readies your weapon.
Whenever the weapon is drawn, you are in a combat-ready position.
- Practice swinging by very quickly double-left clicking.
- Block your opponent (in this case, imaginary) by clicking or click-and-holding the left button down.

Kicking

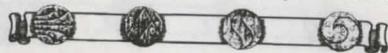
- Kick by double-right-clicking ahead of your character.
Note that when you try to kick in another direction, you turn in that direction instead of kicking.

Advancing and Retreating

When in combat stance, you move differently. You cannot jump or climb while in combat stance, so you must first sheathe the weapon.

- Right-click ahead of your character to advance. Right-click directly behind your character to retreat.
You turn when the mouse is clicked anywhere other than directly ahead or behind.
- Practice for a moment, and then sheathe the dagger by double-right-clicking on your character once more.

To cover ground quickly during combat, move the mouse to the edge of the screen while advancing – you sheathe your weapon and begin to run. When you wish to stop and fight, release the right button – you return to combat stance.



Dangerous Terrain

Water and lava are both dangerous. Because you do not have the skills necessary for surviving in water, falling means certain death! Also, the many lava lakes and rivers that flow underground are deadly. Be careful when traveling near any of these.

Wide gorges are also dangerous, but can be crossed. Stand at one edge of the gorge. Click both buttons to begin the leap across the gorge, then let go of the left button but *don't release the right button yet!* If you jump far enough, you can grab the ledge before falling. At this point, you can drop from the ledge by releasing the right button, or you can pull yourself up by clicking the left mouse button. You can also combine leaping and climbing for a longer jump by running at full speed toward the edge. Two steps from the gorge, click the left button to begin the jump. High Dexterity and practice are the keys to proficiency.

PERSONAL STATS

- Double-left-click on your character to see your personal stats.
To the right of your picture are your statistics:

Strength (STR) affects the amount of damage each blow does in a fight. It also determines how high you can jump, how much you can carry and how far you can throw objects. Your Strength increases the more you jump or engage in combat. Your maximum encumbrance (how much you can carry) is three times your strength.

Intelligence (INT) determines your potential Mana. Maximum Mana is twice your Intelligence. The more spells you cast, the more rapidly Intelligence increases.

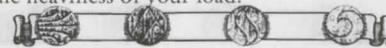
Dexterity (DEX) affects the frequency of your attacks during combat. It also determines your ability to grab ledges and throw objects. Practicing these activities during the game is what increases Dexterity.

Armor Class (ARMR) is a measure of how difficult it is for your opponent to make successful attack. The better your armor, the higher your armor class. The higher the armor class, the more difficult you are to hit.

Hit Points (HITS) is a measure of how much damage you can withstand. Your maximum Hit Points are twice your Strength. When your Hit Points drop to zero, you die! Unlike previous Ultimas, you do not get magically resurrected in Pagan – you must load a previously saved game. Fortunately, Hit Points restore themselves over time, and for faster recuperation you can see a healer. Eating periodically helps your recuperation.

Mana (MANA) determines your stamina when casting spells. As you cast spells, your mental fatigue increases and your Mana drops toward zero. Without Mana, you are unable to cast spells. Mana slowly replenishes itself once you cease casting spells.

Weight (WGHT) is the heaviness of your load.



- Minimize the display by clicking on the button at its lower-right corner. *This keeps track of Hit Points and Mana without obscuring the screen. The red light signifies Hit Points and the blue light signifies Mana – they get smaller as the stats approach zero.*
- Double-click on the minimized display to restore it to its original size.
- Left-click-and-hold on the display (somewhere other than the backpack) to move it around the game screen. *It is always possible to move expanded displays when they are in the way. Double-left-click on a display to close it, or [Backspace] to close them all.*

DIARY

- Pressing [Esc] or dying will bring up your diary. *Left-click on any item in the Table of Contents to select it, or type the corresponding number of your selection on the keyboard.*
- Close the diary by pressing [Esc] when finished.

To begin a new game, select READ DIARY from the Table of Contents. Left-click on ENTRY 1: THE BEGINNING to load a game at the start.

To load a previously saved game, select READ DIARY from the Table of Contents. Left-click on the entry you wish to load. Left-click on downturned corners to turn pages.

To save your current game, select WRITE DIARY from the Table of Contents. Left-click where you wish to save the current game and enter a description of the saved game. You have up to four lines to describe the game. When finished, press [Enter] to save the game. If you wish to abort the procedure, press [Esc] to restore the previous entry. You will not be able to save your game if you've destroyed an item or character necessary to the completion of the game.

Options Page

MUSIC and SOUND FX can be turned on or off. Digital sound effects include all speech.

AVATAR STEPS lets you turn off and on the sound of your footsteps.

On slower computers, turn off ANIMATIONS, FRAME SKIPPING, and/or SPEED LIMITING to speed the game up.

To prolong or shorten how long text remains on the screen, click on TEXT SPEED. The "slide bar" makes the text disappear more quickly or slowly (9 is fastest).

BEGINNING THE STORY

- Return to the dock and walk toward the water.
- Enter the city when the execution is over.



HISTORY



FIRST EPOCH: AGE OF THE ANCIENT ONES

Ages ago, in the First Epoch of our lands, mankind was able to walk across the plains and traverse the seas which are today so hazardous. Our forebears, known as Zealans, worshipped the false words of the Ancient Ones, the rulers of emotions. The beautiful goddess Amoras, say the ancient texts, controlled the aspects of love and joy, appearing when those feelings were prevalent in Zealan communities. However, when their primitive emotions changed to hate or grief, fierce Odion was there to display his might. Ever holding the links between those two, so the legend goes, is proud Apathas, ruler of cool impartiality. Under the questionable comfort of these three lay the entire world, within which lived and toiled our ancestors.

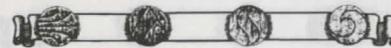
ZEALANS

Our forebears were a simple lot, savagely ignoring rational thought in deference to the false tenets of emotion. They had little sense of society, often quarreling among themselves, and even less knowledge of economy. To their credit, they were skilled warriors and hunters, and many of their martial forms are taught to this day. Centuries passed before a Zealan war chieftain, called Khumash-Gor, conquered most of his competing tribes. He unified them into a single community of considerable size and influence, and ruled for decades before falling to an assassin's poisoned blade. Several of his successors attempted to recapture the qualities of Khumash-Gor's leadership, all of whom failed. Then, once again, the people broke into conflicting clans, keeping only their primitive religion as a unifying aspect of Zealan society.

SECOND EPOCH: THE TIME OF CHANGE

Then came a glorious change to the people of the land. Spoken only in hushed whispers, the leaders of a religious rebellion first made the words of the Guardian known to the public. This Guardian talked to them within their minds, foretelling of a dark time when a champion of tremendous evil would try to enter their world. This Destroyer would turn the very forces of nature – the elements of earth, water, air and fire – against them, raining destruction across the land. Only by offering worship to those very elements could the people hope to dissuade them from assisting the Destroyer.

Most of the Zealans scoffed, but several heeded the warnings of the Guardian, building, on his advice, a great temple high atop a mountain peak. With much effort and considerable magics they constructed a giant, black obelisk. There, so the Guardian explained, they could focus their worship of the elements, offering lives in sacrifice to the elemental spirits. As the Guardian had promised, the spirits grew in power, assuming titanic forms: Lithos, the Mountain King, Elemental of Earth;



Hydros, the Lurker, Elemental of Water; Stratos, the Mystic Voice, Elemental of Air; and Pyros, Lord of Flame, Elemental of Fire.

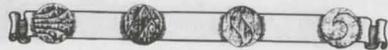
The archaic deities of the emotions became enraged as their powers diminished, commanding their worshippers to slay the followers of this new religion, who thus became known as Pagans. Brother turned against brother as a bloody war raged across the land. The message of the Guardian grew louder, and fewer Zealans heeded the words of the Ancient Ones, turning instead to the worship of the Elemental Titans. Though the war raged for years, it became quickly apparent that the Pagans would emerge victorious. Thousands of Zealans were killed when Hydros withdrew from their lands and Lithos forever sealed them within the Lost Vale. Then, when the Pagans had nearly routed most of the Zealan resistance, the Guardian gave his final warning: "Take your people and depart from the temple. The Destroyer has come."

The Pagans fled the temple and, just as the Guardian had prophesied, a scarlet visage appeared in the sky – the last time the Pagan sky was visible. The Destroyer's malevolent yellow eyes glared out across the land, finally resting upon the great temple, and bolts of lightning shot forth, obliterating the entire mountain top. The people cried out, calling for the aid of the Titans. Also as predicted, the Titans rose to the challenge, facing the Destroyer in a fantastic battle.

Clouds shrouded the earth. Night and day seemed to cease, pitching the world into a state of never-ending twilight. The earth shook in violent tremors while torrents of rain and hail pelted down from above. The very winds transformed into cyclones, whipping across the land, and volcanoes opened up like wounds, hurling fiery death upon the people. Much of the land was broken apart and many islands were annihilated or forced beneath the seas. Finally, the Titans returned to face the people, claiming victory against the Destroyer.

The world that remained was pitted and scarred, a vast wasteland with a smattering of island chains. The ocean brine had increased ten-fold – formerly lush shore plants now withered at the touch of the tide. Many of the survivors, both Pagans and Zealans, gathered on one of the larger islands, from then on called Morgaelin after the volcanic remains of its lone mountain of the same name. However, despite the falling of the Destroyer, the world did not return to peaceful times. The Titans became enamored of their vast powers, demanding even greater sacrifices in return for their past deed. They set upon each other as they vied for supremacy of the world.

The Pagans constructed holy sanctuaries, one for each of the Titans, in an effort to appease them. The fight for control between the Elemental Titans continued, while the few remaining Zealans who had sought refuge in the nearby mountains launched continual raids upon the Pagans. Though the Destroyer was gone, the people were still in constant turmoil.



THIRD EPOCH: PACIFYING THE TITANS

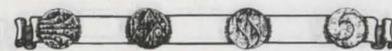
Calming the Earth

The elder Pagans knew it would be impossible to overcome the might of the Titans, so they sought to bargain instead. They sent a champion, Moriens, to the Hall of the Mountain King to plead with Lithos, begging him to cease his destructive quakes. In return, Lithos demanded the service of the people, even beyond life. Upon their deaths the people were to be interred, and thus conveyed to his realm for eternal slavery. In addition, ordered the hungry Mountain King, several Pagans must be given to him immediately. With this pact Lithos would not only quiet the land, but also instill within Moriens the magical powers

necessary to perform rituals required to satisfy the Titan of Earth, including minor manipulation of the earth. The elders accepted the terrible price and the covenant was formed.

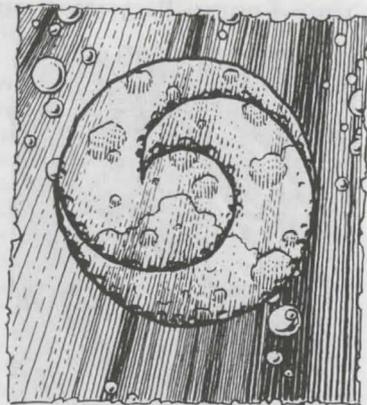
Moriens became the leader of the Pagans – the first in a long line of Necromancers. He established a cemetery near the newly built Tenebrae, City of Eternal Twilight. He selected several elderly citizens to volunteer as Lithos' first servants. As agreed, the tremors ended and the earth calmed.

As the decades passed, Moriens began to feel within himself the infirmity of age and its resultant illnesses. He went to Lithos and asked to have his life extended so that he might continue his work. The Mountain King explained that such was not within his power, but that there was another way to have the Pagans continue their service. He permitted Moriens to choose an Apprentice so that, upon his death, a new Necromancer would assume his position. In turn, the deceased Necromancer would enter a different service than the other Pagans, one that involved eternal rest, where his wisdom could be called upon by other Necromancers down through the ages. Each succeeding Necromancer would, in turn, find an Apprentice to whom the powers would be passed upon death. The earth shook no more, but still the volcano raged, the winds blew and the rains fell.



Stilling the Seas

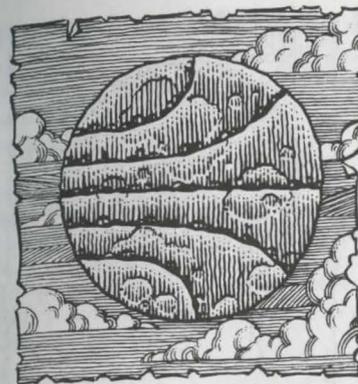
Many generations of hardships passed and a hero became known to the people. His name was Kalen, and in time he became their Necromancer. He fell in love with his Apprentice, who returned his affections, and soon they were to undergo the Ceremony of Bonding. Then tragedy befell them as Hydros, considerably displeased with the pact between Lithos and the Pagans, sent a great wave to wash across the city, pulling Kalen's beloved into the seas. As the people began repairs to the city, Kalen headed to the Temple of Flowing Waters.



There Kalen begged for the return of his betrothed, but Hydros refused his request. Instead she revealed to him the image of his love in her new form, pale and sickly as that of one of the Lurker's minions. Thoughts of vengeance entered Kalen's mind and he visited Lithos to learn of means for justice. He found the Mountain King eager to comply, having no love for a rival Titan. Lithos revealed that a powerful substance, called Blackrock, was immutable by any amount of the Lurker's powerful waves.

Kalen remembered the tales of the ancient Pagan Temple and the great obelisk. He returned to the volcano and found in the crater the remains of the obelisk. There, in the murky waters continually filled by Hydros' rains, was the darkened silt of this Blackrock. Using his Necromantic powers, Kalen reshaped the crater to prevent fresh water from entering the Temple of Flowing Water. In addition, he melded the Blackrock into the crater wall, preventing the Lurker from eroding away the land. He had trapped Hydros.

Entering the Temple, Kalen was prepared to destroy both it and Hydros by reforming the crater. His intention was that not enough water should remain for the Titan's existence. Before he could complete the task, the Lurker's pleas stayed his hand. She promised to return his beloved's body so that it could be interred properly, no longer a servant to the Titan of Water. She also offered to pass on to him and all in his future bloodline a modicum of her powers, equal in measure to the abilities he gained from Lithos. Kalen accepted her bargain for the good of the people. From that point on, the storms ended, and two separate sects of magic, Necromancy and Tempestry, were present in the land.

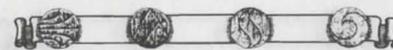


Assisting the Air

Several years after the torrential rains ceased, a mystical voice contacted Stellos, a wizened follower of Stratos, while he was praying at Argentrock Isle. The voice identified herself as Stratos, ruler of Air. Stellos began telling others of the Mystic Voice, but they thought nothing of his insane ranting ... until he began performing miracles. Quickly it spread through the land that Stellos could aid the sick and draw truth from the lips of liars. Word of his powers reached Kalen, who brought to Stellos the body of his betrothed. The elderly man took Kalen's love to Windy Point and asked for the power to return her to life.

Stratos explained that the woman's body had been separated from her spirit for too long. It would be possible to breathe life into her, but only at great cost. Hoping to repay Kalen for his work in ending the rains, Stellos agreed to the unknown fee. Stratos permitted the determined man to send his spirit into the realm of Air. Farther and farther he went, facing tremendous winds. There he finally found a shimmering cloud at the very verge of the sky itself and something he later called the ethereal void. As he entered the cloud, the light of day confronted him; he was the first and, to this day, only Pagan to see sunlight in many generations. On the dark island below, his mouth opened and from it flowed the breath of life into the body of Kalen's beloved.

The old man, prepared to greet the lovers, returned to his body only to discover he had lost his vision – forever blinded by the sight of the sun. Kalen began to weep, but Stellos bade him stop. He was himself truly joyful at the sight he had witnessed far above the darkness of the clouds. To show his gratitude, Kalen commanded the rocky ground to form the walls for a stone construct to house and protect the old man. Here Stellos could pass on his knowledge of healing and purification throughout the ages, for with the power of resurrection came immortality. Stellos and his pupils became known as Theurgists, and together they were proclaimed the Order of Enlightenment. The Order was never wanting for students, for one Titan's violence was yet unquelled, and with the fires came always the wounded.



Binding the Flame

Centuries after Stellos' miracle of resurrection, a group of five Theurgists pooled their knowledge and resources to learn more about the Lord of Flame. During their studies, they reached an important realization. If Blackrock was anathema to the Lurker, they conjectured, perhaps it held debilitating effects for Pyros, as well. Knowing that the fires spewing from the volcano would annihilate the island in less than a year, the five acted on their speculation.

Some of the Theurgists visited the Necromancer to procure as much Blackrock as they could. They received several small chips, in addition to a single fragment larger than a man's head. Other Theurgists set about formulating the necessary diagrams and components required to shape the dark substance, and with luck, bind Pyros within.

Finally, the five were ready to begin. They drew a pentagram upon the floor in Pyros' Temple, setting the Blackrock in the center where the Lord of Flame was likely to appear. Four of the Theurgists took a point of the pentagram and knelt in readiness, while the fifth stood at the final point and began the traditional Ritual of Summoning. As expected, Pyros appeared in a searing blaze of fire. Immediately feeling the effects of the Blackrock with which he was in contact, he pointed towards a Theurgist and instantly enveloped him in fire. Before the dying Theurgist's tortured scream could fade, the remaining four made up for the loss and quickly commenced the binding process' chants. Flames licked about the Theurgists as they intoned the various words of power until finally it was over. Pyros was bound in the larger fragment.

Adversely affected from within the Blackrock, Pyros was unable to hurl lava upon the Pagans. At first the Theurgists were revered as saviors, until the people began to realize what corrupting mental transformations had been required of the four Theurgists. Rightly fearing the power the Theurgists wielded over fire, the people labeled them Sorcerers for their dealings with daemons, and shunned them. The Sorcerers readily accepted their fate and secreted themselves away from the others. They named a Master Sorcerer, though after a violent death he was replaced by the First Acolyte. Many accusations were cast about who was responsible for the death, though nothing ever came of it. A precedent was set, however, and in the subsequent centuries, the more powerful Acolytes were always ready to take the Mastery from those fellow Sorcerers who grew weak or complacent.



FOURTH EPOCH: THE AGE OF PEACE

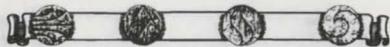
After the Titans were appeased or controlled, the era of peace which still exists to this day settled on the people. The few Zealans who clung tenaciously to their weakening gods are now extinct, though only after the Pagans endured decades of raiding and murder.

People are free to live normal lives. They tend their fields or wares, performing their daily duties as is right. Those few who have instead devoted their lives to the pursuit of magic live apart from the populous. The Necromancers, asked to depart from society to perform the distasteful but necessary task of preparing the dead for Lithos, have handed over their rule to the Tempests. The Sorcerers remain in their hidden enclave, while the Theurgists continue their studies in the monastery on their small island.



BRITANNIA

This segment of history, if it can be called such, belongs more in a work of fiction than in this objective treatise of our land and our culture. However, at Vardion's rather persuasive – and sorcerous – insistence, I have included it within these pages. Though the veracity of the source is unknown, Vardion claims these stories, as told by his grandmother, Mordra, must have some bearing on reality or she would not have passed them on. Vardion is a great and widely respected sorcerer, and even the Thaumaturge Mythran speaks highly of the aged woman, yet one must wonder about the truth of tales describing this other world, the one called Britannia.



THREE AGES OF DARKNESS

During the early formation of this mythical Britannia, there came to be three embodiments of evil. The first was a spellcaster named Mondain, the second was his Apprentice Minax, and the third was their unusual offspring, the entity Exodus. In each case, the ruler of this Britannia called for assistance in defeating the great evil, and, in each case, the same strange champion appeared to conquer the malevolent forces assaulting the land. The stranger was able to claim victory all three times, thus proving considerable courage and skill.

THREE AGES OF ENLIGHTENMENT

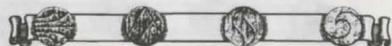
Following the destruction of the three faces of evil, there came three more times of trial for this world of Britannia. The first involved establishing a set of ethical codes by which the general population should live. In addition, the ruler of the land called for a hero to step forward and solve several quests designed to represent one of the codes of ethics. The selfsame champion who defeated the three sources of ultimate evil emerged successfully from the eight quests, becoming the embodiment of those codes. As champion, the hero was integral in resolving political strife when the ruler of the land disappeared and was replaced by Blackthorn, a tyrannical lord who harshly enforced the letter of the law. Finally, the champion served the kingdom a sixth time, demonstrating that a perceived source of malevolence was in reality a collection of individuals trying to right a serious wrong.

AGE OF ARMAGEDDON

The mighty Thaumaturge Mythran has added a bit of credibility to Mordra's tales by telling one of his own. He does not seem to remember the source of this story, but he believes that it must be part of the mythology put forth by Vardion's grandmother.

Following the sixth adventure, the champion disappeared from the land, returning nearly two centuries later! This time, however, the hero appeared without summons, for no one knew of any cataclysms that required reparations. Yet it was not long before the champion was again facing great evil, this time in the form of an insidious organization called The Fellowship that had insinuated itself into Britannian society. In addition, a magical island, once home to the very Exodus of the Third Age of Darkness, had risen to the surface, indicating a further threat to Britannia. During this seventh period of service, the champion was able to uncover the dastardly plot of The Fellowship and remove the evil presence forming on the island.

There is nothing more known about the history of this unusual land, for Vardion has had no contact with his grandmother for some time now and Mythran remembers no more stories. Yet Vardion remains confident of the existence of this world of Britannia, and that its presence is related to his grandmother's alleged disappearance.

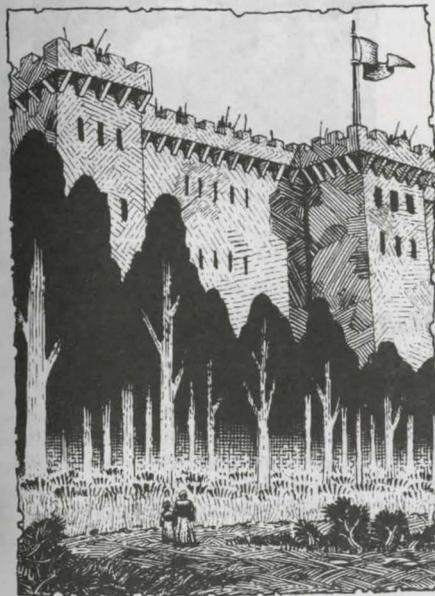


TRAVELER'S GUIDE

PLACES

Tenebrae

Named the City of Eternal Twilight, Tenebrae is the only community – excluding the various groups of spellcasters – known still to exist on Morgaelin. It was first built ages ago by our Zealan ancestors, who were forced out during the ancient wars. Despite its heritage, many of the edifices are new, having been reconstructed in recent years.



In the central part of the city is the **Great Palace**, home and court of the reigning Lady. From there she rules with a firm hand, keeping the peace via her very real threat of sending criminals to a watery grave.

Plateau

This crag that overlooks the city supports a small hut, home to the mysterious Mythran. Covered with a few groves of trees, the area is remarkably nondescript, and Mythran has done little to change the flora and fauna other than construct his unusual abode. It is said that this is where to find information no others could possibly know.

Vengeance Bay

This area is beyond the reach of those without the means to cross the seas in safety – a rare thing in these times. The bay was the site of the last and greatest true battle between the Zealans and the Pagans, who won by calling upon Hydros to pull the Zealan leader's ship under the sea. To further the show of power, Hydros spat the ship back up, cursing all on board to eternal slavery as part of her undead legion.



Cemetery

The cemetery is where the dead are interred and then sent to Lithos. It is also home not only to the Necromancer and her Apprentice, but to dozens of the Mountain King's servants. Even before reaching the cemetery, the stench of death becomes overpowering, and many ghouls and skeletons are visible from the gates. Very few are brave or foolish enough to enter the graveyard to speak with the Necromancer, and usually only the Apprentice travels into the city for supplies.



Hall of the Mountain King

Located at the base of the mountain at Stone Cove, the Hall of the Mountain King is, indeed, where the Necromancers may go to speak with Lithos. In fact, only those with the powers of a Necromancer or Apprentice are able to enter, for the seemingly inoperable stone door stops all others.

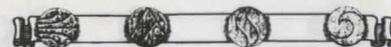
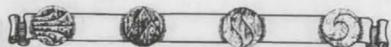
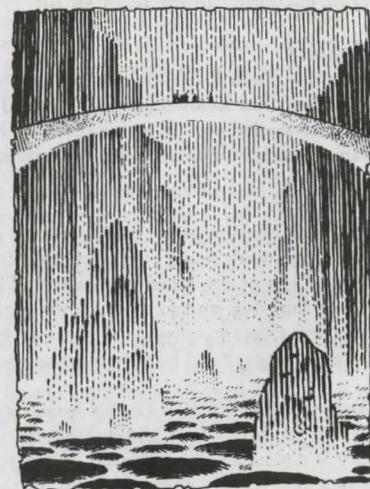


Argentrock Isle

This small islet, reached only by a bridge, is home to the monastery of the Order of Enlightenment. There the Theurgists have the opportunity to attend to their studies in the peace and quiet necessary to achieve Enlightenment and Purity. Those Theurgists who learn well the lessons of Stratos are permitted to visit **Windy Point**, where a truly pure Adept might hope to hear the Mystic Voice.

Sorcerer's Enclave

Among the most darksome places in Pagan is the treacherous territory known as Sorcerer's Enclave. There the Mages of Fire perform unknown and possibly horrific magics, as they consort with their patron Titan, Pyros. Fortunately, the area is quite secluded, as a boiling lake of fire surrounds the collection of buildings, making it impossible for those who are not members of the sorcerous cabal to traverse.



PEOPLE

Mordea

Ruler and Tempest of Tenebrae, our Lady Mordea governs with strict attention to detail. Her right of rule was inherited from her Tempest father, Keldan, and noble mother, Celidia – both royalty and real power support her claim to rulership. Our Lady is extremely aware of her position, accepting only the utmost in loyalty from her subjects.

Lothian and Vividos

Lothian is the strong and stoic Necromancer, quite competent in her abilities to convey the deceased to Lithos. She has little opportunity to converse with the citizens of nearby Tenebrae; her work keeps her so tremendously occupied. The townspeople are, however, friendly to her new Apprentice, Vividos. His vivacious personality is a good complement to Lothian's, making it easy for him to deal with the world outside the distasteful realm of the cemetery.

Stellos

Stellos is a wise and kind man for whom the term elderly is more a measure of appearance than chronology, for his dealings with Stratos have left him immortal. Ever concerned for the welfare of others, he is perfectly suited for his role as instructor at the Order of Enlightenment. The only man alive from our tumultuous past, Stellos is a still-breathing legend who matches perfectly the stories of his heroic encounter in the realm of Air.

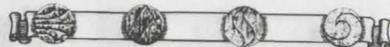
Malchir

Few know much about Malchir, the Master Sorcerer, and those who know anything at all are his fellow followers of fire. It is said he is a dark man, but no one knows whether his bitterness led him to, or is a result of, his status. There are those who speculate he bears a greater resemblance to the daemons he commands than to normal men.

Mythran

Master of Thaumaturgy, Mythran, is a quirky, peculiar man. Many give witness to his abilities with magic, yet none can draw a connection between his powers and those of any of the other spellcasters. There seems little that he does not know or cannot find out, and many have made their way to his home atop the plateau to glean what they can from his wisdom. He speaks as though there were other Thaumaturges, but I have heard naught of them elsewhere.

Those who have seen it say his house is quite unusual. Only a small hovel on the outside, his home is considerably larger within. Rumors claim that the entire second story is devoted to his research and experiments, and considering his vast wealth of knowledge, there seems no reason for doubt.



MERCHANTS AND MONEY

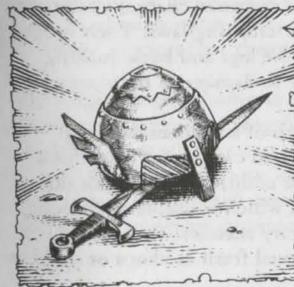
During the Third Epoch, after the Age of the Necromancers passed and Tempests came to rule, the Pagans learned the value of coins – namely that a universal currency saved wear and tear on the feet. Much deliberation went on as to what should best represent this abstract item of value. Some wanted the trappings of precious metals, but decided such was too valuable for crafts and weaponry to waste on coinage. Others thought that objects from the sea, such as oysters, clams and starfish, would best honor the Tempest rulers. Conversely, proponents of toraxen hides argued that it would be sacrilege to remove such sea belongings from the domain of Hydros.

Finally, the people agreed upon shaped and stamped obsidian chips. Obsidian is no longer used for other objects, it comes from the ground, honoring earth, and can be imprinted with the icons of the other Titans to show deference to them as well. Moreover, it is possible to confine to government agencies the technology for heating raw obsidian and molding the ore into chips. Thus they can enforce a necessary, though arbitrary, value within city walls.

Those who cannot or will not craft for themselves use these obsidian chips throughout the city as legitimate exchange for goods and services. Since there are not many merchants in town, I have taken the liberty of compiling a list of the few types of goods offered to the general public. Fresh fish and vegetables can be purchased at the tavern. The weaver produces fine apparel that is both functional and comfortable. Exquisite jewelry can be purchased from the jeweler, who also produces some glassware. Quality refreshment is available at the tavern, where herdsmen bring torax chops and kith fillers. Finally, several of the craftsmen about town are likely to sell tools of their various trades.

WEAPONS AND ARMOR

As any member of the militia is sure to admit, finding good weapons and armor is extremely important. Even though the Zealan raids ended some time ago, there is always need for arms to protect against the wilds of nature. The weaponsmith forges and sells all sorts of swords, axes, maces and hammers, in addition to a wide assortment of armor and shields. However, being a metal-worker, the smith rarely sells lighter forms of protection. Fortunately for those who have taken an oath to police and protect the city, the current captain of the guard crafts armor from toraxen hides, and has been known to offer his wares for sale upon request.





BESTIARY



DOMESTICATED CREATURES

Kith

Although they are large, multicolored quadrupeds, kith bear a remarkable resemblance to the common insect. The major difference between the kith and what some consider to be their smaller cousins is size. At full maturity, a kith's head easily reaches the waist of a man. A few may grow even larger.



Being omnivorous by nature, kith tend to live on the various plant life found throughout the land, though they prefer denser flora. Domestic kith are de-venomed and de-fanged at birth, feral kith are far more dangerous, often rearing up on their abdomens to strike with poisoned fangs.

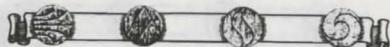
Kith excretions come in the form of silky strands, which are woven together to make fine clothing and linens. The finer weaves of kith silk make excellent canvases, for the paints adhere well to the fibrous material. In addition, the meat taken from the kith's abdomen and thorax is quite tasty, and many herdsman raise kith solely for the sustenance they provide.

Torax

Large, slow reptiles, toraxen are the staple of the herdsman's stock. They are usually brown in color, though some have dark brown or dark gray spots. Their heads are broad and flat, filled more with bone and muscle than brain. Half as tall as a man and usually docile, the torax is particularly strong for its size, often able to knock down trees in one angry charge. Setting its head down, the torax charges victims and then snaps with its bone-crushing jaws. Their tough hide is thickest around the legs and back, making them especially difficult to damage in these areas.



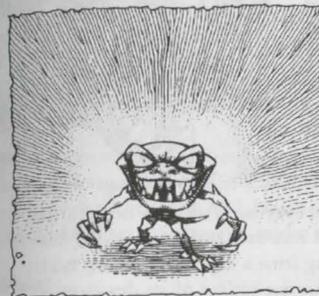
The tremendous strength of a torax makes it an excellent dray beast; able to carry great loads for a long amount of time. In addition, their thick skin makes excellent leather, which is usable as clothing, armor and even temporary shelters. Torax meat is a staple food, whether served fresh as chops or dried as jerky.



CREATURES OF THE WILDS

Changeling

Changelings are, indeed, a curious species. As they are shapeshifters, it is difficult to describe their true form. However, there is one shape that is apparently available to all changelings – or at least in all of those encountered thus far. In that form, they appear much like short, disfigured and disproportioned men. The changelings' movements seem jerky and erratic, yet the creatures seem to be in control of their actions.



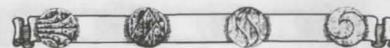
In battle, the changeling assumes the shapes of its opponent or flora! In these forms, the changeling has the strengths and abilities of these other creatures, including any toxins they might be able to employ. In what must be assumed is its natural form, the changeling bounces about the area and then suddenly leaps at its opponent with its huge tooth-filled maw opened widely. No one has had the opportunity to learn exactly what it is that allows a

changeling to shapeshift or what makes it act as it does, for it fights viciously to the death. Moreover, the creature disappears when it dies, making study impossible.

Troll

Trolls are large, lumbering bipedal creatures, standing half again as tall as a man. Their skin color ranges from a pale green to an olive or tan, and they wear little in the way of clothing. Trolls move quite slowly, as if they must first decide where to place each foot before taking a step – though anyone who has watched a troll move through a small community, stepping on whatever is underfoot, knows better than to think a troll is careful. There are those who speculate that trolls are the offshoot of an ancient tribe of particularly evil and stupid Zealans, though none of the ancient tomes in Tenebrae support that theory.

Trolls fight poorly, being so slow and bulky. However, their solid strength means certain death for most who are careless enough to be struck. All trolls use clubs, usually pulled from dead vegetation, though even their powerful fists are enough to deliver a tremendous blow.



Seeker

The seeker is nothing more than an abomination of nature. One large eye floats about connected to a huge, snapping mouth via a thick red membrane. It is hoped that this creature is the result of a magical concoction, but others claim that seekers are the living remains of the Destroyer, as foretold by the one who called himself the Guardian.

The seeker seems to be neither herbivore nor carnivore – no one has ever seen it eat. The creature simply hovers about until it sights a target and then launches into a furious assault of gnashing teeth. Yet no scholar has ever been able to explain the seeker's sole purpose of wanton destruction. It does not eat, and yet nothing eats it. Even in death the seeker mocks other life, exploding into a myriad of sharp bone and cartilage that can be fatal to those caught within the radius of its devastating blast.



UNDEAD AND SUPERNATURAL CREATURES

Aerial Servant

Many people who die before they finish important tasks become spirits bound to the welfare of others. Unlike ghosts, for whom the Titans have no use, aerial servants function as messengers and assistants to Stratos. Moreover, aerial servants do not possess the same dark gray appearance of their counterparts, the ghosts, seeming instead to be made up of simple currents of air.

Aerial servants do not attack others, whether they are living or otherwise. However, they are usually loyal to the Theurgists who summon them, obeying their commands to the best of their abilities. Some say that aerial servants can affect the objects they touch, temporarily changing the objects into air currents as well. This way, the aerial servant is able to transport otherwise solid objects through the smallest wall chinks and such.



Daemon

Those consumed by flame, either in life or death, or are slain by another daemon, become servants and warriors for the Lord of Flame and his followers. Daemons are bipedal creatures with mottled and scaly skin, sporting sharp claws and talons. Atop their heads are two horns, while coarse brown fur covers their legs.

These hideous beasts are terrible tools of destruction. With their powerful arms and sharp fangs and claws, they rend their victims with razor-like ability. According to the few witnesses who have

seen a daemon attack, the victims scream of the burning pain that comes from each strike, and legend maintains that daemons can even hurl destructive balls of flame. As fire is their primary tool, daemons seem immune to the effects of flame themselves, and their thick scales make them nearly impervious to the common blade.

Ghost

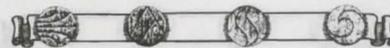
Ghosts, also known as wraiths, are the disembodied spirits of those who died so tragically that even the Titans have no use for them. They appear as twisted shapes of gray floating above the ground. Tied to the general location of their demise, ghosts rarely travel far in search of victims. They consume life forces to give them strength. Ghosts have complete control over their visibility, often remaining invisible until prey is near enough to scare.

Feeding on the spirits of the living, wraiths attack with a draining touch that leaves the victim weak of body and will. Armor is useless against their attack, and weapons without some sort of enchantment cannot hurt them. Legend claims that some of the Necromantic magics may affect a ghost, but I doubt there is any evidence to support the supposition. Note that a ghost's non-corporeal nature permits it to access many areas sealed to ordinary folk.



Ghoul

Ghouls are the animated corpses of the recently dead. Wearing nothing more than the clothing in which they were interred, ghouls – or zombies – are extremely slow in both thought and action. Unlike skeleton warriors, the ghouls' function is far less oriented towards combat, and they begin their service as soon as they make their way to the Mountain King's domain.



However, when sacred areas such as the cemetery are disturbed, ghouls are there to confront the trespasser. Fortunately for the perpetrator, movement for ghouls is extremely difficult and painful, rendering them poor combatants. An ironic twist to the ghouls' nature is that they consume the flesh of their prey, thus making it impossible for the victims ever to reach Lithos and serve him.

Minion of the Lurker

The Tempests tell us that those whose bodies fall dead in the water, whether by drowning or other means, tragically face service not with Lithos, but with Hydros, the Lurker. Little is known about the vile minions, for they do not walk upon the land and no one has dared to enter the Lurker's domain to view them up close. The few glimpses that have been seen reveal a large, fish-like head filled with a row of sharp teeth. It is assumed that the transformation into this disgusting beast takes some time, though how much is unknown.

There is no record of anyone surviving a direct encounter in the water with a minion, though some of the fishing folk have managed to avoid the creatures by remaining in their boats. It is unknown whether minion victims are consumed or dragged deep below the waves to become minions themselves.

Skeleton Warrior

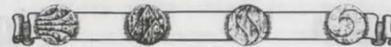
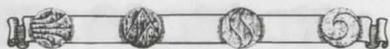
The remains of warriors from ages past, skeletons are the servants of Lithos and the Necromancers who follow him. Their body and spirits, passed to the Mountain King during interment, are held in waiting until needed. However, they still carry with them the accouterments of their fighting days: axes, swords, shields, armor and so forth.

Though dead, these animated skeletons are extremely agile and strong, often felling a man before he can even strike. They are brainless, yet seem to retain much of the fighting skill they possessed in life. Skeletons attack only with their ancient weapons, which are oft times filthy with disease-ridden decay. As they are already dead and serve only a single function, skeleton warriors attack relentlessly until destroyed.



Compiling this information took considerably more effort than I first expected. The project began at first as idle curiosity – I merely wanted to know more about spellcasting. I contacted the leader of each of the four types of magic – Necromancy, Tempestry, Theurgy and Sorcery – and requested that they convey what information they could to me. The Theurgists and Necromancer complied readily. The Tempest responded via her seneschal, who informed me that Our Lady Mordea was occupied with too many “important” matters to concern herself with my trivia. Equally frustrating, the Master Sorcerer was quite reluctant to reveal much about spells of Fire, only sending what he did after becoming completely assured I was up to no nefarious plotting.

Fortunately, Mythran knows quite a lot about magic and spells, as I suspected, and was extremely helpful in filling in the gaps left by Lady Mordea and Malchir. Indeed, I learned from Mythran that he, himself, has acquired the ability to cast snippets of the other types of magic. Though I do not mistrust his words, I do think it strange that he mentions reagents for his spells the likes of which I have never seen. Nevertheless, what follows is Mythran's explanation of magic in his own words.



A TREATISE

by Mythran the Thaumaturge

My years of research in the field of magic have led me to the conclusion that all magic is simply the manifestation of a being's will, superimposed upon reality, through the means of etheric emanations. Furthermore, I propose that such emanations are truly limited only by the imagination and willpower of the entity in question.

Certain rituals and words can assist the caster in visualizing the desired effect, just as certain physical objects can lend power, stability and shape to the caster's will. These props are not always necessary for beings of considerable power or intellect, but are useful for most spellcasters.

Following is a detailed analysis of the styles of spellcrafting that I have been able to observe in this world – Necromancy, the rituals of death; Tempestry, the power of the Water and storms; Theurgy, the discipline of attuning the spirit; Sorcery, the craft of destruction; and what I call Thaumaturgy, my personal study of magic.

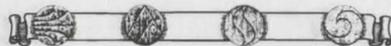
A WORD ON CASTING

All spells, save the seemingly innate abilities of the Tempests, require a ritual of some sort before casting. The rituals, or props as I called them earlier, are each of varying duration, and sometimes are performed long before the actual spell is cast. In addition, the rituals all require from one to three of the following components: spell books, foci or reagents.

Effectively, **spell books** are used as sources for spell formulae. These books describe the rituals, foci or reagents necessary to cast the spells, as well as explaining the results of success and, sometimes, the results of failure.

Foci are material items used to bind and release magical energy. Sometimes they do nothing more than enhance the caster's ability to concentrate, that is, *focus* on his or her spell. Other foci store the energy in the form of charges, allowing the caster to prepare much of the spell beforehand and then simply release the energy when necessary. At the very least, foci serve to channel the etheric waves into usable power.

Finally, **reagents** are the disposable components of casting. They are natural materials consumed when the spell is cast. Sometimes the spell caster scatters the reagents about the affected area, while other times they are simply mixed together in precise proportions.



NECROMANCY

Within all living things is a magical energy or life-force. However, once the life has passed from a body, a by-product of the life-force, emitted as etheric waves, remains inside. Lithos, the Titan of Earth, imbues those of his choice with the insight and fortitude to have some power over death and Earth.

The focus of a Necromantic spell is a small pouch filled with the reagents required to cast the spell. These reagents are easily obtainable as they are bits and pieces of the land and of those who once lived upon it.

REAGENTS

Reagent	Purpose	Notes
Blood	Movement/ Animation	The essence of life, reft from the body, serves as a reminder of mortality.
Bone	Summoning/ Communication	The source of blood is also, strangely enough, the source of the will, and remembers the life it once embraced.
Wood	Preservation/ Binding	Almost ageless, a time-aided tree can be stronger than the hardest rock.
Dirt	Protection	The plant grows from the womb of the land, its roots deeply embedded in the safety of soil.
Executioner's Hood	Death	This fungus is black in hue, dark in purpose and shaped like the head-covering of its namesake.
Blackmoor	Power	This is an odd mixture of the element of Earth and the mysterious Blackrock.

RITUALS

MASK OF DEATH (*Quas Corp*)

By this ritual, the Necromancer may assume a state of near-death that will appear as actual death. The Necromancer is completely cognizant, and can dispel the effects at any time.

Reagents: Wood, Executioner's Hood



CALL QUAKE (*Kal Vas Ylem Por*)

This ritual causes the very earth to rise up and heave.

Reagents: *Blood, Bone, Wood, Blackmoor*

DEATH SPEAK (*Kal Wis Corp*)

This ritual briefly returns a semblance of life to a deceased body and allows the Necromancer to converse with the spirit of the once living. However, if the being has not undergone certain preparations before death, this spell is quite a painful experience, usually rendering the subject incoherent. • **Reagents:** *Blood, Bone*

ROCK FLESH (*Rel Sanct Ylem*)

With this ritual, the Necromancer gains an innate resistance to damage by transforming the very flesh into a substance as strong as stone.

Reagents: *Wood, Dirt*

SUMMON DEAD (*Kal Corp Xen*)

This spell summons from the Earth a number of dead warriors to serve the Necromancer as guardians. They are mindless, attacking anyone not endowed with the power of Necromancy. Though it is possible to summon armies of the walking dead, I have never seen more than one appear. • **Reagents:** *Blood, Bone, Wood*

OPEN GROUND (*Des Por Ylem*)

When cast near a tombstone, this ritual, under the guidance of a Necromancer, shapes the ground and stone. Most often, however, it is merely used to create a grave or open a weakened wall of rock. • **Reagents:** *Blood, Blackmoor*

CREATE GOLEM (*In Ort Ylem Xen*)

This spell calls up a creature made of Earth, generally in the shape of a man, to perform the bidding of the caster. It follows a few terse commands, usually understanding statements to retrieve or open things.

Reagents: *Blood, Bone, Wood, Dirt, Blackmoor*

WITHSTAND DEATH (*Vas An Corp*)

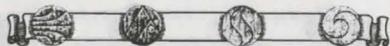
By means of this preparation ritual, the Necromancer returns from death once (and only once), with all ailments removed and in full health.

Reagents: *Wood, Dirt, Blackmoor*

GRANT PEACE (*In Vas Corp*)

This potent ritual calls upon the bailiwick of the Necromancer, that being death. The recipient, if the undead of Earth, instantly reverts to the lifeless corpse it was before becoming animated. If cast upon the fully living, the life force of the recipient is momentarily severed from the body, often resulting in death, but in some instances, causing only temporary confusion.

Reagents: *Executioner's Hood, Blackmoor*



TEMPESTRY

This power is purely and simply the ability to control the Water and storms. It is an inherited trait, and therefore little is known about it. We do know some of the powers displayed to date by the ruling nobility of Tenebrae. Since I do not know the actual names of the powers, I will merely list what I have observed.

POWERS OF TEMPESTRY

I have seen a trained Tempest walk upon the Water as if upon dry land, breathe Water as easily as Air, create and calm windy storms, still the turbulent seas, cause clouds to skid across the sky with preternatural agility, and send great bolts of lightning to strike those deemed unworthy of life.

Note that the Tempest requires no components, foci or magical incantations, as all etheric waves are amplified and channeled by Hydros, the Titan of Water.

THEURGY

The Order of Enlightenment from which issued this magical discipline believes that to purify oneself and focus the inner energies of the mind eliminates the need to find power in the world around. Therefore these mages require no reagents of any sort.

However, in the process of becoming attuned to Stratos, the Titan of Air, small silver tokens representing the spells become necessary. These tokens are the doorways to power for the Novice, unlocked by words of magic. Once a monk has become an Adept, achieved "enlightenment," and then continued studies for several more years, he or she will find the foci no longer required and that the power flows from the mind of the Theurgist unimpeded by physical restraints.

INVOCATIONS

DIVINATION (*In Wis*)

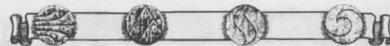
This invocation reveals the Theurgist's location, time of day, day of the week, and current month.

Focus: *Sextant*

HEALING TOUCH (*In Mani*)

This is a healing spell, affecting minor wounds.

Focus: *Pointing Hand*



AERIAL SERVANT (Kal Ort Xen)

This spell calls a whirling being of Air, which will accept the Theurgist's directives to manipulate or move any object. An unusual ability of this creature is that it is able to move an object through solid obstacles, such as walls and closed doors.

Focus: *Arm Band*

REVEAL (Ort Lor)

This spell releases a wave of energy that dispels all forms of invisibility around the Theurgist. • **Focus:** *Open Eye*

RESTORATION (Vas In Mani)

This is a powerful invocation. It restores a living recipient to full health, eliminating wounds, maiming or disease.

Focus: *Open Hand*

FADE FROM SIGHT (Quas An Lor)

As the name of this invocation states, the Theurgist becomes completely invisible to the sight of nearly all mortal beings.

Focus: *Closed Eye*

AIR WALK (Vas Hur Por)

By means of this invocation, the Theurgist is capable of jumping a great distance with the aid of the surrounding Air. I am told that this is cast the first time without a focus, when the Theurgist leaps to Windy Point to speak with Stratos.

Focus: *Wings*

HEAR TRUTH (An Quas Lor)

This invocation reveals the truth to any lie spoken knowingly to the Theurgist, as if the Air, itself, were unraveling the thread of the message.

Focus: *Chain*

INTERVENTION (In Sanct An Jux)

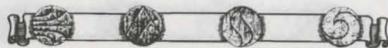
One of the most powerful abilities of the Theurgist is to call into existence a wall of Air that blocks all damaging forces. While this spell can make the mightiest sword blow feel like a tap, it will not prevent death from immersion in lava or drowning in Water.

Focus: *Fist*

RESURRECTION (Vas An Corp)

The most powerful ability of the Order of Enlightenment is the ability to restore life to the recently departed. However, the price for this ability is eternal blindness. I am sure there must be an easier way, but my research has yielded nothing worthwhile.

Focus: *None but blindness and eternal life*



SORCERY

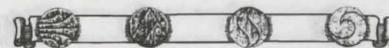
Sorcerers deal in magic of Fire and destruction, having long ago founded the Cabal that bound Pyros, the Titan of Fire, to their wills. In doing so, they also garnered the ability to call upon his servants, the daemons.

In the performance of Sorcery, one must use rituals, reagents, foci, magical words and a specially designed protective circle, called a pentacle or pentagram for the five-pointed star confined within. The tremendous powers of Pyros are released in great gouts of flame, and only a trained Sorcerer would dare to call upon them. Even then, the pentacle is required to keep the Sorcerer from being consumed along with the reagents.

The Sorcerer places the spell's focus at the pentagram's center, the candles at each point around the circle, and the reagents near the candles, all while intoning the mystic words to shape the unbound energies. When this ritual enchantment is done, the Sorcerer is left with a charged (even multiply charged), glowing focus, suffused with the power of the spell invoked. The spell can then be cast at any time.

REAGENTS

<i>Reagent</i>	<i>Purpose</i>	<i>Notes</i>
Volcanic Ash	Flame	The refuse of the volcano has the property of creating the initial spark of Fire.
Pumice	Distance	This rock, cast highest and farthest from the volcano, retains the etheric impetus built up in the flight.
Obsidian	Duration	While seeming to be a fragile, easily broken substance, it endures the heat of the volcano.
Pig Iron	Protection	Iron's hard yet versatile nature works in protective Sorcery as no other reagent can.
Brimstone	Power	This is the rock that burns or, more to the point in Sorcery, explodes. A virtually limitless source of power dwells within its etheric composition.
Daemon Bone	Summoning/ Binding	Having taken a hint from the Necromancers, the Cabal found that Bone does, indeed, retain its tie to life. It is even useful in the ritual of binding when enough power is at hand. Daemonic forces are summoned and controlled by use of this reagent.



SPELLCRAFT

EXTINGUISH (An Flam)

This spell douses any flame, save the very hottest.

Foci: *Symbol, Wand, Rod or Staff*

IGNITE (In Flam)

This spell lights the red and black candles placed around the pentagram.

Foci: *Symbol, Wand, Rod or Staff*

FLASH (Flam Por)

By means of this spell, the Sorcerer can move from one visible place to another without actually traversing the intervening space. After many years of practice, a Sorcerer can even move to places visible not only to the eye, but to memory as well.

Foci: *Wand, Rod, Staff or Symbol**

FLAME BOLT (In Ort Flam)

This spell shoots a bolt of fire from the caster, burning anything unlucky enough to be the target of the Sorcerer's ire.

Foci: *Wand, Rod, Staff or Symbol**

ENDURE HEAT (Sanct Flam)

This spell creates a glowing field that allows the Sorcerer to touch any non-magical flame and remain unhurt. With this spell, a Sorcerer can even endure the heat of lava if it is solid enough to walk upon.

Foci: *Rod, Staff or Symbol**

FIRE SHIELD (In Flam An Por)

With this spell, flames come into existence encircling the Sorcerer. No tangible creature except a daemon can pass through this flaming barrier, including the Sorcerer. Anyone foolish enough to try is thrown back and burned in the bargain.

Foci: *Rod, Staff or Symbol**

ARMOR OF FLAMES (Vas Sanct Flam)

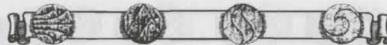
This spell bathes the Sorcerer in a corona of magical flames that ward off all other Fires of magical nature, including those cast by another Sorcerer.

Foci: *Rod, Staff or Symbol**

CREATE FIRE (In Flam Ylem)

At the casting of this spell, a fire erupts around the target. Those who are foolish enough to remain in the blaze will continue to suffer damage until they step out of the flames.

Foci: *Staff or Symbol**



EXPLOSION (Vas Ort Flam)

This is much like the *Flame Bolt* spell, but with considerably larger and more devastating effects.

Foci: *Staff or Symbol**

SUMMON DAEMON (Kal Flam Corp Xen)

This ritual of binding will summon a daemon to attack one foe of the Sorcerer's designation. The dangerous nature of this spell lies in the fact that if no victim is specified as soon as the creature appears, the daemon will attack the Sorcerer.

Foci: *Daemon Talisman or Symbol**

BANISH DAEMON (An Flam Corp Xen)

As the name so plainly states, this spell will usually return a daemon to its home in the Fire of the volcano. Unfortunately, even the most skilled Sorcerers have been known to perform an unsuccessful banishment.

Foci: *Daemon Talisman or Symbol**

CONFLAGRATION (Kal Vas Flam Corp Xen)

This is the most powerful ritual that the Sorcerer's Cabal has revealed. If any greater exists, only they know about it. By use of this spell, a malicious, daemonic force of destructive nature manifests near the caster, where it then commences to wreak savage destruction on all things near the Sorcerer.

Foci: *Daemon Talisman or Symbol**

*Note: As it is not the most stable focus for these spells, the Sorcerer's symbol of the pentagram will be able to retain only one charge.





THAUMATURGY

Thaumaturgy is the term I use to define the collection of spells that I have learned over time. Put quite simply, Thaumaturgy borrows and steals a bit from each of the other magics, choosing the clear path of chaos rather than becoming too well defined and stagnant. Much like Sorcerers, I enchant items with the power of reagents and the mind.

Any Thaumaturge who knows the business may craft spells, scrolls, potions or various other implements of magic. There is almost nothing that I cannot do through the use of this form of magic, as it does not confine itself to a style.

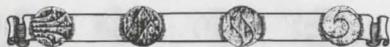
In Thaumaturgy, the foci are the actual spell books that contain the formulae and references to the reagents required for the spell.

In addition, enchanted, single-use scrolls that require no other components can also be used to cast spells. Most of the spells from the other forms of magic can be distilled to their basics and put into scrolls and books as well – by a Thaumaturge of sufficient skill, that is.

REAGENTS

These unusual reagents are used in combination with those from other disciplines.

<i>Reagent</i>	<i>Purpose</i>	<i>Notes</i>
<i>Eye of Newt</i>	Sight/ Knowledge	This aids a mage in focusing the inner eye within the mind.
<i>Bat Wing</i>	Life/ Creatures	The flesh, bone and blood found in this structure serve as an excellent lodestone to the essence of life.
<i>Serpent Scale</i>	Destruction/ Separation	The poison in the mouth of this beast seeps into the flesh and corrupts the scales, giving them the magical ability to act as a destructor of bonds.
<i>Dragon Blood</i>	Great Power	So powerful is this creature that the blood burns as if aflame. Precise measurements of this are wise, for too much and the magic will go dangerously awry.



ENCHANTMENTS

CONFUSION BLAST (In Quas Wis)

This causes a release of etheric energies, inflicting no real physical damage, but causing all combatants near the Thaumaturge to forget completely the present combat.

Reagents: Eye of Newt, Bat Wing, Serpent Scale, Obsidian, Brimstone

SUMMON CREATURE (Kal Xen)

This highly variable spell magically calls a creature to the Thaumaturge's defense. The type of creature that appears is not automatically under the control of the caster, depending upon creature's vicinity and the caster's power.

Reagents: Bat Wing, Pumice, Obsidian, Bone

CALL DESTRUCTION (Kal Vas Grav Por)

This spell causes bolts of lightning and destructive explosions to cascade around the Thaumaturge, unerringly striking any visible foes.

Reagents: Serpent Scale, Dragon Blood, Ash, Pig Iron, Executioner's Hood

DEVASTATION (In Vas Ort Corp)

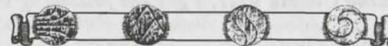
This spell, first formulated by what could only have been an insane mage, is designed to disrupt the very fabric of life throughout the world. All creatures and beings, save the crazed Thaumaturge who casts this spell, face instant eradication. As far as I can tell, there has never been a successful casting of this spell.

Reagents: Bat Wing, Serpent Scale, Dragon Blood, Pig Iron, Executioner's Hood, Blackmoor, Brimstone

METEOR SHOWER (Kal Des Flam Ylem)

Rocks, summoned from unseen heights, cascade in a fiery torrent upon friends and foes alike — only the caster remains untouched.

Reagents: Ash, Dirt, Serpent Scale, Brimstone, Blackmoor



Though I had initially intended this work to act as a grand reference for future scholars, I realize now that much of this is too inconsequential for such a treatise. It is the result of my fascination with people of the present as well as the past. To those students who cannot use the dated words within this text, I hope at least that I have provided a little insight to the times as they are now, so that historical essays compiled long after I have gone to serve the Mountain King may benefit from these idle observations. To the sages of the next generations, I offer my salutations and best wishes. This, my small gift of knowledge, is the greatest offering I can give.

Bertie

TROUBLESHOOTING

Checking Your Installation

If you are having trouble with *Ultima VIII CD* after installation, you may use our internal troubleshooting program. Go to the drive and directory where *Ultima VIII CD* is installed (default C:\ULTIMA8) and type U8 -TEST. The Test Screen appears with information about your installation and three menu columns. Use your mouse to pull down the menu called TEST. There are three options: TEST FILES, TEST MUSIC and TEST SFX (Sound Effects).

Check the integrity of the files that were installed to your hard drive by selecting TEST FILES. The program checks each program file of *ULTIMA VIII CD*. If PASSED appears, your files should be stable. However, if the word FAILED appears by any of the files listed, you should reinstall the game from your disk.

If you want to hear both music and sound effects, and either of these choices are gray, you'll need to configure your sound card. See **Changing Your Sound Card Configuration** section in **Installation**.

Test your sound card(s) based on the options you selected during installation by choosing TEST MUSIC or TEST SFX. When you test these options, you should hear a brief musical example or sound effect. If you do not, your sound card is configured incorrectly or you have a conflict. A common situation is that your sound card and another peripheral device (such as a printer) are configured with the same IRQ, I/O or DMA address. Reconfigure your sound card for the appropriate settings, or get further information by consulting your sound card documentation or contacting your sound card manufacturer.

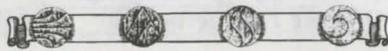
Drag down to QUIT. To return to the DOS prompt when you are done, select QUIT TO DOS. If you want to begin a game, select QUIT TO PAGAN.

COMMON QUESTIONS

Q: When I was installing Ultima VIII, I got the following error code. What's wrong?

HALTING: INTERNAL ERROR!
WHERE: INSTALL.C-248
REASON: ERROR #0001

A: This error message indicates that you have a bad or corrupted CD. You should either ask for an exchange with the software manufacturer from whom you purchased *Ultima VIII*, or review the warranty information and call Creative Labs Customer Support.



Q: Ultima VIII fails to load or run and generates an error code. What's wrong with my game?

A: Certain error messages can easily be interpreted and remedied:

YOU MUST HAVE AT LEAST 3 MEGABYTES OF HARD DRIVE SPACE FREE.

Ultima VIII needs this much hard drive space to store saved games. Make more room on your hard drive by deleting unused files or upgrade to a larger hard drive.

NOT ENOUGH MEMORY TO RUN ULTIMA VIII PAGAN.

You either do not have 4 megs of RAM installed on your computer or too much of your memory has been used by an expanded memory manager such as EMM386.EXE. See **Problems With The Game** at the back of the manual for creating a boot disk.

THE EXISTING MEMORY IS TOO FRAGMENTED.

You have some piece of software (like a disk cache or an expanded memory manager) that is fragmenting too much memory for *Ultima VIII CD* to use. See **Creating a Floppy Boot Disk** to make a boot disk to solve this problem.

YOU MUST HAVE A MOUSE DRIVER INSTALLED.

You must have a 100% compatible Microsoft mouse driver to play this game. See the next **Troubleshooting** answer, below.

Q: My mouse is not working with Ultima VIII CD. My mouse works with all of my other software applications. Why not with Ultima VIII CD?

A: You should first check to see if your mouse has been loaded into either DOS (in your AUTOEXEC.BAT or CONFIG.SYS file) or onto the boot disk that you are using to play the game. If neither, it cannot interact with your game. Windows and many other "multi-tasking" shell environments load their own built-in mouse driver. These mouse drivers will not operate outside their shell environment. Loading a mouse driver into the DOS environment can be as simple as typing at the command prompt (C:\>):

```
MOUSE 
```

A: Your mouse may not be 100% Microsoft compatible.

If you have *Windows* or DOS 6.0, you can edit the AUTOEXEC.BAT file by adding C:\WINDOWS (or DOS)\MOUSE and typing REM at the beginning of your previous mouse line.

If you have the disks to *Windows 3.1*, you can copy the mouse driver. Check each disk's directory (by typing DIR) to find MOUSE.CO_. Copy it to your game directory (ULTIMA8 is the default directory). Then type EXPAND C:\ULTIMA8\MOUSE.CO_ C:\ULTIMA8\MOUSE.COM. Lastly, add the line C:\ULTIMA8\MOUSE to your AUTOEXEC.BAT and type REM at the beginning of your previous mouse line.



Q: Ultima VIII CD was playing perfectly fine, but suddenly it won't let me save. Why not?

A: At some point since the last time you saved, you destroyed an item or character necessary to the completion of the game. You may continue without the save option or return to a previously saved game.

Q: Why does my computer crash when I try to play Ultima VIII CD while I am logged into a local area network (LAN)?

A: LAN software often tries to take over the same system resources that Ultima VIII CD uses. We recommend that you boot from a clean boot disk that does not load your LAN drivers. Please refer to **Optimizing Your System** section.

Q: I have a 100% compatible sound card but I'm not getting any sound. Why not?

or

Q: Ultima VIII CD says that it cannot find my sound card or that the sound initialization failed. What's wrong?

A: If your sound card is not one of the cards listed on the box or in the installation program, but is "100% compatible" with one of the cards listed, it may have to be put into "SB" (Sound Blaster) emulation mode through its software or a switch setting on the card. Consult your sound card manual or its manufacturer.

Q: My copy of Ultima VIII CD is defective. Every time I play, it quits to DOS with an Out of Memory Error.

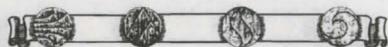
A: This indicates that not enough memory existed to continue game play. Make sure that you have enough free memory in either convention/base RAM or extended memory (XMS). Use the DOS MEM command to determine how much free memory you have available. There must be at least 3,580,000 bytes free in conventional memory and XMS combined. Refer to **Optimizing Your System** section.

Q: I have a 386 with 4 megabytes of memory, and the game is running very slowly. What can I do to speed it up?

A: Turn off animating items in the *Options* section of the game's *Diary*. (Press during the game to bring up the diary, and left-click on OPTIONS. Then left-click on ANIMATIONS to make the check disappear.) Adding memory (RAM) will also make the game run faster.

Q: Ultima VIII CD runs slowly and occasionally locks up.

A: You may be loading other software that is not compatible with *Ultima VIII CD*. First, try running the game from a boot disk. Refer to *Creating a Floppy Boot Disk*. Also, you may not be meeting all of the necessary system requirements. 386SX and slower processors are not compatible with this game. Refer to **System Requirements**.



Q: Why does my game crash when I play Ultima VIII CD through Microsoft Windows or Windows NT, IBM OS/2 or Desqview?

A: Multi-tasking environments such as these often conflict with *Ultima VIII CD* in their use of memory and other system resources. We do not recommend playing *Ultima VIII CD* under any of these circumstances. In general, we recommend that you exit out of *Windows* (or similar applications) and play from the DOS prompt.

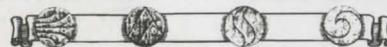
Q: Ultima VIII CD still doesn't work after I made a boot disk and/or modified my CONFIG.SYS and AUTOEXEC.BAT files.

A: Copy down the error code and information the computer displayed when it quit to DOS. Then see **ORIGIN Product Support** in back of manual.

GENERAL MIDI

Ultima VIII Pagan CD has joined the next generation of music quality with its support of the General MIDI standard as defined by the MPU-401 instruction set. At the time of publishing, only a few cards support MPU-401. These cards include the Roland SCC-1, Roland RAP-10, Creative Labs Sound Blaster 16 with attached Wave Blaster daughterboard, and Creative Labs Sound Blaster Advanced Signal Processing 16 with attached Wave Blaster daughterboard. Other manufacturers have already released, or are planning to release, sound cards that utilize the MPU-401 instruction set. However, sound cards that use memory-resident program (TSR) to emulate MPU-401 *may not* work with this software.

Note: Some General MIDI sound cards offer digitized speech or sound effect capabilities. However, in the case of the Roland RAP-10, customers will need to use a second sound card such as a Sound Blaster, Sound Blaster Pro or 100% compatible sound card for digitized speech and effects. Review your sound card documentation or contact the manufacturer if you have any questions.



STRIKE COMMANDER®

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INSTALLATION

SYSTEM REQUIREMENTS

Computer. This game calls for an Intel 486 or 100% compatible system.

Video Card. IBM VGA or compatible video card.

Free RAM. You must have at least 640K or base RAM (memory) to play *Strike Commander*. Of that 640K, at least 557K (571,000 bytes) of base memory must be available at the time you prompt to run the minimum game configuration. You must also have at least 2700K (2,765,000 bytes) high memory:

If your CONFIG.SYS contains an EMS driver, you must have 2700K (2,765,000 bytes) of EMS memory available.

If your CONFIG.SYS does not have an EMS driver, you must have 2700K (2,765,000 bytes) of XMS memory available.

Strike Commander won't run with less than that. See **Memory Requirements** for more information.

Hard Disk. You must have a minimum of 2 megabytes free on your hard disk to install *Strike Commander* CD.

INSTALLATION

When presented with a menu press **↑** and **↓** to move through the list, then press **Enter** to accept the highlighted selection. You may abort the installation process by pressing or selecting the ABORT menu option.

1. Insert the CD-ROM (label side up) into your CD-ROM drive.
2. Change to your CD-ROM drive by typing the letter of the drive and a colon, then pressing **Enter**.
3. Type INSTALL and press **Enter**.
4. Select Install Strike Commander and press **Enter**.
5. The program prompts you for the letter of the hard drive to which you want your system configuration data and saved games written. Press the letter on your keyboard corresponding to a hard disk with adequate space. If you specify an invalid drive, the program will prompt you again.
6. You are prompted for the sound card you are going to use for music. Select any Sound Blaster (or other MIDI device, if applicable).
7. You are asked for the sound card to use for digital effects. Select Sound Blaster.
8. If you select any of the Blaster cards (SOUND BLASTER, WAVE BLASTER, ETC.) you are prompted for the Base I/O and IRQ settings of the card. The install program will initially highlight the default values for these; if you have changed either your cards I/O or its IRQ, select the correct value(s) and press **Enter**. Note that older Sound Blaster cards have a default IRQ of 7 (rather than 5). Use **↑** and **↓** to highlight each appropriate selection, then press **Enter**.
9. You are asked if your system is equipped with a local bus video card. If it is, choose this option for a slight improvement in performance. (If you do *not* have a local bus video card, choosing the option slows performance.)

10. You are given several installation options at this point. You must always install the primary executable and the current game map, so this is not given as an option. These basic files take less than 2 megs of hard drive space.

In addition, you may copy two more sets of files from the CD to your hard drive. Generally, the more files you can store on your hard drive, the faster the game will run. The drawback is that you use more space on your hard drive. Select the installation method that works best for you. The two sets of additional files, along with how much space they would occupy on your hard drive and which systems we recommend them for are:

OPTION	HARD DRIVE SPACE	OPTIMAL FOR
COPY ADDITIONAL EXECUTABLES	2 MEGS	SINGLE SPEED CD DRIVES
COPY TREE	9 MEGS	4 MEGS RAM

Players using double speed CD drives and who have at least 8 megs of RAM might notice a slight improvement in performance by copying these additional files to their hard drives.

Of course, it is possible to transfer both sets of additional files. This combination (including basic files) occupies less than 12 megs on your hard drive and is recommended for players with single speed CD drives and only 4 megs of RAM.

Note: It is possible to transfer all files from the CD to your hard drive, but this is not given as an option because doing so fills over 150 megs on your hard drive.

11. The install program copies files to your hard drive.
12. When the installation is complete and you are ready to play, go to the Strike Commander directory on your hard drive. (If you accepted our default suggestion, this directory is SC.) Type SCCD to get a menu of games, and select the game you want to play (STRIKE COMMANDER or TACTICAL OPERATIONS) from this menu.

CHANGING YOUR CONFIGURATION

If you ever add a sound card or change from one card to another, simply re-run the installation program from your hard drive. (You would re-run the install program from the CD only if you were totally replacing the game.)

RE-INSTALLING

If you should find it necessary to re-install *Strike Commander*, we recommend that you first delete all the files in the *Strike Commander* directory except any files with the .SAV or .TO1 extensions (these are your Strike Commander and Tactical Operations saved games, respectively). The install process will not write over them.

ON-LINE HELP

Press **F1** for on-line help during installation.

OPTIMIZING YOUR SYSTEM

MEMORY REQUIREMENTS

We have tried to minimize the amount of time you spend configuring the memory in your system, but *Strike Commander* is a memory-intensive game, and adjustments to your memory configuration may be needed.

There are three types of RAM referred to in this manual: DOS (conventional base RAM), extended and expanded. *Strike Commander* has specific minimum requirements for each of these types of memory. If you are unsure about these different types of memory, consult your DOS manual.

To find out how much DOS, extended and expanded memory your computer has available, type MEM at the DOS prompt. When the memory information is printed on the screen, for the following listings:

- LARGEST EXECUTABLE PROGRAM SIZE
- LARGEST AVAILABLE UPPER MEMORY BLOCK
- TOTAL EXTENDED OR XMS
- BYTES FREE OF XMS
- BYTES AVAILABLE XMS
- BYTES FREE OF EMS
- FREE EXPANDED (EMS)

The **Largest Executable Program Size** should be at least 557K. (Actually, it can be as small as 527K, if the **Largest Available Upper Memory Block** is at least 30K.)

You will have only one of the last five listings—**Total Extended or XMS/Bytes Free of XMS/Bytes available XMS/Bytes Free of EMS/Free Expanded (EMS)**—partially depending on whether or not you have an EMS driver. Regardless of which listing you have, it should show at least 2700K available.

If you are experiencing problems installing or running *Strike Commander*, it might help to create a separate boot disk or decrease the number of memory-resident programs (TSRs) you have loaded. Refer to your DOS manual.

Do not delete your AUTOEXEC.BAT or CONFIG.SYS files completely, or alter them on your hard drive—without them, your computer will not function.

To create a boot disk, refer to the **Problems with the Game** section at the end of this manual.

USING YOUR BOOT DISK

1. Turn your computer off, insert your new boot disk in your A: drive and turn the computer back on. (If your CD drive is external, turn it on.)
2. Insert the CD-ROM disk (label side up) into your CD-ROM drive.

3a. If you haven't yet installed the game, change to your CD-ROM drive by typing its drive letter followed by a colon (e.g., d:) and pressing **[Enter]**, then continue from Step 3 in **Installation**.

3b. If you've already installed the game and you are ready to play, go to the game directory on your hard drive. (If you accepted our default suggestion, this directory is SC) type SCCD to get a menu of games, and select the game you want to play (STRIKE COMMANDER or TACTICAL OPERATIONS) from this menu.

CACHING

Strike Commander uses all available memory for its own internal disk caching. Adding SmartDrive or any other caching utility may actually slow disk access.

I/O AND IRQ

If the install program reports difficulty finding your sound card, check to make sure you've selected the correct I/O and IRQ. Consult your sound card documentation if you continue to have difficulties.

STARTING THE GAME

Make sure your *Strike Commander* CD is in your CD-ROM drive.

1. Select the drive on which the game is installed. (For example, if you installed the game on your C-drive, type "C:" and hit **[Enter]**.)
2. Select your *Strike Commander* directory. (If you used the default directory, type "CD\SC" and **[Enter]**.)
3. Start the game (by typing "STRIKE" and **[Enter]**).

After a brief animated sequence, your screen will display the startup menu.

Note: If you are starting *Strike Commander* for the first time, the CONTINUE GAME option will not yet be available. If you have not saved a game, the LOAD GAME option will not yet be available.

Start New Game. To begin the full *Strike Commander* game, select START NEW GAME with your mouse or joystick cursor.

Training Mission. For instant action, choose TRAINING MISSION. You can use this customizable option to design practice missions against air or ground targets and to continue playing *Strike Commander* after you have finished the preplotted game. Although practice missions will not affect your status in the game, they are a good way to brush up on your flying and improve your combat skills while getting to know enemy planes and vehicles.

This is your first flight simulation game, running a few custom missions before you play the main game is a good idea.

View Objects. Selecting VIEW OBJECTS allows you to see three-dimensional views of the planes, tanks, trucks, weapons and other objects you will encounter in the game. Use the object viewer to familiarize yourself with friendly and enemy equipment, or just to enjoy artwork.

Load Game. To resume any of the games you have saved, choose LOAD GAME. When you select this option, a list of the games you have saved will appear. Select the name of the saved game that you want to continue, and click on the LOAD button. You will then find yourself at the point where you saved — the barracks at the Wildcat base or the tent at the strike base.

Transferring Your Character. You can transfer your character to *Tactical Operations* from any *Strike Commander* saved game. If you select load game from the startup menu in *Tactical Operations*, the saved games in white are from *Strike Commander*. If you select one of these games, your character's name, callsign and killboard stats will be transferred from the *Strike Commander* game you selected to a new *Tactical Operations* game—the *Strike Commander* game you selected is not affected. (Your *Strike Commander* saved games are not available from the *Tactical Operations* Barracks Option Screen.)

Continue Game. To keep track of your progress, *Strike Commander* will automatically save your position in the game, usually after missions or when you return to the Wildcat base. The auto-save is a backup feature, *not* a regular save function, and you can not use it to return to a previous series of missions, so be sure to use the regular save option frequently. If you exit without having saved your game, however, selecting CONTINUE GAME from the startup menu will return you to your most recent auto-save position. If you want to return to one of your saved games, use LOAD GAME instead.

STARTING A NEW GAME

After you select START NEW GAME, a "Mercenary Defense License Application" will appear on your screen. Enter your last name, your first name, and your callsign in the spaces provided. Press **[Enter]** or **[Tab]** to move between fields, and **[Backspace]** to correct mistakes.

Once you've typed text in all three fields, press **[Enter]** again to start the game. Your jeep will drive up to the Wildcat base, and your game will begin.

PLAYER SCORE

The game keeps a running score of how you're doing. You can look at it by pressing **[Alt]** between missions, to maximize your score, play the game with the ACE option.

EXITING *Strike Commander*

We recommend that you save and exit using the barracks and strike tent option screens; however, you wish to quit your game immediately, press **[Alt]** **[X]** to exit. This function does *not* save your game.

SAVED GAME LIMIT

Strike Commander will only recognize the first 100 saved games in the game directory. All additional saved games are ignored and cannot be selected in the SAVE/LOAD menu. You may delete unwanted saved games using the DOS delete command.

TRAINING MISSIONS

After you choose TRAINING MISSION from the startup screen, the dogfight background will appear, and you will be asked to choose either a dogfight mission or an air-to-ground mission. To practice dogfighting with enemy planes, choose DOGFIGHT. To practice ground attack runs, choose SEARCH AND DESTROY. You can also choose GAUNTLET.

If at any time you want to return to a previous option screen, select BACKUP. You can backup as far as the first screen. If at any time you want to return to the startup menu, select CANCEL.

Air-to-Ground Missions

After you choose SEARCH AND DESTROY, you will be given a brief statement of your mission objectives and asked to confirm your choice. Selecting ACCEPT sends you to the weapons loading screen. To load weapons, click with the mouse on the weapon you want to add to your plane. The weapon will appear under the wings of your plane on an appropriate hardpoint. Weapons are always loaded onto your plane in pairs. If you click on a weapon already loaded on your plane, it will be removed and returned to the ordnance carts. (For more information on loading weapons, see **Loading Your Weapons**.) Afterwards, select the cockpit to fly your mission or the hangar doorway to return to the startup menu.

Dogfight Missions

After you choose DOGFIGHT, you will be given a brief statement of your mission objective. At the bottom of your screen will be a set of numbered buttons. Choose the number of enemy planes you want in the first group that you will face. You will then be asked to choose the types of planes in that group.

After you choose number and type of planes, you will be given four options. If you only want to fight one group of enemies, select ENOUGH. If you want to add more groups, select MORE and choose the number and type of planes in the next group.

Once you're satisfied with the selection of enemies and the mission configuration, choose the altitude at which the engagement will begin (5,000, 15,000 or 25,000 feet). After choosing your altitude, choose whether to engage ROOKIE, VETERAN or ACE opponents. Next, you load weapons onto your plane. To do so, click with the mouse on the weapon you want to add to your plane. The weapon will appear under the wings of your plane on an appropriate hardpoint. Weapons are always loaded onto your plane in pairs. If you click on a weapon already loaded on your plane, it will be removed and returned to the ordnance carts. (For more information on loading weapons, see **Loading Your Weapons**.) Afterwards, select the cockpit to fly your mission or the hangar doorway to return to the startup menu.

For a walk-through of a few missions, see **Practice Missions**.

OBJECT VIEWER

When the object viewer appears on your screen, you see an F-16 as it appears in the game. Initially, the plane will be spinning. To change the direction of the spin, click on one of the ROTATE buttons with the right mouse button. To stop the object from spinning, click on one of the ROTATE buttons with the left mouse button. Once the motion is stopped, you can use the left mouse button to manually rotate an object and view it from different angles. (↑) and (↓) rotate the object around the horizontal axis of the screen. (←) and (→) rotate it around the vertical axis.

To get a closer look at an object, press the ZOOM up arrow. To zoom back out, press the ZOOM down arrow.

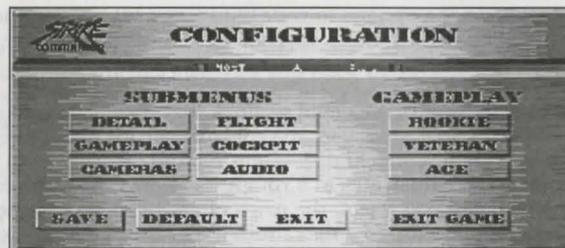
To view other objects from *Strike Commander*, select the button with the name of the object you're viewing. The next piece of hardware from *Strike Commander* will appear on your screen.

GAME OPTIONS

OPTION SCREENS

Strike Commander has a comprehensive option screen interface that allows you to tailor the visual, audio and flight characteristics of the game to suit your tastes and your hardware. Activate the option screens from the cockpit by pressing (Alt) (O).

Option Screens Screen



Configuration

The main configuration screen has the following buttons:

- **ROOKIE, VETERAN and ACE.** Selects the overall difficulty level of the game. The main Option Screen (accessed by pressing (Alt) (O) during flight) allows you to select ROOKIE, VETERAN or ACE difficulty levels. ROOKIE level selects the easier option from each of the following choices; ACE level selects the more difficult option. VETERAN level selects the following options:
 - ON EASY GUN HITS, MID-AIR COLLISIONS, EASY LANDINGS, STALLS, AUTO TARGETING, 360* LOCK, SMART TARGETING, SUN GLARE, G EFFECTS.
 - OFF UNLIMITED AMMO, SMART RADAR, 360* RADAR, SMART RAW SCOPE.ROOKIE level selects ROOKIE ENEMY INTELLIGENCE; VETERAN level selects VETERAN ENEMY INTELLIGENCE; ACE LEVEL SELECTS ACE ENEMY INTELLIGENCE.
(After selecting a particular difficulty level—ROOKIE, VETERAN or ACE—you can then change any of the options individually.)
- **SAVE.** Saves your unique option package.
- **DEFAULT.** Restores the default setup.
- **EXIT.** Exits the option screens.
- **EXIT GAME.** Lets you exit *Strike Commander* entirely. Selecting EXIT GAME brings up a menu with the following buttons on it:
 - **RESTART.** Restarts the mission from the beginning.
 - **ABORT.** Aborts your current mission and returns you to base as though the mission had not been flown yet. This can be used to change your aircraft's loadout or to listen to the briefing again.

- **CONTINUE.** Exits the game and returns you to the base as though the mission had been completed *at that point*. This could be used to exit the game when you know you have completed the mission goals and don't want to continue the mission to landing. This option will allow you to exit if the mission has not been completed so be sure you mean it!
- **EXIT.** Returns you to the main configuration screen.

The other buttons are used to select the option screens listed below. For information on speeding gameplay, see **Troubleshooting**, in the **Install Guide**. If a certain button is non-functional, it means your system does not have enough memory to make it active, or that you do not have the required hardware.

Once you have configured the options to your liking, and hit **SAVE** on the main configuration screen, your game will begin with those options active until you choose to change them.

Detail

Your game automatically selects the detail settings that it considers most appropriate for your machine. However, **DETAIL** gives you fine control over the detail level of the objects and terrain by turning various textures and shadings on and off. The small window in the center of this option screen illustrates in a rough way how your changes will affect the look of the world. The less detail you select, the more rapid the game's frame rate and the smoother your game will flow (up to a maximum level). Buttons that toggle details on and off include:

TERRAIN

- **GOURAUD.** The smooth shading of the terrain.
- **TRANSITION.** The transition texture boundary anywhere terrain color changes (for example, the transition from water to land).
- **INTEREST.** The small clumps of trees and rock outcroppings scattered on the terrain.
- **RIVERS.**
- **FIELDS.** The square patches of farmland.
- **CITIES.** The large urban areas.
- **RUNWAYS.** The textures on the runways.

OBJECTS

- **GOURAUD.** The smooth shading on planes and other objects.
- **TEXTURE.** The texture mapping on the planes and other objects.
- **HI-LO.** Switch the objects from the highest detail levels to the lowest detail levels. There are three settings.

HAZING. The distance at which the terrain hazes out. There are five different settings ranging from **NEAR** to **FAR**.

The lowest **HAZING** button (**FAR**) now produces no hazing at all. (The default for hazing is now the second button, not this first one.) With no hazing, no new objects are revealed the game is not any faster, and it doesn't look as good. However, some players prefer to play without any hazing, so this option is now available.

Some options will affect the frame rate (i.e., your game's smoothness) more than others, depending on your machine. Experiment with different options to get the most desirable balance of detail and speed.

Gameplay

GAMEPLAY changes the difficulty of the game in several specific ways through the following buttons:

- **UNLIMITED AMMO.** Gives you unlimited amounts of the current munitions you are carrying. The **UNLIMITED AMMO** option only applies to gun rounds while playing *Strike Commander*. It will not give you unlimited missiles or bombs. The only exception are training missions, which do give you unlimited amounts of whichever weapons you are carrying.
- **EASY GUN HITS.** Makes hitting enemy planes easier at long range with the gun.
- **ENEMY INTELLIGENCE.** Controls the level of the enemy artificial intelligence, with **ROOKIE** selecting the easiest enemies and **ACE** the most difficult.

Cameras

CAMERAS gives you control over the cameras in the game with the following buttons:

- **AUTO SWITCHING.** Automatically switches you back to the forward cockpit view if the plane is in danger of hitting the ground or is hit by enemy fire.
- **WEAPON CAMERA.** Automatically activates the weapon camera when a mission begins. It can also turn the weapon camera on during a mission.
- **VICTIM VIEW.** Automatically activates the victim camera when a mission begins. It can also turn the victim camera on during a mission.
- **TERRAIN IN GUN CAMERA.** Allows the gun camera to display the terrain. This reduces your frame rate, but looks better.
- **WINDOW SIZE.** Allows you to pick how much of your monitor the game screen will occupy. If you pick **SMALL** or **MEDIUM**, the screen will be reduced in size and everything on it scaled appropriately. Note that you do not lose any field of view if you pick a smaller window. The smaller the window the faster the frame rate.

Flight

FLIGHT lets you pick how you want to control the plane, the cockpit panning and other flight related items. The buttons behave as follows:

- **CONTROL.** Selects the method you use to control your plane. Any buttons that appear flat are *not* available. You may choose among **KEYBOARD**, **MOUSE**, **JOYSTICK** or **THRUSTMASTER**.
- **PANNING CONTROL.** Selects the method you use to control the cockpit panning. (As always, any buttons that appear flat are *not* available.) You may choose among **KEYBOARD**, **MOUSE**, **JOYSTICK**, **SECOND JOYSTICK**, **THRUSTMASTER** or **NONE**. The Thrustmaster choice controls cockpit panning through the thumb control on the joystick. You can always pan by pressing the second button on the joystick and moving the joystick, regardless of the control selected.
- **MID-AIR COLLISIONS.** Allows collisions between your plane and enemy planes if it is on.
- **EASY LANDINGS.** Is more forgiving to rough landings if it is on.
- **SHOW WEAPONS.** Will only show weapons on your own plane and on planes that are viewed through the external camera (**F6**). This option will reduce the frame rate (make the game less smooth), especially if many weapons are loaded on the planes.
- **STALLS.** Controls whether or not the plane can stall. If it is on, stalls are possible.

Cockpit

This screen lets you customize the cockpit of your plane. It can also give you tools not available in present-day aircraft, depending upon which buttons you select:

- **LADDER.** Turns on and off the pitch ladder display on the HUD.
- **TAPES.** Turns on and off the airspeed and altitude above sea level tape displays in the HUD.
- **AUTO TARGETING.** If this button is on and no target is currently selected, as soon as a target comes into range, the computer will automatically select it as a target.
- **360° LOCK.** When this button is on, you will not lose your target lock, even if the target cannot be seen by the weapon targeting it.
- **SMART TARGETING.** When this button is on, you will be unable to target friendly or shutdown aircraft.
- **SUN GLARE.** Turns on and off the glare of the sun.
- **G EFFECTS.** Turns on and off the blackout and redout effects associated with pulling too many Gs.
- **SMART RADAR.** When this button is on, the standard target blip on the radar is replaced by a series of different shapes depending upon the target's shot down status and whether or not it is friendly, enemy or neutral. For a description of these different shapes, see **Air-to-Air Radar**.
- **360° RADAR.** When this button is on, the radar switches to a mode that shows you all targets around your plane, with your plane in the center.
- **SMART RAW SCOPE.** When this button is on, all radar-emitting targets are shown at all times.

Invisible Cockpit

It is possible to remove the cockpit from the screen, by pressing **[Ctrl] 1**. Your HUD and any active MFDs remain on-screen, as do any MFDs you subsequently activate. Radar and IR warning lights also still appear. With an invisible cockpit, you can, of course, see more of the sky in front of you, and the game's frame rate improves slightly. This is a toggle—pressing **[Ctrl] 1** again recalls the rest of your cockpit.

Audio

These buttons control the sound of the game. If a button appears flat, that sound option is not available with the sound card(s) you have installed. The buttons operate as follows:

- **MUSIC.** Turns music on and off.
- **SOUND FX.** Turns sound effects on and off.
- **SPEECH.** Turns speech on and off.
- **DIGITAL FX.** Turns digitized sound effects on and off.

TIME BURST AND TIME COMPRESSION

[Tab] activates the Time Burst function. Time Burst accelerates time in the game so that everything happens six times as fast. Releasing the **[Tab]** key takes you out of Time Burst.

[Shift] [Tab] activates 2x time compression. Everything happens twice as fast. Hitting **[Shift] [Tab]** again doubles the compression again to 4x. Hitting **[Shift] [Tab]** a third time takes you back to normal time.

CAMERA VIEWS

In *Strike Commander*, you can watch cockpit action from many more camera angles than you've ever had before. With a little practice, you will be using these camera angles to great advantage.

Most of the camera views use the joystick pan technique. All but one of the camera views replace your HUD, so when using them, you're flying without instruments. Be advised that some of the camera views are so riveting that the development team crashed more than one plane by staying in an external camera view too long.

Never forget where your aircraft is and where it's going when you shift your view from the HUD to an external camera, and remember that **[F1]** will always snap you back to the cockpit. You will also snap back to the cockpit automatically if you come too close to the ground, take damage or stall, if you have auto-switching toggled on (see **Option Screens: Cameras**).

[F2] Cockpit Camera. This key snaps your eyes back to the front of the cockpit. If you are already in cockpit view, **[F1]** zooms the HUD in and out. You can pan (look around) your cockpit in *Strike Commander* using the joystick (with the #2 button pressed) or your keyboard, second joystick, mouse or Thrustmaster thumb joystick—see **Option Screens** for instructions on choosing your pan control.

[F2] Chase Camera. This is an exterior view just behind and above your aircraft.

[F3] [F4] and [F5] Left, Right and Back Cockpit Cameras, respectively.

[F6] External Camera. Press **[F6]** to activate this view, then use the joystick (while the #2 button is pressed) to pan around the exterior of your aircraft. **[I]** and **[J]** zoom in and out. Press **[F6]** a second time to see the next closest aircraft. **[Ctrl] [F6]** cycles your viewpoint among ground objects in similar fashion.

[F7] Player to Target / Target to Player. This camera viewpoint tracks to keep you and a radar-selected target in the field of view. The first time you press **[F7]**, you will see your selected target from the point of view of your aircraft. Press **[F7]** again to reverse the view, placing your target in the foreground and your own plane in the background.

[F8] Gun Camera. This shows your currently selected target (for guided weapons) or a close-up of your gunsight direction (for unguided weapons). If you have a target in the cross hairs of the gun camera, your chances of hitting that target are excellent. It and the cockpit camera are the only cameras you can use and still read your HUD. The gun camera is particularly useful during combat when used in conjunction with a HUD weapons display, such as DGFT mode. It is also useful in close air support over a contested battlefield, where enemy units are intermingled with your own. It is only available from inside the cockpit.

F9 **Victim Camera.** This view allows you to see the damage your weapons inflict on a selected target, by cutting away from your cockpit to a close-up of your kill. You can preset your game (using the **Option Screens**) to automatically cut away to victim camera whenever appropriate. **F9** toggles this view on and off.

F10 **Weapon Camera.** This view follows the weapon you just launched. It is one of the more dramatic camera views. You can preset your game (using the **Option Screens**) to automatically cut away to weapon camera whenever you launch a weapon. **F10** toggles this view on and off.

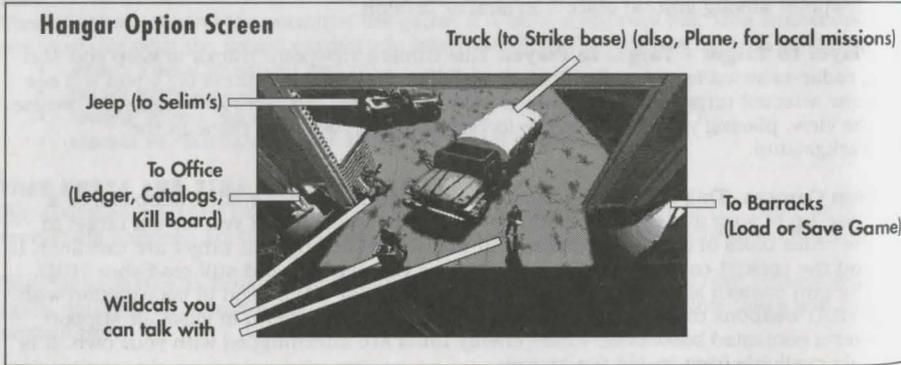
Y **Auto Target Tracking.** If you have a target selected the first time you press **Y**, the camera automatically pans to keep that target in view. Press **Y** again to turn this mode off. See **Option Screens** for more details on managing this camera.

This fluid camera view, more than any other, demonstrates the concept fighter pilots call "situational awareness"—the ability to know what is happening around you at all times. The Auto Target Tracking view lets you make fast visual assessments of the situation.

WILDCAT BASE

The year is 2011. Your mercenary squadron, the Wildcats, is struggling to survive amidst dozens of units who are as eager to find work as you are. Many of these groups, including the Wildcats, call Istanbul, Turkey, home, but your job will take you around the globe.

The Wildcat base is the center of operations for your squadron. After completing a series of missions, you will return here to purchase weapons, check the status of your squadron and talk with fellow Wildcats. From the base, you can also travel to Selim's, a bar in



Istanbul, where fixers wait to offer you dangerous but lucrative missions.

Talking to the Wildcats. You may see other Wildcats standing around the hangar. You can talk to them by selecting them with the cursor. Their conversations usually include mission information or tips on flying, so it's always wise to stop and chat.

During any conversation, you can move to the next screen by hitting **Enter**, **Spacebar** or the left mouse button. You can exit the conversation entirely by hitting **Esc**.

Barracks. The door to the right leads to your barracks. The barracks are one of two locations where you can load and save games. It's a good idea to save as often as possible, especially after completing difficult missions. Select the right hangar door to enter the barracks.

Office. To enter the office, select the door to the left. There, you can receive financial updates or look at the kill board to gauge your progress relative to other Wildcat pilots.

Jeep. When the jeep is in the hangar doorway, you can select it to drive to Selim's. At the bar, you can obtain missions for your squadron, speak with fellow pilots and meet other interesting people.

Transport Truck. You will be flying a variety of missions. For local missions, you will take off and land at the Wildcat base. For most missions, however, Virgil, your accountant, will make arrangements for a staging base in the vicinity of that series of missions. (Of course, a staging base adds to overhead costs, but it's a necessary expense.) After you accept a foreign mission, your transport truck will appear in the hangar entrance.

Select the truck to load the Wildcats and their equipment onto a C-130 transport plane to travel to your strike base. From there, you will begin the missions in that series.

Fighter Plane. If you accept a local mission, you will see an F-16 instead of a truck parked in the doorway of the hangar. Select the plane when you're ready to fly your mission. After selecting the F-16, you will be informed of your mission targets and flight plans. Listen carefully to any instructions — missing a rendezvous or a target can result in lost payments, expensive fighter replacement costs, or even the death of a fellow pilot. If the exact locations are unclear, however, don't worry; you will have a map in your plane's cockpit that allows you to review current mission objectives.

For the first couple of missions, Stern, the commander of the Wildcats, will assign you a wingman. As you become a more experienced pilot, you may choose your own wingman.

After the briefing is finished, the weapon loading screen will appear.

Loading Your Weapons

On the weapon loading screen, you will see your F-16 parked in the hangar (or in front of the tent, if you're at the strike base) and several racks of weapons. Some weapons won't become available until later in the game, so don't worry if there isn't a wide selection at first. Use this screen to customize the loadout your plane will carry into battle.

To load weapons. Select a weapon from the rack with your left mouse button. Weapons are added to your plane's inventory in pairs to ensure balance.

To remove weapons. Select a weapon on the plane with either mouse button, or a weapon on the racks with the right mouse button. As with loading, weapons are removed in pairs.

Weapon Loading Screen



Loading Weapons on the F-22 Lightning II. In *Tactical Operations*, you will have opportunities to fly missions with the F-22 *Lightning II*. The F-22 can carry a maximum of two AMRAAMs and two Sidewinders (either -J or -M). No other weapons may be loaded, as this is a dedicated air interceptor. Whenever you fly a mission with this plane, its default loadout is a full load. If you wish to adjust the loadout, you can click on the loaded weapons on the plane, just as in *Strike Commander*.

Default loadouts are treated just as they are in *Strike Commander*. If the default weapons are not available in your inventory, they will not be loaded. If you do not use them during the course of your mission, they will be added back into your inventory when you return. The weapons are loaded under the wing by the intake.

Loadout Limitations. Your plane has eight hardpoints for carrying weapons. Each type of hardpoint can carry a limited number of weapons. At the tip of each wing is a rail that can carry either a Sidewinder-9J or a Sidewinder-9M. Underneath each wing, closest to the end, is a light hardpoint. Light hardpoints can carry only air-to-air missiles: either a Sidewinder or an AMRAAM. In the center of each wing's underside is a medium hardpoint. Because they are able to carry both air-to-air and air-to-ground weapons, medium hardpoints are the most versatile. They can each hold:

- 2 AMRAAMs,
- 1 GBU-15E,
- 2 rocket pods,
- 1 Sidewinder (AIM-9J or -9M),
- 3 Mavericks,
- 3 Durandals,
- 6 cluster bombs (Mk20's) or
- 6 Mk82's.

The innermost hardpoints are heavy hardpoints. Heavy hardpoints can carry any of the weapons carried by the medium hardpoints *except* air-to-air missiles.

Returning to the Base. If you decide after the briefing that you need to check your ledger or catalog to purchase more weapons, or even if you just need to hear the briefing again, you can return to the hangar by clicking along the top of the screen.

If you wish to have the briefing repeated at that point, click on the F-16 again, and you'll go back through the briefing and the weapons loading screen.

Flying the Mission. If you're satisfied with your loadout and have a clear understanding of your mission objectives, click on the cockpit of the plane to fly the mission.

BARRACKS

Loading and Saving Games

When you're at the Wildcat base, you can visit the barracks to save the game in progress or to load a previous one. The barracks can be reached from the right doorway in the hangar.

Barracks Option Screen



Sleeping Pilot (Loading Games). You'll notice another Wildcat pilot sleeping in a cot in the barracks. Wake her up (select her) to load a previous game. A screen will appear listing your saved games. Select the game you want to load and click on the **LOAD** button. If you change your mind and decide not to load a game, click **CANCEL** to return to the barracks.

Note: If you are using the partial installation option, you may have to re-install portions of the game to return to a saved game.

Empty Bed (Saving Games). It's advisable to save your game every time you complete a mission. Click on the empty bed to bring up the save game window.

To save the current game under a new name, select the **NEW** button. Type the name you want to use for the file and press **Return**. The only limit to the number of games you can save is your hard disk space.

If you choose to delete a saved game for any reason, select its name on the list and click **DELETE**. When the game asks you to verify, click **YES** to delete the saved game. Select **NO** to cancel the deletion.

If you want to save using the same name as a previously saved game, select that name and click on **OVERWRITE**. Once again, you will have to confirm your choice.

To return to the barracks, select **RESUME**. To exit your game at this point, select **QUIT TO DOS**.

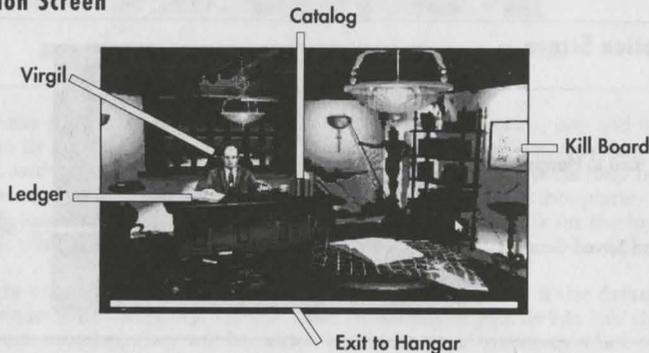
VIRGIL'S OFFICE

Managing the Wildcats

Virgil is the Wildcats' accountant and chief whiner. He may be pessimistic, but it's not wise to ignore him, because he may have valuable information.

In Virgil's office at the Wildcat base, you can talk to him, check squadron finances by reading the ledger, purchase weapons from the catalog, or view the kill board to compare your progress with other Wildcat pilots.

Office Option Screen



Talking to Virgil. When Virgil is sitting at his desk, click on him to receive a fiscal update on the Wildcats. Virgil will often have important information concerning the squadron's financial well-being, so check in with him frequently.

Ledger. View the ledger by selecting the open book on the right side of Virgil's desk. The first page of the ledger shows the financial status of the Wildcats, including overhead costs, fighter plane replacement costs, recent purchases, and net worth. The statistics that are most important to you are your current cash worth and your projected overhead costs. This will be updated when you accept a mission. Remember that the overhead is a cost per mission.

If your projected cash is ever below zero, make sure you're successful on your next few missions. Otherwise, you'll be broke, and the Wildcats will be finished.

Turn the page (by clicking on it) to see a listing of your squadron's currently available weapons. You won't order weapons here, though. Check the catalog for purchases.

To return to the office after viewing the ledger, click along the top edge of the screen.

Catalog. Initially, Stern will purchase weapons for the Wildcats. As you gain experience, however, the responsibility for purchasing weapons for the squadron will pass to you.

When it's available, you will be able to use the catalog to make weapon purchases. View it by selecting the book and calculator on the right side of Virgil's desk. You'll be purchasing weapons for all of the Wildcats, so be sure to stock plenty of everything, especially Sidewinders and smaller bombs.

When you select the catalog, it will open to two pages of weapons and prices. Flip through the book by clicking on the top corners of pages.

Buying a Weapon. Click on the weapon with the *left* mouse button. A receipt will appear on the screen with the weapon type and its price displayed on it. If you buy more of the same weapon, the number on its receipt will change.

If you change your mind and decide not to purchase a weapon, click on it with the *right* mouse button, or click on the receipt with either button. That item will be subtracted from the corresponding receipt.

Some weapons are available for better prices if they're bought in bulk. When you select one of the four weapon packages listed in the back of the catalog, you will receive the number of weapons listed in the package description. Weapon packages are a good way to save money and still buy enough weapons for the entire squadron.

As you select weapons and packages, the calculator next to the catalog keeps track of the amount of money in your account (top line), the amount you are spending (middle line) and your account balance (bottom line). You are allowed up to one million dollars in credit to purchase weapons, but remember that you will go bankrupt and lose the game if you return from a mission with no cash.

To return to the office, click anywhere along the top of the screen. When you do this, the weapons you have selected will be purchased, and the correct amount of cash will be subtracted from your account.

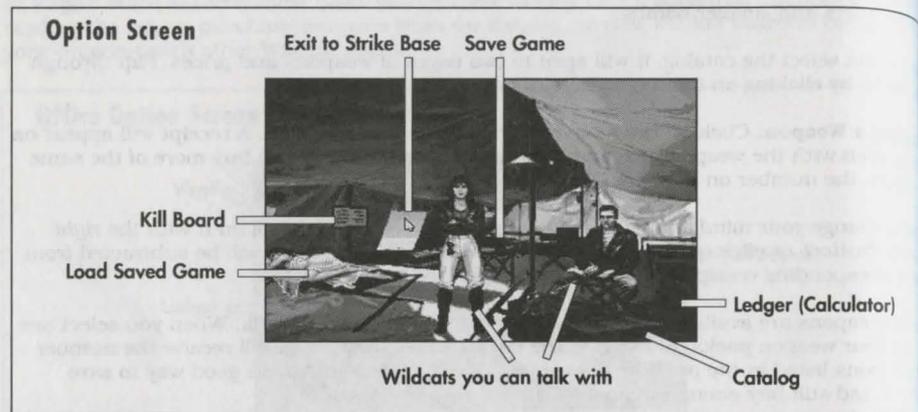
Returning to the Hangar. Click anywhere along the bottom of the screen to return to the Wildcat hangar.

STRIKE BASE

When you fly foreign missions, you'll need to set up a strike base. Virgil will make arrangements for the Wildcats to use abandoned airfields or old airport facilities for these bases. It costs a bit to set up a strike base, but it enables the Wildcats to fly missions anywhere around the globe.

Tent. The tent is the hub of activity at the strike base. Select the open flap to enter the tent, where you can load and save games, view the kill board, check the ledger and use the catalog. All of these functions are the same as they are at the Wildcat base. After tending to business, you may want to talk to other Wildcat pilots who are relaxing in the tent. They will give you background information, flight tips, and mission reports.

Office. Some of the strike bases include a small office to the right of the runway. Occasionally, you will find Wildcats there to chat with about current missions and strategies. Click on the office to talk with them. Press **[Esc]** if you wish to terminate the conversation.



Fighter Plane. When you're ready to begin a mission from the strike base, click on the fighter plane to hear your briefing, load your plane with weapons, and fly your mission. This works the same as it does at the Wildcat base.

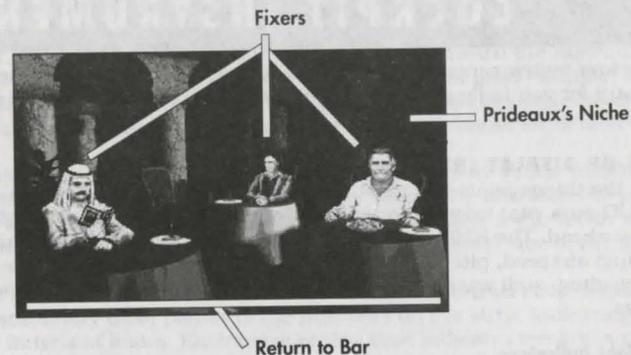
Transport Truck. When you've completed your work at the strike base, the transport truck will pull up outside the tent. Select it to pack up and head back to the Wildcat base.

SELIM'S

The Wildcats pay the bills (and keep Virgil happy) by hiring out their squadron to governments, corporations and even wealthy individuals who need mercenary services. As a lieutenant commander in the Wildcats, it is your responsibility to contract these missions. You'll never actually see the people you're working for, though. They'll hire you through fixers — go-betweens who procure missions for mercenary squadrons and maintain anonymity for employers — for a small fee.

Many fixers in the Istanbul area frequent Selim's. You must visit the bar to talk to them and get your missions. You can also visit with other members of the Wildcats who hang out there.

Bar Option Screen



Bar. When you first arrive at Selim's, you'll find yourself at the bar. Sometimes you'll see other Wildcats there. They may have information about missions, so stop and talk to them whenever possible.

Getting Missions. Go through the archway to the right to get to the main room and talk to the fixers.

Returning to the Wildcat Base. Select the door to the left to return to the Wildcat base. Remember that if you accept a mission and leave the bar, the fixers don't want to see you again until that mission is finished.

The Main Room. Just beyond the bar is the set of tables where the fixers can be found. To hear what a fixer has to offer, select him at his table. He will present you with a general mission goal, inform you of your payment, and ask you if you want the mission. When the fixer extends his hand to shake on the deal, select the hand to accept the offered mission, or select anywhere else on the screen to reject it.

Business is slow, and it's hard to afford a good mercenary squadron, so you'll often find only one mission available. Sometimes, however, you'll have a choice of several missions. Don't be afraid to refuse a mission and listen to the pitch again, or check what other fixers have available. These guys are a competitive lot, though, and they won't take rejection kindly if there are other missions around. Refuse a fixer twice while there are other missions available, and he'll stop offering his mission to you.

Prideaux's Niche. Jean-Paul Prideaux, leader of the Jackals, holds audiences in a shadowed niche in the back of the main room. Sometimes he's there and sometimes not, but you can visit his niche by clicking on it with the left mouse button.

Once you've accepted a mission, head back to the Wildcat base and get ready to fly. With enough skill and a little luck, you'll be the top mercenary squadron in Istanbul.

COCKPIT INSTRUMENTS

The cockpit instrumentation is designed to present the huge volume of information necessary for you to fly and fight, in as readily understandable and instinctive a manner as possible.

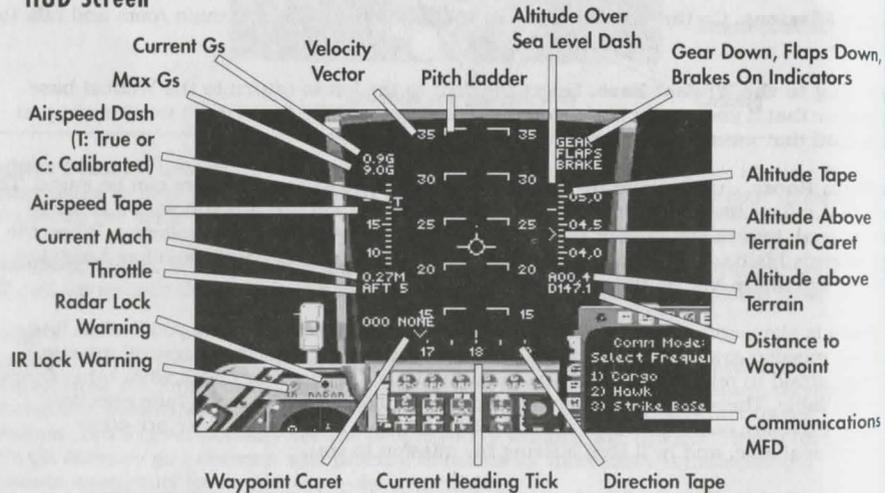
HEADS-UP DISPLAY (HUD)

One of the things pilots like most about the F-16 is the large Heads-Up Display, or HUD. The HUD puts vital information in front of the pilot on a flat glass plate without obscuring his view ahead. The HUD displays an amazing amount of information for a single screen, including: airspeed, pitch angle, radar lock, absolute and above sea level altitude, G-force level, heading, stall warning, fuel warnings, velocity vector and the weapon sighting displays.

HUD Flight Indicators

Because *Strike Commander* closely simulates reality, it is an extremely complex environment. To complete the missions and win the game, you must be able to operate the controls smoothly. Practice with the Training Mission environment will help.

HUD Screen



Pitch Ladder. The Pitch Ladder indicates the angle of the aircraft with respect to the horizon. As the numbers along the ladder scroll by the Velocity Vector indicator in the center, you can see how steeply you're climbing or diving, measured in degrees. This is called pitch. The ladder has a zero line with five-degree steps extending above and below, in positive and negative numbers respectively. Note that the pitch lines become dashed at negative pitch (diving).

In addition to measuring the angle of your plane's pitch, the ladder also measures angle of roll — the degree of turn relative to the horizon, known as "roll angle." If you throw the plane into a loop, the ladder will invert at the top (90 degrees) and show your descent. To ensure your orientation, the tips of the ladder rungs always point toward the horizon, indicated by the zero line in the middle of the ladder. In conditions of good visibility, some pilots turn the ladder off because it clutters up the display, but most pilots like to see graphically where they are in relation to the horizon. See **Option Screens** for details.

Velocity Vector Indicator. The Pitch Ladder is centered on the Velocity Vector indicator, a circle with three lines projecting from it. The velocity vector shows the direction the plane is moving through the air rather than the way it is pointing. For example, if the vector mark is toward the left side of the HUD, you are moving left relative to the center line of the aircraft.

Airspeed. The Airspeed indicator, on the left side of the HUD, is a vertical strip of numbers like a tape measure. A stationary dash points to the numbers on the strip, indicating the plane's current velocity in tens of knots. Each mark on the tape indicates ten knots of speed. (For example, "35" on the airspeed tape indicates an airspeed of 350 knots.) There is a "T" above the dash if true airspeed is displayed, or a "C" if calibrated airspeed is displayed.

Using **[S]** toggles the airspeed tape between calibrated and true readouts. *True* airspeed is your speed in knots relative to the ground and is therefore a good measure of your speed relative to stationary objects. *Calibrated* airspeed is based on the velocity of the air flowing past the plane, and is thus a more accurate measure of the plane's maneuverability from moment to moment.

Mach Readout. Just under the airspeed tape is the mach readout. It measures how fast you are going relative to the speed of sound (Mach 1). Up to a point, the decreased air resistance at high altitude allows faster speeds and higher Mach numbers.

Heading. The heading of the plane is displayed along the bottom of the HUD as a scrolling horizontal tape of numbers in tens of degrees from 0 to 35. (For example, "35" indicates 350 degrees.) Each hash mark is five degrees. The caret (V) over the heading tape indicates the direction of the next selected waypoint. The stationary tick shows your current heading. Note that headings of 0, 90, 180 and 270 degrees correspond to the directions north, east, south and west, respectively. When heading directly for your next waypoint, the caret will be lined up over the stationary tick. If the heading for your next waypoint is not currently on the scale, the caret will hold at the far-left or far-right end of the tape.

Altitude Readouts. The HUD displays two types of altitude measurements: 1) altitude in feet above sea level, and 2) altitude in feet above ground level (the distance between your plane and the terrain you are currently flying over). The altitude readouts are represented by the vertical tape on the right side of the HUD. Each mark on the tape indicates 100 feet. "5.5" indicates 5,500 feet. There is a caret (>) and a long dash mark along the inside of the tape. The caret shows the continuous rise and fall of ground altitude, as determined by radar. The dash indicates altitude above sea level.

Note: Be very careful to watch ground altitude (>), especially when flying over mountains.

G Force Indicators. Look at the two G Force readouts in the upper left corner of the HUD. The upper number is the current G force of the plane. The lower number is the maximum G the plane is capable of. The 9G rating of a clean F-16 will be reduced by external weapon loadouts, drag due to damage or extended landing gear.

Fuel Warning. The word "FUEL" appears in the center of the HUD when the fuel supply of the aircraft reaches critically low levels.

Four-G Pull-Up Warning. The HUD displays an "X" and the words "PULL UP" if the aircraft needs to pull four Gs or more to avoid the ground at any time.

Distance to Waypoint. The distance to the waypoint selected in the Nav Map display (see **Pre-Flight Checklist**, pp. 67) is displayed in nautical miles on the right side of the HUD just under the altitude tape. This distance is prefixed with a "D".

Landing Gear Down Indicator. "GEAR" appears in the upper right corner of the HUD when the landing gear is down.

Flaps Down Indicator. "FLAPS" appears in the upper right corner when the flaps are down.

Brake Indicator. "BRAKE" appears in the upper right corner when the brakes are on. If the F-16 is on the ground, "BRAKE" refers to the wheelbrakes. Otherwise, the Brake indicator refers to the airbrake.

Stall Warning. "STALL" appears in the center of the HUD if the plane is in a stall condition.

Throttle. The throttle setting, ranging from MIL 1 (20% throttle) through AFT 5 (maximum afterburner), is displayed just below the Mach readout on the left side. Select throttle settings with the number keys (1-0; 0 is max. afterburner). To cut the engine, hit [E].

HUD Weapon Modes

The most important function the HUD performs is weapon system management. The F-16 HUD in *Strike Commander* is a very sophisticated "sight" with seven modes: three for air-to-air and four for air-to-ground.

To cycle through the various weapon modes, use the weapon select key (W). (Shift+W) moves you backwards through the list.) The weapon modes include:

- Dogfight (DGFT, for the 20mm cannon)
- Short Range Missile (SRM)
- Medium Range Missiles (MRM)
- Strafe mode (STRF, used for the 20mm cannon and rockets)
- Infrared mode (I-R)
- Continuously Computed Impact Point (CCIP)
- Continuously Computed Release Point (CCRP)

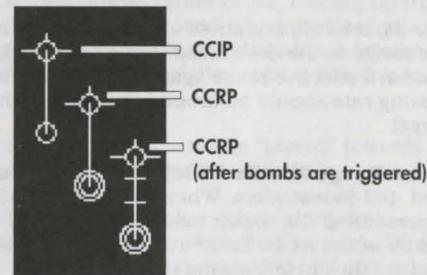
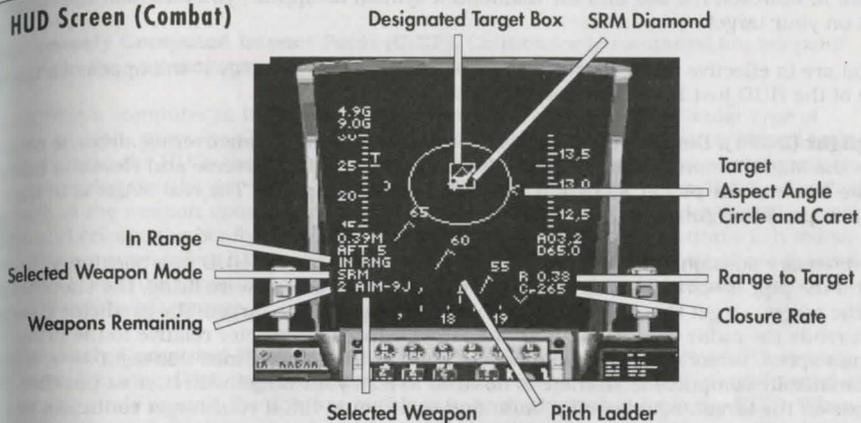
In addition to the weapon modes, you can use [G] to get into ACM (Air Combat Maneuvering) mode. When you activate ACM, your selected weapon will change to the cannon in dogfight mode. ACM mode restricts you to air-to-air weapons only.

Range to Target. The range to the selected target is indicated by an "R" followed by a number. The number is the range in nautical miles. This indicator appears below and to the left of the Distance to Waypoint indicator, on the right side of the HUD.

Closure Rate. The closure rate in knots to the selected target is displayed under the Range to Target indicator on the right side of the HUD. Closure rate is prefixed with a "C".

Selected Weapon Indicator. The name of the current weapon selected with (W) appears in the lower left corner of the HUD, just to the right of the Weapons Remaining indicator (see below). The weapons are: "GBU-15," "AGM-65D," "AIM-9J," "AIM-9M," "AIM-120," "MK82," "MK20," "DURANDAL," "VULCAN," and "LAU3."

HUD Screen (Combat)



Weapons Remaining Indicator. The weapons of the selected type remaining on the plane are displayed just to the left of the Selected Weapon indicator, in the lower left corner of the HUD. Note that the total number of rockets in all pods on the plane is displayed here, rather than the number of rocket pods remaining.

In-Range Indicator. "IN RNG" will appear on the HUD in the lower left corner, just below the Selected Weapon and Weapons Remaining indicators, if your target is in the effective range of the selected weapon. If the selected weapon is a "smart" air-to-ground weapon (GBU-15 or AGM-65D) the "IN RNG" indicator will appear only if the weapon is capable of maneuvering to hit the selected target.

Targeting. When you designate a target (using \square), a box will appear around it. (If you accidentally cycle past a target using \square , \square will reverse your order through the list.) If an "X" is drawn through the box, the target is friendly (transmitting a friendly IFF signal). The designated target moves outside the field of view of the HUD, a "diamond-x" symbol will take the place of the target box. The diamond-x will always be along the edge of the HUD closest to the target. You can turn towards the symbol to line up the target in your sights again. If, however, the box and the diamond-x symbol disappear, you have lost the radar lock on your target.

If you are in effective range for the weapon system selected, "IN RNG" will appear on the left side of the HUD just below the airspeed tape.

Dogfight (DGFT). Dogfight mode allows you to target rapidly maneuvering airborne objects with the M261 20mm Vulcan cannon. The cannon is fixed in traverse and elevation (affixed to the frame of the plane), so to aim it you must turn the plane. The real magic is in the cannon predictor gunsight.

The *predictor gunsight* places the sight reticle (or pippier) on the HUD in a position such that if the pippier were to cross the enemy plane as the cannon were firing, the shells would hit the target. To get this calculation, you must designate the target. The predictor gunsight then reads the radar data to compute the target's speed and vector relative to the firing plane's speed, vector, range and the time of flight of the shells. Since this sight automatically computes lead, there is no need to lead your target with it. Just put the pippier on the target, squeeze off a burst and you should hit, if your target continues in a straight line.

The *sight reticle* is a circle with a dot in the middle. The broad ring around the circle shows the range to the designated target. Each tick mark on the circle indicates 1000 feet. The Vulcan's effective range against aerial targets is about 1 nautical mile (6000 feet). Your closing rate should be around 0, meaning that you are flying at the same speed as your target.

Short Range Missile (SRM). SRM mode is used to aim IR-seeking missiles, like the AIM-9 and -9M Sidewinders. When you select SRM mode, a roving diamond appears on the HUD representing the seeker head of the missile. A Target Aspect Angle circle appears in the center of the HUD. This circle is centered and non-mobile in the HUD. A caret (>) rides around the circle showing the target aspect angle. For example, if the caret is at the bottom of the circle, the target is heading straight away from you. If it is on the right side, the target is headed across your course from right to left.

If you have a sound card installed, you should hear a tone that represents the search mode of the seeker head. The tone will rise and become more rapid if you have a lock. When you

radar-designate a target, the diamond will appear to it as long as the seeker head can retain lock. As soon as the diamond floats inside the targeting square and begins to flash, you can fire. Getting a lock on the frontal aspect of a target with a -9J is nearly impossible, so maneuver behind your target before you shoot.

Medium Range Missile (MRM). MRM mode is used to lock and fire radar-guided missiles like the AIM-120 AMRAAM. The MRM display is like the SRM display (complete with Target Aspect Angle indicator), except that there is no diamond. If you have a radar lock on your target, the AMRAAM has lock. The only difference between aiming a medium range and a short range missile is that the target of a medium range missile will probably be beyond visible range (BVR).

Continuously Computed Impact Point (CCIP). Continuously-computed impact point bombing is the way most aircraft put steel on target these days.

The CCIP is a computer in the cockpit that keeps track of where a particular type of weapon will fall, given the altitude of the plane, its speed and the ballistics of the bomb. Located low in the HUD, the CCIP is represented by a circle with a center dot ("death dot"). A line extends from the dot to the velocity vector symbol ("fall line"). The "fall line" indicates the path of the weapon upon release. All you have to do is to put the "death dot" on the target and release the bombs using the trigger, spacebar or joystick button #1. It works great if the ground is level. The computer only reads your *current* altitude above ground level (AGL), so if the target is not at the same altitude as the ground beneath your plane, the CCIP will be inaccurate.

Continuously Computed Release Point (CCRP). CCRP bombing is like CCIP bombing, only more accurate. With this computer, you use a radar to designate a ground target spot. The aiming circle around the dot is a double line, to distinguish it from the CCIP. When the dot is over the target you want to hit, release the bombs. After you trigger the bombs, you'll see the fall line with a bar across it, which will descend toward another bar coming up from the death dot as you approach the target. Hold the plane steady, and when the lines meet, the bombs will release automatically. Since range to target and target altitude are known with great accuracy, it's hard to miss with CCRP. The elevation of the target is taken into account by the sight.

If you are at positive pitch when the bombs release, the weapons will be "tossed" towards the target. Note that the bars on the fall line come together faster if you climb.

Strafe Mode (STRF). Strafe mode is used to aim gunfire and rocket salvos at ground targets. It is worth noting that gun attacks on ground targets are thought of as something of a last resort by modern pilots. Selecting Strafe mode causes a simple ring and dot reticle to appear in the HUD. The dot inside the ring indicates where the rockets or cannon shells will impact on the ground. There is no radar lock for this sight.

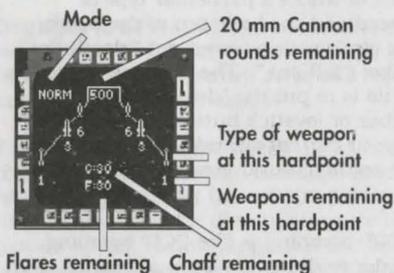
It takes practice to get used to this mode — any pilot who can take out his ground target with rockets and guns instead of GBUs and Mavericks has earned some bragging rights. Aerial targets are a different matter, and any pilot who says he can splash other planes with unguided rockets is either lying or very, very good.

Infrared Mode (I-R). Infrared mode is used to aim Mavericks and GBUs. The target of the missile is covered by a cross hair on the HUD which moves between the ground targets as you cycle through them by pressing **[T]**. When a missile or guided bomb locks on a target, it will retain the lock as long as it can, subject to the plane's maneuvers.

Since Mavericks and guided bombs are not very maneuverable, wait until an in-range message appears on the HUD to launch your weapon. The best attack profile is to fly straight and level at high altitude, designate the target and release the weapon. Be advised that this tactic is suicide against modern air defense installations.

MULTI-FUNCTION DISPLAYS (MFDs)

There are two multi-function display screens in the cockpit. They can both display any of several useful types of information, including air-to-air radar, communication interface, air-to-ground radar, damage display, target view, gun camera, and weapon hardpoint display. If you activate an MFD by mistake, **[Esc]** will cancel the display.

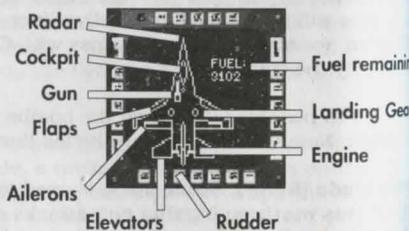


Weapons Display

The Weapons display comes up on the MFD when you select a weapon (**[W]**). The selected weapon will be boxed on the display. The number under each hardpoint indicates the number of weapons left in that position. As weapons are used (or as hardpoints are blown off the plane), they vanish from the MFD. Exception: Rocket pods remain on the MFD unless they are jettisoned.

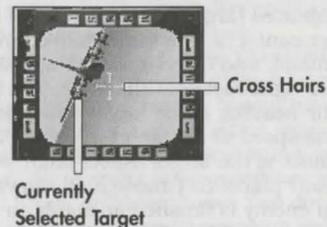
Damage Display

The Damage display gives you an overhead view of your F-16. Destroyed systems are red. Systems which are damaged but not destroyed appear in yellow. Always use this display to check your landing gear for damage before attempting to land. If you can't land, point your bird somewhere safe and eject. The fuel remaining in the plane's tanks (measured in kilograms) is displayed in the upper right corner of the MFD.



Gun Camera View

The Gun Camera View MFD (**[F8]**) shows a view of your currently selected target. It will display a close-up view if you are within 15,000 feet (2 or 3 nm) of the target. It is the only camera view you can use and still read your HUD. The gun camera is particularly useful during combat when used in conjunction with a HUD Weapons display, such as the DGFT mode. It is also very useful in close air support over a contested battlefield where enemy units are intermingled with your own.



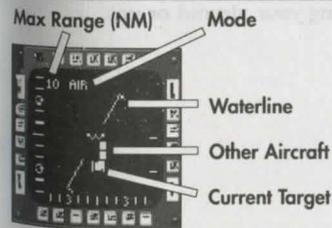
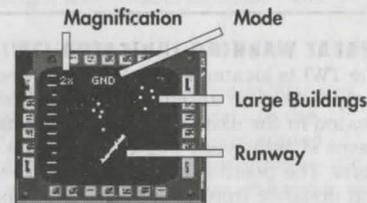
Communication Screen

The Communication Screen MFD serve as the means of radio communication between you and the other characters in *Strike Commander*. To open the communication interface, hit **[C]**. The MFD displays a list of possible channels. One channel gets you the Wildcat base (or strike base), another calls your wingman, and so on. Use the number keys (**[0-9]**) shown next to the channel you want to make the call.

After you select a channel, the MFD will change to list the messages you can send on that channel. Select the message you want to send using the number key corresponding to the number to the left of the desired message. (Note that throttle control is not accessible while the Communication Screen is active, because the number keys are used for both.)

Air-to-Ground Radar

Air-to-ground radar shows objects (including runways) on the ground, unless they are blocked by terrain. As you get closer to the objects shown on the screen, they will get closer to the bottom of the screen. The number at the top of this display is the scale of the view. You can zoom in from normal view, through 2x, 4x, 8x and 16x steps, to a 32x magnification, using **[L]** (larger) and **[R]** (smaller).



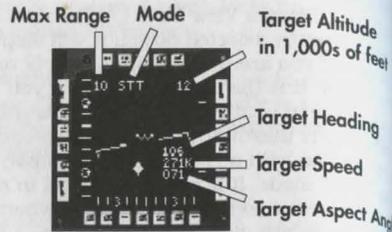
Air-to-Air Radar

Multiple Target Tracking Mode. The default mode for air-to-air radar is Multiple Target Tracking mode. All targets are displayed as square blips. The closer the blips are to the bottom of the screen, the closer they are to you.

Targeting Mode. When you select a target, it is designated on the Radar MFD by brackets.

Single Target Tracking Mode (STT mode).

This mode displays more information about the designated target at the expense of losing all other contacts. The target blip changes into a diamond, and three numbers appear in the lower right corner of the MFD. The top number is the heading of the target. The middle number is the speed of the target in knots. The bottom number is the target aspect angle with respect to your plane. STT mode also allows you to see if an enemy is finished or not. If an opponent is gone for good, his diamond in STT mode will turn into an outline.



The air-to-air radar can operate in four scales: 80, 40, 20 and 10 nautical miles. Zoom in and out using (larger range) and (smaller range). The current scale is displayed at the top of the MFD. The center of the MFD is a pair of lines separated by a "W" (see diagram). These lines are called the watermark and indicate the roll of the plane.

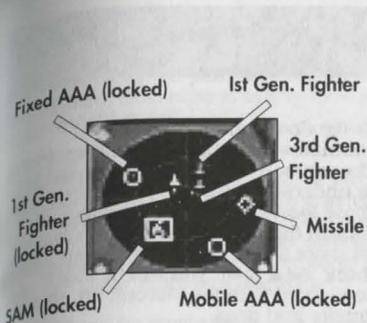
Enabling the "smart" radar function in the option screen interface (see **Option Screens**) lets the radar discriminate between friendly, neutral and enemy contacts. Neutral contacts appear as circular blips, enemies are squares and friendlies are triangles. Shot-down contacts appear as outlines of circles, squares or triangles.

The 360-degree scan mode in the option screen interface lets the radar scan all contacts around you. In this mode, the closer the contact is to the center of the screen, the closer it is to your plane.

THREAT WARNING INDICATOR (TWI, OR RAW SCOPE)

The TWI is located to the left of and below the HUD. It is a passive radar emission receiver composed of an antennae network and computer-enhanced signal analysis equipment, located in the skin of the plane. It determines the direction, intensity and type of radar waves striking your plane at all times. It then displays this information in the form of icons. The position of the icons on the display correlates with the hostile radar's direction and distance from your plane. The icons will "rotate" around the display when you turn.

If you set the RAW scope in "smart" mode using the option screens (see **Option Screens**), all radar emitters will be displayed, whether they are facing your aircraft or not.



Aerial Threats

The TWI also shows rough distance. As a rule, if you can see it on your threat display you can turn towards it and see it on the radar. Triangles represent enemy planes. There will be one to three dots along the base of the triangle; the number of dots indicates the "generation" of the fighter whose radar is illuminating your plane. Primitive radars, or first generation, will have one dot. There aren't many primitives still flying in 2011, but you never know. Two dots in the triangle indicate a second generation radar. The most advanced radars are represented by three dots. Air-to-air missiles (and radar-guided SAMs) are represented by a diamond.

Ground Threats

Ground-based missile radar is represented as a square with a number inside it. The number denotes the numerical designation of the SAM most commonly associated with it. For example, an SA-6 radar will show up as a little square with a "6" in it. Gun radar is represented by a circle. A dot in the circle indicates a fixed AAA; a circle without a dot means a mobile AAA gun is down there.

Remember, while airborne radar will be located on a plane, ground-based radar can be remote from the weapons it operates.

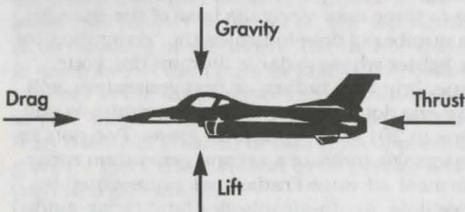
Regardless of the icon's shape, if it suddenly glows brightly, the radar in question has switched from acquisition mode to tracking mode. A bright icon means a hostile radar is tracking you!

RADAR AND IR MISSILE WARNING LIGHTS

The Radar and IR Missile Warning lights are located just above the TWI (Threat Warning indicator) in the cockpit. When a missile is tracking you, the light appropriate to the missile's guidance system will come on. The red (right) light indicates a radar-guided missile has locked on to you, while the yellow (left) light denotes an IR-guided threat. (IR recognition technology was developed in 2004.) As missiles get closer to you, the radar and IR warning lights blink faster.

FLIGHT

AERODYNAMICS



Strike Commander accurately simulates real atmospheric conditions. Therefore, it will be to your advantage to understand the physics of airplanes: those forces that produce, affect and control flight. Don't worry, you know a lot more about physics than you might think. As a pilot, you will be most concerned with four forces: lift, thrust, gravity and drag.

Lift

Lift is the force produced by the airflow over and under the wings. In level flight, lift opposes gravity and takes the plane off the ground. (If the plane is flying upside down, lift pushes the plane *towards* the ground!) The faster the plane is moving, the faster the airflow and the greater the lift. At high altitudes, lift decreases because the air is thinner and less flows over the wing at any speed. Larger wings produce more lift, but also cause more drag.

Thrust

Thrust is the force exerted by the engines of the plane. The plane's thrust divided by its weight yields the thrust-to-weight ratio. If thrust-to-weight is greater than 1, the aircraft can accelerate straight up.

Gravity

Gravity is a constant force that pulls the aircraft towards the ground. It is usually countered by lift. If you're flying straight and level, gravity and lift are in balance.

Drag

Drag is the force that results from moving an object against the friction of the air. It is the force opposing thrust, just as gravity is the force opposing lift. The balance between a plane's thrust and its drag determines its top speed. Like lift, drag decreases at high altitude because the air is thinner. Planes with large wings and high lift tend to have more surface area and thus encounter more drag. A large wing also produces more drag in a bank than a small one, so planes with large wing areas tend to bleed off speed in banking turns more quickly. Air-to-ground weapons, deployed landing gear and airbrakes all cause more drag and slow the plane down.

Realistic Flight

This option at the FLIGHT Option Screen is active only when you are flying an F-16. (It can be toggled on when you're flying the F22, but it will not affect that plane's flight.) REALISTIC mode, as its name suggests, applies more realistic flight dynamics than in the game's normal mode. It decreases thrust at every level by 20%, and increases wing drag by 20%. The result is that you cannot fly as fast, especially when pulling a turn.

PITCH, YAW AND ROLL

Aircraft can maneuver in three different ways: pitch, yaw and roll.

Pitch. If the plane is flying with wings parallel to the ground, pitching means moving the nose of the plane up or down by pushing the control stick (joystick) forward or pulling it back.

Yaw is moving the nose side to side by using the rudder keys (□, □).

Roll is spinning the plane around an imaginary line running from nose to tail by moving the joystick right or left.

G FORCE

A "G" is a measurement of pull, or force, equal to the force exerted by the Earth's gravity on a stationary object at sea level. If the pull on your body suddenly became twice as strong, you would be experiencing two Gs. Fighter pilots routinely take five Gs or more in a dogfight.

G forces can be divided into two types: positive and negative. Positive Gs pull you relatively downward, and negative Gs pull you relatively upward. When you are upside down, your relative up is pointed toward the ground, and the Earth's gravity is pulling you with 1 negative G.

When you experience positive Gs, you feel like you are getting heavier. This effect is caused by banking or climbing sharply or by ejecting from the plane. At several positive Gs, the force pulls blood away from your brain and optic nerves, causing loss of color vision (grayout) and eventually blackout. In *Strike Commander*, too many positive Gs turns the screen monochrome, and then black if you continue to add Gs.

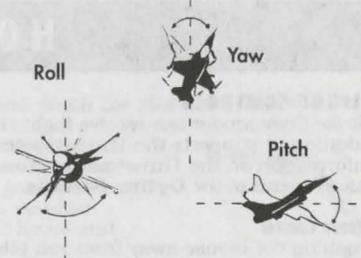
Negative Gs have the opposite effect, making you feel lighter, and forcing blood into your head and the capillaries of the retina in the eye. The elevated blood pressure causes your capillaries to swell and/or burst. This results in a reddening of the vision called "redout" by pilots. In *Strike Commander*, too many negative Gs turns the screen red.

An adult human can take 8 to 9 positive or 2 to 3 negative Gs for a few seconds with no permanent damage. Five positive Gs is bearable for a couple of minutes. The ejection seat of the F-16 generates around 30 Gs, but only for a fraction of a second. Because of the difference in tolerance between positive and negative Gs, most pilots prefer maneuvers that induce positive Gs, like climbs and inverted dives.

PRE-FLIGHT CHECKLIST

Get in the habit of always performing a pre-flight check. The more choices you make now, the fewer you will have to deal with when the bandits are swarming.

- Verify your weapons loadout.
- Choose a weapon targeting mode on your HUD (W).
- Choose and activate your camera views.
- Flaps on. Brakes off.
- Set your air or ground radar to an appropriate range scale.
- Check your Nav Map (N). Find the target area and figure which heading will take you there. Locate any mountain ranges you could use to screen your approach to the target. Use the arrow keys to switch the destination of the autopilot. The current destination will appear in white text on the map, while the other areas will be in green.
- Compute fuel for return trip. The best way to compute the amount of fuel available for a mission is to subtract 10% from your beginning fuel load and divide the remainder by two. For example, if you have 1000 kg of fuel at the start of a mission, subtract 100 kg (10%) and divide the remainder (900 kg) by two, yielding 450 kg. Fix that number in your mind. Check your fuel level periodically during the mission and turn for home when you reach the "bingo" point. The 10% emergency reserve will become critical if you miss the landing approach, or if you have to hit the afterburner one last time to disengage from combat.
- Set up option screens (see **Option Screens**).



HOW TO FLY

FLIGHT CONTROLS

Strike Commander can receive flight control input from a mouse, keyboard or joystick. In addition, it supports the Thrustmaster flight control interface. See **Trouble Shooting** for more information on the Thrustmaster. You can select the flight control device of your choice in the FLIGHT menu of the **Option Screens**.

Mouse Control

Pushing the mouse away from you pitches the plane down, and pulling it toward you pulls the nose up. Moving it left or right banks the plane left or right. The left mouse button fires the selected weapon. If the mouse has only one button, it fires the selected weapon.

Keyboard Control

The arrow keys (either on the number pad or the main keyboard) control pitch and roll. ↑ pitches the plane up, and ↓ points the nose down. ← and → roll the plane left and right.

Joystick Control

A joystick is the suggested flight control interface for *Strike Commander*. Pulling the stick back (towards you) points the nose of the plane up, and pushing it forward (away from you) points it down. Moving the stick left or right rolls the plane left or right.

Rudder

← and → control the rudder, and thus the yaw of the plane.

Activating RUDDER (FLIGHT option screen) allows you to use rudder pedals or a second joystick to turn your fighter, rather than the ← or → keys. (A second joystick can only affect flight with left or right movements.) Note that you cannot use more than one active gameport, but you can use a Y-splitter.

Throttle

The number keys control the engine throttle setting. 1 represents 20% thrust from the engine, 5 is 100% military power (full power without afterburner), 6 through 0 are afterburner settings. For example, 6 is full military power plus 20% afterburner. Bring up the Damage MFD (D) and set the throttle at 5. Observe the fuel readout in the upper right corner of the MFD. Now punch up full afterburner. Note how the rate of fuel consumption goes up. If you stay on 'burner all the time, you'll run out of fuel before you complete your mission.

Flightstick Pro (FS Pro)

If you select the FS PRO PANNING CONTROL OPTION in the FLIGHT Option Screen, the coolie hat on your FS Pro will control cockpit panning. Selecting FS PRO CONTROL will enable the extra buttons on your FS Pro.

MANEUVERS

Taking Off

Put your flaps down (F), put the brakes on (B), and punch up full afterburner (0). When your plane starts to move, release the brakes and taxi. When your speed indicates 115-125 knots, the velocity vector on the HUD will rise above the zero pitch line. (This is called *rotation*.)

... pull back slightly on the stick to get into a nice steady pitch angle, raise the landing gear, retract the flaps, and there you are. Don't try to climb too fast. A stall here would be lethal. Throttle back unless you have somewhere to go immediately; the afterburner consumes fuel at 12 times the normal rate.

... you can use the auto takeoff feature by hitting [A]. Relax and watch the plane leap into the air.

Climb
To climb, pull back on the stick. If you're travelling too fast when you start the climb, you can pull too many Gs and experience grayout. If your airspeed is too slow and your pitch angle is too great, you can stall. In an optimal climb, your speed should be about 450 knots and your pitch no greater than 35 degrees.

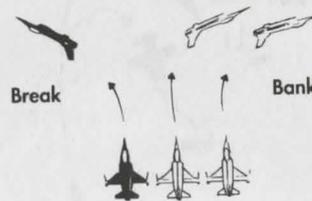
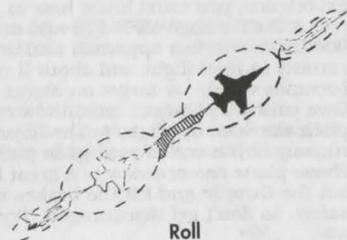
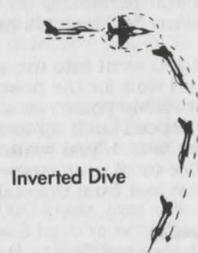
Dive
Coming over into a dive from level flight at combat speeds often results in too many negative Gs and subsequent redout. Since your rate and angle of dive are restricted by negative Gs, it is often better to do an inverted dive. Roll your plane 180 degrees so that your cockpit is facing the ground and pull back on the stick. This maneuver allows you to dive toward the ground, yet pull positive Gs.

Rudder
The rudder is most often used when you want to keep wings level and would rather not roll into a bank (see below). Good times to use the rudder are on final approach to landing, or to fine tune a precision attack run.

Roll
A roll is the simplest maneuver of all; you'll do it without realizing it after a while. With the plane flying straight and level, move the stick to the right or left all the way. The plane will spin around its long axis. Try not to depend on the ground to gauge your position — use the HUD. Now try to roll more slowly and stop the roll at some point, like at 90 degrees (one wing pointed straight up, the other straight down). Rolls are important because you can pull out of a roll in any direction, to shake an opponent.

Bank
A bank is a roll to the left or right, then pulling back on the stick to change your heading. Most turns in a dogfight are banking turns, since you can use the lift of the wings and their larger ailerons to come around faster than a rudder turn.

Stall
Every aircraft has a critical angle of attack. If you exceed the critical angle, your wings will no longer produce lift (due to turbulence), and the control surfaces will not have enough airflow across them to function. You will begin to fall. This condition is called a stall. You have no control of the attitude of the aircraft in a stall, so in combat, stalling is tantamount to suicide. Your plane will hang there, out of control, as the enemy blasts it apart. If you are too close to the ground, you can't fall far enough to get your airspeed back, and you'll catch hill disease.



Common maneuvers that can trigger a stall include tight turns that lose too much velocity, loops with insufficient airspeed, take offs and landings. The slower you are flying, the more likely you are to stall.

Recovering From a Stall. If you stall too close to the ground, eject. How close is too close? That depends on how you got into the stall and how good a pilot you are. If you decide to ride it out, remember the controls will be sluggish from the low indicated airspeed. Once you drop below 500 feet, it's time to think about punching out. Just don't think too long.

If you went into the stall in a high nose-up attitude (pointing at the sky), cut the engine (Ⓜ) and wait for the nose of the plane to swing back in line with the velocity vector. This will probably point you straight at the ground. Punch up full afterburner (Ⓚ) and bring your airspeed back up to around 120 to 150 knots. Now pull the stick back slowly to come out of the dive. If you went into the stall pointing roughly at the ground, just keep the engine on and dive until your airspeed comes back up, then pull out and start recovering the altitude you just lost from the stall.

Landing

The easiest way to land is to use the Auto-Landing function. Simply get back to your base area and hit (A). But that isn't much of a challenge, and if you want the full *Strike Commander* experience, you must know how to perform a manual landing you can walk away from. First, check the Damage MFD (Ⓛ) and make sure the landing gear are intact. It's embarrassing to line up the perfect approach and not have any landing gear left. You have to line up with the runway in level flight and about 2 nautical miles out. Try to be lined up when the runway just becomes visible, or target an object at the near end of the runway to get an exact readout. Give yourself plenty of room. Now cut back the engine power and pull back on the stick to pitch the nose up slightly. The object is to lose altitude at a rate which will put you on the runway at the end of your glide path and not in it. As your wheels are about to touch (the chase plane camera view is a great help to landing technique), pull the nose up a little more, cut the throttle and hit the brakes when you touch down. It takes a lot of practice to land safely, so don't get discouraged. Try it in the Training Mission area until you get it right.

AIR COMBAT TACTICS

BASIC FIGHTER MANEUVERS (BFM)

Basic Fighter Maneuvers are the fundamental moves that trade speed and altitude for relative aircraft position. You will be flying in either a defensive mode or an offensive mode. Your offensive goal is to maneuver behind your opponent and take a shot. Your defensive goal is to prevent him from getting behind you and/or move out of his firing range.

Always remember the cardinal rule of air combat: Speed is Life. All maneuvers cost you either speed or altitude, sometimes both. If you use up too much speed in a maneuver, you lose the chance to exploit any positional advantage you gained by the maneuver, as well as the option to disengage quickly if your opponent outguesses you.

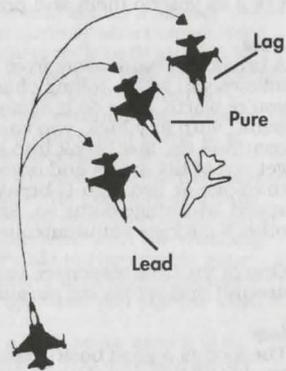
Too much speed can be equally lethal. If your closure rate is much over 1000 knots, you will almost never be able to turn in time to establish a pursuit situation. You will have to settle for another head-on pass after you both get turned around. In general, faster than 500 knots is not prudent on the initial approach unless you want to get in one fast pass and run away.

If you are closing too fast in pursuit of another fighter, you could overshoot the target. An overshoot is very bad because it leaves you at close range with the enemy in a perfect position for a gun shot.

This section tells you *how* to perform the maneuvers, but perfect *timing* requires practice, experience and an ability to judge relative high speed motion. The best aces develop timing by learning to execute the maneuvers flawlessly, recognizing them quickly and by surviving ... and so will you.

Combat Geometry

Lag Pursuit, Lead Pursuit, Pure Pursuit. Air combat is most concerned with predicting the enemy's future position. Early in your approach, you need to make some predictions about your enemy and some critical decisions about how to pursue him. "Early" means just before you reach maximum weapons range. BFM training defines *pursuit* as where the nose of your plane is pointed in relation to the enemy. *Pure pursuit* occurs when your plane is pointing directly at the opponent. Even though you may be in front of the enemy, if your plane is pointing at him, you are in *pursuit*. If the nose of your plane points behind the enemy, you are in *lag pursuit*. Use lag pursuit if you want to end up behind your opponent. If your nose is pointing in front of the enemy, you are in *lead pursuit*. Use lead pursuit for gun passes and closing the range on your enemy.



Turn Radius. The F-16 has the best maneuverability of any plane in the game except the F-22. Airspeed of 450 knots allows the smallest turn radius, an important advantage during dogfights. The F-16 also loses less speed in a turn than many of the other planes in the world.

Target Aspect Angle. Target aspect angle is measured from the tip of your aircraft to the tail of your enemy. This angle tells how many degrees you are from being lined up behind the target.

The deflection. The deflection of a shot is the amount of lead you must use to hit your target with a dumb projectile. Deflection is usually measured in degrees. The higher the deflection angle, the more difficult it is to hit your target.

By definition, all gun shots are taken from the lead pursuit attitude. This means the nose of your aircraft is pointing at the future position of the target. In lag pursuit, on the other hand, your nose is pointing behind the current position of the target, ensuring that a gun shot will not hit its target. If your current maneuver depends upon holding lag pursuit, don't use the gun. Conversely, if you're the one being fired upon, it might be time to pull a hard break away from the enemy to give him a high deflection shot and spoil his aim.

Required deflection angle is calculated automatically by the radar driven predictor gunsight on the F-16, but you need to be aware of the pursuit angle changes the sight will impose when you use it.

DOGFIGHT MANEUVERS

You must enter every dogfight with the confidence that you will survive it. Your primary objective is to position your plane directly behind your opponent and stay there long enough to blow him away. Get to know these basic maneuvers and corresponding counter-maneuvers so well they are second nature. Be in tune with your opponent to the extent that you can accurately guess his future position. Choose a maneuver but be flexible, ready to modify it as your opponent tries to foil your setup. Remember, the enemy is reacting to your moves with the same focus and skill that you are reacting to his.

If you have trouble executing any of the dogfight maneuvers, switch to External Camera view (F6) as you do them and practice making them look similar to the diagrams.

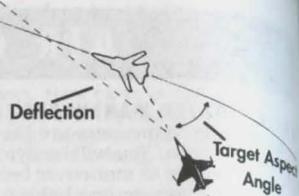
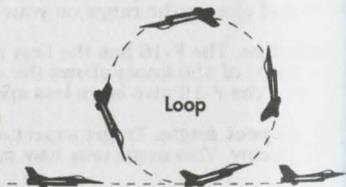
Break

A break is a bank away from another plane's bank (see diagram on page 35). If an opponent follows you into a rolling chase, wait until his plane is rolled opposite yours and pull for all you're worth. Now do it again in the opposite direction as you see him follow you into the first bank. With any luck, you can put enough distance between your aircraft and his that you can continue the last break into a full turn and use the F-16's superb turning characteristics to get out of his sights and onto his tail. Just remember: Speed is life! If you have to pull more than one or two high-G breaks to get the guy off your tail, you've probably used up all your speed advantage doing so. An *opposition break* occurs when two planes break across each other's courses simultaneously in order to separate quickly.

One of the best responses to an opponent's break is the lag roll. Alternatively, follow the break around and set up lag pursuit. Try for a missile or gun snapshot.

Loop

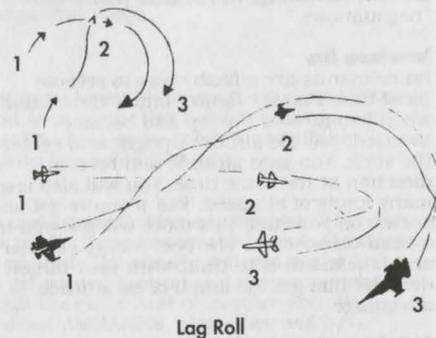
The loop is a good basic maneuver to master, because it tends to be a part of more complicated maneuvers. It is a climb or dive held until you circle back to where you started. An inside loop keeps the canopy of the aircraft on the inside of the loop, and an outside loop puts it on the outside. Since vertical loops cost so much speed, they are rare in dogfights. However, many maneuvers begin with partial loops. If nothing else, mastering the loop prepares a pilot for the disorientation and big G forces of inverted flight at high speed.



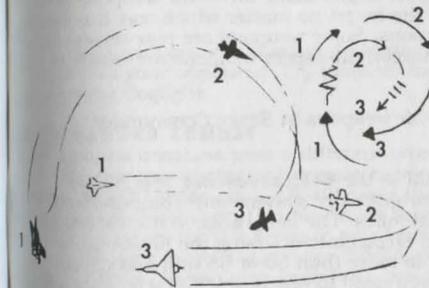
Lag Roll

The lag roll is a maneuver best used when your opponent goes into a hard break and you are in danger of overshooting. It reduces closure speed and puts your plane above and slightly behind the enemy in position for a high deflection gun or missile shot. Pull the nose up slightly, moving away from the direction of the break. As you do this you will lose sight of the enemy momentarily. Don't worry. When you roll all the way over so the top of your HUD is aligned with the enemy, pull down towards him. You should have bled off enough airspeed that you will no longer be in danger of overshooting, and your inverted position above and out of the geometric plane of the target should give you a visual fix on him. If you lose your target or can't find him below you, roll upright and look up. There's only one place he can be, and odds are he will be lining up a missile or gun shot.

The proper response to the lag roll is to climb over the rolling attacker and/or loop to get a decisive shot.



High Yo-Yo



High Yo-Yo

The high yo-yo is a maneuver designed to decrease closure rate and set up a strong shooting position for guns or short range, rear aspect missiles. It starts with both aircraft in the same geometric plane, and with your enemy banking hard across your course. Instead of turning with the enemy, establish lag pursuit and pull your nose up and out of plane in a climbing bank in the direction of your opponent's bank. At the mid-point of the turn, when you see you have the position, point the nose down and dive-turn onto your opponent's tail. Since you bled airspeed with the climbing bank, you should be able to turn inside your enemy and end up above and slightly behind him with a better angle than you started with.

A good escape from a high yo-yo attack is to reverse your bank as your attacker hits the apex of his climbing turn. If you dive slightly as you do this you won't lose too much airspeed, and your enemy will be at his slowest.

Low Yo-Yo

A low yo-yo is the opposite of a high yo-yo. Where the high yo-yo seeks to decrease closure rate, the low increases it. Where the high is executed at close range, the low is performed further out. The target aspect is the same: about 90 degrees across your course. From a lead pursuit position at moderate range in the plane of the target, roll into his bank and dive slightly to keep your speed. If you can establish enough excess lead angle to allow it, climb back to the target's geometric plane. You can get low deflection, short range shots with this maneuver if you time it right. The key is having sufficient excess lead angle at the bottom of the diving bank.

entering the low yo-yo involves reversing your bank when the attacker starts his dive. If you reverse and climb, you'll have a huge altitude advantage in the next phase of "negotiations."

Immelmann Turn

Immelmanns are a flashy way to reverse direction. Pull the fighter into a climb, and when you go over the top and become inverted, roll the aircraft upright and center the stick. You gain altitude and reverse direction at the same time. You will also lose many knots of airspeed. But if you've got an enemy on your tail, this move will put you in a head-on position. The best way to counter an Immelmann is to climb with your target; don't let him get too much of an altitude advantage.

AIR-TO-AIR TARGETING

The primary objective of air combat is to shoot down your enemy with as little risk to yourself as possible. Your weapon choices for air-to-air combat are medium-range AIM-120 AMRAAMs and short-range AIM-9J and -9M Sidewinders. Your primary concerns when launching missiles are: the speed you are travelling, the speed of the target and the target aspect angle. Some air-to-air weapons are classified as "all aspect," meaning they can engage the target no matter which way it is headed relative to you. Guns are considered all-aspect weapons. Some weapons are rear-aspect-only, meaning that you must fire them from behind the target. All-aspect weapons are easier to use, and are usually more expensive.

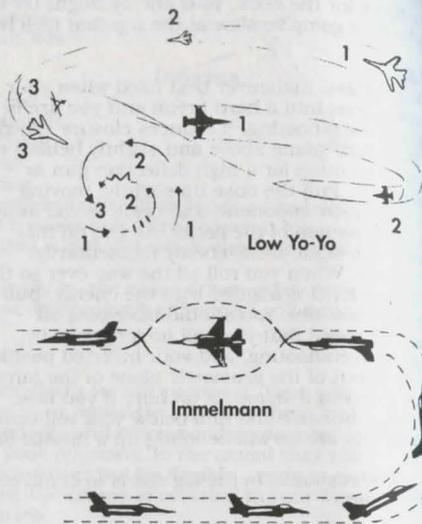
The section below is a "how to" guide for the air-to-air weapons in *Strike Commander*.

Medium Range

The AIM-120 AMRAAM is the only radar-guided AAM in the Wildcat arsenal. It is highly maneuverable, has a very accurate semi-active radar guidance system with computerized target discrimination and a range of 2 to 40 nautical miles. The long range of the AMRAAM make it ideally suited for BVR (beyond visual range) engagements. Using the AMRAAM is simple: Launch at the furthest range possible (but no more than 30 or 35 nm) and climb slowly toward your target. If the AMRAAM misses, you need to put yourself in a good position for the ensuing close range fight. You could also launch and turn around in order to assess the effects of the weapon while keeping the enemy at arm's length.

Short Range

The AIM-9J and -9M Sidewinders are short ranged infrared homing missiles built for use in dogfights. The -9J is a rear-aspect-only weapon. The seeker head has to lock on the engine heat of the target, so you have to get the position advantage on your target in order to get a solid lock. The -9J is also vulnerable to distraction by flares and even the sun. The -9M is an all-aspect weapon, so you can take frontal shots with it. It will not lock on the sun (having a more sensitive seeker head) and is less prone to mistake a flare for a plane. The problem with both missiles is that there is no way to ensure they will go after the target they were launched at if there is another viable heat source (another plane) in their view cone. Be advised that firing a Sidewinder close to a friendly plane is risky.



Guns
The F-16 comes equipped with the M61A1 20mm Vulcan cannon. It will serve you well in the heat of a chaotic dogfight. It fires 100 20mm shells every second. One in five of these rounds is a tracer, so you can see where the fire is going. The range of this weapon is only about 4000 feet, but its enormous rate of fire makes it lethal within that range.

AIR-TO-AIR EVASION

No matter how good you get, eventually somebody is going to get on your six and hang there like a rabid pit bull. The plane you fly is valuable and so are you. You have to know how to prioritize and evade threats at all ranges. Remember: You have to be ready for anything, because you will not know what the other guy has until he shoots it at you.

Long Range

A long-range missile such as the AMRAAM depends upon maintaining a radar lock. Therefore, your job is to make the missile lose the lock on your plane. If you detect the launch at extreme range (35+ nm), the simplest thing to try is turning around. The missile will run out of fuel before it can catch you. Closer in, you should try to get turned around and drop some chaff. When break hard so the missile doesn't just fly through the cloud and re-acquire you. Very close in you probably don't need to worry so much about AMRAAMs, since they will have trouble turning to hit you inside of 2 nautical miles or so.

Short Range

You have a bit less time to evade the short-range Sidewinders. The -9J is not nearly as accurate as the -9M, and if you can draw it into the sun you can shake it. It's pretty hopeless to try and shake either of these missiles with maneuver. But since both are IR homing, you can try to divert them by releasing flares, cutting the afterburner and breaking, or by flying close by another aircraft and passing them — an enemy aircraft, unless you want to run out of friends.

Guns

Since guns work best with a small deflection angle, maintain a relative angle of greater than 45 degrees to your opponent. Try to minimize exposure to your underside and top side as you engage in the dogfight.

AIR-TO-GROUND COMBAT

Ground attack missions pose a different type of problem: target acquisition at high attack speed. The eye can distinguish a main battle tank at around a mile in full daylight, 100% visibility. At 450 knots, an F-16 will cover that distance in ten seconds. You will be within range for everything except bombs in six seconds. You will have that time to see the target, select it (or line up the dot if you're on a bombing run), maneuver and take the shot. Many attack runs are executed at greater than 450 knots to minimize exposure to enemy anti-aircraft systems, so you may have even less time.

IR-Guided Weapons

The AGM-65D Maverick and the GBU-15 are guided by an imaging infrared seeker. These are two of the most expensive weapons you can buy, so an accurate approach and delivery technique is critical.

Get a radar lock on your target (use **T**). Approach low, flying straight and level, at an approximate altitude of 300 feet. At 1 or 2 miles from your target, begin climbing above 500 feet while maintaining speed. Launch when the crosshair drifts over the target and the "IN RNG" note pops



up in the HUD. Extend into a hard break and hit the afterburners. Check your rear hemisphere for missiles and drop decoys if you're being pursued. Remember that the Maverick and the GBU-15 have very little maneuverability and their true range is determined by the speed and altitude you are flying at when you launch them.

Cannon and Rocket Pods

Use the Strafing mode gun sight. Fly low (below 500 feet) and level. The most dangerous aspect of cannon fire is the close range at which you can effectively hit your target. At 6000 rounds per minute, you can deplete your ammunition quickly, so experienced pilots will shoot in short bursts, saving the continuous "walking" fire for when you're directly over your target and about to pull up. Do not get fixated on your target. If you didn't hit your target, it'll just have to wait until your next pass.

Rocket pods work the same way, but they have more than twice the range of the gun, so you can open fire sooner. As always, try to avoid flying over the target. This will be nearly impossible with a gun attack, but you might have time to break off after a rocket attack.

Bombs

You can use the CCRP or the CCIP. The CCRP is best in hilly country because it takes target altitude into account. Many pilots prefer the simplicity of the CCIP, and it's a fine sight if the ground is relatively level. After all, if you wanted to put it through a window, you'd have used a GBU-15, right? With a stick of 500-pound bombs, you just have to get close.

Approach the target from as high an altitude as you can, given the air defense situation. It's easier to line up for a bombing run if you don't have to worry about contracting hill disease. Usually, around 500 feet is the bare minimum. If you have to come in lower, you may have trouble acquiring the target in time to attack effectively. Get roughly lined up by banking and make the fine adjustments with the rudder. Put the dot on the target and trigger the bombs. If you use the CCRP, you'll have to stay on target for a few more seconds until the bombs release, and you should pull up steadily until they do, using the flight path of the plane to "toss" the bombs at the target. After release, turn away and try to leave the target area the same way you came in. There might be SAMs or AAA on the other side of the objective. Try not to drop your whole load on the first pass. Even the good bombers miss every now and then. Use half and come around for another pass if you have to. Durandals work the same way, but their natural prey is a runway or landing strip. On a Durandal run, try to come in at a slight angle across the strip, since if you try to line up directly down it, you will miss with everything if you are even a little off center. You have to fly over the target with Durandals, because of the way they fall.

GROUNDFIRE EVASION

You will face two kinds of AA in *Strike Commander*: Missiles and guns.

Missiles. Countering SAMs is almost like evading AMRAAMs. They are radar guided weapons and should be chaffed and/or turned away from. The best way to handle them is to kill the launcher (Mavericks are good for this). The SAMs in the game tend to be a little slower than the AMRAAM, but that means that even though they may not catch you quite as fast, they turn better. They also carry huge warheads, so ditch them if at all possible.

Guns. High speed and altitude are the keys to evading AAA. If you have to stay low, kill them outside their range with a Maverick. Failing that, try to keep hills between you and them. Failing that, they will cut you apart quickly.

PRACTICE MISSIONS

If you want to get in a little practice maneuvering, dogfighting, and bombing without the added pressure of managing a fighter squadron, here are some good practice missions to get you in the air on your own. Soloing is a special event in a pilot's career. It's the first time you have the sky all to yourself, with nobody around to blame if things go wrong and nobody looking over your shoulder. There's no reason to be too hard on yourself at first. Follow the advice given below and go easy.

Note that these missions all begin with you in the air, at the beginning of the engagement. If you want to practice take offs or landings here, find a runway away from the combat.

From the startup menu, select TRAINING MISSION.

TRAINING MISSION 1

Choose a dogfight engagement. To start with, select a group of less maneuverable targets who won't shoot back: perhaps two or three C-130s, Lear jets, or AWACS. When you've chosen a small number of one of these plane types, select ENOUGH, select an altitude — probably 25,000 feet, to give you more maneuvering room — and continue with the weapon loading screen.

When the weapon screen comes up, load your plane with air-to-air weapons. A good practice load would be 4 AIM-9Js and a full gun load. Click twice on the AIM-9J (to the left of your screen) with your left mouse button. You will see the missiles appear on your wingtips and under-wing light hardpoints. Your plane already has loaded guns, so click on the cockpit to put your plane at the beginning of the engagement.

G Force. Practice flying past the target, then bank hard and come back at it quickly. Watch the Gs. Pull enough to begin blacking out, then back off. Note how fast you were going and stay just below that speed during combat. Remember, you can survive several times more positive Gs than you can negative.

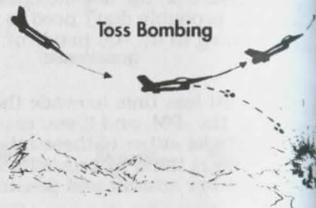
Maneuvering. Roll the plane in the direction you want to go and pull back on the stick to lead that way. Now, drop in behind the target and try to match speeds. It's tough isn't it? Hang in there!

Pursuit. Try using the air brakes and flaps to increase drag and dump speed. Once you have a feel for how fast your enemy is going, you can match speeds with him and hang on his tail until he makes a mistake.

Select Weapon. Select a Sidewinder-9J (W). Your best offense is rear-aspect missiles. After mastering these cruder -9J missiles, using the newer, more sophisticated ones will be a breeze.

Radar Lock. Press (T) to get a radar lock on your target. Shoot him, then shoot him again for good measure, since the AIM-9Js warhead is quite small and probably won't kill a big plane in one shot.

Select New Weapon. Now switch to guns (W) and press (T) again to select the next target. Be sure your target is in range before firing. Compared to other plane-mounted cannons, the Vulcan has the highest rate of fire but only a very short range. Within 3500 feet you can expect hits, and within 2000 feet, you can expect kills. Try not to hose the gun around. It fires 100 rounds per second, and you only have 500 rounds on board. Winning a dogfight with guns these days is one of the most demanding things a pilot can do.



TRAINING MISSION 2

Now it's time for a one-on-one dogfight. After splashing the C-130 a few times, replace the cargo plane targets with a single opponent. From the startup screen, choose DOGFIGHT, 1, a fighter type (probably either a MiG-21 or Mirage 2000 to start with), and any altitude.

If you're looking for an easy start, give yourself a pair of AMRAAMs or maybe Sidewinder -Ms instead of -Js on your light hardpoints in addition to your wingtip Sidewinders.

Put yourself in a head-to-head engagement and blow him up, if you can. Try not to give up too much speed or altitude as you execute some basic maneuvers. Maintain an optimal maneuverability speed of 450 knots indicated airspeed. If you can hold that speed at all times, while maneuvering offensively and defensively, you will probably get him. The F-16 has one of the best thrust to weight ratios of any plane in the world. Use it! You can fly straight up if you need to. You can turn with and inside of any aircraft in the world. Look at the aircraft stats in the back of this book and be very aware of which aircraft you can run away from. The F-16 is one of the best dogfighters in the world, but the top speed isn't that hot. An F-15, Su-27 or even a MiG-21 can chase you down without too much trouble.

TRAINING MISSION 3

In this mission, you familiarize yourself with basic ground attack techniques against various targets.

Choose SEARCH-AND-DESTROY from the training mission screen. When you are given the opportunity to load your plane, choose a full load (4) of rocket pods on your medium hardpoints and a full load (12) of Mk82s on your heavy hardpoints.

When you start out, bring up your nav map, select Halverston, and autopilot there. Make a quick pass over the city, looking for a skyscraper to level. When you've selected a likely target, head out about 6 to 8 nautical miles, turn around, adjust your altitude to between 1000 and 2000 feet, and head for your target. Try setting your weapons to Mk82 in CCIP mode at first, to practice precision bombing.

As you approach, you should be in a shallow dive — about 10 degrees. Keep your speed moderate, (about 400 knots true) and use your rudder to make final course corrections as you approach your target. Let the pipper line up on your target, watch for the In Range indicator light and pull the trigger — once. If your weapon camera is turned on, you can watch the bombs drop toward the target and (possibly) a direct hit.

If you miss, turn around and repeat the process. To practice lining up targets, you can drop each of your bombs on a different building.

Next, it's time for some tougher practice, using rockets. Autopilot to Mayday Canyon and fly the canyon. If you see enemy fire, hunt down the source and remove it before it removes you. To use rockets on a target, line up using the rudder, as before, and wait for the In Range indicator to light. When it's lit and your rocket sight is on the base of the target, let 'em fly. With practice, you'll be a menace to any ground target. And you have plenty of rockets to practice with, so don't worry about wasting ammo now.

When you reach the mesa in the center of the canyon, climb to pick off some targets around the runway located there. In later training missions, you can load up with Durandals and practice bombing the runway, too.

For a more challenging mission, take the same loadout and try Roberts Pass. The AA defenses are a bit more intense there, so you'll have to be at your best to fly it safely.

When you've dropped all your bombs, you can try practice landings at the Strike base. Autopilot there and try a landing by the book. (see **Landing**) The key to landing, as with all aspects of jockeying an F-16, is practice.

TRAINING MISSION 4

In this mission, you practice dogfighting in a one against two formation. You will be handicapped, loaded with both air-to-air and air-to-ground weapons.

This time, select two enemies in a single group. Start with MiG-21s or Mirages at first, and work your way up to MiG-29s, Su-27s, or other F-16s. To practice with your plane weighted down, pick your normal wingtip missiles, Sidewinders or AMRAAMs on the light hardpoints, and a stack of Mk20s or Mk82s on the medium and heavy hardpoints. If that's just too much weight, try Mavericks, or maybe just a pair of GBU-15s on each set of hardpoints. Once you're loaded (and this is as heavy as it gets), get on the runway to fight your two much more maneuverable opponents.

It's good to practice fighting against numerically superior enemies because you are about to enter a world in which such situations are the norm. In multiple plane furballs, you have to make kills quickly, or be killed. Your most valuable weapons, AMRAAM missiles, should be launched one per target, before you make visual contact. Target the planes with the highest closure rates first, since those guys will be down your throat in a hurry.

Standard military doctrine says that if you are bounced on the way to a ground strike, you are supposed to jettison the bombs so you can maneuver, then engage the air enemy if you think you can win, or disengage and run if you are outmatched. The Wildcats operate under a very different set of rules. The ordnance you are carrying is valuable and you can't complete a given mission without it. If you want to fly for the Wildcats, you have to be able to fight your way through the opposition to reach your target, hit it, and get home in one piece, maximizing kills made with cheap weapons.

Breaking Missile Lock

After you have the head-to-head attack down, let the enemy get behind you. This situation should result in an almost immediate missile lock on your aircraft. Don't panic. This is practice. Practice breaking missile locks by cutting the afterburner and dropping flares, then bank sharply. Dropping flares will not usually be enough to distract a modern IR homing missile. You have to radically change your IR signature and maneuver. Breaking radar homing missile locks is a similar procedure, except that they are usually fired from longer ranges and from the front in the initial phase of the engagement. The tactics are the same: Drop decoys and turn at the last moment. Just bear in mind that the AMRAAM and the radar guided SAMs are much faster than the IR homing Sidewinders.

TRAINING MISSION 5

In addition to DOGFIGHT and SEARCH-AND-DESTROY, you can also choose GAUNTLET.

When you choose GAUNTLET, you immediately find yourself in the air against two SU-27s, two MiG-29s and two F-4s. Anytime you eliminate any pair of opponents, another pair flies into action. All pairs will be fighters, but the fighter types will vary from pair to pair. The gauntlet continues until you run out of fuel, are shot down or eject.

Your opponents are always Aces at the highest level of difficulty. You have four -9J missiles and 1000 rounds of ammunition. Enemy fighters have only their standard cannon ammunition rounds, except for F-4s. Each F-4 that appears has its standard cannon ammunition, plus two -9Js. When you finally succumb to the gauntlet, your score is displayed. Good luck!

Your score is based on how many enemies you shoot down, modified by the settings you use (e.g., MID-AIR COLLISIONS, EASY GUN HITS). The more settings you use to make play easier, the lower the value of each kill. The base value for each kill with a missile is 500 points, the base value for each gun kill is 750 points. Each option that you use from the following list reduces the value of your kills:

COCKPIT

Auto Targeting	ON	-1/2%
360° Lock	ON	-2%
Smart Targeting	ON	-1%
Sun Glare	OFF	-1/2%
G Effects	OFF	-1/2%
Smart Radar	ON	-1 1/2%
360° Radar	ON	-1%
Smart Raw Scope	ON	-1%

Note that some of these options (e.g., EASY LANDINGS) have no effect on the Gauntlet. However, this is a close variation of the scoring system that is active during regular gameplay, so if you have EASY LANDINGS or other similar options activated, they will reduce your score, even though they don't aid your performance in the Gauntlet. Be sure to select the most difficult setting for options like this during a Gauntlet run.

GAMEPLAY

Unlimited Ammo	ON	-99 1/2%
Easy Gun Hits	ON	-5%
Enemy Intelligence:		
Veteran		-5%
Rookie		-10%

FLIGHT

Mid-Air Collisions	OFF	-1%
Easy Landings	ON	-1/2%
Stalls	OFF	-1/2%

REFERENCE SHEET

KEYBOARD FLIGHT CONTROLS

WEAPONS

- [*] Drop flare
- [;] Drop **chaff**
- [G] **Dogfight** mode ("Guns")
- [T] Select **next** farther target
- [sT] Select next closer target
- [T] Select no target
- [X] **Fire** selected weapon

- [W] Select next **weapon**
- [aW] Show loadout (memory permitting)
- [W] **Jettison selected** weapon
- [sW] **Jettison all** air-to-ground weapons
- [Y] **Track** selected target (from cockpit only)

NAVIGATION AND MANEUVERING

- [1]-[5] **Military** (normal engine power in 20% increments)
- [6]-[0] **Afterburner** power in 20% increments
 - [+] Step up engine power
 - [-] Step down engine power
 - [] Engine Shutoff
 - [] Flight control (pitch and roll)
- [<] Left rudder
- [>] Right rudder

- [B] **Brakes** on/off (toggle; air or wheel brakes depending on location)
- [F] **Flaps** up/down (toggle)
- [L] **Landing gear** up/down (toggle)
- [A] **Autopilot** to waypoint, auto-takeoff, or auto-landing
- [N] Navigation map
- [S] Calibrated/True airspeed (toggle)
- [E] **Eject**

MULTI-FUNCTION DISPLAYS

- [C] Communication systems
- [D] Damage control and fuel
- [*] Gun camera MFD

- [R] Radar (mode depends on selected weapon)
- [K] AA radar **single target** track
- [I] [J] Zoom in, out (radar)

CAMERA VIEWS

- Pan around cockpit (if enabled at option screens)
- [I] Cockpit camera (front view)
- [@] Chase camera
- [#][S] Left, right and back cockpit cameras
- [^] External camera (cycles through air targets)
- [I] Invisible cockpit (on/off)

- [^] View ground targets (cycles through ground targets)
- [&] Player to target/target to player (toggle)
- [*] Gun camera (MFD)
- [I] Victim camera
- [J] Weapon camera
- [I] [J] Zoom in, out

OTHER FLIGHT CONTROLS

THRUSTMASTER WEAPON CONTROL SYSTEM

Main unit ...Throttle control	Switch 4Weapon select	Switch 7a ...AA/AG Radar
Switch 1Flare	Switch 5Flaps	Switch 7b ... (no function)
Switch 2Chaff	Switch 6Brakes	Switch 7c ...Dogfight toggle
Switch 3Target select		

THRUSTMASTER FLIGHT CONTROL SYSTEM

Main joystickFlight control
Top joystickPan around cockpit (if enabled at option screens)
TriggerFire selected weapon
Top buttonSelect weapon (if no WCS) or Return to cockpit view
Mid buttonSelect target
Low buttonReturn to forward cockpit view

JOYSTICK CONTROL

JoystickFlight control
Button 1Fire selected weapon
Button 2Pan around cockpit (move joystick while button is pressed)

FLIGHTSTICK PRO JOYSTICK CONTROL

Left buttonSelect weapon	Right buttonSelect target
Low buttonReturn to forward cockpit view	Coolie hatPan around cockpit

MOUSE CONTROL

MouseFlight control (if no joystick active)
Left buttonFire selected weapon
Right buttonPan around cockpit

GAME INTERFACE

[Alt] J Recalibrate joystick	[Alt] X Exit to DOS without saving
[Alt] M Music on/off (toggle)	[Shift] Tab Time compression: 1x, 2x, 4x (sustained)
[Alt] O Game options (detail level, difficulty, etc.)	[Tab] Time burst 6x (lasts while [Tab] is held)
[Alt] P Pause	[←] + [→] Move the cursor
[Alt] S Sound on/off (toggle)	[↓] + [↑]
[Alt] E Engine sound on/off (toggle)	

REFERENCE

WEAPONS

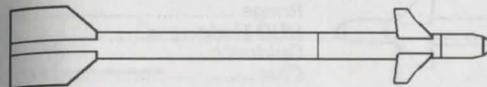
Range. The weapon's range in nautical miles. In some cases, the range of the weapon will depend on the altitude and velocity of the launch platform. In other cases, the lock range (the range at which the weapon can acquire a valid target) will be less than the true range of the weapon. Both exceptions are noted in the description.

HUD Mode. The mode displayed in the lower left corner of the HUD, under the airspeed tape. If the weapon can be used in more than one mode, they will be separated by a slash.

Guidance. The type of guidance system the weapon uses.

Cost. The cost of the weapon, in dollars, to the Wildcats.

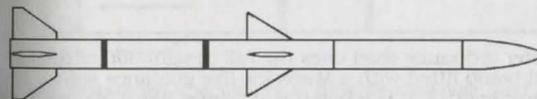
AIM-9J



<i>Range</i>	6 nm
<i>HUD Mode</i>	SRM
<i>Guidance</i>	IR homing
<i>Cost</i>	\$30,000

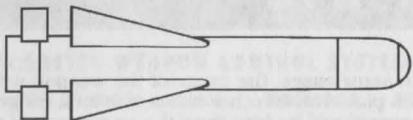
The AIM-9J is an antique. It is a testament to the very solid design of the Sidewinder series that it is still in service at all. The seeker head is of an old type and is quite prone to countermeasure distraction (flares). These missiles have even been known to veer into the sun every now and then. This seeker is not sensitive enough to lock onto a target from the front; the weapon must see the rear aspect (hot tailpipe) in order to acquire the target. It does have some hidden advantages, though. The warhead is detonated by a proximity sensor (like most AAMs), but the fuse is as antique as the missile, and usually functions only after the missile is inside the target. This means that while the -9J will sometimes miss its target, when it hits the results are catastrophic. It is also very cheap, as AAMs go.

AIM-120 AMRAAM



<i>Range</i>	40 nm
<i>HUD Mode</i>	MRM
<i>Guidance</i>	Semi-active radar homing
<i>Cost</i>	\$200,000

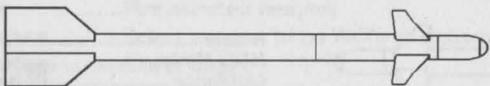
The AIM-120 Advanced Medium Range Air-to-Air Missile is the current last word in BVR (beyond visual range) weaponry. It is a terminally active radar homer with inertial guidance up to the activation point, and is capable of receiving mid course updates. What that means is the missile is launched in the direction of a bogey (usually at a radar blip), maintains its heading with very precise gyros and fast microprocessors, and at a set point turns on its internal radar and hunts the target on its own. Any time during the flight, the firing platform may transmit a new heading to the missile by radio and the missile will go off in another direction. The mid-course updating process is usually carried out by computer. The weapon travels at a peak velocity of Mach 4.2. The warhead is detonated by a very fast and reliable laser proximity fuse. The only bad thing about the weapon is that it can't turn very well, limiting its use in dogfights. But, like they say, long distance is the next best thing to being there.



Range.....13 nm
 HUD Mode.....IR
 Guidance.....Imaging infrared
 Cost.....\$100,000

The Maverick is a true fire-and-forget weapon. You just show it the target and turn it loose, and it homes in on the image of the target stored by the missile seeker head. In order to get a positive lock on a target, the missile must be able to "see" the target. Visual conditions being what they are on the battlefield, you will rarely be able to see a target beyond three miles. The warhead is heavy enough to destroy any known ground vehicle, and will damage small ships.

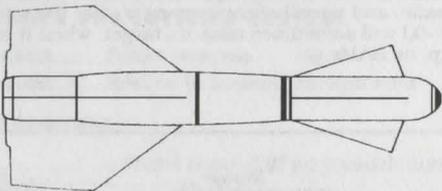
AIM-9M



Range.....10 nm
 HUD Mode.....SRM
 Guidance.....IR homing
 Cost.....\$60,000

The -9M is a vastly improved Sidewinder. The seeker is less prone to distraction, and can engage targets in all aspects. The warhead is twice as large, the fusing mechanism actually works, and it goes faster and farther than the -9J. It also maneuvers a little better. The improvements do not come without a price tag, and this missile is twice as expensive as its older brother.

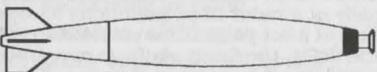
GBU-15(V)/B Smart Bomb



Range.....4 nm
 HUD Mode.....IR
 Guidance.....Imaging infrared
 Cost.....\$100,000

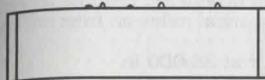
The GBU-15 (nobody except the master ordnance chief uses the full designation of this weapon) is essentially a 2,000-pound bomb fitted with a Maverick-like guidance sensor and two sets of fins for lift and aerodynamic control. It is a bomb that homes like a Maverick. Most pilots use the -15 to destroy big, important targets, like bridges and buildings. You can't carry very many of them, so pick your targets carefully.

Mk82 General Purpose Bomb



Range.....N/A
 HUD Mode.....CCIP/CCRP
 Guidance.....None
 Cost.....\$10,000

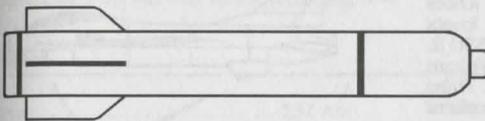
The Mk. 82 is the simplest air-to-ground weapon in the Wildcats' arsenal. The simpler a weapon is, the more complex the delivery system and the more trained the pilot must be. The Mk. 82 is no exception. They are very cheap compared to the other weapons. If you can fly well enough to use iron bombs effectively, you will increase your profit margin considerably.



Range.....2 nm
 HUD Mode.....STRF
 Guidance.....None
 Cost.....\$10,000

The LAU-3 represents one of the most common air-launched weapons in service today: the unguided fin stabilized rocket. Its warhead is small, and most target vehicles can take one or two near misses, but these weapons are launched in salvos. Two pods with nineteen rockets each will put 38 weapons in and around the target in a matter of seconds. The F-16 can carry up to eight pods and can fire them all at once. As an added bonus, they can be fired at planes if the target aircraft will hold still long enough to be hit.

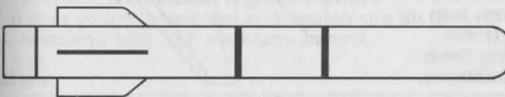
Mk20 Rockeye Cluster Bomb



Range.....N/A
 HUD Mode.....CCIP/CCRP
 Guidance.....None
 Cost.....\$20,000

The Rockeye is a shell containing 247 pound-and-a-half bombs. These are dispersed (when the weapon bursts at a preset distance above the ground) to cover about a 200 feet by 250 feet area (around 50,000 square feet). The bombs detonate on impact. Rockeye bomblet detonation is strong enough to kill most soft skinned vehicles, and a direct hit is enough to kill a tank if it gets the engine deck.

Durandal Runway Cratering Munition



Range.....N/A
 HUD Mode.....CCRP
 Guidance.....None
 Cost.....\$30,000

Durandal is designed specifically to destroy runways, taxi areas and hardened aircraft shelters. At weapon release, the Durandal deploys a braking parachute and tips nose down. After a time delay, a rocket motor blasts the weapon into the ground, where it explodes. Durandal can penetrate around 16 inches of concrete or asphalt ground cover before the fuse functions. The detonation creates an underground "pocket" crater that is tough to repair. The blast radius of the weapon is very small since the force is contained by the ground, so you have to be dead on target to use Durandal effectively.

PLANE SPECIFICATIONS

Engines. The number of engines the plane has. Unless noted otherwise, assume jet engines.
Max Range. Operational range (one way) of the aircraft in nautical miles on internal fuel assuming a constant throttle of MIL 4 and a clean plane.

VmaxHi. Maximum speed in knots, clean, on full afterburner at 36,000 ft.

VmaxLo. Max speed clean in knots, full afterburner at sea level.

Ceiling. The maximum altitude in feet the plane can reach in stable flight.

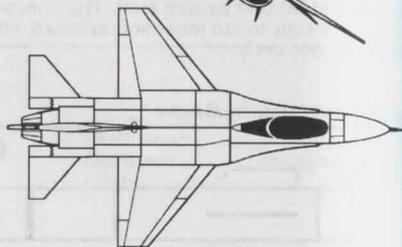
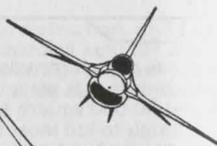
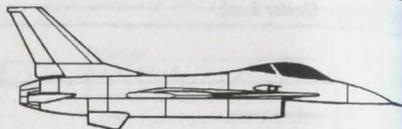
Loadout. The standard gun loadout on the plane.

Fighter type. A rough estimation of how advanced the fighter is, based as much on the sophistication of its radar as on any other criterion. First generation is oldest; Third is most advanced.

Maneuver. A general agility rating based on turn radius, roll rate, wing drag and rate of climb.

F-16 Fighting Falcon

Engines	2
Max Range	905 nm
VmaxHi	1158 knots
VmaxLo	791 knots
Ceiling	49,530 ft.
Loadout	M61A1 20mm Vulcan
Fighter type	Third
Maneuver	Excellent



The F-16 is the plane you must master and is one of the most versatile and maneuverable planes in the world today. It is a "fly by wire" plane; the ailerons and other moving surfaces are activated via electrical impulse rather than by bulky hydraulic actuators. The electrical signals from the pilot's controls are fed into a computer which determines the best way to move the control surfaces to achieve the result the pilot asked for. It sounds cumbersome, but the fly-by-wire system was a quantum leap in aircraft control technology. The electronic controls are triply redundant, making them dependable in the most arduous conditions.

F/A-18 Hornet

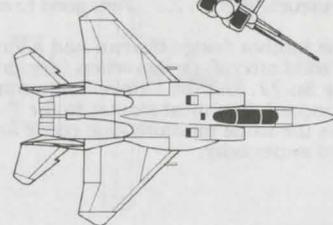
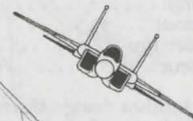
Engines	2
Max Range	950 nm
VmaxHi	1032 knots
VmaxLo	795 knots
Ceiling	50,400 ft.
Loadout	M61A1 20mm Vulcan
Fighter type	Third
Maneuver	Good to very good



The *Hornet* was designed to be a jack-of-all-trades aircraft. Unfortunately, that made it master of none. It has a very good radar and can carry a great deal of ordnance, is very maneuverable, has a great roll rate, but is a mediocre dogfighter due to the weak engines.

F-15 Eagle

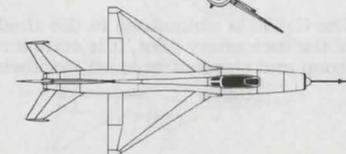
Engines	2
Max Range	1881 nm
VmaxHi	1338 knots
VmaxLo	810 knots
Ceiling	64,350 ft.
Loadout	M61A1 20mm Vulcan
Fighter type	Third
Maneuver	Very good



The F-15 was designed to counter what was supposed to be a Russian superfighter: the MiG-25 *Foxbat*. When it was discovered that the *Foxbat* was a dedicated interceptor and not an air superiority fighter at all, the F-15 was left as the premier fighter aircraft in the world. It has impressive top speed and turning ability for a large fighter. Be very careful when engaging this plane.

MiG-21 Fishbed

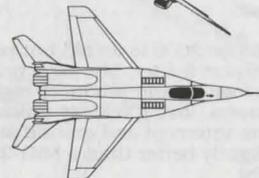
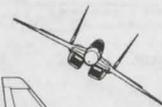
Engines	1
Max Range	531 nm
VmaxHi	1204 knots
VmaxLo	540 knots
Ceiling	60,125 ft.
Loadout	GSh-23 23mm cannon
Fighter type	First
Maneuver	Good



The MiG-21 is an antique in the 21st century, but its low price and the huge numbers produced during the cold war will keep it in service for some time to come. In most air forces, it serves as a ground attack aircraft, but in poorer countries and squadrons it performs intercept and CAP missions as well.

MiG-29 Fulcrum

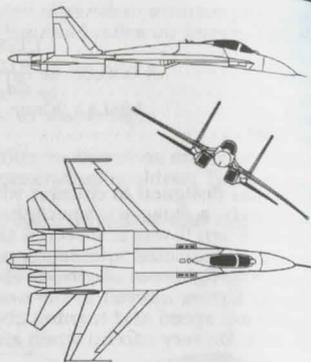
Engines	2
Max Range	806 nm
VmaxHi	1260 knots
VmaxLo	700 knots
Ceiling	59,800 ft.
Loadout	30 mm cannon
Fighter type	Third
Maneuver	Very good to excellent



The *Fulcrum* is a good match for the F-16, and indeed, both planes were designed for the same general mission: short range air intercept and ground attack missions. The MiG-29 is marginally more survivable due to the twin engine design.

Su-27 Flanker

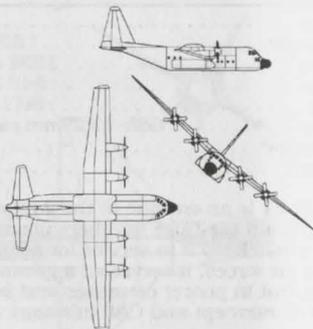
Engines 2
 Max Range 1000 nm
 VmaxHi 1320 knots
 VmaxLo 725 knots
 Ceiling 49,530 ft.
 Loadout 30 mm cannon
 Fighter type Third
 Maneuv. Very good to excellent



The Sukhoi design bureau had a long history of solid aircraft design when they produced the Su-27, and the *Flanker* maintains that standard. It is most similar to the F-15, and has the same mission: long range air intercept and superiority.

C-130 Hercules

Engines 4 prop
 Max Range 3,240 nm
 VmaxHi 332 knots
 VmaxLo 332 knots
 Ceiling 32,695 ft.
 Loadout 30 mm cannon
 Fighter type N/A
 Maneuv. Like a pregnant yak



The C-130 is ubiquitous in the shadowy world of the mercenary pilot. It is commonly used for troop and supply transport worldwide.

Mirage 2000

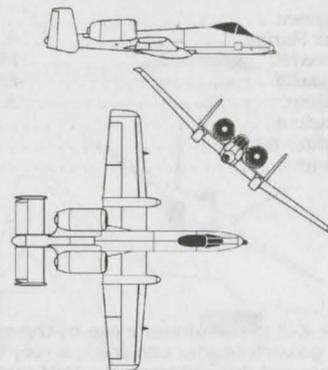
Engines 1
 Max Range 741 nm
 VmaxHi 1262 knots
 VmaxLo 800 knots
 Ceiling 58,500 ft.
 Loadout 30 mm cannon (2)
 Fighter type Second
 Maneuv. Good



The *Mirage 2000* is an old but popular French-built export fighter. The large delta wing is lightly loaded, and produces high drag in maneuvers, losing velocity quickly. It can perform intercept and ground attack missions. It is slightly better than a MiG-21 in a dogfight.

A-10 Thunderbolt II

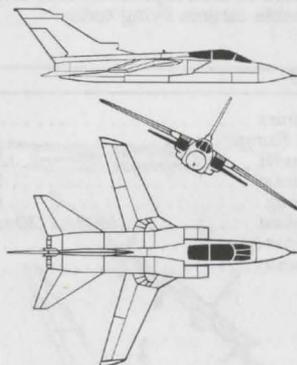
Engines 2
 Max Range 1189 nm
 VmaxHi 381 knots
 VmaxLo 381 knots
 Ceiling 44,525 ft.
 Loadout 30 mm DPU
 Fighter type Second
 Maneuv. Very good



The *Warthog* (as its pilots call it) is a dedicated ground attack aircraft. The *Warthog's* natural prey are main battle tanks, and it carries the most powerful cannon of any aircraft flying: the GAU-8A Avenger seven-barreled 30mm, firing depleted uranium slugs. The gun was meant for ground targets, but all *Warthog* pilots dream of the day when they can zap an overconfident fighter jock.

Tornado

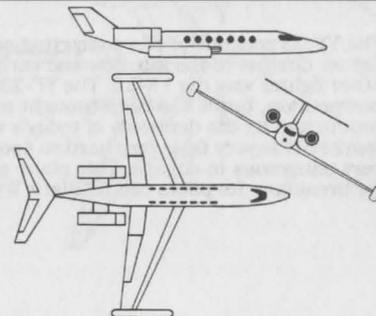
Engines 2
 Max Range 1691 nm
 VmaxHi 1262 knots
 VmaxLo 792 knots
 Ceiling 69,338 ft.
 Loadout 27 mm cannon (2)
 Plane type Second
 Maneuv. Fair



The *Tornado* was a joint British, German and Italian design project completed in the mid '80s. The idea was to create a jet which could be configured as a ground attack plane or as an air superiority platform. They came very close to doing it. The *Tornado* presented here is the fighter version. If this excellent plane has a weakness, it is the slow top speed.

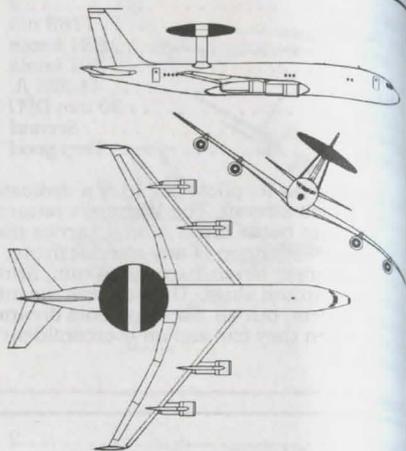
Lear Jet

Engines 2
 Max Range 1080 nm
 VmaxHi 400 knots
 VmaxLo 400 knots
 Ceiling 37,375 ft.
 Loadout N/A
 Fighter type N/A
 Maneuv. Good



The Lear is the transport of choice for the status-conscious executive in the 21st century.

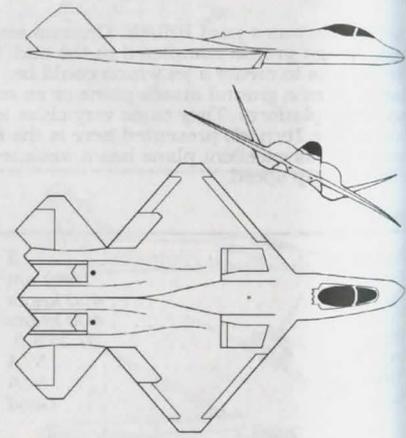
Engines 4
 Max Range 4,374 nm
 VmaxHi 460 knots
 VmaxLo 422 knots
 Ceiling 39,650 ft.
 Loadout N/A
 Fighter type N/A
 Maneuv... Poor



The E-3 is the ultimate eye-in-the-sky aircraft. Its powerful radar can track a very large number of air and ground contacts. Its function in an air engagement is to spot inbound aircraft, classify them as enemy or friendly and send flights of fighters to intercept them. It is one of the most valuable targets flying today.

YF-23

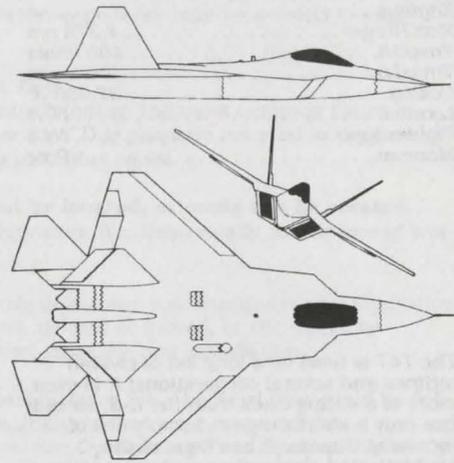
Engines 2
 Max Range 1,296 nm
 VmaxHi 1300 knots
 VmaxLo 790 knots
 Ceiling 60,000 ft.
 Loadout M61A1 20mm Vulcan
 Fighter type Third
 Maneuv... Excellent



The YF-23 was one of two competing advanced fighter designs in the late 80s and early 90s. The other fighter was the YF-22. The YF-23 lost the competition, but it has been brought into limited production by the demands of today's mercenary market. It is very fast, very hard to spot, and very dangerous to engage. This plane eats F-15s for breakfast. Its pilots call it "Black Widow."

F-22

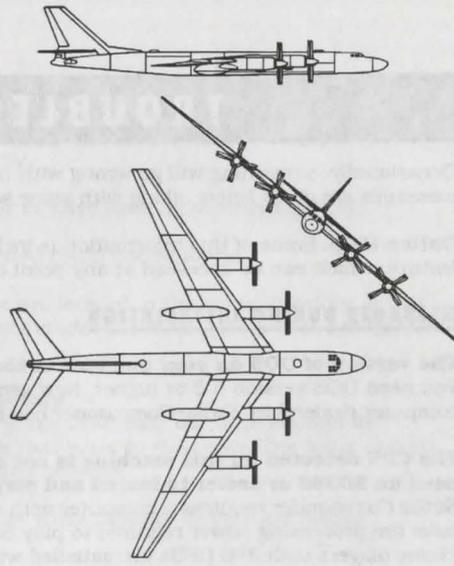
Engines 2
 Max Range 1,300 nm
 VmaxHi 1330 knots
 VmaxLo 795 knots
 Ceiling 60,000 ft.
 Loadout M61A1 20mm Vulcan
 Fighter type Third
 Maneuv... Excellent



The F-22 won the US advanced fighter competition, and was adopted as the new air superiority fighter, replacing the aging F-15. It is faster than the -15, harder to spot on radar and IR, and much more maneuverable due to partially vectored thrust.

TU-20

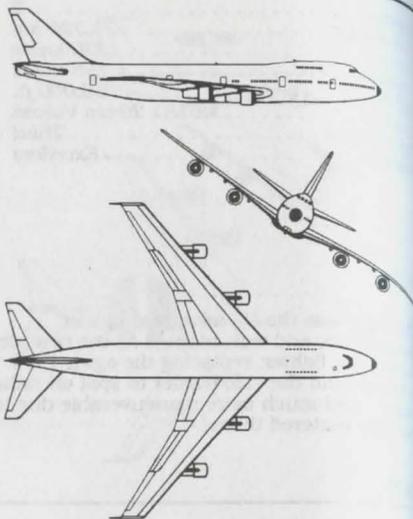
Engines 4 Prop
 Max Range 8,000 nm
 VmaxHi 500 knots
 VmaxLo 410 knots
 Ceiling 40,625 ft.
 Loadout N/A
 Fighter type First
 Maneuv... Poor



The Tu-20 (military designation: Tu-95 Bear D) was the pinnacle of prop-driven intercontinental bomber technology during the 1950s. It survives today as an export plane in the air forces of some of the more well-off third world countries and larger corporations. Bear's specialty used to be delivering free fall nuclear bombs, but it can still cause a great deal of damage with plenty of 500 pounders.

Engines	4
Max Range	4,374 nm
VmaxHi	400 knots
VmaxLo	400 knots
Ceiling	37,650 ft.
Loadout	N/A
Fighter type	N/A
Maneuw.....	Poor

The 747 is used by a long list of civilian airlines and several corporations. It is even more of a sitting duck than the E-3, since it has only a short range radar to warn of incoming threats. It has none of the sophisticated electronic countermeasures or decoy systems of a military plane.



TROUBLESHOOTING

Occasionally, something will go wrong with the installation process. Common error messages are given below, along with some solutions.

Online Help. Some of this information is included in the install program's on-line help feature, which can be accessed at any point during installation by pressing **F1**.

MESSAGES DURING INSTALLATION

The version of DOS on your machine is too old to run *Strike Commander*.

You need DOS version 5.0 or higher. New versions of DOS can be purchased at almost any computer dealership. *Strike Commander* has been fully tested with versions 5.0, 6.0 and 6.2.

The CPU detected on this machine is not compatible with *Strike Commander*. You need an 80386 or better to install and play *Strike Commander*.

Strike Commander requires a computer with an 80386 or better CPU. Older CPUs do not have the processing power required to play *Strike Commander*—they can not run the game. (Some players with 386 CPUs are satisfied with *Strike*'s performance on their systems, but most are not. We recommend that you use at least a 486.)

If you do not have one of these CPUs, you will need a CPU upgrade in order to play *Strike Commander*. If you do have a 386 or better and receive this error message, try installing again from the beginning. If you still receive this message there may be a defect in your processor.

Could not copy files from the CD to the hard drive.

Although this could mean that your drive is malfunctioning, the most common cause of this message is a read error. Check to make sure the CD is properly inserted in the drive and that the drive is closed completely, then try installing again.

One of the configuration files either could not be located, or could not be created.

An error has been detected with an install configuration file. This usually means one of two things has occurred:

- (1) A file needed by the install program to properly determine your computer's configuration was not found. The file could have been damaged, deleted or moved, or the directory structure of your machine could have been altered since the last installation.
- (2) The install program was unable to write a configuration file. The hard disk could be full or could contain undetected errors. Another possibility is that your computer has a memory problem that is stopping the installation. See **Optimizing Your System** to remedy this situation.

Make sure you are in the directory in which *Strike Commander* was previously installed, or in the directory where the install program is.

Could not find treefile.

This means that one of the files necessary to run the game was not available. There are a number of possible causes for this error, including:

- The CD-ROM is not loaded in the drive correctly.
- The CD-ROM drivers are not installed correctly or have been incorrectly modified.
- The hard disk where the installed game is located could not be found.

Make sure that all game files on your hard drive are located in the game directory. If this problem persists, attempt reinstalling *Strike Commander* CD-ROM. If this does not fix the error, please contact ORIGIN Product Support.

Could not create the *Strike Commander* directory.

A file exists with the same name as the directory, the drive may not have enough free space, or you have attempted to install to a disk that is set to read only. The latter should only be a problem if you are loading onto or with a network.

We do not recommend loading *Strike Commander* while network drivers are loaded.

DOUBLESPACE DURING PLAY

My mouse is not working with Strike Commander CD. My mouse works with all of my other software applications—why not with Strike Commander?

If your mouse is not working with Strike Commander, you should first check to see if your mouse has been loaded in DOS (in your AUTOEXEC.BAT file) or onto the boot disk you are using to play the game. Windows and many other "multi-tasking" environments load their own built-in mouse driver. These mouse drivers will not operate outside of their shell environment. Loading a mouse driver into the DOS environment can be as simple as typing MOUSE at the command prompt. For example:

```
C:\MOUSE 
```

This command can differ depending on which mouse driver software you are using. Please consult your mouse user's guide for further details. You may also experience trouble running Strike Commander with a non-Microsoft (or 100% compatible) mouse driver. If you do, any of the following steps should fix the problem:

1. Replace the mouse driver with a Microsoft mouse driver.
2. Disconnect your mouse and use your keyboard or joystick instead.
3. Remove the mouse driver and use your keyboard or joystick instead.

Why do I get the message: "Sound System Initialization Failed"?

You probably have enough memory to run the game, but not enough to load the sound drivers you selected during installation. You will either have to increase the amount of free DOS memory (see Optimizing Your System) or play without sound. Or, if your sound card is not one of the cards listed on the box or in the installation program, but is 100% compatible with one of the cards listed, it may need to be configured for Sound Blaster emulation mode. Consult your sound card manual.

I am having trouble using my joystick.

- Your joystick may be set to "auto fire." If this is the case, the buttons may not function as you expect. To correct the problem, turn auto fire off. If your joystick doesn't allow you to turn auto fire off, unplug it and play with a mouse or use the keyboard controls.
- In the event that you experience any joystick calibration problems, be sure that you don't have more than one active gameport on your system at any time, as they will conflict with Strike Commander's calibration routine and will affect game performance. This includes gameports present on sound cards, gamecards or I/O cards. You may need to consult the documentation for your system, sound card and game card to resolve any problems.
- If you are using a multi-speed gamecard, be sure that you have performed the software or speed dials tests for your particular gamecard. If you continue to have problems, try adjusting the speed-dial or numeric software settings a little higher or lower than normal. On cards like the Gravis Eliminator game card, we found settings between 4.0 and 5.5 to be well suited for Strike Commander. For other cards, please check your game card documentation to configure the card for different speed settings. If the problem persists, you may have a defective joystick or gameport.

Why does my computer lock up or give me "run time" errors?

On some machines, the CD-ROM drive may be daisy-chained with several other drives on a cable from the SCSI controller card. Because this game needs to have simultaneous access to both the hard drive and the CD-Rom drive, it cannot run on a CD drive that is daisy-chained with other drives. We strongly recommend that Strike be installed to a drive that is not on the same cable as your CD-ROM drive.

I've got 16 (or more) megs of RAM and a digitized sound card, so I shouldn't be having any problems, but speech in the game is full of static.

Because direct memory access (DMA) will not work with memory addresses above 16 megabytes, the digitized speech of Strike Commander may not work correctly on machines with large amounts of memory. If you hear static in the game when speech would be more appropriate, then this problem could be occurring.

The best solution is to remove your memory manager and let the game supply the high memory using its own memory manager.

See **Optimizing Your System** for more details on memory configuration.

I've got a digital sound card, and I've turned on DIGITAL FX, but I still sometimes get undigitized sound effects.

With DIGITAL FX turned on, you may run into instances where you will get non-digitized sound effects. This will happen if a digital effect is supposed to be played at the same time as another digital effect. The chip used by most sound cards to produce digitized sound and effects can only play one digitized effect at a time.

When I try to start a new game, it crashes to DOS and gives me Error Code #1910 or #1941.

This is caused by a bad installation or a corrupted file on the original installation. To determine which is the case, boot from a clean configuration that does not load other conflicting device drivers such as a disk cache. See **Optimizing Your System** for more information on the proper configuration. Next, delete all files from the Strike Commander directory (default: C:\SC). Finally, re-install Strike Commander and Tactical Operations (while booted from the clean configuration).

SPECIFIC HARDWARE AND SOFTWARE

DoubleSpace

Strike Commander has been fully tested with MS-DOS's DoubleSpace disk compression utility. We cannot guarantee the compatibility of our games with other disk compression utilities. You might want to add the following line to your CONFIG.SYS file to free more DOS RAM (base memory):

```
DEVICEHIGH=C:\DOS\DBL.SPACE.SYS /MOVE
```

Trustmaster Weapon Control System

The DIP switch settings on the Weapon Control System for Strike Commander are switches 1, 2 and 6 on. All other switches should be off.

CH GameCard III Automatic

The CH GameCard III Automatic requires a program to be run whenever the machine boots up. This program is called CHJOY3.EXE. Please be sure that this program runs before calibrating joysticks in *Strike Commander*, or unpredictable results will occur. You may want to add the following line at the end of your AUTOEXEC.BAT:

```
CHJOY3.EXE
```

DOS 5.0 SMARTDRIVE.SYS

Strike Commander does not support the SMARTDRV.SYS that comes with some version of DOS. It does support SMARTDRV.EXE which comes with Windows 3.0 or better.

Bus Mastering Hard Drive Users

If you're using a bus mastering hard drive controller card (you'll probably know if you are), and if the game text and graphics are garbled, add the following line to your CONFIG.SYS:

```
DEVICE=C:\DOS\SMARTDRV.EXE /DOUBLE_BUFFER
```

SB16/Wave Blaster and CH Flightstick Combination

Due to a hardware conflict between the joystick port on the Creative Labs' SB16/Wave Blaster combination and the CH Flightstick, General MIDI music will not be heard when the Flightstick is connected to the SB16/Wave Blaster joystick port. Another manufacturer's joystick or another joystick port must be used to receive the General MIDI music. Contact the respective manufacturers if you have any further compatibility questions.

General MIDI

Strike Commander CD has joined the next generation of sound quality with its support of the General MIDI standard as defined by the MPU-401 instruction set. At the time of publishing, only a few cards support MPU-401. These cards include the Roland SCC=1 and RPA-10 and the Creative Labs Sound Blaster 16 and ASP 16 (both of the latter with the attached Wave Blaster daughterboard). Other manufacturers have already released, or are planning to release, sound cards that use the MPU-401 instruction set. However, sound cards that use a memory-resident program (TSR) to emulate MPU-401 may not work with this software.

Note that some General MIDI cards offer digitized speech or sound effect capabilities. *Strike Commander* CD will only use those sound cards that carry the OPL2 FM chip for digitized speech or sound effects. As in the case of the Roland RAP-10, customers will need to use a second sound card, such as a Sound Blaster, Sound Blaster Pro or 100% compatible sound card, for digitized speech and effects. Review your sound card documentation or contact the manufacturer if you have any questions.

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SYNDICATE PLUS

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INTRODUCTION

As the world's multinational corporations grew, their profits began to rival those of small countries. Soon they *owned* small countries and corporate influence was felt at the highest level of world government. Smaller corporations were swallowed up like plankton in the wake of three behemoth mega-corporations, one U.S.-based, one Europe-based and one based in the Far East. These became the only effective world government, unelected, undemocratic, but controlling the lives of the people through commerce.

Then the European corporation perfected the CHIP. Inserted in the neck, the CHIP stimulated the brain stem to alter your every perception of the outside world. Better than any drug, the CHIP gave hope to millions by numbing their senses to the misery and squalor around them. One CHIP would convince users that the sun shone and the birds sang even as they walked through the constant acid rain drizzle. Another that they were glamorous or handsome – they'd look in the mirror and see a different face – while the rest of the world would see them as they really were.

The CHIP was a technological revolution and sold countless units with the slogan 'Why change your world when you can change your mind'. It also left the user open to auto-suggestion and gave the corporations the perfect tool for manipulating the populace.

Like any new and potent drug, control of the CHIP meant control of the people. Soon the corporations were at war among themselves, desperate to monopolize CHIP manufacture. But the corporations' thirst for power left them open to infiltration.

With money earned through pirating CHIP technology, crime Syndicates bribed and murdered their way into corporation boardrooms. It wasn't long before the Syndicates became the controlling force all over the globe, with a finger in the pie of every transaction, criminal or otherwise, worldwide.

And in the crime Syndicates of tomorrow those in control don't need uzis for back up. Teams of custom-built cyborg agents hunt down rivals and traitors, and spread the influence of the Syndicates across the globe.

GETTING STARTED

The first time you run Syndicate Plus, you need to select language and sound configuration options. A SYND directory is then created on your hard drive for saved games information. For this 1 Mb of space is required on your C: drive. From then on, to play Syndicate Plus simply insert the CD, log onto your CD drive, change directory to SYNDPLUS and type SYND <ENTER>.

The First Time You Play

To play Syndicate Plus:

1. Insert the CD-ROM in the CD drive and type CD\SYNDPLUS.
2. At the DOS prompt, type SYND to run the setup. The Syndicate title screen appears. Press <ENTER> to continue.

Note to Sound Blaster 16 users. To take advantage of your soundcard's enhanced capabilities:

- a) Log to the CD drive then change directory to SYNDPLUS
 - b) Type CD SB16 <ENTER>
 - c) Type SYND <ENTER>
3. The Select Language screen appears. Use the cursor keys to chose between English, French, Italian or Spanish, and then press <ENTER>. All mission information and on-screen text is presented in the language chosen here, but you need to choose again each time you start to play Syndicate afresh.
 4. Now select Sound ON or OFF with the cursor keys. If you select ON, you must also set your soundboard settings, again using the cursor keys.
- Note: Syndicate only supports Sound Blaster and 100% compatibles.
5. Press Return to confirm your selections.
 6. Select the version of the game you want to play with the cursor keys. Syndicate Plus lets you play either Syndicate, or the 21 extra missions that make up the American Revolt.

Consult the *Syndicate Executive Brief* following for details of how to play original Syndicate. If you elect to quell the American Revolt, you will also need to refer to the *Playing American Revolt* section of this reference.

7. Press Return to load the game and begin the mayhem.

IMPORTANT: Never remove the CD while playing, even if the disk is not being accessed at the time.

GAME OVERVIEW

For you, the future is now.

As a young executive in a small European Syndicate you're looking to make your mark. You observe from a control platform in an airship high above the teeming city streets as your agents, controlled by CHIP technology, spread the shadow of your terror. Equipped with the latest in hi-tech weaponry, their cyborg bodies souped up with extra powerful limbs – the best that Syndicate money can buy – your finger rests on the pulse of their every reaction.

The CHIPs inserted in their necks control IPA (Intelligence, Perception and Adrenaline) levels. With these, you set the degree of an agent's operational independence during missions. (For information on the strategic uses of IPA Levels, see *Playing A Mission – IPA Levels*.)

Each mission takes place among the canyons of concrete and steel, the mazes of streets and sewers, that our cities have become. The population goes about its business – moving among the traffic, commuting on trains, rushing to and from work – unaware of the violence about to explode around them. Casualties among the good citizens in most cases bring a swift response from local law enforcement agencies. Equip your cyborgs with a special pass and the police believe they're working *with* the authorities; they're free to continue the slaughter unhindered.

There are over 50 named missions for you to choose between, but before you choose one, you need to develop an overall strategy for world domination. Tactical considerations vital to the ascendancy of your Syndicate include the maintenance of an adequate mission Budget, the skills and experience built up in the Cryo Chamber of potential agents, and developing your own maneuvering skills.

A Syndicate executive must be a master of strategy, assessing a mission environment and planning agent moves. An executive must also have the reflexes of a steroid-addicted sprinter and a remorseless lust for power to commit acts of gross violence but sleep soundly at night.

Still think you've got what it takes to make it in the Syndicate?

OBJECT OF THE GAME

The aim of the game is to spread the dark stain of your Syndicate's color across the surface of the entire globe.

The world map is divided into various territories. From your home base in Europe you invade adjacent territories and, through the violent subterfuge of your agents, wrestle them from rival Syndicates. Having done so, raise taxes on the locals to increase your profits and punish them for serving the wrong Syndicate.

But raising taxes can make you very unpopular. And furious natives leading popular rebellions can eat into Syndicate profits. So keep an eye on foreign interests and pick off troublemakers with your teams of agents.

And while you're busy expanding your Syndicate's empire abroad, rival agents are working in your own back yard to de-stabilize your Syndicate. Ensure agents are briefed to weed out traitors whose actions might bring about your downfall.

By meeting all the challenges, destroying all targets and gaining control of all the territories, your Syndicate triumphs.

QUICKSTART

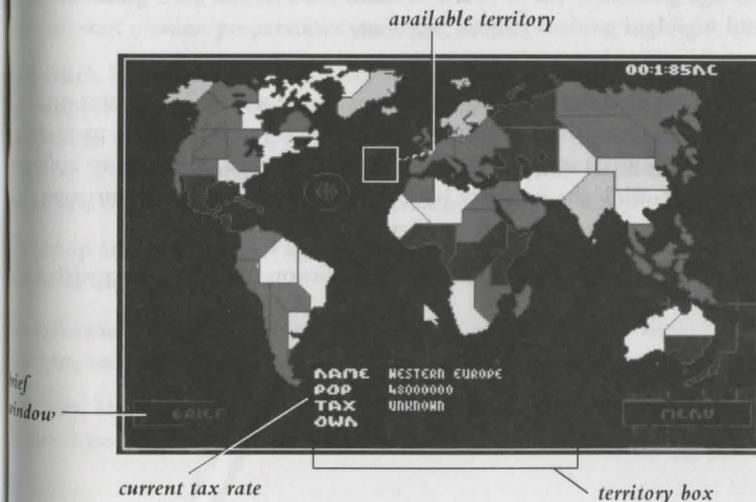
Key Commands

Esc	Quit to Main Menu
P	Toggle Pause on/off
F1	Toggle on/off sound effects
F2	Toggle on/off music
Control D	Self-destruct (if equipped with Version 2 or 3 chest)
Space Bar	Go to Mission Debriefing after mission
Cursor Keys	Move mission view

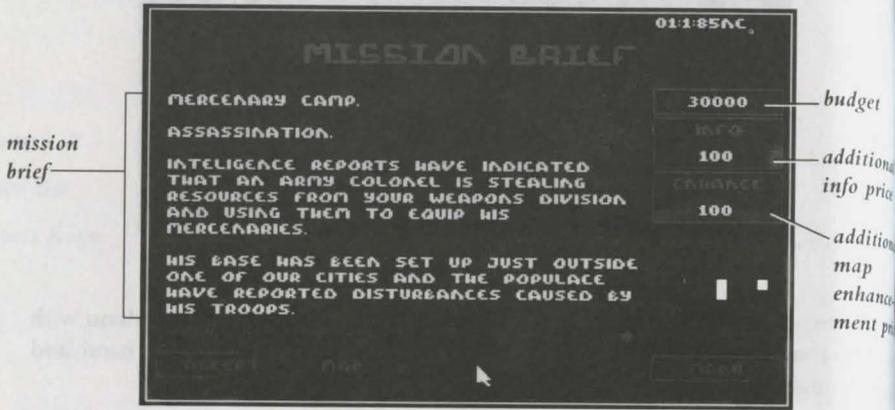


Main Menu

To play Syndicate immediately, highlight Begin Mission from the Main Menu with the cursor and **left-click** or press **F2**. Your Syndicate retains the Bullfrog name and logo throughout the Quickstart mission.



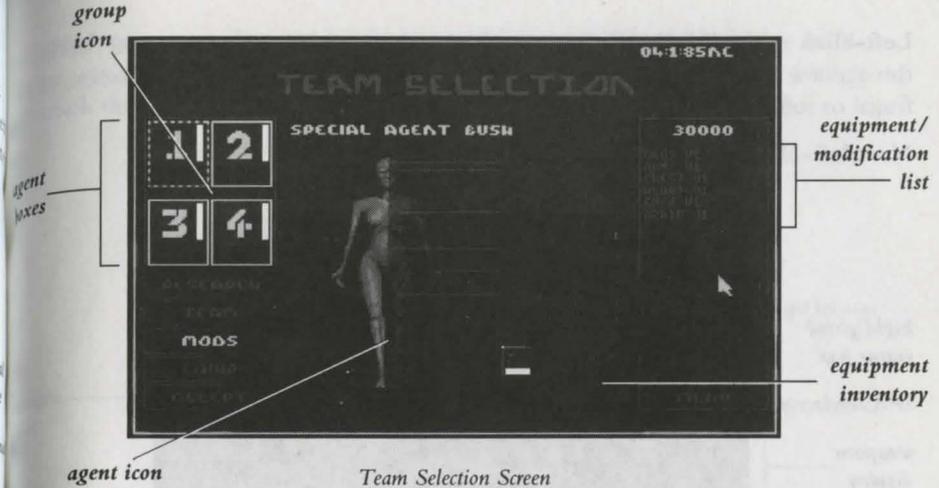
The World Map displays the Bullfrog logo over Western Europe. At the start of a game this is the only territory with a mission currently available. The Territory Box with population level and tax rate information is displayed at the bottom of the screen (To find out more about this see *Raising Taxes*.) **Left-click** the Brief window to enter the Mission Brief screen.



Mission Brief Screen

The mission name and a written mission description are revealed. To expand on the Mission Brief **left-click** Info. If the Mission Description is more than one page, **left-click** the arrow at the bottom of the screen to see the next page. Likewise to enhance the Mission Map, **left-click** the Enhance box. Extra info and enhancements cost money, which is deducted from the Budget figure.

At this stage you have no choice but to Accept this mission, which you do with a **left-click**.



Team Selection Screen

The Team Selection screen opens. Here you Equip and Modify your agents in preparation for the mission. All four Agent Boxes are highlighted in green, but four agents is overkill on this first mission. Two are adequate, so de-select the other two by **right-clicking** their boxes. **Left-click** in either of the remaining agents' boxes and you can start mission preparations (note the broken flashing highlight line).

Left-click Equip to reveal the equipment currently available and Purchase whatever seems appropriate based on your judgment, budget and the mission outline. From the equipment list, **left-click** a particular weapon to open the weapon description window. The Purchase option becomes available – **left-click** to confirm purchase, or **left-click** on the weapon window to return to the equipment display.

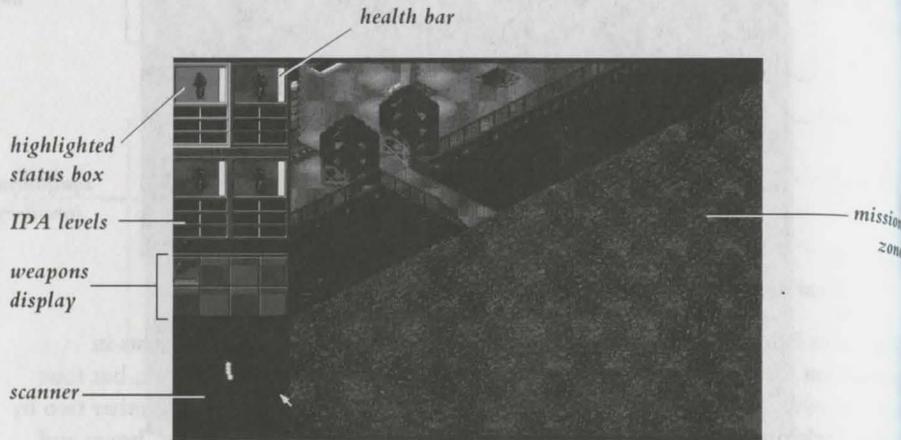
To Equip and Modify your agents simultaneously, **left-click** the group icon in the center of the Agent Boxes.

For information on researching more equipment options and higher modification versions, see *Research*.

Similarly, **left-click** Mods and a list of Version 1 modifications is displayed. These can be purchased as were the weapons.

Left-click Agent Box 2 and the agent display shifts accordingly. Equip and Modify this agent as before. Remember, you've a long way to go to world domination, so be frugal or suffer later!

Now **left-click** Accept and the Mission Begins.



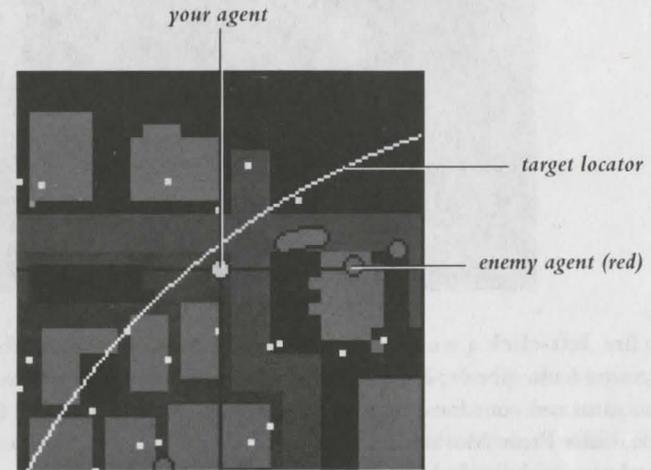
Mission Status Screen

The Mission Status screen displays all the information necessary to the success of a mission. On the left are the agent Status Boxes with agent icons. Beneath each Status Box are the IPA Level bars. These let you adjust the cyborgs' levels of Intelligence, Perception and Adrenaline. For fine adjustment of these levels position the cursor and **left-click** to the right of the center line. Alternatively, press both mouse buttons together to boost all three IPA Levels to maximum. Be careful, as boosts soon wear off and the agent's responses suffer accordingly.

Details of this can be found in *IPA Levels*.

The Health Bar next to each Status Box indicates how much life is left in the cyborg. When the white hits the floor so does the agent, who falls over in a pool of blood.

Left-click one Status Box and it is highlighted in orange. This is the active agent. This/ her inventory of weapons is listed below. To arm an agent during the mission, **left-click** the desired weapon icon from the inventory.

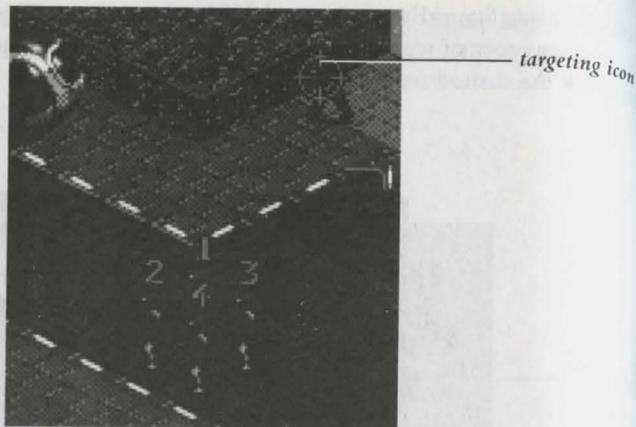


Close-Up of Scanner

The Scanner shows a display of the Mission Zone with buildings displayed in blue, road and rail routes in gray. Your agents are the yellow circles, enemy agents red and the target a white flashing dot. The target emits a beep and corresponding radar signal that leads your agents to him. The civilian population are a swarm of white specks, while police are displayed as blue flashing circles. You can move around the Scanner with the cursor and the Mission Zone display changes accordingly to reveal the new area.

More information is available in *Scanner*.

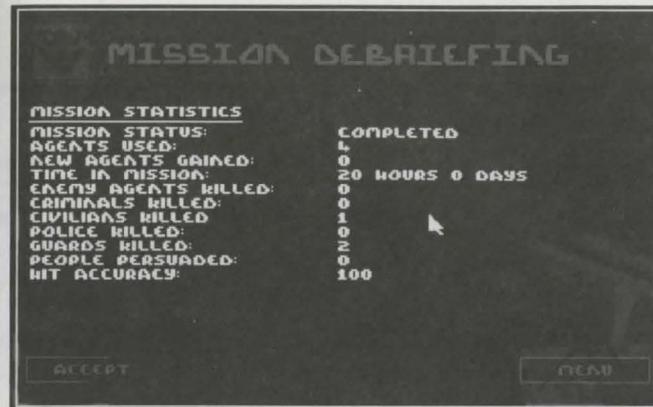
In the Mission Zone your agents are numbered 1-4. To move the active agent(s), place the cursor ahead of him/her and **left-click**; the agent walks toward this location. To increase walking speed, increase the level of adrenaline at the IPA Level bars. To move all the agents at once, first **left-click** the group icon in the center of the Status Box display. While the agents are grouped, they respond to commands as a unit.



To fire, **left-click** a weapon icon from the inventory. Aim with the cursor and the targeting icon appears. Now **right-click** with the mouse to fire. When the targeting icon turns red your foe is within range for the chosen weapon. If you're pressed for time, enter Panic Mode by pressing both mouse buttons together. Agent Levels shoot up to maximum and a weapon is drawn and fired automatically. If you now pay the target a visit, you can teach him/her never to tangle with the Syndicate.

For details of this see *Panic Mode*.

After a mission you are taken to the Mission Debriefing screen.



Mission Debriefing

If the mission has been successful, **left-click** Accept and you visit the World Map to choose another territory and another mission. First, raise taxes on the citizens to boost your remaining budget. One or two of the territories adjacent to the one in which you have been victorious are flashing; choose between them by **left-clicking**, and then **left-click** Brief.

If the mission is unsuccessful, any agents killed and money spent are gone for good. After the first mission you have no choice but to bite the bullet and try again. **Left-click** Brief for the same territory and you're back at the Mission Brief screen.

For information on replacing dead agents see *Team*.

Note: If you have a choice of missions, you might want to come back to any you fail later on, when you've gained experience of how to control and appropriately equip your cyborg agents.

MAIN MENU OPTIONS

Use the cursor to highlight the chosen menu option and **left-click** to open. You can also do this using function keys F1 - F5 on your keyboard.

F1. Configure Company

Customize your Syndicate by choosing logo, color and name. For more information see *Configuring Your Company*.

F2. Begin Mission

Pick a mission territory, equip your agents and pit your Syndicate against your global rivals. For details see *Preparing To Play Syndicate*.

F3. Load And Save Game

Preserve current game status or reload previous games of Syndicate. See *Loading And Saving A Game*.

F4. Restart Game

Things not progressing too well? Kinda get the feeling a particular game of Syndicate is cursed? Simply return to Main Menu and **left-click** Restart Game to go back to the beginning and start again.

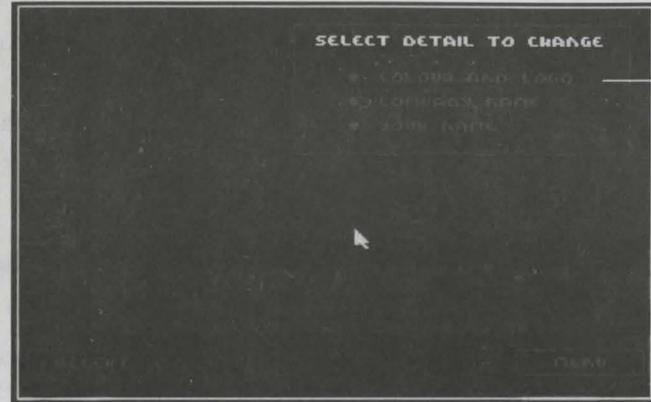
F5. Quit To DOS

Logging Out message appears. You Quit Syndicate and return to DOS.

CHAPTER 1 – CONFIGURING YOUR COMPANY

Left-click Configure Company to reveal the Select Detail To Change box.

Select Detail To Change



customize
logo and
name

Select Detail

Personalize your Syndicate color and logo, Syndicate name and player name here.

Choosing Syndicate Color

Left-click the Color And Logo option. Scroll through the color list with left-clicks to the arrow icons, and then **left-click** OK when the desired color appears. There are eight colors to choose from.

Choosing Syndicate Logo

Left-click the Color And Logo option. Scroll through the logo list by **left-clicking** the arrow icons, then **left-click** OK when the desired logo appears. The logo list contains 40 logos.

The chosen color/logo combination appears in the top right hand corner of the screen.

Choosing Syndicate Name

Left-click Company Name, type in your chosen name and confirm with a **left-click** to OK.

Choosing Player Name

Left-click Your Name, type in the name of your choice and then **left-click** OK.

Note: If you make a mistake while typing, use the Backspace key to erase the name one character at a time and then re-write it.

The chosen Company Name and Your Name should now appear beneath the logo on the left hand side of the screen. Click Accept to complete the company configuration.

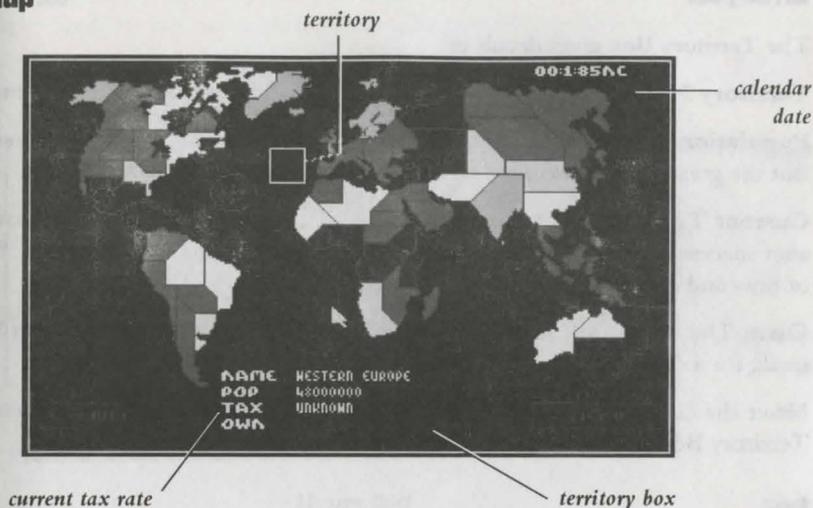
Return To Main Menu

If at any time during this process you wish to return to the Main Menu, simply **left-click** Menu.

CHAPTER 2: SELECTING A MISSION

Highlight Begin Mission with the cursor and **left-click** or press **F2** to enter the Syndicate global arena. The World Map screen is revealed.

World Map



This is divided into 50 different sized territories. Color coded according to the controlling Syndicate, the slices bear no relation to current conceptions of national boundaries but are solely the result of decades of inter-Syndicate rivalry (see *Equipment & Territories*).

After a successful mission, the World Map has changed. The territory in which you have been successful is now your Syndicate's color, and the Territory Box reveals population Status and Tax Rate. These two factors go together like ham and eggs. Raise the taxes too high and the populace gets annoyed – just check the Status! That's when they can become rebellious and need some discipline, Syndicate style!

New Calendar

The day, date and year display in the top right of the screen throughout the Syndicate challenge is reckoned according to the New Calendar (N.C.). This was introduced as the globally accepted calendar, regardless of race and religion, when the information revolution had progressed to such a degree that calendar differences threw up unnecessary barriers to communication.

Territory Box

The Territory Box gives details of:

Territory Name: Based on the traditionally most dominant nation in the territory.

Population: The higher the population, the more difficult the mission to conquer it. But the greater the reward as you've more people to tax!

Current Tax Rate: As you start the game the Tax Rate for each is unknown. Only after successfully completing a mission is the territory's Tax Rate revealed. For details of how and when you can increase this figure see *Raising Taxes*.

Own: The Syndicate currently in control of this territory. There are seven Syndicates in all; for a description of them see *Rival Syndicates*.

Move the cursor around the different territories and **left-click** to reveal details in the Territory Box.

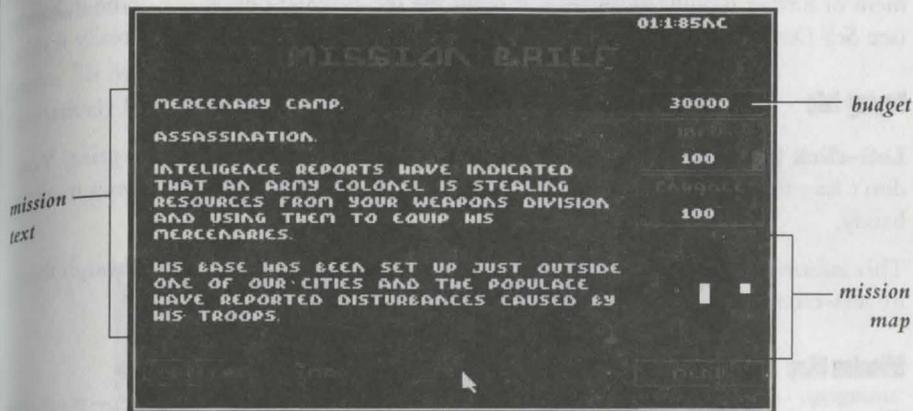
Brief

Only when the word Brief appears in the Brief window is a mission available to capture a territory. A **left-click** here takes you to the Mission Brief screen.

Return To Main Menu

Left-click Menu at any time to return to the Main Menu options.

Mission Brief



Mission Brief

The Mission Brief screen displays the mission text, your mission Budget, Info and Enhance options.

Mission Outline

The text gives an outline of the mission including drop point, defensive and offensive tactics, suggestions for suitable weapons and possibly the location of the target. The Mission Outline is expanded if you choose to buy Info.

Budget

The figure at the top of the right hand column is the mission Budget. This is used to buy all the weapons, peripherals and modifications your agents need to succeed, so spend it wisely! You can also opt to invest some of it on further mission information and an enhanced Mission Map.

Throughout the game the cost of equipment and info is deducted from this figure, while profits from taxation and weapon sales are added. This money can be used for further tooling up your troop of cyborgs, or put into Research in order to perfect still more lethal weapons and still more powerful modifications (for more info see *Research*).

When you've thrown all the cash away on unsuccessful missions the game doesn't end, but life becomes very difficult. Agents are sent into action without extra equipment or further modifications. At this point the self-destruct option can come in handy (see *Self-Destruct*). But remember, when all your agents are dead the game really is over.

Buying Info

Left-click Info and vital mission information is added to the Brief – for a price. You don't *have* to buy, but unless you have a pack of Tarot cards extra info comes in very handy.

This information is displayed on additional pages of mission text. Scroll through these by **left-clicking** the left/right arrow at the bottom of the screen.

Mission Map

The map shows the area in which the mission takes place. Initially very indistinct, the clarity of this map can be improved – for a price (see *Enhance*). **Left-click** in the desired direction of movement to see more of the map, or hold down the **left** mouse button to pan smoothly across.

The drop zone flashes red and white. Enemy agents are also displayed, flashing in red. Streets and transport routes are gray, while buildings are blue. The location of the target is not revealed as yet – you have to Begin Mission before you can find that out.

Enhance

Left-clicks on Enhance improve the definition and simultaneously increase the cost of the Mission Map. This is deducted from your budget. You can move around in this map with the mouse by holding down the **left** mouse button.

Map

If you don't fancy your agent's chances at a given Brief, **left-click** Map to return to the World Map screen. **Left-click** territories until you find a mission and brief more to your liking.

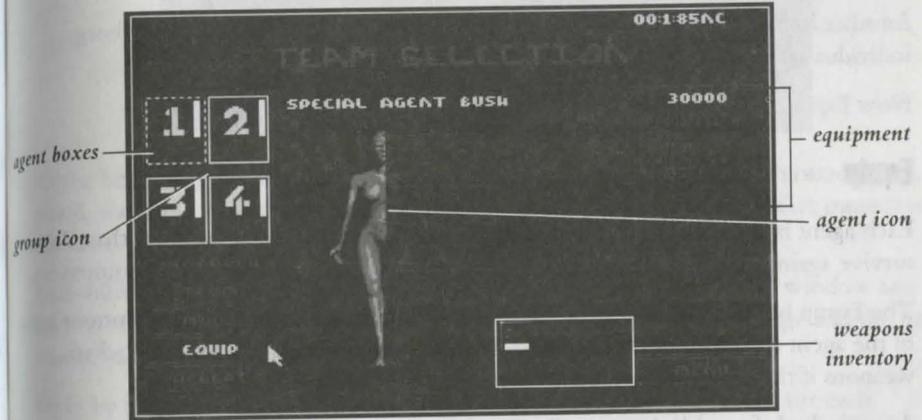
Accept

Having assessed your chances of completing the mission, **left-click** Accept. The Team Selection screen appears.

Return To Main Menu

Alternatively **left-click** Menu to return to the Main Menu options.

CHAPTER 3: PREPARING THE TEAM



Team Selection

Agent Boxes

Select, equip and modify agents using their Agent Boxes. All four are highlighted in green and the agent currently on display has a flashing, broken outline. **Left-click** in another box to change agent.

Depending on the degree of difficulty you expect to encounter, the mission budget and any other tactical considerations, you can prepare as many agents as you like for a mission to a maximum squad size of four. It's often easier to keep an eye on just a

couple of agents when the bullets, bombs and laser bolts are flying. And dead agents are just so much wasted Syndicate moolah.

De-select with a **right-click** and the Agent Box goes blank. To re-activate a de-selected agent, **right-click** in the Agent Box again. (For more information see *Team*)

Group

A **left-click** to the group icon in the center of the four Agent Boxes lets you Equip and Modify the cyborgs all at once. This can save you considerable time at the Team Selection stage.

Another **left-click** to the group icon leaves you free to customize your cyborgs individually.

Now Equip and Modify ready for a mission.

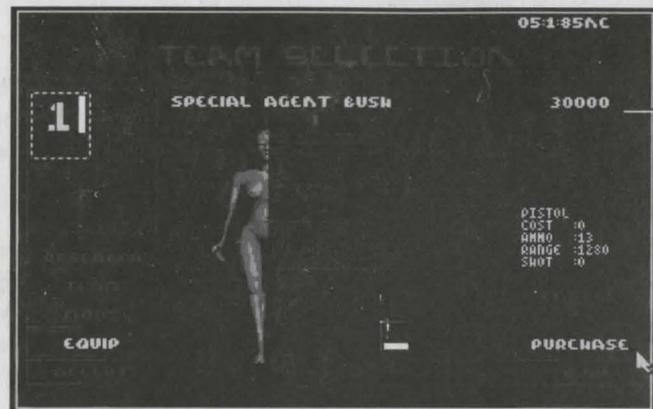
Equip

Each agent is already supplied with a single pistol, but they need far more than this to survive against enemy cyborgs and succeed in missions requiring specific equipment.

The Equip box should already be highlighted. Purchases are listed to the bottom right of the agent icon. But don't just window shop – your agents need some wicked weapons if they're to survive Syndicate.

As with the Info and Enhance options, it is up to you to balance expenditure against the requirements of a mission.

Weapon Details



weapons
detail

At the beginning of the game you have only five equipment options: Persuadertron, pistol, shotgun, scanner and medikit. Research money is needed to perfect more (see *Research*).

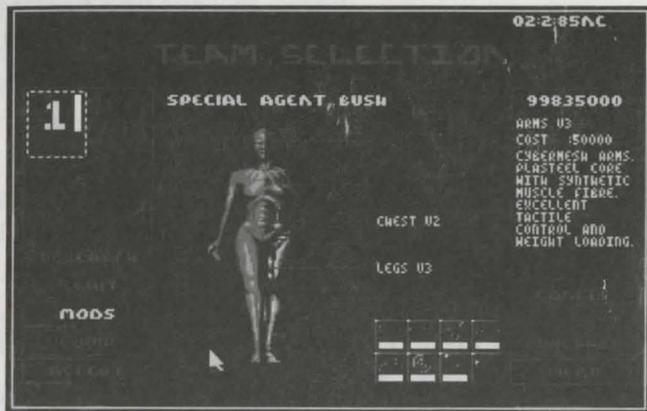
Left-click an item in the Equipment List to open the Weapon Details window and find out Name, Cost, amount of Ammo carried, effective weapon Range and the unit cost of ammo or Shot.

Only by playing Syndicate do you learn the ideal mission environment for each weapon, but for tactical hints and details of specific equipment uses see *Equipment Details*.

Purchase

Left-click Purchase to confirm purchase of an item. Weaponry and peripherals are listed next to the Equipment Window.

Left-click the Weapon Details window to close it and reveal the Equipment List again. Alternatively, click Equip to return you to the Equipment List, from where you can repeat the process. So kit out your CHIPped-out agents some more; they're soon ready for real mayhem.



Mods List and Chosen Modifications

Now that your agents have the gear, they need the brain, muscle and sinew to help them use it. To tune your cyborgs' physiques to perfection, **left-click** Mods and a list of possible modifications appears over the Equipment List. Choose between designer limbs, eyes, heart, chest and brain to produce the ultimate killing machine.

Highlight the desired modification with a **left-click**. It appears in the appropriate box beside the agent symbol and a description of its attributes appears over the Mods list.

Confirm by **left-clicking** Purchase. Your budget drops accordingly.

Versions

Each physical modification comes in three versions. As the game begins only Version 1 (V1) is available and money needs to be invested on Research before you can get your hands on Versions 2 (V2) and 3 (V3). The higher the version number, the more current the technology and the greater any advantages. But they also carry a greater price tag, so be prepared to pay through the nose.

Legs: Move your agent at much greater speed around the mission Zone than conventional legs.

Arms: Allow an agent to carry a larger amount of equipment unhindered.

Eyes: Improve awareness of oncoming hazards and better an agent's accuracy when firing.

Chest: Modify a cyborg with a metallic chest to help it survive direct hits during opposition attacks. Also contains a massive explosive charge that is triggered in Self-Destruct mode (see *Self-Destruct*).

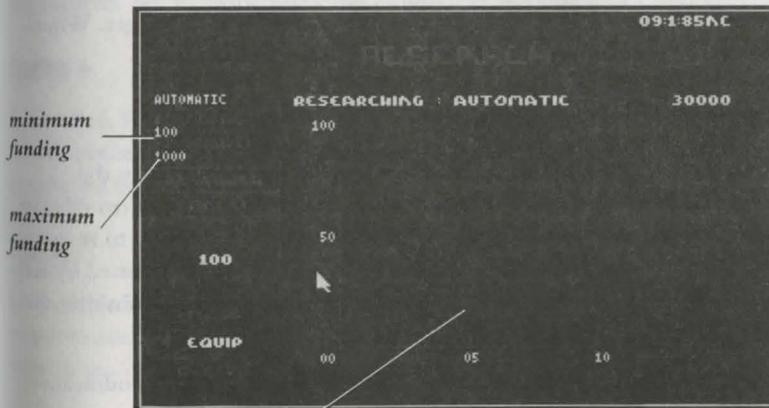
Heart: A bigger heart improves overall physical strength and durability.

Brain: Even the Version 1 brain is better than that currently installed within your agent's noggin. Vital for quick, correct decision making under pressure. Also, the higher the version brain installed, the greater the effects of the Persuadertron (for more information see *Weapons – Persuadertron*).

Research

Left-click Research to enter the Research screen.

Research Screen



development graph

Although responsibility for the victory of the Syndicate rests on your shoulders, you're not entirely without support. Syndicate scientists are working feverishly to develop more lethal weapons and modifications for your cyborgs.

But as the old saying goes, 'no bucks – no Buck Rogers'. It's up to you to channel funds into Research, from where new designs are added to the Equipment and Modification lists.

NOTE: Funding is used to develop one mod or research one piece of equipment at a time.

Equipment Development

When the Research screen is opened, the Equip box is highlighted and your Equipment Development options detailed in the Research Options window. These are usually in categories, but individual weapons are also sometimes listed. On the right is an inventory of your existing equipment. Consider the demands of forthcoming missions and the equipment your agents are lacking before deciding on the Research Option to be developed.

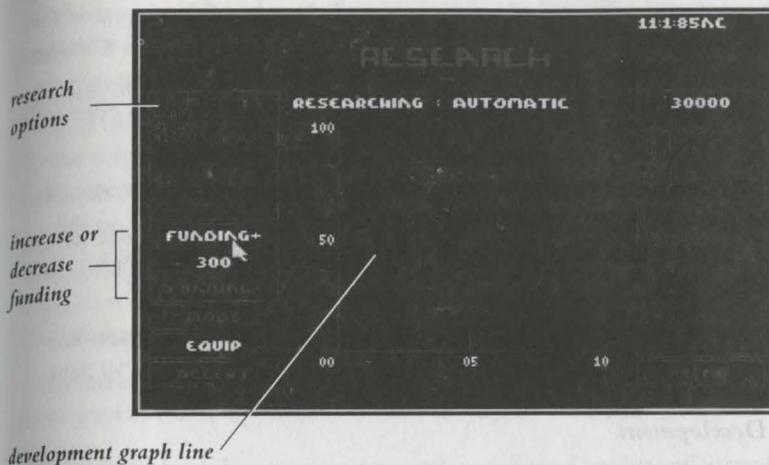
Choose a category with a **left-click** and then **left-click** Research. The minimum and maximum Dev Cost is revealed in the window. Adjust this with Funding + and Funding - buttons. The new Dev Cost is deducted from the mission budget. When you're happy with the cost and time of development, **left-click** Accept.

Modification Development

Left-click Mods and your Modification Development options are listed in the Research Options window. If Version 1 legs don't get your agents out of trouble fast enough, it might be time to invest in Version 2. **Left-click** on a V2 mod to reveal max. and min. Dev Cost, then **left-click** Research. Dev Cost can be adjusted by **left-clicking** on Funding + or Funding -, and will eventually be deducted from the mission budget. **Left-click** Accept to get the ball rolling.

Note: Your technicians need to fully develop any Version 2 modification before Version 3 updates become available.

Adjusting Development Time



Want that laser real bad? Speed up development by increasing funding. Budget looking a little thin? Reduce the speed of development and save some money. These adjustments can be made using the Funding + and Funding - options.

Funding +

Left-click Funding + to inject cash into the Dev program of Equipment and Modifications. The Dev Cost figure increases with each click, but development time is reduced (see *Development Graph*)

Funding -

Left-click Funding - to reclaim cash from the Dev program for other budgetary requirements. The Dev Cost figure goes down with each click and there is a subsequent increase in development time (see *Development Graph*).

Development Graph

The Development Graph is an at-a-glance indicator of the state of development for any Modification or piece of Equipment. Detailed on the vertical axis is % Completion and on the horizontal axis Days to Completion. The line shows this completion/time ratio and becomes shaded along its length to make the time to completion even more graphic.

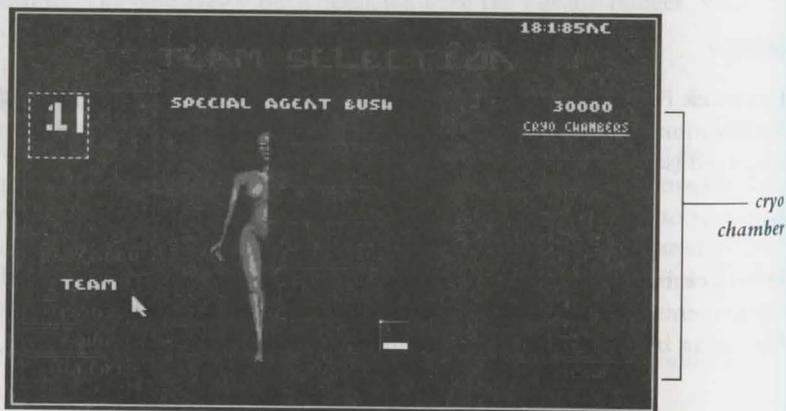
The initial Dev Cost is based on 100% Completion being achieved after 10 days. If Dev Cost is increased with **left-clicks** to Funding +, the angle of the line on the graph increases toward the vertical. Development time is reduced, down to a minimum of 1 day.

If Dev Cost is decreased with **left-clicks** to Funding -, the angle of the graph line becomes more shallow. Development time is increased, to a maximum of 10 days.

Confirming Development

When all budgetary limitations have been taken into account and the desired cost/time threshold reached, **left-click** Accept to return to the Mission Screen.

Team



Left-click Team to select your agents from the Cryo Chamber. At the beginning of a Syndicate session you have eight agents available with identical attributes, the first four of which are numbered according to their Agent Box. The remaining chambers register as Empty, but can be filled with captured agents as the game goes on.

Equipment purchases and Modifications to your agents give them more specific mission uses. They also gain experience with their weaponry as the game progresses. In this way you should develop an enviable selection of cyborg killing talent for your Syndicate.

Enemy agents captured using the Persuadertron are added to the Cryo Chamber. They bring any weapons and experience with them, and can also be modified (see *Equipment – Persuadertron*). But this isn't easy, so don't throw away the eight lives at your disposal.

Remember, any agents killed during a mission are dead and gone forever so make sure your pool of mission personnel doesn't dry up, or it's Game Over!

Choosing Team Members

Left-click Team to open the Cryo Chamber, highlight an un-numbered agent with the cursor. Highlight the next agent box and select another un-numbered name in the Cryo Chamber.

De-select an agent with a **right-click** to the numbered Agent Box.

Replacing Dead Agents

When an agent is killed, its Cryo Chamber registers as Empty and the Agent Box is de-selected. To make one of the remaining agents operational, first **left-click** Team to open the Cryo Chamber.

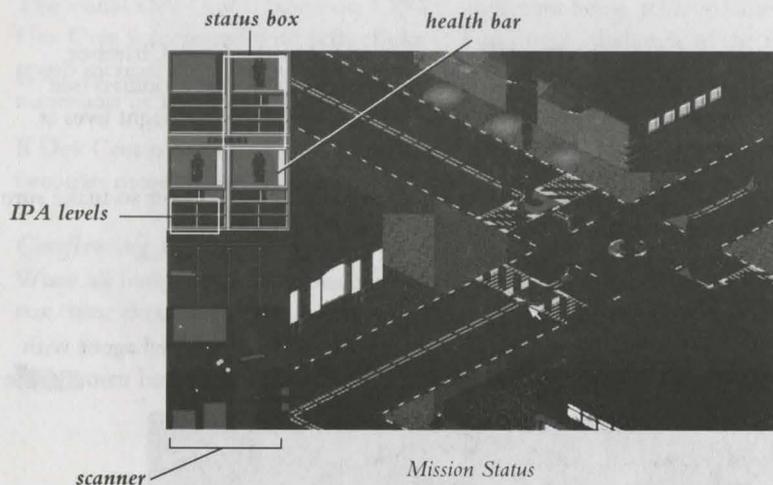
Left-click the dead agent's box for the green broken line highlight. Now **left-click** the chosen agent from the Cryo Chamber, and the Agent Box number appears beside it. (Change to another stored agent with a **left-click**.) This cyborg can now be Equipped and Modified ready for service with the Syndicate.

The number of stored agents can only be increased by persuading enemy agents to join your forces (see *Equipment* in the *Persuadertron* section).

When your boys and girls are ready to go out and play, **left-click** Accept. The Loading Game message appears and the mission begins.

CHAPTER 4: PLAYING A MISSION

Once you've adequately equipped your cyborg servants, you're ready for a mission.



The Mission Status screen displays all the information you need to lead your Syndicate agents to their target.

Status Boxes

The operational status of your agents is displayed in the Status Boxes numbered 1 – 4. Each has an agent icon that responds to movements and hits in the Mission Zone.

Health Bar

This ain't where cyborgs go for a little R'n'R! The Health Bar to the immediate right of the Status Box indicates remaining life. These cyborgs can take some punishment.

but when there's more black than white showing it's time to take evasive action. When the Health Bar is completely black, the Cyborg is dead.

The Health Bar can be restored using a MediKit (see *Equipment & Territories*).

Changing Active Agent

The active agent's Status Box is highlighted in orange. To change active agent simply left-click another Status Box.

To switch active agent you can also **left-click** a numbered agent directly in the Mission Zone.

IPA Levels

With the three bars you control injections of drugs which alter intelligence (I), perception (P) and adrenaline (A) levels in real time. These drugs modify the behavior of an agent when left to its own cybernetic devices. Accurate control of Levels is essential if you are to progress to the higher echelons of your Syndicate.

Intelligence – controls an agent's reactions to a given situation.

Perception – improves precise firing and alerts an agent to danger earlier.

Adrenaline – controls speed of reactions.

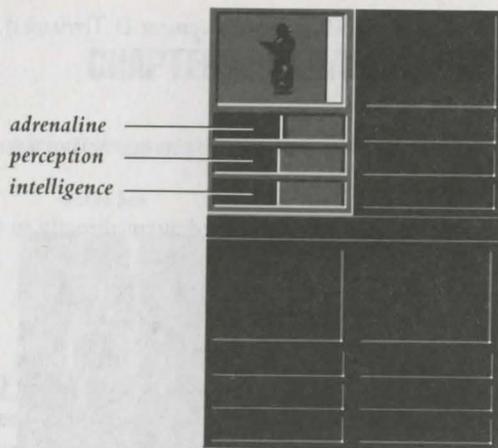
An agent with high adrenaline and low intelligence reacts quickly but erratically – he may fire wide or too soon.

Raising intelligence may prompt an agent to get out of a risky situation rather than risk his life. This is especially true in combination with higher perception.

If you want your agent to walk blindly into certain death, lower intelligence and perception together.

It's a good tactic to crank up Levels if leaving agents on lookout within the Mission Zone. They fire to defend themselves while awaiting the next command.

Adjusting Levels



Level Bars

As the bars move, the agent's actions change. All levels to maximum, the agent reacts quickly and with a high degree of operational independence. When the Adrenaline bar is the only one at maximum, the agent moves quickly but you may need to take control of firing and other responses. Intelligence and perception high, adrenaline low, the response time slow, but firing accuracy is assured. The dark segment shows amount of drug used.

Left-click to the right of the center line to increase Levels.

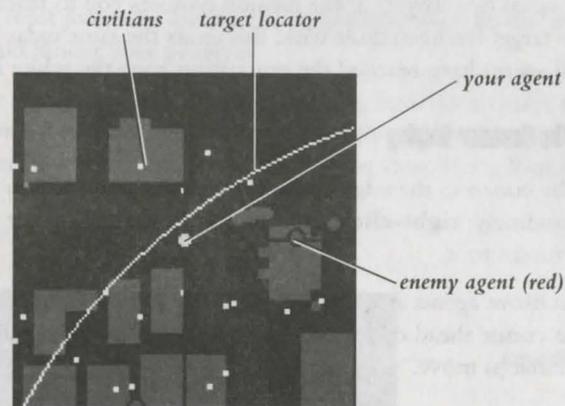
The red, blue and brown bars show dosage of the drug; the darker segment of these bars indicates the amount of drug used up. When the dark segment achieves the same extent as the normal color bar, the effect of the drug begins to diminish. The length of the level indicator falls off accordingly.

The center line moves to the right to show drug dependency; future injections need to be greater to have the same effect.

Retarding Levels to the left of the center bar with a **left-click** reduces dependency; do this when an agent is under no real threat. The longer an agent's Levels are rested, the greater the improved performance when injected later.

Note: In Group Mode any Level adjustments to a single agent affect them all.

Scanner



Scanner

From your vantage point high above the city you observe proceedings and monitor the actions of your agents. To help you plot agent moves, warn you of advancing enemy cyborgs and locate the target, the control airship is equipped with a Scanner which reproduces an aerial view of the Mission Zone.

As with the Mission Map (see *Mission Briefing*), the city's structures are displayed as blue blocks, while roads and access routes are gray.

Your agents now appear as throbbing yellow circles, as do any people, police or enemy agents caught in the grip of the Persuadertron (see *Weapons – Persuadertron*). Mission target(s) flash white/yellow on the Scanner when under the influence. Remember that to complete the mission these too must make it to the evacuation zone.

Enemy agents throb red, so keep an eye on the Scanner to spot them, while unfriendly soldiers, guards etc. who may pose a threat are displayed as gray flashing circles.

The civilian population are white specks, as are dead agents from whatever Syndicate. The police are displayed in blue.

Vehicles are shown on the scanner as white squares.

The target can be located by the radar locator line given off, and corresponding audible signal (see *Target*). If the mission requires you to reach an evacuation zone after the target has been dealt with, this emits the same radar locator as the target. Once all agents have reached the evacuation zone the white line turns red.

Moving The Scanner Display

Move the cursor to the edge of the Scanner and the Mission Zone display moves correspondingly; **right-click** a specific place on the Scanner and the Mission Zone display zooms to it.

You can move agents around the Mission Zone using the Scanner alone; **left-click** with the cursor ahead of your agent(s) in the desired direction of movement and the yellow circle(s) move.

Moving Your Agents

Your agents appear in the Mission Zone numbered 1 – 4. To plot a course position the cursor ahead of the active agent and **left-click**. This can also be done from the Scanner (see *Scanner*).

If an agent is no longer on view in the Mission Zone (you may have scrolled ahead with the cursor for a look around) a **right-click** to its Status Box zooms you back to the present position, with the active agent placed in the center of the Mission Zone display.

If your agent has entered a building, a vehicle or disappeared into a tunnel, follow the agent's dot to trace the route. This also allows you to maneuver the cyborg even when out of sight.

To display more of the Mission Zone, take the cursor arrow to the edge of the screen.

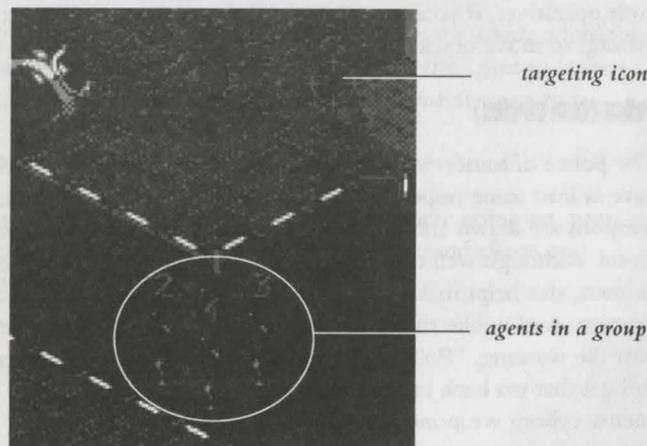
Note: Direct agents using the Scanner while you look ahead for enemy agents, etc. in the Mission Zone. Practice maneuvering using the Scanner and the cursor – you need excellent control if your Syndicate is to triumph.

Speed

To make your agents move more quickly around the Mission Zone you can increase the Adrenaline level, or invest in higher version legs. But the load an agent is carrying also has an effect, so you must judge the amount of equipment taken on the mission carefully – too much could hinder your progress.

Higher version arms give an agent greater strength allowing him/her to carry more weaponry (see *Modifications*). Naturally some weapons weigh more than others – for example carrying a Flamer slows down an agent much more than does a Pistol or an Uzi.

Group Mode



Grouped Agents/Targeting Icon

Combine all your agents in real time during the mission using Group Mode. **Left-click** the group icon in the middle of the Status Box display to team them; plot one course and all the agents follow it. In this way you can have a gruesome twosome, threatening threesome or frightening foursome on patrol.

To split your agents again, **left-click** a single agent Status Box.

In The Mission Zone

Here are some of the things you can expect to come across while playing a Syndicate mission.

Enemy Agents (red circles)

Cyborgs employed by rival Syndicates appear in the Mission Zone dressed similarly to your own, wearing large overcoats. The many folds of an agent's overcoat bulge with concealed weapons and, unlike the police who must wait for arms to be revealed (after all, the cities of tomorrow aren't safe places to walk without some form of protection), enemy agents don't stand on ceremony when it comes to gunning down your operatives. If you're not careful they are firing before you can even arm a cyborg, so move quickly.

Police (blue circles)

The police of tomorrow have a thankless task. Hampered by the need to be seen to have at least some respect for the law, they cannot fire on Syndicate agents until weapons are drawn and the streets already awash with innocent (and not so innocent) blood. Although well trained, well armed and well protected by chest armor and helmets, this helps make the police sitting ducks for Syndicate agents in need of target practice. And unlike their cyborg foe, police are only flesh and blood. Still, when you hear the warning, "Police! Put down your weapons!", it's a good idea to take note and get that uzi back in your overcoat – that is unless hot lead is already spitting from enemy cyborg weaponry.

The Target (white dot with radar signal)

The unfortunate soul who is the mission Target emits a beep, and can be located on the Scanner by the corresponding radar signal.

Note: If you have to enter a building to pursue the target, remember that the cursor becomes a targeting icon when over your prey, and turns red when a target is in range of a chosen weapon.

Vehicles (white squares)

Get in cars and trucks or onto trains by **left-clicking** the desired vehicle. The active agent walks toward and enters it. Cursor clicks in the direction of movement control the vehicle. **Left-click** the vehicle itself to stop and get your agent out.

On trains your agent has to travel to the next platform before disembarking. Wait for the train to stop and **left-click**. Your agent gets off the train.

Buildings (blue blocks)

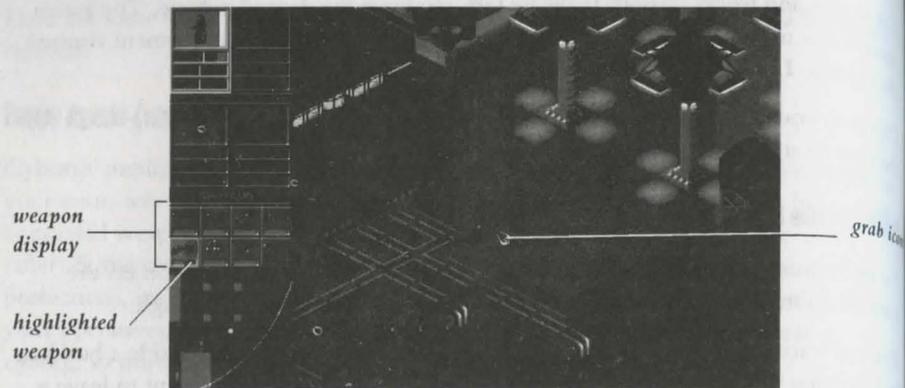
To open doors and enter buildings, simply **left-click** with the cursor icon on the selected door. The door should open and your agent walk straight through.

You can trace the movements of your agent when hidden from view inside a building by following his/her agent dot on the Scanner. When you want the agent to leave a building, **left-click** a location outside and the agent finds the shortest route to it.

Sounds

If your neighbors are complaining that they think there's a massacre going on, press F1 to turn off all sound effects. If you want to keep the noises, sound effects and explosions but turn off the music, press F2.

Using Weapons



Weapon Display and Armed Agent in Mission Zone

Only the active agent's weaponry is displayed beneath the Status Boxes. You must **left-click** a weapon before firing. This highlights it in orange – the active agent pulls the weapon from under his/her overcoat, ready to kill. It's a good idea to select a weapon well before you reach your target, where things might be hectic and swift. But take care – police recognize your cyborgs as Syndicate lackeys as soon as a weapon is drawn, and they come straight for you.

Note: When all agents are active in Group Mode, the last activated agent has his/her weaponry displayed.

Aim with the cursor and the targeting icon appears. When this is red the target is within range of your chosen weapon. **Right-click** to fire the agent's weapon once. If you are firing an automatic weapon, hold down the **right** button to spray bullets around the Mission Zone with insane abandon.

De-select a weapon from the display with a **left-click** after use to avoid detection by law enforcement officers. The agent slips the weapon back inside the overcoat.

Grabbing Weapons

The weapons of agents killed in action, whether enemies or your own, can be retrieved by an active agent. Move the cursor over to the smoking remains of an agent or police officer and the Grab icon appears. The weapon flashes red in your agent's inventory to let you know if it's worth retrieving. **Left-click** and your man-machine goes to the remains, bends down and quickly conceals grabbed weapons in the folds of his/her overcoat.

If the dead dude had multiple firepower, the Grab icon reappears after the first weapon has been claimed. Single **left-clicks** keep your agent retrieving weapons until either all are claimed or his/her inventory can hold no more.

Discarding Weapons

When all the ammo has been used up a weapon can become a burden. Drop a selected weapon from the weapon display with a **right-click** to its icon. It's up to you to judge whether your funds can cover such losses (see *Selling Weapons*), but you always have the option of picking it up again later.

Panic Mode

If things are looking bad and enemy agents mounting up around you, press **left** and **right** mouse buttons together to enter Panic Mode. Your agent automatically selects a weapon and fires a salvo of hot lead. Levels also shoot up to maximum without having to manually set them.

It ain't pretty, but it is effective.



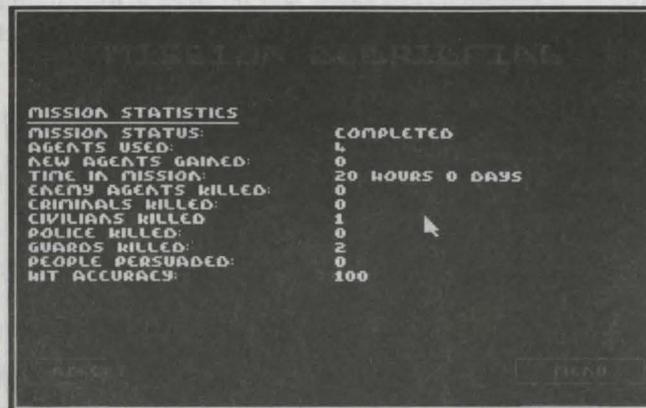
Okay, so your remaining agents are out of ammo and rival Syndicate scum are circling like vultures, ready for the kill. What to do now? If you've invested in a Chest Modification Versions 2 or 3, press **Control D** on the keyboard and the active agent blows himself to bits in a huge conflagration, taking out everyone and everything in the surrounding area. Your remaining agents (who you've positioned well out of range, of course) can then grab loose weapons and continue the fight.

Similarly, Self-Destruct comes in handy when your mission budget has been swallowed up on unsuccessful outings. Even an unarmed agent can be a lethal weapon if it successfully evades detection and reaches the target. Press **Control D** again and the mission is completed. Self-destruct earlier to relieve enemy agents of the weaponry your cyborgs desperately need.

Dead Agents

If an agent is killed, he or she falls in a messy heap within the Status Box. Dead agents forfeit all their weaponry and modifications, and are not available for further missions – hence the importance of capturing personnel for the Cryo Chamber (see *Replacing Dead Agents*).

It's better to watch for hits and respond by switching active agent to give egg-sucking enemy operatives some well-deserved payback.



Debriefing Screen

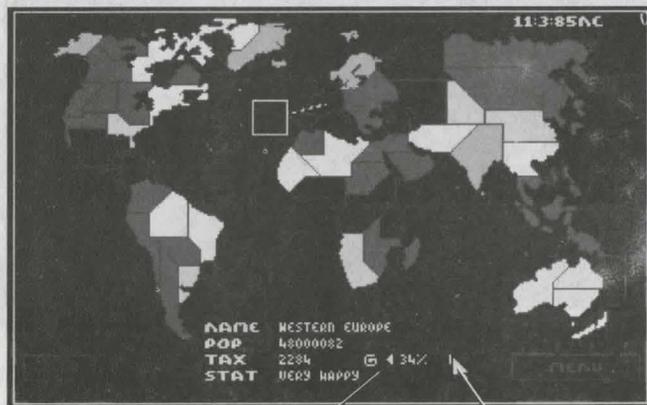
After each mission the Debriefing screen gives you the mission statistics. These include agents killed, agents used, hit percentage – a breakdown of everything that happened during the mission. If things went badly for your Syndicate, here's where you find out why.

The Debriefing screen also shows the current state of any ongoing Research, and tells you when new equipment and modifications become available.

After successful missions **left-click** Accept and the World Map display appears. One or two of the territories adjacent to that in which you have triumphed flash to indicate a Brief is available. Following unsuccessful missions, no new territories are flashing (see *Mission Failure*). Note that the territory you just conquered is now the same color as your flag.

CHAPTER 5: AFTER THE MISSION

Having successfully eradicated the first target, you are taken to the Mission Debriefing screen. **Left-click** Accept for the World Map display and see the impact this victory has had for your Syndicate.



Raising Taxes

After winning a mission you have earned the right to levy outrageous rates of tax on the helpless citizens. The Territory Box might indicate a happy population paying 14%, but that won't keep your agents in uzis and bionic implants! Raise taxes and increase Syndicate profits.

But you'd better watch for population mood changes. If you're hammering them with excessive tax demands and they're anything less than Content, the citizens can turn rebellious. You could end up fighting an extra mission (and thereby spending extra Syndicate funds) to bring the territory back in line. Check on the current mood by **left-clicking** your controlled territories at the World Map screen. Lower taxes if necessary to improve the mood and prevent rival Syndicate insurgents taking advantage.

Right-click the arrow to the right of the current tax figure to raise taxes in 10% increments, or **left-click** to increase them an agonizing single percentage point at a time. The money raised is displayed next to the tax figure; your head spins as you watch it rise! Click the down arrow on the left of the tax figure should you wish to lower the tax rate for some insane reason.

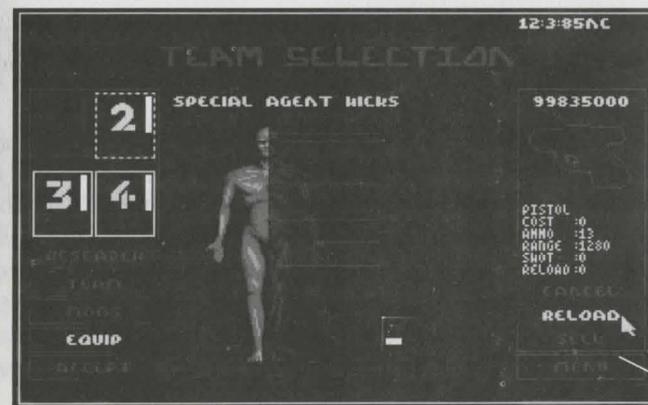
All the cash raised is added to your overall Budget over time.

Choose A New Mission

Some of the adjoining territories controlled by rival Syndicates have been de-stabilized by your success. A couple of these flash to indicate they are ripe for a takeover. You are only able to expand your Syndicate into these areas, otherwise there is no Brief available in the Brief window.

Choose a territory with a **left-click**. Click Brief to reveal the new mission and budget. As before, **left-click** Accept for Team Selection.

Reloading Weapons



Reloading

Whether your agents have won or lost a territory, those that survived may have fired. Save on the expense of all-new weaponry by purchasing a reload at a much reduced cost.

Left-click the Agent Box to see the cyborg's remaining firepower beneath the agent display. Weapons low on ammo have incomplete white bars. A **left-click** to one of these opens up the Weapon Description window. Now **left-click** Reload to return a weapon to full strength.

Selling Equipment

Trade in weaponry unnecessary to the next mission and boost your budget for new gear using the Sell option.

Simply highlight the item to be discarded with a **left-click**, and then click Sell. The weapon disappears from the agent's equipment display on the Team Selection screen. Cash generated is added to your overall mission Budget. This can be done with all Equipment, but not with Modifications.

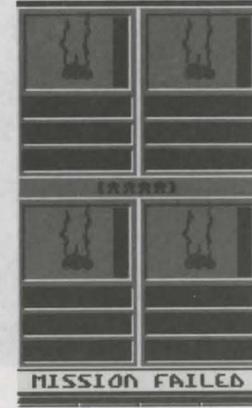
Grabbed weapons are listed along with those you purchased beforehand. You can Sell these to increase your budget, or Reload for use in the next mission.

Transferring Equipment

You don't have to leave a cyborg lumbered with a truckload of excess weaponry. Transfer equipment to agent's lacking strategically essential gear at the Team Selection screen.

To move weapons and mission peripherals among your agents, first select an agent with a **left-click** to its box. The equipment inventory is revealed beneath the agent display. Select the item of equipment for transfer with a **right-click** and, holding down the right mouse button, drag the weapon icon across to another Agent Box and release. **Left-click** the new agent's box for a look at the updated equipment inventory.

Mission Failure



If your agents fail to respond to your commands, or your commands do not come quickly enough, the mission fails. The on-screen instruction to press **Space Bar** takes you to the Mission Debriefing screen. From here, **left-click** Map for the World Map display and choose another territory (and a mission you can handle).

Left-click Brief and you're back at the Mission Brief screen. From here buy Info and Enhance if necessary, then **left-click** Accept and it's Team Selection time again (see *Preparing The Team*). Agents killed during the previous attempt are no longer available for missions. You have also lost their weapons and any money spent on modifications.

Note: If this is still the first mission you've no choice but to try again. But then, if you're having so much trouble with such an easy mission you probably aren't cut out for the Syndicate anyway.



Crashing Airship

If you're so inept that all eight cyborgs supplied by the Syndicate are killed, the game is over. As an embarrassment and a liability to your Syndicate, an explosive device hidden on board the command airship is detonated by the Syndicate Executive and you crash in flames into the city. It's a quick death, and for that you should be thankful, but you ain't exactly going down in a blaze of glory. Don't say we didn't warn you.

CHAPTER 6: LOADING AND SAVING GAMES

Left-click Load And Save Game on the Main Menu or press **F3** immediately after a mission to preserve territories, money and mission status, or beforehand to load an unfinished Syndicate session. You can Save up to 10 games.

Saving A Game

To save a game of Syndicate, highlight Load And Save Game from the Main Menu and **left-click**. The Load And Save screen appears.

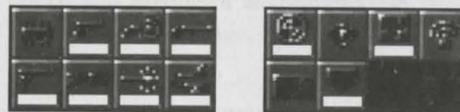
Highlight a free number and use backspace or delete to remove the word 'Empty'. Type in a name and **left-click** Save.

Loading A Game

To load a saved game of Syndicate, highlight Load And Save Game on the Main Menu and **left-click**. The Load And Save screen appears. Highlight the appropriate game number and **left-click** Load.

CHAPTER 7: EQUIPMENT & TERRITORIES

Equipment



Weapon Icons

Listed here is the complete set of weapons and mission peripherals made available to your Syndicate.

Firearms:

Pistol: Large caliber hand gun. Medium range projectile weapon. Very cheap gun that is easily outclassed but useful as a backup weapon.

Shotgun: Pump action shotgun with a large spread of shells. Does more damage than the hand gun, but let down by its lack of effective range. At close range, however, this can inflict real hurt.

Persuadertron: A short range weapon that fires a small dose of chemical which renders the target totally open to suggestion. When hit, victims momentarily turn blue, lose all free will and follow the agent who fired around the mission zone like sheep. Civilians are always open to persuasion, and you need to persuade varying numbers of civilians before the Persuadertron has any effect on guards, police or enemy agents. Also, the effects of the Persuadertron are multiplied depending upon the version brain installed in the cyborg using it.

The chart below shows the number of civilians needed to persuade guards, police and enemy agents.

Version brain	Civilian	Guard	Policeman	Agent
Brain o	A	4	8	32
Brain V1	A	2	4	16
Brain V2	A	1	3	11
Brain V3	A	1	2	8

(A = always persuaded)

Each category also has attached Persuasion Points. These work in combination with higher version brain modifications and are as follows:

Civilian = 1

Guard = 3

Policeman = 4

Enemy Agent = 32

Example 1: With brain o you need 4 civilians to control a single guard. However, because a guard is worth 3 Persuasion Points, you only need 1 additional civilian to persuade a policeman, i.e.:

Brain o	5 x civilians	1 x guard	= 1 policeman
Persuasion Points	5 x 1	1 x 3	= 8

Example 2: Thanks to Persuasion Points, with a version 3 brain you don't need to persuade 8 civilians for an enemy agent. The following combination has the same effect:

Brain V3	1 x civilian	1 x guard	1 x police	= 1 enemy agent
Persuasion Points	1 x 1	1 x 3	1 x 4	= 8

Note: Only persuaded enemy agents go into your Cryo Chamber, but you are paid for any other persuaded personnel which survive to the end of the mission.

Uzi SMG: 9mm automatic hand gun. Fast rate of fire and medium range. Plenty of ammunition and a relatively low cost make this weapon the mainstay of any offensive force.

Long Range Rifle: Very long range and extremely accurate high velocity rifle. A single shot weapon designed for picking off individual targets at a distance. Useful for assassination attempts and long range support fire.

Support Weapons:

Flame Thrower: Produces a stream of ignited jelly that sticks to targets and burns. Very short range but devastating. An effective anti-vehicle weapon or for close crowd clearance.

Mini Gun: Motor driven multi-barreled machine gun. Devastating rate of fire and a decent range make this an ideal support weapon for any squad. However, any unmodified agent attempting to carry more than one of these may encounter problems with the huge weight involved.

Laser Gun: Small rifle that uses laser light to form a beam of high powered energy that cuts through its targets and anyone or anything foolish enough to get in the way. Extremely powerful with a very long range. Ideal anti-vehicle weapon and also effective for sniping.

Gauss Gun: Portable launcher with a supply of three rockets. The rockets themselves are long range high explosives, quite capable of destroying tanks or eliminating large groups of people.

Special Equipment:

Access Card: Plastic card that allows some security doors to be opened that would otherwise prevent access to restricted areas of the city. Also identifies the agent as a Police officer which diverts Police units.

Scanner: Energy scanner for detecting possible threats or items of equipment in the area. When carried, this item displays all the people, vehicles and equipment in the surrounding area. Mission objectives are pinpointed by an identifier beam and emit a coded signal detectable by the scanner.

Time Bomb: High powered explosive that comes complete with timer and detonator. Explodes after a set time period devastating the surrounding area. The explosive is not quite powerful enough to damage structures but readily destroys people and vehicles. Just right-click the weapon icon on the active agent display, as if discarding a weapon, to drop the time bomb. Then leg it!

MediKit: A small pack that contains everything required for minor field surgery. It restores a single agent's health but may only be used once.

Energy Shield: Personal force field generator. Completely covers the individual with a protective force wall that can withstand all projectile weapons. Due to the immense power drain, this item has a very short life span.

Territories

After the fall of the world's governments national boundaries collapsed as countries were carved up by the Syndicates. For administrative purposes the holdings of a particular Syndicate were divided into territories of roughly equal population size. It is for supremacy in these territories that you fight throughout the Syndicate challenge.

Ecological upheaval, wars and population movements mean that the ethnic make-up of these territories has changed drastically since the Twentieth century. Now the sole source of conflict and, ironically, the major source of pleasure is the CHIP and the Syndicates which supply it...territories are as follows:

Western Europe	New South Wales
Central Europe	Mauritania
Scandinavia	Nigeria
Algeria	Sudan
Urals	Arabia
Eastern Europe	Zaire
Siberia	Kenya
Mongolia	South Africa
Kazakhstan	Mozambique
Kamchatka	Atlantic Accelerator
Far East	Greenland
China	Northeast Territories
Libya	Northwest Territories
Iraq	Alaska
Iran	Yukon
India	Newfoundland
Pacific Rim	California
Indonesia	Rockies
Western Australia	Mid West
Northern Territories	New England

Colorado
Southern States
Mexico
Columbia
Peru

Venezuela
Brazil
Paraguay
Argentina
Uruguay

CHAPTER 8: RIVAL SYNDICATES

The Tao: Orient-based Syndicate formed from the unification of competing Chinese Triads and Japanese Yakuza factions. Having infiltrated the monolithic Sonbushi corporation, Tao executives found they had their hands on the levers of power from the South China Sea to the Russian Steppes. Not since the days of Genghis Khan has an empire of the East spread so far West.

Tao agents are well-disciplined and equipped with the latest hi-tech weaponry, the result of millions invested in Research. Assassinations are generally immaculate with very little civilian wastage. Agents of the Tao are not a vicious or sadistic adversary, but a frighteningly efficient one.

I.I.A.: Starved of state funding for decades, the C.I.A. decided to enter the marketplace and contract out its services to the highest bidder. Using the espionage and counter-terrorism skills the organization had gained keeping the free world secure, the I.I.A (Independent Intelligence Agency) soon became the favorite third-party agency of international crime associations.

Assassination, blackmail and the overthrow of governments to order was a very lucrative business and, following a hugely successful and over-subscribed flotation, the I.I.A. entered the corporate arena. Everything was in place for their ascendancy to the top of North America's corporate tree and it was a natural progression into full-time Syndicate operations.

I.I.A. operatives are chosen for their massive muscularity. Heavy armaments are the order of the day, the logic being that a few civilian casualties helps keep the rest of the citizens in line. Expect no mercy.

The Castrilos: Unparalleled viciousness is the major attribute of Castrilo agents. Originating in Cuba just prior to the fall of Communism, this Syndicate began as a

political party dedicated to the memory of the late President Castro. When they couldn't get what they wanted through the ballot box, they turned to bombs and bullets – a far more effective way of keeping the masses in line.

Spreading through the Caribbean like a flu epidemic, this Syndicate soon established itself as a primal force throughout most of South America. A fortune was made by the Castrilos blackmailing world governments with threats to destroy what remained of the Amazon rain forest; whenever they're short a dollar or two, Castrilo executives still like to pull this old trick. A war of attrition exists between Castrilo agents and the I.I.A. as they attempt to establish a foothold in the lucrative N. American zone.

Sphinx Inc.: Sphinx Inc. executives try to expand their Syndicate into rival territories with an almost religious zeal. They aim to re-capture the lost majesty of the ancient Egyptians and establish an empire throughout Africa, the Middle East and the Mediterranean. Rivals claim this is just an excuse to commit acts of violence on a Biblical scale.

Although not the best equipped, Sphinx Inc. agents are injected with an unnatural dedication to duty. Even alone and injured they fight to the last and are far from easy to kill.

Executive Jihad: Caught between a rock and a hard place by the expansionist policies of both Tao and Sphinx Inc., and near bankrupted by World Government fines levied for exporting oil and thereby increasing world pollution, the Jihad is a Syndicate fighting for its home. But adversity is a great motivation and the Jihad executive has seen to it that its cyborgs are kill-hungry maniacs. They may be few in number and poorly armed, but you overlook the Jihad at your peril.

Tasmanian Liberation Consortium: When they exported criminals to Australia in the 18th Century, the Brits couldn't know what they'd started. Crime was a genetic certainty, and Australian youths were taught the finer points of maiming and slaughter at their mother's breasts. Unfortunately, a lifetime spent intoxicated meant that Australian criminals didn't succeed as well as their international rivals. The Tao easily established a foothold in Australasia and a lifetime of saki and sushi looked imminent.

Then, in the Great Lager Rebellion of 2140, there was an uprising led by the Tasmanian Liberation Consortium. From their hydro-electric power-generating island

base they cut off the electricity to the mainland, stunning Tao executives who could no longer operate their game consoles. They surged across the Bass Strait like beer from a barrel and drove the Tao from Australia to re-established the Barby as the Australian national pastime.

With a fortune made from exporting weak, fizzy lager worldwide to spend on Research, the TLC gained influence and were soon second only to the Tao itself as a world power. Their agents tend to be wayward in their aim, mainly because their executive controllers are always drunk, so civilian casualties are high. But TLC agents have no real sadistic streak, and only turn nasty when denied access to Vegemite.

EuroCorp.: By 2100 the European Community was suffering internal breakdown. The novel idea of compartmentalizing European affairs – with Belgium responsible for entertainment, Italy for defense, and Britain the continent's cuisine – was a nightmare scenario and trouble inevitable. Centuries-old national rivalries could not be put aside and the Germans were (to use the diplomatic language of the time) 'putting down their beach towels' on every sun lounger in Europe.

In this atmosphere of mutual distrust and aggression the CHIP was perfected. It kept the populous occupied while, in the background, competing governments fell to corporate interests and the Syndicates moved in. When the dust had settled only EuroCorp remained. But EuroCorp's monopoly of world CHIP production couldn't last forever, and soon the executive was defending itself from rival Syndicate interests on all fronts.

This is the situation into which you are plunged. Defend your Syndicate and, at the same time, use your agents to re-establish EuroCorp's pre-eminence.

CHAPTER 9: PLAYING AMERICAN REVOLT

You fought tooth and nail, and sacrificed countless cyborg agents, to gain control of the American territories. But now the natives want them back! The citizens of North and South America, tired of punitive tax rates and streets that aren't safe to walk are taking up arms against the Syndicate and looking to gain autonomy. If you let this happen, not only will it jeopardize your position as Syndicate executive, but also bring your stay on planet Earth to a premature close. Be warned, rival Syndicates look upon the American Revolt as the ideal opportunity to gain the upper hand in the ongoing struggle for supremacy. In 21 new missions you must protect Syndicate interests in the American territories, regain control from the unruly masses, and at the same time neutralize enemy Syndicate activity.

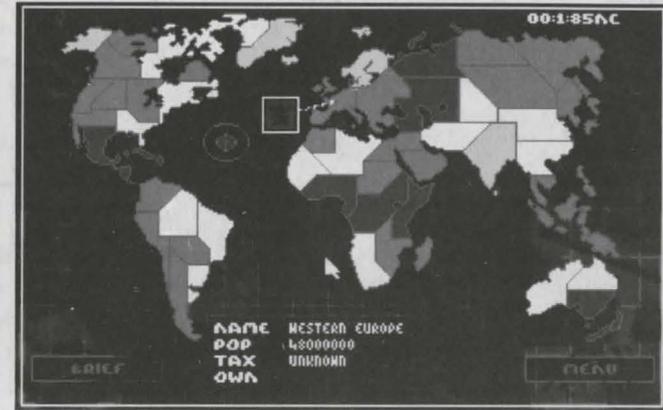
Any Syndicate executives who have let success in the original missions go to their head are in for a rude awakening. Syndicate: American Revolt is a completely different proposition. Your cyborgs will soon be facing enemy agents whose reactions are at least twice as fast as anything encountered before. They arm, aim and fire without hesitation, without mercy. If you cannot withstand the initial assault, failure comes quickly. Your weapon purchases and team selection have to be far more astute—you'll need more than a few mini guns to get through. Entire assault teams and agents whose experience allows for operational independence are also called for, as is mastery of API levels. Try to bulldoze through in group mode or go in undermanned and suffer the consequences.

Crushing the American Revolt will take all your Syndicate experience and considerable skill. The line between success and failure is thin, the results of failure terminal. Still think you've got what it takes for Syndicate: American Revolt?

At The Main Menu

You choose options at the Main Menu exactly as in Syndicate. Consult your Syndicate documentation for details. The only differences are found at the World Map and in the addition of F4. Multiplayer Game.

World Map



Left-click Begin Mission or press F2 for there World Map screen

Here only the American territories are available for missions. The dark stain of your Syndicate's color has already spread to the rest of the world. However, you can click on these territories for tax rate information, and increase the tax rate in any territory controlled by your Syndicate to boost your funds. Don't screw these territories too hard as the American Revolt can only be effectively dealt with when no other territories are rebelling.

Left-click among the American territories to find out their details in the Territory Box (see your Syndicate documentation). You can start to crush the American Revolt in Alaska, California, Columbia or the Atlantic Accelerator—these are the only territories with a Brief available when you start the game.

Having chosen a territory, **left-click** Accept and it's Team Selection time (for details of this see your original Syndicate documentation).

With the Syndicate American Revolt add-on disk, up to 8 rival Syndicate players can now compete across a computer network. This makes for a whole new dimension of gameplay—instead of the faceless computer, you now have the chance to test your agents and your own tactical skill against human opposition.

There are 10 Multiplayer missions in all, and each the sole objective is to be the last alive.

To play a Multiplayer game you need a Network that supports NETBIOS.[®] This needs to have been loaded before you run Syndicate: American Revolt. As well as satisfying all of Syndicate's original system requirements, each player needs all the required network drivers loaded and 520K of available base memory to play a Multiplayer game. User of MS DOS 5 may not be able to free up this amount of base memory without the help of a third-party memory manager such as QEMM.

To load, type NETBIOS in the appropriate directory, depending on where the utility is located (hard drive, network, etc.). For more information on configuring your system for network play, consult your NETBIOS documentation or network manager.



Main Menu

Highlight the Multiplayer Game option on the Main Menu. **Left-click** the mouse button and you arrive at the Team Selection screen. Choose Team Selection options as documented in the Syndicate manual. **Left-click** Accept now for the Multiplayer screen.

To choose Multiplayer level 1-10, **left-click** the desired level to highlight it.

To choose the Number of Players 2-8, **left-click** the arrows left/right.

When you're happy with the Multiplayer options, **left-click** Accept. The game checks for other players who have NETBIOS running and synchronizes them all before loading with your highlighted Multiplayer options. The Loading Multiplayer/Please Wait messages confirm a Multiplayer game is being loaded.

Once begun, you cannot pause a Multiplayer game, and a new mission can only begin when all the players have exited the previous mission.

Note: Each player must have an original copy of Syndicate and Syndicate: American Revolt installed on their system. Also, you must all play Multiplayer Syndicate with the same language selected.

Equipment Update

Crushing the American Revolt is quite a task. To this end the Syndicate Research team have perfected new means of destructions and more sophisticated equipment to give your agents the edge over rival Syndicate operatives.

A cloaking device which, when activated, makes a cyborg killing machine indistinguishable from a harmless civilian. Maneuver your agent around the Mission Zone without fear of attack, get in among the opposition, and then waste 'em. The problem for enemy agents then becomes, do they go on the defensive or shoot everything that moves?

Clone Shield

The Clone Shield has been designed for use in Multiplayer missions. Computer-controlled enemy agents can detect the presence of disguised agents, so don't throw away hard-earned Syndicate funds when playing against the machine.

You need to invest in Research before you can purchase a Clone Shield at the Team Selection screen (see Equip for details). To utilize the Clone Shield during a mission, **left-click** the icon in the active agent's weapons inventory (see Utilizing Weapons for details). After use, the Clone Shield slowly regenerates power before it can be used again.

Air Raid Con

When the heavies are swarming, or the target has found an impenetrable bolt hole that's going to take some blasting, don't press Self-Destruct and waste a valuable agent. The syndicate's success against military targets has been such that now you've a whole air corps at your disposal. Leave a target marker and withdraw before the jets lay waste to the Mission Zone. The results are impressive, to say the least.

You need to invest in Research before you can purchase an AirRaid Con at the Team Selection screen (see Equip for details). After the initial cost, an additional 50,000 credits is deducted from your budget every time you call an Air Raid Con. Be warned—

make sure Air Raid Con is not the selected weapon when your agents enter Panic Mode, or all your budget could be thrown away calling multiple Air Raids.

To call an Air Raid Con during a mission, **left-click** the icon in the active agent's weapons inventory (see Utilizing Weapons for details). Now **right-click** the area of the Mission Map to which you want to lay waste. The '10 second to Air Raid Con' indicator on the message bar ticks away to zero, while you clear your agents prior to total destruction.

Problems With The Game?

If you are having a problem installing or playing the game, we want to help. First, please make sure you have read the installation instructions thoroughly.

If you have followed the directions in the documentation, and are still having trouble installing or operating the software, below are some hints that might help solve the problem.

NOTE: Before attempting any of the following suggestions, please make sure you are familiar with the DOS commands being used. Consult your DOS manual for more information.

Video Card Troubleshooting

Some video cards have a 'Turbo' option which enables 'zero wait states.' this needs to be disabled in order for Syndicate to work.

Troubleshooting

If you are having trouble playing your SYNDICATE game, the information in this section may help you get going again.

Checking The Amount Of Available Memory

Many problems are caused by the machine not having enough AVAILABLE conventional (or Base) memory. Although almost all machines have 640K of Conventional Memory, TSRs, device drivers, and other types of memory resident programs will take away from the amount of available base memory.

MS DOS 5.0 or higher users can check the amount of available base memory by typing MEM/C and then pressing the ENTER key. Towards the bottom of the screen, the number next to "Largest Executable Program Size:" is the amount of available base memory. If you want to see which drivers are loaded into Conventional Memory and there is too much information to view on the screen at once, type MEM/C MORE to view your computer's memory information one screen at a time. Press any key to view the next screen.

NOTE: On certain machines you may only be able to access the MEM command from within the DOS directory. On these machines, type C:\DOS\MEM /C and then press the ENTER key to access the memory configuration.

If this number is less than 565K (572,000 bytes) then you probably don't have enough available base memory to run your SYNDICATE game. You should remove any memory resident programs to free up the memory needed.

MS DOS 5.0 or higher users can check the amount of available Extended memory (XMS) also by typing MEM/C and then pressing the ENTER key. The line that states "FREE EXTENDED (XMS)" or "BYTES FREE XMS MEMORY," will display that amount of Extended memory available. If this number is less than 3072K (3,098,000 bytes), then you probably don't have enough available EXTENDED memory to run your SYNDICATE game. In order to free up additional memory, refer to the following section.

Freeing Up Additional Memory Using The DOS Boot Disk:

READ THIS SECTION COMPLETELY BEFORE YOU BEGIN.

To configure the Boot Disk to free up enough available base memory and to set up Extended Memory (XMS):

1. Back up your CONFIG.SYS and AUTOEXEC.BAT files before editing them to that you can return to the originals if you have any problems. To back up the files type COPY C:\CONFIG.SYS C:\CONFIG.BAK and press the ENTER key, then type COPY C:\AUTOEXEC.BAT C:\AUTOEXEC.BAK and press the ENTER key.
2. Copy the CONFIG.SYS and AUTOEXEC.BAT files from the root directory (C:\) on your hard drive to the root directory (A:\) onto the Boot Disk that you have just created.

Example: At the C:> prompt, type COPY C:\CONFIG.SYS A:\ and then press the ENTER key. To copy the AUTOEXEC.BAT file, type COPY C:\AUTOEXEC.BAT A:\ and then press the ENTER key.

3. Open the copy of the AUTOEXEC.BAT file using the EDIT program from MS DOS 5.0:
 - i. Type CD\DOS and then press the ENTER key.
 - ii. Type EDIT A:\AUTOEXEC.BAT and press the ENTER key.
4. From the Boot Disk copy of the AUTOEXEC.BAT file, delete all lines, except the following:

```
@ECHO OFF
PROMPT $P$G
PATH=C:\DOS
LH <path> \MSCDEX.EXE [parameters regarding individual CD-ROM
hardware setup]
```

<path> is the directory in which your drivers are located.

The MSCDEX.EXE CD-ROM driver will be located in a directory that is created when your CD-ROM hardware is installed. MS DOS 6.0 users; the MSCDEX.EXE driver is also located in the C:\DOS> directory.

[parameters regarding individual CD-ROM hardware setup] will vary depending on your particular CD-ROM player. This information should already be included after the MSCDEX.EXE driver in the AUTOEXEC.BAT file you have just copied. For additional information regarding the installation and setup of your CD-ROM player, please consult your CD-ROM documentation.

The mouse driver is normally located in one of the following directories:

C:\MOUSE, C:\WINDOWS, C: OR C:\DOS.

If you do not have a line that loads your mouse driver, you must load a mouse driver before running your SYNDICATE program.

Example: LH C:\MOUSE\MOUSE.COM

NOTE: Your mouse line may be different if you are NOT using the MOUSE.COM mouse driver. Do not change this line if it looks different. Drivers that have a .SYS extension will be loaded through the CONFIG.SYS file and you should leave that line the same when you are editing the CONFIG.SYS file. If you have other questions about loading your particular mouse driver, consult your mouse documentation or DOS manuals.

5. Save the edited AUTOEXEC.BAT file and open the Boot Disk copy of the CONFIG.SYS file from within EDIT.
 - i. To save, press Alt-F to bring down the File menu and press the "S" key.
 - ii. To open, press Alt-F, press the "O" key and then type "A:\CONFIG.SYS" and press the ENTER key.
6. While still in EDIT, delete all lines from the Boot Disk copy of the CONFIG.SYS file EXCEPT the following:

```
DEVICE=C:\DOS\HIMEM.SYS
DOS=HIGH,UMB
FILES=40
BUFFERS=20
DEVICEHIGH=C:\<CD-ROM driver>
```

<CD-ROM driver> will vary depending on your particular CD-ROM player. If your CONFIG.SYS file does not contain the last two lines of the above example, please consult your CD-ROM documentation.

- i. If the HIMEM.SYS and memory manager file are not located in the DOS directory, replace DOS with the name of that directory in the first two lines of the above example (eg. C:\WINDOWS). If you have not moved these files, then they will be located in the DOS directory and your file should look identical to the three lines above.

<CD-ROM driver> will vary depending on your particular CD-ROM player. If your CONFIG.SYS file does not contain the last two lines of the above example, please consult your CD-ROM documentation.

7. Save the edited CONFIG.SYS file and Exit the EDIT program.
 - i. To save, press Alt-F to bring down the File menu and press the "S" key.
 - ii. To Exit the EDIT program, press Alt-F and then press the "X" key.
8. You now have a boot disk which should free up enough available base memory and set up EXTENDED Memory (XMS). You can start your computer from this disk by inserting it into the A: drive and restarting your machine. Your computer will boot up to the A:> prompt. Type "C:" and then press the ENTER key to return to the hard drive. This boot disk bypasses the AUTO EXEC.BAT and CONFIG.SYS on your hard drive and starts up your computer in as clean a DOS environment as possible. Try reinstalling the software if you were having trouble doing so, or try starting the software from the directory you installed to.

For more information on editing your CONFIG.SYS and AUTOEXEC.BAT files, or on changing your startup configuration, please consult your DOS manual.

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WING COMMANDER™

Vengeance of the Kilrathi™

DELUXE

II

EDITION



WING COMMANDER® II

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Commands Between Missions

D	Delete a saved game (at console)	+/-	Increase/Decrease pointer speed
L	Load a saved game (at console)	Alt-x	Escape to DOS
P	Pause cinematic scene	1-5	Adjust text speed (fastest-slowest)
S	Save a game (at console)	Esc	Cancel command/Skip conversation

Space Bar/Left Mouse Button/Joystick Button #2: Advance through cinematic scene

Commands During Spaceflight

A	Engage autopilot	F4	View rear/Go to Broadsword or Sabre rear turret
C	Select Communication panel/ Clear incoming communication	F5	Chase plane view
D	Display ship damage screens	F6	Battle view
G	Select ship's gun type (or tractor beam)	F7	Tactical view
J	Hyperjump (Broadsword only)	F8	Missile camera view
L	Lock Targeting computer/Activate I.T.T.S. (if available)	F9	Tailing views
M	Change message duration	Esc	Leave Nav Map or current mode
N	Once to select Navigation	Tab	Afterburners
NN	Twice to view new Navigation screen/ Again to view next Nav point	Bkspc	Immediate stop
P	Pause game	Alt-A	Send "Attack my target" message
R	Replay mission recording	Alt-B	Send "Break and Attack" message
T	Select targeting computer/change target	Alt-D	Request wingman damage report
V	Enable/Suppress comm. video	Alt-F	Send "Keep Formation"/ "Form on My Wing" message
W	Select weapon system	Alt-H	Send "Help Me Out Here" message
1-5	Adjust message speed (fastest-slowest)	Alt-T	Taunt enemy pilot
F1	View front	Alt-X	Exit to DOS
F2	View left/Go to Broadsword left turret	Ctrl-E	Eject from ship
F3	View right/Go to Broadsword right turret	Ctrl-M	Toggle music on/off
		Ctrl-S	Toggle sound on/off

USING A JOYSTICK

Between missions: Move the joystick to maneuver the arrow-shaped pointer around the on-screen picture. When the pointer's shape changes into a cross, press button #1 to select functions.

In Space: The diagrams on the right show the movements of the joystick and the use of the joystick buttons for basic flight control.

- **Turn left or right** by moving the stick in the appropriate direction.
- **Climb or dive** by moving the stick toward or away from you.
- **Fire selected guns** by pressing button #1. You can fire while maneuvering.
- **Fire the afterburners** by double-clicking button #2.

USING A MOUSE

Between missions: Move the mouse to maneuver the arrow-shaped pointer around the on-screen picture. When the pointer's shape changes into a cross, press the left mouse button to select game functions.

In Space: When you move the mouse, a white, circular pointer appears in the viewscreen. Your ship homes in on the pointer. Maneuver by moving the mouse until the pointer is where you want to go. You travel in that direction until you move the mouse to a new position.

- **Turn left or right** by moving the pointer toward the left or right side of the viewscreen.
- **Climb or dive** by moving the mouse toward or away from you.
- **Stop diving, climbing or turning** by placing the white pointer inside the green sights in your viewscreen.
- **Roll the ship** by holding down the right button and moving the mouse left or right.
- **Kick in the afterburners** by double clicking on the right mouse button. Release the button to stop the afterburners.
- **Increase speed** by holding down the right button and pushing the mouse away from you.
- **Decrease speed** by holding down the right button and pulling the mouse toward you.
- **Fire selected guns** by pressing the left mouse button.
- **Fire selected missiles** by pressing both buttons simultaneously.

USING A KEYBOARD

Between missions: Use the arrow keys or numeric keypad to move the arrow pointer. When the pointer's shape changes into a cross, press **[Enter]** to select functions.

In Space: Both the numeric keypad (with Num Lock off) and arrow keys are active for controlling flight.

- **Gradual turns** are initiated by pressing a directional key alone. Let up on the key and you continue straight ahead in the direction of your last key press.
- **Sharp turns or rolls** are initiated by pressing **[Shift]** and the appropriate key simultaneously. Let up and you continue in a straight line.
- **Climb or dive** by pressing the up or down arrow.
- **Roll left** by pressing the **[Ins]** or the **[<]** key.
- **Roll right** by pressing the **[Del]** or the **[>]** key.
- **Increase speed** by pressing the + (plus) key.
- **Decrease speed** by pressing the - (minus) key.
- **Decrease speed quickly** by hitting the **[Backspace]** key.
- **Fire your afterburners** in a short burst by pressing **[Tab]** or * (numeric keypad). Hold down the key to keep your afterburners lit.
- **Fire selected guns** by pressing **[Spacebar]**. You can maneuver at the same time.
- **Fire selected missiles** by pressing **[Enter]**.

INSTALLATION CHECKLIST

Wing Commander II is one of the most powerful entertainment products available today, utilizing the most powerful home computer configurations available. Because *Wing Commander II* incorporates state-of-the-art graphics, sound, music, and speech, it is very important that you follow all of the installation procedures that apply to your specific computer configuration very carefully, and very accurately!

This **Installation Checklist** has been provided to further insure that you are able to fully realize all of the many powerful features incorporated into *Wing Commander II* that your particular computer system is capable of handling. If you continue to experience difficulty installing *Wing Commander II* after carefully considering all of the information provided to you by this **Installation Checklist**, please contact ORIGIN's customer service department at (512) 335-0440 for further assistance.

Special Note. To play *Wing Commander II* from a CD-ROM drive, you must load DOS 5.0 high. For more information about loading DOS 5.0 high, see the **Expanded Memory/DOS 5.0** section of this manual.

Do you have enough base memory?

To determine your amount of base memory, and whether you have enough free to play *Wing Commander II*, see the **Memory Usage** section and also refer to the chart below:

Wing Commander II base memory requirements

	No Sound Board	Ad Lib or Roland	Sound Blaster
VGA without speech	583K	583K	583K
VGA with speech	N/A	N/A	587K expanded memory

Does your system have "FILES=15" (or higher) and "BUFFERS=6" (or as low as 2) in your "CONFIG.SYS" file?

You may experience an occasional game crash or Memory Allocation error while playing *Wing Commander II*. If you are confident you have enough BASE memory (see above), it is possible you do not have your FILES parameter in your CONFIG.SYS file set high enough. To check this, type:

```
TYPE C:\CONFIG.SYS RETURN
```

Look for a line that reads: FILES=xx
and a line that reads: BUFFERS=yy

If "xx" is less than 15, or "yy" is greater than 6, or there is no CONFIG.SYS file or there is a CONFIG.SYS file but it contains no "FILES" line, this is probably the source of your problem. Consult your DOS documentation to find out how to increase your FILES statement to 15 and reduce your BUFFERS statement to 6, then try running the game with the new value.

Do you have enough hard drive space?

You must have at least 1 megabyte of drive space available for minimum installation. Your hard drive is used for temporary storage and is used to save your game.

Are you unable to hear speech with your Sound Blaster or does your game crash during the opening introduction?

Run the WINSTALL program from the root directory of your CD drive (see **Quick Install**) to determine your IRQ setting. Consult your Sound Blaster manual for instructions on setting it.

QUICK INSTALL/TUTORIAL

This description of a *Wing Commander II* mission is all you need to begin playing. No mission can be duplicated precisely by each player, but follow it as closely as possible to familiarize yourself with the game.

Note. This mission description assumes you have a joystick. (If you use a mouse or keyboard instead of a joystick, consult your **Reference Sheet** for equivalent commands.) Many of the instructions in this tutorial tell you to press joystick button #1. Button #1 is usually the button on the stick itself (or, if there is more than one button on the stick, the one on the front, intended to be activated by the forefinger). Determine which button is #1 as soon as possible.

Quick Install

1. Make sure you have approximately 1 megabyte of free disk space on your hard drive.
2. Insert the CD-ROM disk into your CD-ROM drive.
3. Log onto your CD-ROM drive by typing its drive letter followed by a colon (i.e. D:) and pressing **Enter**.
4. Type WINSTALL and press **Enter**. (When you want to play the game without reconfiguring, simply type W[C]2 and **Enter** and you will be taken straight into the game.)
5. The first time you run WINSTALL, you will be asked which drive you want to use for temporary storage and for saving your game. Simply use the up/down arrows to select the correct drive and press **Enter** (most users should select Drive C:).
6. After selecting a storage drive, you will be asked several questions about your hardware configuration. Read the on-screen instructions and answer the questions for your type of system configuration. See the **CD Installation/Configuration** section for more information regarding configuring your system correctly.

Note. To use the speech accessory pack for *Wing Commander II* be sure to choose "Yes" during installation when asked if you want to hear digitized speech.

Tutorial/Your First Mission

1. When the installation/configuration process is complete, you will be taken straight into the *Wing Commander II* introduction.
2. The *Wing Commander II* introduction begins. If the game doesn't load properly, skip the rest of the mission description and turn to the **CD Installation/Configuration**. If that doesn't help, refer to the **Troubleshooting** section.
3. One or two text boxes appear. The first says "Start New Game." The second, which only appears if you've played *Wing Commander II* before says "Resume Current Game". For now, you want to start a new game, so position the pointer over "Start New Game" (the pointer will become a cross) and press button #1.

Note. If the pointer moves even when the joystick is still, calibrate your joystick: Press **J** and follow the on-screen directions.

4. The introduction begins. Sit back and watch the action that follows. As in a movie, the first few minutes of the game contain important background information. If you're unfamiliar with the *Wing Commander* story, you may also want to read **The Story So Far...** section of the **Play Guide**.

If you find that the animation and speech are out of sync, try turning off the "turbo" setting (if applicable) of your computer.

5. A computer console appears, with the phrases "(T)ransfer an existing personnel file" and "(C)reate a new personnel file" displayed on its screen. Select **C** to create a new character. When prompted, type a first name, last name and callsign for the new character, pressing **Enter** after each. None of these can be longer than 12 characters.

If you find that the animation and speech are out of sync, try turning off the "turbo" setting (if applicable) of your computer.

The Barracks

6. At the conclusion of the log-on sequence, you see a full-screen picture of your barracks onboard Caernarvon Station, where you begin the game. Screens like this one appear throughout *Wing Commander II*, allowing you to control the flow of the game. For a complete description of these scenes, see the **Play Guide**. For now, though, move the pointer to the open door. The text "Fly Mission" will appear at the bottom of the screen. Press button #1 to continue.

In Space

7. After you and your wingman, Shadow, discuss your upcoming mission, there's an animated sequence showing you climbing into your fighter, preparing for launch. When the sequence ends, you find yourself at the controls of your ship, already in space. In space, you can pause the game at any time by pressing **P**. Pause the game now and take a moment to examine your cockpit. Resume play by pressing button #1, or any key.
8. Press **N** to view your mission map. Your current destination, "Nav 1," is highlighted in yellow. Press **Esc** to return to the cockpit.
9. Note the white cross on the radar screen and in your viewscreen. Use your joystick to maneuver your ship until the cross is centered within the green crosshairs on the viewscreen. (Maneuvering instructions are on the **Reference Sheet**.) Press **A** to activate your autopilot and fly to Nav 1.

Combat

10. Before reaching Nav 1, you drop from autopilot to battle Kilrathi ships. Shadow says she's spotted the enemy. Press **C** to activate communications and press **T** twice to tell her to attack.
11. Press **+** to increase your speed to maximum (approximately 500 kps).
12. Check your radar screen (the circular screen on the left). The red dots on the screen are enemy ships. The blue dot is your wingman. Maneuver until the enemy ships are in the center circle of the radar display—that means you are heading straight for them.

13. When an enemy ship on your viewscreen, press **T** to activate your targeting computer. Red brackets appear around one of the enemy ships and the image of a *Sartha* fighter appears on the VDU screen. Press **L** to lock onto this target. The red brackets turn into a solid red box.

14. Use the joystick to maneuver until the green targeting crosshairs in your viewscreen appears on your target and press button #1 repeatedly to fire your mass driver cannons. If the target runs away, double click button #2 to fire your afterburners for a burst of speed. If the target gets out of your forward view, search the radar screen for a small red cross. That's your target—maneuver until it's back in the center of the radar display.

15. As your blasts hit, damaged parts of the *Sartha* turn red on the VDU display (the screen in the center of the cockpit). Continue fighting until you destroy all of the enemy ships. (This may take a few tries—if you die, you are offered the option of continuing the story or replaying the mission. For now, replay the mission. Later you may want to see how the story unfolds.)

16. After all enemy ships in the area have been destroyed, you should find that you have reached Nav 1. Press **N** to bring back your Nav computer. "Objective Reached" flashes on the bottom of the VDU screen (the display in the middle of the cockpit). Press **N** again to go to the Nav map. Your next destination, Nav 2 (in the asteroids) should be highlighted. Press button #1 to leave the Nav map. Note that the autopilot light on your console is glowing. Press **A** to use the autopilot and travel to Nav 2. (If the light is not glowing you must first center the white cross inside the green crosshairs on your viewscreen before pressing **A**).

Return Flight

17. Before you reach Nav 2, you come out of autopilot near the asteroid belt. (The autopilot light on your console is now off.) Using the **-** key, quickly reduce your speed to 250 kps, the safest speed to travel through asteroids. Dodge them, but keep an eye on the white cross. That's your destination—don't get lost in the asteroid belt!
18. After leaving the asteroids, the "AUTO" light comes on again. Press **A** to use the autopilot and head for Nav 3. (Make sure the autopilot light is on.)
19. Just prior to Nav 3, your ship will come out of autopilot. Once again, Shadow will inform you that she has seen enemy ships. When you have defeated all your enemies press **A**. (Make sure the autopilot light is on.) You emerge from autopilot near Caernarvon Station.

Back Home

20. In this mission, the debriefing sequence begins on your arrival near Caernarvon. That isn't the case with every mission—sometimes you have to request landing—so you'll need to read the **Play Guide** thoroughly after this mission. For now, though, watch the debriefing for a rundown of how you performed your first time out. Once the debriefing is over, you see the landing sequence. After you're safely back on Caernarvon, you return to your barracks room.

21. Back on the station, you have the options of saving the game, continuing the story, going directly to the next flight mission or exiting to DOS. These actions can all be performed by moving the pointer over the items in the room and reading the text at the bottom of the screen. (For more information, consult the **Play Guide**.)

Congratulations, you have just finished the first mission of *Wing Commander II*. Read the rest of this manual to get an even better feel for the controls and the missions.

CD INSTALLATION/CONFIGURATION

This information is for those who had trouble installing the game during the **Quick Install/Tutorial**. You may also wish to consult this section if you upgrade your system and want to change your configuration.

INSTALLING THE GAME

1. Make sure you have approximately 1 megabyte of free disk space on your hard drive. Your hard drive is used as temporary storage during game play, plus is used to store your save game files.
2. Insert the CD-ROM disk into your CD-ROM drive.
3. Log onto your CD-ROM drive by typing its drive letter followed by a colon (i.e. **D:**) and pressing **Enter**.
4. Type **WINGCOMMANDER** and press **Enter**.

The Installation Screen

The installation program detects your hardware configuration and displays information about your system on the left side of the screen. On the right side of the screen, a series of menus appears, with the current configuration option highlighted on each menu.

To change your configuration, use the arrow keys on your keyboard to move the highlight bar and press **Enter** to select a highlighted option. Note that the first letter of each option is displayed in red—in addition to using the arrow keys, you can select an option by pressing the appropriate red letter.

To cancel installation at any time, press the **Esc** key. This returns you to DOS.

Menu 1:

Selecting the Music and Sound System

A sound board is not required to play *Wing Commander II*, but if you wish to hear the game's musical score and enhanced sound effects, you must have a sound board installed.

If you have one, highlight the sound board that is installed in your computer. If you do not have one of the supported boards (Roland MT32/LAPC-1, Ad Lib or Sound Blaster), highlight "PC Speaker" (sound effects only) or "No sound." Press **Enter**. (The game runs slightly faster when you select "No sound.")

Menu 2:

Selecting Digitized Speech

If you have a Sound Blaster or 100% compatible digitized sound board, you can hear characters talking during flight and in several animated scenes. Choose "Yes" when asked whether you want to hear the digitized speech. If the install program has trouble finding your sound board, it may ask for some more information about it—if you cannot answer the questions, consult the documentation that came with your sound board.

If you have more than one sound board installed, you can use one for your music and sound effects and a different one for digitized speech. If, for example, you have a Roland sound board and a Sound Blaster, you can select the Roland on menu 1, and answer "Yes" on menu 2 to hear Sound Blaster speech. When you play *Wing Commander II*, you would then hear Roland music and effects and Sound Blaster digitized speech.

Completing the Procedure

A screen appears asking if the configuration is correct. If not, press **N** and reset the options as you prefer. If the information displayed accurately reflects your system configuration, press **Y** and the installation program saves the information. When installation is complete, you will be taken straight into the game.

MEMORY USAGE

You must have at least 640K of RAM to play *Wing Commander II*. Regardless of the amount of RAM in your machine, you must have 583,000 bytes of free RAM to run the game.

Use the DOS command, **CHKDSK** or **MEM**, to determine how much RAM memory is free. If you have less than 583,000 bytes free, you do not have enough free RAM and the game will not run.

You may want to remove memory-resident programs that are unnecessary for system usage from your **AUTOEXEC.BAT** and **CONFIG.SYS** startup files.

If you have too little main memory and do not want to reconfigure your system, we suggest you make a bootable DOS system floppy disk to start your computer prior to play. The procedure for creating a startup floppy disk is described in **Troubleshooting**.

Expanded Memory/DOS 5.0

Memory beyond 640K can be allocated as "expanded memory" which *Wing Commander II* uses to provide extra graphics and sound. During installation and loading the game, you will be told if expanded memory was detected.

Expanded memory is not the same as "extended memory"—if your computer has extended memory. For further information, consult your software dealer or the documentation that came with your expanded memory manager.

386 Systems. To access enhanced graphics and sound, you must use an expanded memory manager program. Two of the most common ones are QEMM.SYS (which comes with Quarterdeck's *Desqview*) and EMM386.SYS (which comes with Microsoft *Windows* and DOS 5.0), but there are others. Memory managers are installed by adding a line to the CONFIG.SYS file on your computer.

The Microsoft *Windows* memory manager, EMM386, allocates only 256K of expanded memory unless you specify a greater amount. Your *Windows* documentation can tell you how to increase this. Allocate 1 megabyte or more expanded memory. In addition, you must have HIMEM installed to use the *Windows* memory manager. Your CONFIG.SYS file should include the following lines in this order:

```
DEVICE=<PATH>\HIMEM.SYS
DEVICE=<PATH>\EMM386.SYS 1024
```

To use EMM386 with DOS 5.0, your CONFIG.SYS file should read a bit differently:

```
DEVICE=<PATH>\HIMEM.SYS
DOS=HIGH
DEVICE=<PATH>\EMM386.EXE 1024
```

In the lines just above, <PATH> is the directory in which these files are found, usually C:\WINDOWS.

The more expanded memory you have available, the more game features you'll get. The program loads game features into expanded memory, stopping once all available memory is used. The features are loaded in this order:

1. 64K digitized speech buffer (only if digitized speech is selected)
2. 64K VCR replay buffer
3. Extra space objects (the jump flash, large explosions and debris, etc.)
4. Cockpit animations, such as the pilot's arm
5. Spaceflight music
6. Unique Kilrathi missiles (as opposed to the generic Human missile)
7. Cockpit views (to make switching cockpit views faster)
8. Tractor beam shapes
9. On-the-fly graphics: ship-specific debris, communication screen faces, etc.

Consult your hardware dealer or your expanded memory manager documentation for more information about configuring expanded memory and determining how much expanded memory is available.

To play *Wing Commander II* from a CD-ROM drive, you must load DOS 5.0 into high memory. To do this, simply include the following line in your CONFIG.SYS file: DOS=HIGH. This command frees more of the base 640K for use by *Wing Commander II*.

PLAY GUIDE

THE STORY SO FAR...

In *Wing Commander*, you and the other starfighter pilots of the TCS *Tiger's Claw* fought against overwhelming odds, leading the Confederation forces to victory over the Kilrathi Empire in the Vega Sector.

Next, during *Wing Commander The Secret Missions*, the *Tiger's Claw* was ordered to report immediately to the Deneb sector, where the Goddard Colony was under attack by Kilrathi forces. But before the *Tiger's Claw* could enter the fray, the enemy used a devastating secret weapon to destroy the colony. You and your fellow pilots played a deadly game of hide and seek with the Kilrathi fleet. Ultimately, the secret weapon was destroyed...

Then, during *Wing Commander The Secret Missions 2: Crusade*, the Kilrathi declared a holy war. A huge Kilrathi fleet maneuvered toward an isolated star system and a planet of peaceful, primitive natives. After a Kilrathi renegade defected, you flew a Kilrathi ship in a series of "undercover" missions. Finally, you discovered the secret reason for the holy war and saved the Firekkan race.

Soon after, however, disaster struck. While the *Tiger's Claw* was attacking the *K'tithrak Mang*, you encountered several fighters that faded mysteriously from sight. Even your radar couldn't track them! Not wanting to panic the *Claw* over what you thought to be a radar malfunction, you went looking for the ghostly fighters.

The search delayed your return to the *Claw* just long enough for the fighters to destroy the hapless carrier.

Landing on the TCS *Austin*, you learned that you were the only pilot to encounter these "stealth" fighters. Furthermore, your flight recorder disk mysteriously disappeared right after you landed. Brought before a general court martial, you were charged with treason, and your claims about stealth fighters were ignored.

A lack of evidence led to the treason charges being reduced to mere negligence, but you incurred the wrath of certain flag officers, Admiral Tolwyn among them. Your career appeared to be over.

But you're still a pilot in the Terran Confederation Navy and in *Wing Commander II*, your goal is to defeat the Kilrathi enemy. Each mission you fly (and your success or failure in each mission) affects the Confederation's chances for ultimate victory. *Wing Commander II* presents one campaign in the on-going war. *Special Operations 1* and *2* continue the story.

STARTING THE GAME

The first thing you see when you begin play is the *Wing Commander II* logo sequence, followed by the main menu. Here you are asked if you want to "Start New Game" or "Resume Current Game."

If you are a first-time player (or you want to start the game again from the beginning), select "Start New Game." If you have already played *Wing Commander II* and wish to pick up where you left off, choose "Resume Current Game."

To make the choice, use your joystick, mouse, arrow keys or numeric keypad to move the pointer until it is over the option you want. The pointer changes into a cross. When the cross is over the option you want, press joystick button #1, the left mouse button or **[Enter]**.

Start New Game. If you choose "Start New Game," you may see a screen asking you which campaign you wish to play. This screen will only appear if you have installed one or both of ORIGIN's *Special Operations* scenarios. Move the pointer to the campaign you wish to play and press button #1, the left mouse button or **[Enter]**.

Once you have selected a campaign, the introduction begins, bringing you up to date on events in the *Wing Commander* universe. When this is over, the Terran Confederation Navy Personnel Database computer appears on the screen. Follow the prompts, choosing "(T)ransfer an existing personnel file" or "(C)reate a new personnel file."

Transferring Characters

If you choose to transfer a character from another *Wing Commander* game, you will be asked the drive and pathname where that game exists. For example, if the original *Wing Commander* is installed in the C:\WING directory, you would type C:\WING\GAMEDAT when requested. Once the program has found your saved-game files from the other game, it will present you with a list of the characters you may transfer.

Once the list of transferrable characters appears, highlight the one you want (using the joystick, mouse or arrow keys) and press button #1 or **[Enter]** to make your selection. You'll be asked to type in your first name. The other statistics—last name, callsign, total sorties, total kills—are read from the old saved-game file.

Special Note to *Wing Commander I* CD-ROM Users:

Due to the length of the directory name used in the *Wing Commander I* CD-ROM version, you must copy your saved game files to your hard drive's root directory. This is accomplished by typing

```
COPY C:\ORIGIN\WINGCMDR\GAMEDAT\*.WLD C:\
```

This command copies your *Wing Commander* saved games files to your hard drive's root directory. If you are using a drive other than C, substitute that drive letter in the above example. Now, when the WCII Transfer Character option asks where your copy of *Wing Commander* is installed, type C:\.

Creating a New Character

If you choose to create a new character, you will be asked for your first and last names and your character's callsign. Each may be no more than 12 letters long. Be careful when entering these—once you press **[Enter]** after typing a name, you can't go back to edit it. To change a name, you must create another new character.

After this information has been entered, move the pointer off the on-screen computer and press button #1 to continue.

Resume Current Game

If you choose "Resume Current Game" on the main menu, you bypass the on-screen computer and go directly to the barracks or ready room (see **Non-Flying Interactive Scenes**, for details).

Note. In *Wing Commander II* you never have to save your game. It is saved automatically as you play. Once you've played the game for a while, choosing "Resume Current Game" places you back at the barracks, just after the last animated sequence you saw (if you ended your previous play session after watching one), or just before a combat mission (if you stopped playing during a mission).

However, a *Wing Commander II* campaign can unfold in a variety of ways, and it is often helpful to save multiple game positions. You will probably want to save your game manually from time to time. For information about saving games, see **Computer Console**.

THE INTERFACE BETWEEN MISSIONS

Between missions, you select game functions by using a joystick, a mouse or arrow keys to move a pointer around the on-screen picture. As you move the pointer, it changes shape and color to indicate whether a game function is available in a particular location.

An *arrow* means that no game function is assigned to the area under the pointer.

A *cross* means a function is assigned to the area under the pointer. (The specific function assigned to an area is indicated in text appearing at the bottom of the screen.) To select a function, press joystick button #1, the left mouse button or the **[Enter]** key.

Note: If you use the keyboard, pressing the shift key while you press an arrow key doubles the speed of the pointer as it moves across the screen. To increase the pointer speed for an entire play session, press **[+]** on the numeric keypad until the pointer moves at an acceptable speed. To slow the tracking speed, press **[-]** on the keypad until the pointer slows to an appropriate speed.

If you ever make a mistake or change your mind, pressing **[Esc]** cancels most actions and returns you to the previous menu.

Non-Flying Interactive Scenes

At various points during the game, you are shown a room in which you can save your game and perform other activities: either the barracks or a pilot ready room, depending on your position in the plot. Each activity available in these rooms is keyed to a part of the scene. Moving the pointer onto a section of the screen reveals its function (described by text at the bottom of the screen). Move the pointer over an area and select its function as described above. The active areas are:

Hanger Door. Select this door for your next flight mission briefing. If this door is closed, there are still some animated scenes to see before the next mission; selecting the closed door means you may miss part of the story. When the door is open, the story is complete (for now), and you should go ahead and click on the open door to fly the mission.

Barracks Door. Select this door to watch the cinematic scenes leading up to the next mission. These scenes update the story, telling you when you have done well and when the Kilrathi have gained the upper hand. If this door is closed, you have already seen all the scenes; selecting the closed door will replay those scenes. When the door is open, there is more story to be seen, and you should click on the open door to watch it. Press **[Spacebar]** repeatedly to speed through the animated scenes. Press **[Esc]** to return immediately to the barracks or ready room. **[Spacebar]** and **[Esc]** are disabled when speech is enabled.)

Computer Console

This lets you save a game, load a game or delete a character. It's the only place you can manually save your game. Saving games manually allows you to keep multiple characters or pick up the game at a point of your own choosing.

Selecting the computer console displays a close-up of the computer, with a menu on the screen. The menu allows you to (S)ave or (L)oad a game or (D)elete a previously saved game. Move the pointer to the option you want, or hit **S**, **L** or **D**. (To leave this screen at any time, press **Esc** or select the on-screen computer's ON/OFF button.) Once you choose Save, Load or Delete, you are presented with a numbered list of saved-game slots. All of these are empty (indicated by rows of dots) when you begin play.

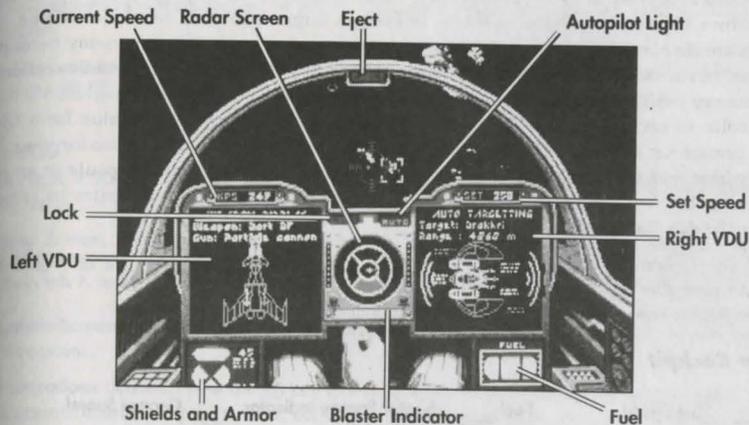
To save a game. Saving a game puts a copy of your current game into the slot you select, overwriting any saved game that was in the slot previously. Go to the list of saved game slots, as explained above. Move the pointer to an empty row of dots, or a game position you don't mind losing, and select that slot. (You can also select a slot from the keyboard by pressing the number corresponding to the one you want.) When prompted, type any comments you have about this saved game—enter anything you want, up to 32 characters long. Press **Enter** to return to the on-screen computer. Press **Esc** to return to the game.

To load a saved game. Loading a saved game restores the game to the exact state it was in when you created that saved game. To load a game, go to the list of saved game slots and move the pointer to the slot containing the saved game position you wish to resume. Press joystick button #1, the left mouse button or **Enter** to select that saved game. Press **Enter** to return to the on-screen computer. Press **Esc** to return to the game.

To delete a saved game. Deleting a slot clears out the saved-game data that was in that slot. To delete a game, go to the list of saved game slots and move the pointer to the slot containing the saved game position you wish to delete. Press joystick button #1, the left mouse button or **Enter** to select that saved game. Press **Enter** to return to the on-screen computer. Press **Esc** to return to the game.

Note. When you create a new character or load a saved game, your new choice replaces what was your "current game" the last time you played. If you think you might want to return to your current game position, save it before creating a new character or restoring an earlier saved game.

Epee Cockpit



Mission Briefings

Immediately prior to every mission, you will be briefed about your objectives and available resources on that mission. You may get information during organized briefings, when your character discusses a mission with others prior to takeoff, or even when you're already in space.

However you find out about the mission, you will usually learn about your objective, your navigation route and your wingman assignment (though some missions are flown solo).

Tactical Tip: Don't bother writing down the details of your navigation route—this information is automatically loaded into your ship's computer.

IN THE COCKPIT

During a *Wing Commander II* campaign, you will fly several types of ships. Though each cockpit has a slightly different arrangement, they all have basically the same screens and provide basically the same information. A picture of each cockpit is provided to allow easy identification of controls and gauges.

Viewscreen

The viewscreen provides a clear view of space directly ahead of you. A green circle with crosshairs shows where your ship's guns are aimed. Brackets indicate the position of a ship you currently have targeted. Hostile ships have red brackets, friendlies have blue brackets. When other vessels communicate with you, white brackets appear around them. When a target is locked (see **Targeting System**), the brackets turn into a solid box.

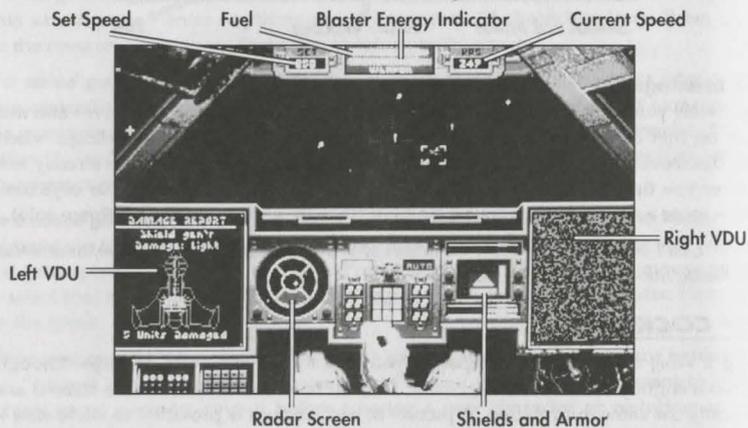
Radar Display

The circular screen in every cockpit is a radar display. This display, divided into six sections, shows how far you have to rotate to bring a target into your front viewscreen. Radar contacts are displayed as dots. A dot in the outermost ring represents an enemy behind you; the center circle shows the position of enemies ahead of you; and the four middle sections represent enemy positions alongside, above or below you.

The color of each dot indicates what it is: red is for an enemy fighter, blue for a friendly fighter, orange for an enemy capital ship, gray for a friendly capital ship, white for your carrier or home base and yellow for a distress beacon (an ejected pilot or a data capsule or an enemy missile targeted on you). In VGA graphics mode, the shade of the dot indicates its range: the brighter the dot, the closer it is.

Tactical Tip: To head toward a target, select the dot on the radar display that represents that target. Maneuver your ship until that dot is centered in the inner-most circle of the display. A dot centered in the radar display represents a ship directly ahead of you in your viewscreen.

Rapier Cockpit



Left VDU (Video Display Unit)

On the left VDU is a profile of your fighter, showing its current status. This display has two modes, for weapons and for other components.

Pressing **[W]** or **[G]** brings up the weapons display. The text at the top of this display tells you what guns and weapon systems are currently active; the graphics below show where the weapons are located and how many remain undamaged. Repeatedly pressing **[W]** cycles through the available weapon systems (missiles, torpedoes and/or chaff pods); **[G]** (for “guns”) cycles through the available combinations of blasters. A fighter’s blasters can include laser cannon, mass driver cannon, neutron guns and particle cannon. For maximum firepower (and power consumption) the “Full Guns” option fires all of a ship’s blasters at once.

For more about blasters and weapon systems, see **Weapons**.

Repeatedly pressing **[D]** cycles you through screens displaying damage your ship has taken. Most undamaged systems appear in green. Damaged systems are in red, with a description of the system.

Note. The first ship you fly, the *Ferret*, is a primitive patrol fighter and has no left VDU. On this fighter, the **[W]**, **[G]** and **[D]** keys have no effect.

Right VDU

The right VDU displays the Targeting screen, the Navigation screen and the Communications screen.

Targeting Screen. Press the **[T]** key to display the Targeting screen. This screen gives the status of the ship you are currently targeting and appears automatically when you fire your ship’s guns.

Navigation Screen. Press the **[N]** key to display Navigation information and to see how far to the next Nav point.

Communications Screen. Press the **[C]** key to bring up the Communication screen, showing both your communications options and, on computer systems with enough expanded memory, incoming video from other ships when they communicate with you.

Note. The *Ferret*’s one VDU, in the center, is considered the “right” VDU.

For more about the right VDU functions, see **In-Flight Systems**, beginning below.

Armor and Shields Indicator

Bars on this screen indicate the status of your ship’s armor and shields. These bars diminish as armor and shields take damage. Shields gradually regenerate unless the shield generator is destroyed. Once damage gets through a shield, armor begins taking damage. Armor doesn’t regenerate.

Fuel Indicator

This bar shows how much fuel you have. It becomes shorter as you use up fuel. Afterburners boost speed dramatically, but expend fuel at a ferocious rate, so use them sparingly. If you run out of fuel, you will coast on reserves, unable to use afterburners until you return to base.

Speed Indicator

There are two speed gauges. “Set Speed” shows the speed your fighter tries to maintain on its own (like a car’s cruise control). “KPS” shows your ship’s current speed, in kilometers/second.

To increase your speed, press **[+]**. To decrease it, press **[-]**.

For a sudden burst of speed, press **[Tab]** or double click joystick button #2/right mouse button to momentarily ignite your afterburners. The longer you press, the longer they remain lit.

Tactical Tip: The safest speed for negotiating asteroid fields is 250 kps.

Blaster Indicator

This gauge shows the power level of your ship's gun capacitors. Frequent use of guns runs down your power. When you run out of power, your guns stop firing until the capacitors have at least partially recharged. Guns recover power gradually. (Recovery is slowed if your shields are also regenerating.)

Eject Warning

This light flashes if your ship has sustained significant damage. When the eject warning starts flashing, you must decide how serious the situation is and whether to eject or not. If you decide to eject, press **[Control][E]**. When you eject, you are offered two options: "Replay Mission" and "Continue Story." Selecting Replay Mission sends you back to a point just after you launched so you can try the mission again. Selecting Continue Story sends you to a debriefing (during which you may be chewed out by your superior officer for costing the Confederation a starfighter), but you will live to fight another day.

Tactical Tip: In certain circumstances, such as when you and your carrier are deep behind enemy lines, enemy activity makes it impossible to recover ejected pilots. In those cases, ejecting will prove fatal! You will be warned during the mission briefing if it will be too dangerous to eject during the upcoming mission.

IN-FLIGHT SYSTEMS

Targeting System

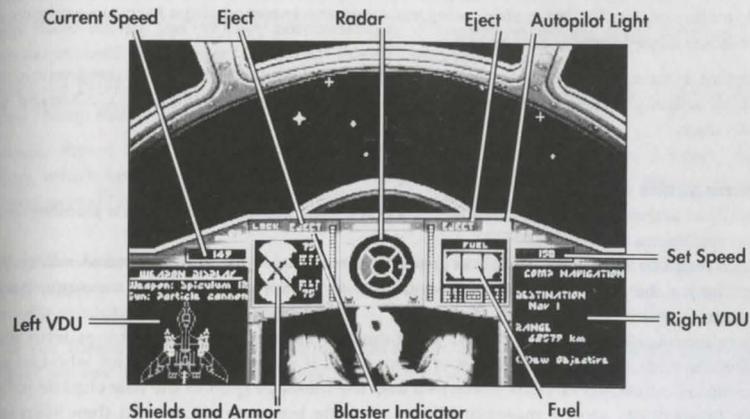
When the Targeting screen is up (accomplished by pressing **[T]**), it displays a profile of the ship you have targeted, along with any damage the target may have sustained.

When the targeting feature is activated, an enemy ship in your view screen will be automatically targeted. Brackets appear around the enemy ship. You can only target one ship at a time. Normally, you lose the lock on a target you are no longer facing. If you want to keep a target locked even when you are not facing it, press **[L]** to lock onto a target when that target is on the screen. A locked target is indicated by a solid box, rather than the open brackets.

You must have your current target locked to use the I.T.T.S. or fire a torpedo. (See **Improved Target Tracking System**, or **Torpedoes**, for more information.)

Tactical Tip: If you've just dispatched an enemy in the midst of a crowded dogfight, and you don't want to divert your attention from the viewscreen to look at the radar, just set your fighter into a spin or tight turn. Out of the corner of your eye, you can see whenever the right VDU switches from its neutral status to the Targeting screen. Even if the next target is just out of sight, (left, right, up or down from where you are currently looking), the Targeting screen will come up and you'll know you are facing an enemy.

Sabre Cockpit



Navigation System

When you press **[N]** to enter Navigation Mode, the Nav screen shows your currently selected Nav point and the distance you must travel to reach that objective. Pressing **[N]** a second time brings up the full-screen Navigation map, so that you can give it a good look. While you view the Nav map, game time is suspended—you can study the mission in as much detail as you want, for as long as you want.

Each mission you fly consists of several objectives at different Nav points. Using the keyboard, joystick or mouse, you can move the pointer to any Nav point in your current mission. When you point at something, it will be highlighted, and notes about it appear on the right side of the Nav map. You can also scroll through the Nav points (and the information about them) by repeatedly pressing **[N]**. Pressing **[Enter]** exits you from Navigation Mode and returns you to the cockpit screen.

The last Nav point you highlighted becomes your new destination. Also, when you reach a Nav point, the navigation computer intelligently (and automatically) selects the next assigned Nav point for you. You can either fly there manually or activate the autopilot and let it take you to your next objective (see **Autopiloting System**, below).

Tactical Tip: The Nav map is drawn in only two dimensions, so it is possible for your ship to appear to be right on a Nav point while your ship's systems indicate that you are thousands of kilometers away from your objective. This simply means that you are "above" or "below" the Nav point.

Autopiloting System

When you activate Navigation Mode, a white cross appears on your radar display and in your heads-up display. Both crosses represent the location of the current selected Nav point relative to your starfighter. To reach your selected Nav point, maneuver your ship until these crosshairs are centered in their respective displays. (Centering one centers the other automatically.) Keep the crosshairs centered and you will eventually reach your destination.

In practice, you can abort the trip by activating the autopilot. If there are no hazards (enemy ships, asteroids or mines) in the area, the autopilot light (marked "auto") goes on. Press **A** to elect autopilot. Your ship, wingman and any escorted ships form up and proceed to the Nav point automatically as a group.

Autopilot automatically disengages a few thousand meters from your destination. It also disengages when you encounter enemy vessels or hazards (asteroids, etc.), allowing you to deal with them.

Communications System

Press **C** to activate the Communication screen. This presents you with a numbered list of potential recipients for your message.

Select a receiver by pressing the corresponding number key, and a second numbered menu appears listing the messages you can send to that person. To send the message, press the appropriate number key.

The communications system checks your current situation and determines who you can communicate with and what messages you can send. If there is only one pilot who can receive your communication, no menu is presented and the message goes to the sole eligible recipient.

When other pilots send a message to you, a white box appears around their ship in your viewscreen. Their messages appear at the top of the screen, unless you have a digitized sound board supported by *Wing Commander II* and have installed the optional *Speech Accessory Pack* (sold separately). In that case, you will actually be able to hear their radio messages directly.

To exit Communications, press **C** or **Esc**.

*Tactical Tip: The most frequently used messages can be sent instantly, without entering Communications mode, simply by pressing **Alt** and a single letter key simultaneously. These **Alt** key combinations are listed below.*

Wingman Orders. Wingmen sometimes disobey, but you can give them the following orders:

- **Break and Attack** (**Alt B**). A command to leave formation and engage enemy fighters within 12,000 meters. Your wingman will not attack a capital ship until you do. (See "Attack My Target" command, below.)

- **Keep Formation** (**Alt F**). Denies a wingman's request to break and attack on his own initiative. This only applies to a wingman who is currently in formation.

- **Form on My Wing** (also **Alt F**). Tells your wingman to return to formation and follow your vessel. This only applies to a wingman who has broken formation, either to attack or to return to base.

- **Return to Base** (no **Alt** key combination). A command instructing your wingman to immediately head for home. If this order is obeyed, your wingman won't be available to help you for the duration of this mission.

- **Help Me Out Here** (**Alt H**). A command to your wingman to engage the enemy attacking you.

- **Attack My Target** (**Alt A**). A command telling your wingman to engage the enemy you have currently targeted. This is the only way your wingman will attack an enemy capital ship, but

remember that certain capital ships can only be attacked with torpedoes—if your wingman won't be able to harm a target, he'll refuse this command.

- **Keep Radio Silence** (no **Alt** key combination). A command telling your wingman to send no messages until you send a "Broadcast Freely" message.

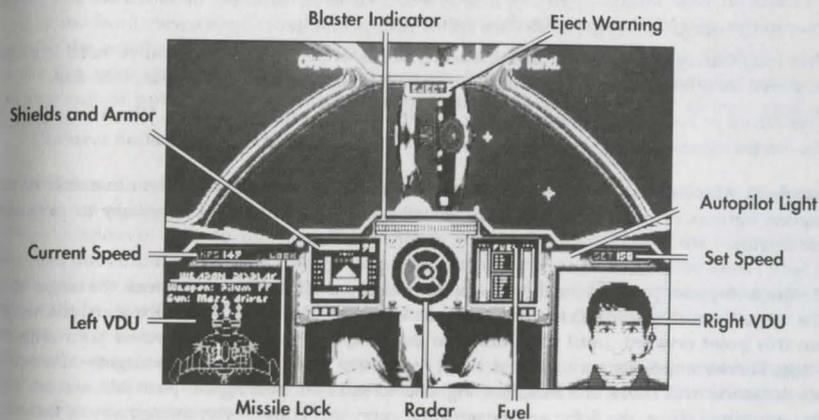
- **Broadcast Freely** (no **Alt** key combination). Allows your wingman to talk to you. This negates "Keep Radio Silence."

- **Damage Report** (**Alt D**). If possible, your wingman broadcasts to you a damage display of his ship, which appears in the right VDU. This display remains on and is constantly updated until you press **T** or **N**, at which point the link is broken.

Taunting the Enemy. When you have an enemy ship targeted, you can activate Communications to bring up a menu of taunts. Select one of these and your insult is sent to the target. You can send a random taunt by pressing **Alt T**.

Tactical Tip: Taunts sometimes attract enemy ships to you, drawing fire away from a ship you are protecting, or perhaps saving a wingman whose ship has been damaged.

Broadsword Cockpit



Weapons

Depending upon which ship you're flying, you may have blasters, chaff pods, missiles and/or torpedoes available to you. In larger ships, like the *Broadsword* and the *Sabre*, you can switch from the front viewscreen to turrets positioned at the sides and rear of the ship. Each weapon type serves a different purpose and is used in a somewhat different manner than the others.

Blasters. These are the basic spacecraft weapons. To fire your blasters, line the target up in the green crosshairs on your viewscreen and press joystick button #1, the left mouse button or [Spacebar].

Chaff Pods. To use a chaff pod, press [W] until the pod is selected. Then press [Enter] or both fire buttons to drop the pod, as if it were a missile. The pod falls behind your ship, and all enemy missiles targeted on your ship fly toward the chaff pod instead of toward you.

Tactical Tip: Be sure to drop the pod at the last possible instant and kick in your afterburners. Don't wait too long, or you'll be in the missile's blast radius anyway. Use chaff near the beginning of a large dogfight, when there are several missiles targeted on you—it works on every enemy missile at once! When there's just one missile coming in, you're usually better off dodging, or just taking the hit, than using up one of your precious chaff pods.

Missiles. There are four missile types—Dumb Fire, Heat-Seeking, Image Recognition and Friend or Foe. Press [W] until the missile you want is selected. Then fire by pressing both joystick or mouse buttons simultaneously or by pressing [Enter] on the keyboard.

- With the *Dumb Fire* missile, you line up a target by eye, then fire.
- The *Heat-Seeking* missile automatically locks on a target when you're on his tail. When lock is possible, a red circle (the lock indicator) appears on your viewscreen. Maneuver until this is positioned on your target. When the lock indicator blinks and the words "Missile Locked" appear in the right VDU screen, fire the missile.
- The *Image Recognition* missile automatically locks on a target when you've held it in the viewscreen for a few seconds. Wait until the red, circular lock indicator blinks, then fire.
- The *Friend or Foe* missile automatically targets the nearest enemy ship. When launched, it seeks out the closest enemy (or the nearest ship with a damaged communication system!).

Torpedoes. Capital ships are equipped with special shields that are invulnerable to the weapons fighters normally carry. Special missiles called *torpedoes* are necessary to penetrate these shields.

To fire a torpedo, press [W] until the torpedo is selected. Then press [L] to lock the target ship. If the target is a valid torpedo target, the lock indicator will slowly move toward the target. From this point onward, until you complete the lock, you must not maneuver your ship too quickly. There's a little leeway, but you must fly mostly straight toward the target—any significant deviation will break the lock, forcing you to start all over again. (For this reason, only turret-equipped ships, the *Sabre* and *Broadsword*, carry torpedoes, even though any of the other fighters could theoretically handle the missiles.)

When the lock is complete, the red targeting crosshairs begin to flash. At that point, press [Enter] (or both joystick- or mouse-buttons) to launch the torpedo. A single torpedo will generally kill a freighter or corvette, unless the target's flak cannon shoot down the incoming missile. It takes one or two torpedoes to get through the armor on the larger capital ships, followed by another torpedo or two into the now-unprotected side to finish the ship off.

Tactical Tip: Once you start the torpedo run, reduce your set speed and switch to the turrets. Your autopilot will keep a straight course and will inform you when the torpedo lock is complete. If there is any enemy fighter cover, your only defense during the torpedo run will be your turrets.

Turrets (Broadsword, Sabre).

Two of the ships you fly, the *Broadsword* and the *Sabre*, have multiple guns. In addition to the standard complement of front-firing weapons, the *Sabre* has a turret in the back, and the *Broadsword* has three turrets (one to the rear, one to the left and one to the right).

To access a turret, use the view keys ([F2] - [F4]):

- [F2] Switches you to the *Broadsword's* left turret
- [F3] Switches you to the *Broadsword's* right turret
- [F4] Switches you to the *Broadsword* or *Sabre's* rear turret

From the turret, you can fire turret-mounted blasters and use the tractor beam.

Blasters. When you switch to a turret, your ship goes on autopilot—flying straight as possible while attempting to avoid ships and other obstacles. The joystick (or mouse or keyboard) now controls the horizontal and vertical movement of the turret. White tick marks on the turret's radar screen indicate the limits of turret movement. When a white line is centered in the radar screen, you have rotated the turret as far as it will go in a given direction.

As in the front viewscreen, crosshairs appear in the middle of the turret screen. Center your target in the crosshairs and press joystick button #1, the left mouse button or [Spacebar] to fire. As you fire, your blaster indicator shows the power level of your ship's gun capacitors. When you run out of power, your guns stop firing until the capacitors have at least partially recharged.

Tractor Beam. In addition to standard turret-mounted weapons, the turrets in the *Broadsword* and *Sabre* are equipped with a new device—a tractor beam.

First, maneuver next to the target and match speeds with it. Access the rear turret as described above and press [G] to change from your active weapon to the tractor beam. Line the target up in the crosshairs and press the fire button. As long as you keep the target centered in the crosshairs, it will be pulled closer and closer to your ship. If the target moves too far from the center, it is lost and the beam shuts off.

Once the item has been pulled close enough to the ship, an animated sequence is triggered, showing the retrieval of the item. You then return automatically to the front viewscreen and control of the ship returns to you.

Other Functions

Alternate Camera Views. You start each mission with a view from inside your ship's cockpit. From the front view-screen, you can use the function keys (F1) - (F9) to view the action from a variety of angles:

- (F1) (*Cockpit View*). Returns you to the forward view from any other view.
- (F2) (*Left*), (F3) (*Right*), (F4) (*Rear*). These views allow you to look out the left and right sides of your ship as well as out the rear. Good for tracking your wingman and spotting enemy ships during dogfights.
- (F3) (*Chase Plane View*). Puts the camera directly behind your ship. Hold (F5) down to cycle between following your ship closely and hanging back a little. This is a good view for flying through asteroid fields.
- (F6) (*Battle View*). Displays a long-distance view of an entire battle.
- (F7) (*Tactical View*). Always keeps you and the ship you have targeted (or the most significant threat) in view.
- (F8) (*Missile Camera View*). Gives you a missile's eye view of the action. Select this option and the camera tracks the next missile you fire to its target.
- (F9) (*Tailing View*). Positions the camera behind any ship in the area. Press (F9) repeatedly to change ships.

Improved Target Tracking System. The Improved Target Tracking System (I.T.T.S.) is a feature available in the most advanced fighters, such as the *Epee* and *Sabre*. This advanced targeting system calculates the amount you must lead your target in order to maximize the chance of a hit.

When you lock onto a target while flying an I.T.T.S.-equipped ship, a special red cross appears on the screen. Keep this cross inside your main crosshairs and you will be virtually guaranteed to hit the target, unless the target is particularly quick and evasive.

Jumping Out. A hyperspace jump is the quickest way to travel from one part of the universe to another. Of the ships you fly, only the *Broadsword* bomber is capable of making such a jump. Press (J) at a jump point and your *Broadsword* jumps to another jump point. This works *only* at a jump point and the destination of each jump point is predetermined; your briefing officer will tell you whether jump points are available and your Nav map shows you where they are.

Pause. If the action gets too hot or the outside world intrudes, press (P) to pause the game. Press any key or button to resume play.

Replay. Press (R) any time you're in the cockpit of your ship to watch the Instant Replay. Replay records everything automatically, from the time you begin a dogfight until you leave the area or press (R). You can only watch a replay once. Action stops while you watch. Once you've seen the sequence, the "gun camera" resets and you return to the game. Pressing (R) again only replays what took place since the end of the last replay sequence. You cannot save replay sequences.

If you want to end a replay sequence and return to the cockpit, hit (Esc).

Depending upon when you activate it, this replays all of your actions since:

- 1) the beginning of the mission;
- 2) the last time you came out of autopilot;
- 3) or the last time you watched the Replay.

While in Replay mode, the current mission freezes. The default Replay view is the Chase Plane View ((F5)), but you can switch to most of the other camera views during a Replay. However, the Missile Camera View ((F8)) is disabled.

Note: Instant Replay requires expanded memory and is not available on systems that lack the appropriate software and/or hardware. See **Memory Usage** in the **Install/Configuration** section for more details.

DYING

If you die in the course of a mission, you are given two options: "Replay Mission" and "Continue Script." Replay Mission sends you back to the moment just after you launched, allowing you to try the mission again. Continue Script allows you to watch your character's funeral. The game then begins again, allowing you to start from scratch or load a saved game.

LANDING

If you complete your mission successfully, head back to base. At the base, target the ship upon which you want to land (*don't fire!*) and use the Communications system to signal the ship's traffic control officer to "Request Landing."

Often, if you follow your mission plan, the mission will end automatically at this point and you don't have to worry about coming in for a landing—the carrier's automatic landing system handles that for you. At other times, particularly when there are enemy ships present or you're trying to abort your mission, go through the following procedure to land:

After you request landing, the carrier's traffic control officer decides whether you will be allowed to land. To land, the space around the carrier must be free of enemy ships and one of the following must be true:

- 1) you have traveled to any Nav point;
- 2) you have achieved any mission objective;
- 3) you have killed at least one enemy ship; or
- 4) you have taken a large amount of damage.

If you are cleared to land, you must pilot your ship in close to your destination. Once you're close enough, the carrier's automatic landing system takes over, ending your mission.

If your landing request was denied, check to see if any enemy ships are around. If so, you must destroy them before landing. If not, you haven't fulfilled any of the above conditions and must continue the mission until you fulfill at least one.

Landing, whether automatic or upon request, takes you back to the hangar, where you can see any damage your ship has sustained. From the hangar, you go to a debriefing. This may be quite formal, with staff officers present, or informal, possibly during a casual conversation with another character.

After the debriefing, you are placed in the barracks scene again, and you may continue the story or exit to DOS.

JOAN'S FIGHTING SPACECRAFT

2664.128 UPDATE

Since the last edition of *Joan's Fighting Spacecraft*, several new Kilrathi ship-types have been encountered and several new Confederation craft have been added to the fleet. The 2664.128 Update provides a description of each spacecraft you are likely to fly or encounter in the current conflict, followed by notes on the offensive and defensive systems currently active in the Terran-Kilrathi conflict. This material could mean the difference between a successful mission and a quick death.

Though most of the information presented in *Joan's* evaluations is self-explanatory, some data types may require additional explanation. (The following text is reprinted here with the permission of Ivan Borger, Jr., publisher of *Joan's Fighting Spacecraft*):

DATA TYPE EXPLANATIONS

Maximum Velocity/Cruise Velocity

These are the settings for the ship's governors. This is always a relative velocity; a ship's computer calculates it relative to (a) the flagship, (b) an escorted vessel, (c) a nearby planetary body, (d) a Confederation beacon or (e) a value derived from radar positions of all visible ships. Velocity is expressed in kilometers per second (kps). The higher the values, the faster the ship.

Acceleration

This shows the *Joan's* evaluation of the ship's acceleration rate, described as "Bad," "Poor," "Average," "Good" or "Excellent."

Maximum Yaw, Pitch and Roll*

These characteristics, measures of a spacecraft's maneuverability, are expressed in degrees per second (dps). The higher the number, the more maneuverable the ship.

* Yaw—ability of a ship to turn to the right or left. Pitch—ability to change direction up or down. Roll—ability to rotate around the length-wise axis.

Ship's Armor

Joan's evaluation of a ship's defensive armor is expressed in centimeters thickness of Durasteel. Fore and aft shields are given in values equivalent to centimeters thickness of Durasteel. The effectiveness of phase shields is classified—listings indicate which capital ships are equipped with these technological wonders, but no Durasteel equivalents are provided. The higher the shield and/or armor rating, the better.

CONFEDERATION FIGHTERS

P-64C Ferret

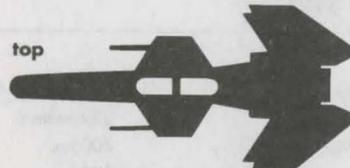
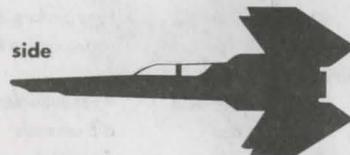
Class	Patrol Fighter
Length	10.2 meters
Maximum Velocity	500 kps
Cruise Velocity	360 kps
Acceleration	Good
Max. Yaw, Pitch, Roll	8 dps
Mass	10.5 tonnes

Ship's Weapons

Mass Drivers (2)

Ship's Armor

Fore and Aft Shield	6 cm equivalent each
Front and Rear	6.5 cm each
Right and Left	4.5 cm each



F-54C Epee

Class	Light Attack Fighter
Length	12.4 meters
Maximum Velocity	480 kps
Cruise Velocity	250 kps
Acceleration	Excellent
Max. Yaw, Pitch, Roll	10 dps
Mass	13 tonnes

Ship's Weapons

Particle Cannon (2)	Dumb Fire Missiles (2)
Heat-Seeking Missiles (2)	

Ship's Armor

Fore and Aft Shield	6 cm equivalent each
Front and Rear	3.5 cm each
Right and Left	3 cm each



F-44G Rapier

<i>Class</i>	Medium Attack Fighter
<i>Length</i>	19.0 meters
<i>Maximum Velocity</i>	450 kps
<i>Cruise Velocity</i>	250 kps
<i>Acceleration</i>	Excellent
<i>Max. Yaw, Pitch, Roll</i>	10 dps
<i>Mass</i>	15 tonnes

Ship's Weapons

Laser Cannon (2)	Dumb Fire Missiles (2)
Particle Cannon (2)	Heat-Seeking Missiles (2)
Chaff Pod (1)	Friend or Foe Missiles (2)

Ship's Armor

<i>Fore and Aft Shield</i>	8 cm equivalent each
<i>Front and Rear</i>	6.5 cm each
<i>Right and Left</i>	5 cm each

**F-57A Sabre**

<i>Class</i>	Heavy Attack Fighter
<i>Length</i>	23.6 meters
<i>Maximum Velocity</i>	400 kps
<i>Cruise Velocity</i>	220 kps
<i>Acceleration</i>	Excellent
<i>Max. Yaw, Pitch, Roll</i>	8 dps
<i>Mass</i>	22 tonnes

Ship's Weapons

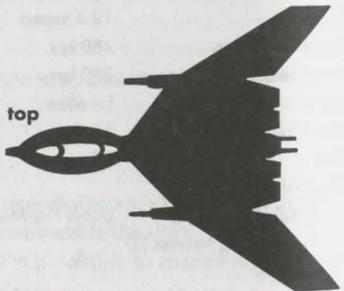
Particle Cannon (2)	Image Rec. Missiles (4)
Mass Drivers (2)	Friend or Foe Missiles (2)
Chaff Pods (1)	Dumb Fire Missiles (2)

Turret

Neutron Guns (2)

Ship's Armor

<i>Fore and Aft Shield</i>	10 cm equivalent each
<i>Front and Rear</i>	16 cm each
<i>Right and Left</i>	11 cm each

**A-17D Broadsword**

<i>Class</i>	Heavy Bomber
<i>Length</i>	36.0 meters
<i>Maximum Velocity</i>	320 kps (jump capable)
<i>Cruise Velocity</i>	150 kps
<i>Acceleration</i>	Poor
<i>Max. Yaw, Pitch, Roll</i>	5 dps
<i>Mass</i>	100 tonnes

Ship's Weapons

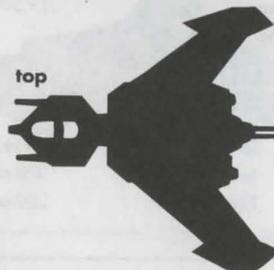
Torpedoes (4)	Friend or Foe Missiles (3)
Mass Driver Cannon (3)	

Turrets (3)

Neutron Guns (2 per) Tractor Beam (1 to rear)

Ship's Armor

<i>Fore and Aft Shield</i>	18 cm equivalent each
<i>Front and Rear</i>	15 cm each
<i>Right and Left</i>	13 cm each

**CONFEDERATION CAPITAL SHIPS****Gilgamesh**

<i>Class</i>	Destroyer
<i>Length</i>	312.1 meters
<i>Maximum Velocity</i>	250 kps
<i>Cruise Velocity</i>	150 kps
<i>Acceleration</i>	Poor
<i>Max. Yaw, Pitch, Roll</i>	2 dps
<i>Mass</i>	10,000 tonnes

Ship's Weapons

Flak Cannon (2) Anti-Matter Guns (2)

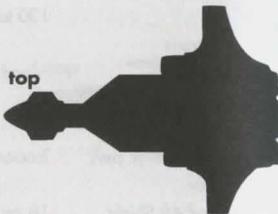
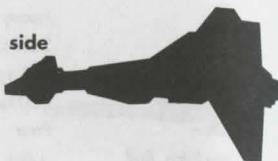
Ship's Armor

<i>Fore and Aft Shield</i>	Phase Shields
<i>Front and Rear</i>	250 cm each
<i>Right and Left</i>	200 cm each



Waterloo

<i>Class</i>	Cruiser
<i>Length</i>	503.9 meters
<i>Maximum Velocity</i>	200 kps
<i>Cruise Velocity</i>	100 kps
<i>Acceleration</i>	Poor
<i>Max. Yaw, Pitch, Roll</i>	1 dps
<i>Mass</i>	19,500 tonnes
<i>Ship's Weapons</i>	
Flak Cannon (3)	Anti-Matter Guns (4)
Light complement of fighters	
<i>Ship's Armor</i>	
<i>Fore and Aft Shield</i>	Phase Shields
<i>Front and Rear</i>	300 cm each
<i>Right and Left</i>	250 cm each



Concordia

<i>Class</i>	Confederation
<i>Length</i>	983.7 meters
<i>Maximum Velocity</i>	100 kps
<i>Cruise Velocity</i>	50 kps
<i>Acceleration</i>	Bad
<i>Max. Yaw, Pitch, Roll</i>	1 dps
<i>Mass</i>	73,000 tonnes
<i>Ship's Weapons</i>	
Flak Cannon (3)	Anti-Matter Guns (8)
Phase-Transit Cannon	
Full complement of fighters	
<i>Ship's Armor</i>	
<i>Fore and Aft Shield</i>	Phase Shields
<i>Front and Rear</i>	500 cm each
<i>Right and Left</i>	400 cm each



CONFEDERATION SUPPORT SHIPS

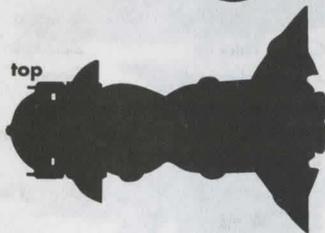
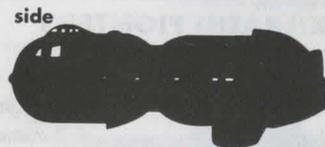
Free Trader

<i>Class</i>	Transport (civilian)
<i>Length</i>	83.0 meters
<i>Maximum Velocity</i>	150 kps
<i>Cruise Velocity</i>	100 kps
<i>Acceleration</i>	Poor
<i>Max. Yaw, Pitch, Roll</i>	2 dps
<i>Mass</i>	2,000 tonnes
<i>Ship's Weapons</i>	
Flak Cannon (1)	
<i>Ship's Armor</i>	
<i>Fore and Aft Shield</i>	10 cm equivalent each
<i>Front and Rear</i>	9 cm each
<i>Right and Left</i>	7 cm each



Clydesdale

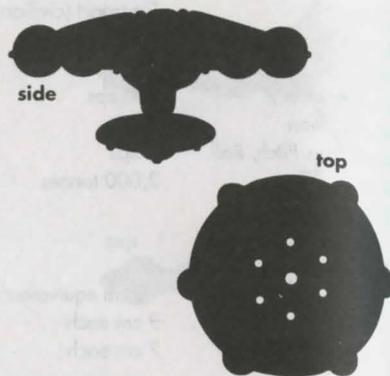
<i>Class</i>	Transport (military)
<i>Length</i>	73.3 meters
<i>Maximum Velocity</i>	150 kps
<i>Cruise Velocity</i>	100 kps
<i>Acceleration</i>	Bad
<i>Max. Yaw, Pitch, Roll</i>	2 dps
<i>Mass</i>	4,000 tonnes
<i>Ship's Weapons</i>	
Flak Cannon (2)	
<i>Ship's Armor</i>	
<i>Fore and Aft Shield</i>	25 cm equivalent each
<i>Front and Rear</i>	12 cm each
<i>Right and Left</i>	11 cm each



Class	Space Station
Radius	1,200 meters
Maximum Velocity	10 kps
Cruise Velocity	10 kps
Acceleration	Poor
Max. Yaw, Pitch, Roll	NA
Mass	230,000 tonnes

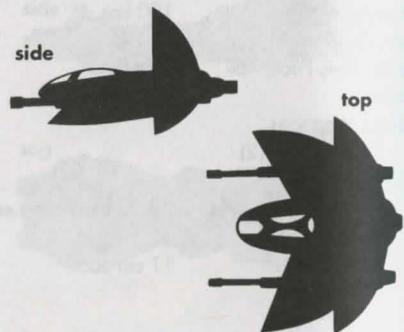
Ship's Weapons
 Flak Cannon (4)
 Full complement of fighters

Ship's Armor	
Fore and Aft Shield	Phase Shields
Front and Rear	700 cm each
Right and Left	700 cm each



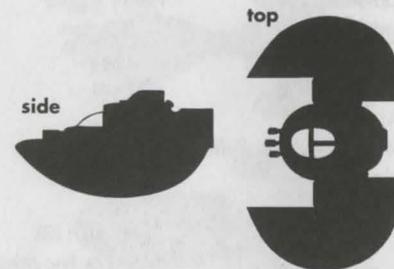
KILRATHI FIGHTERS

Class	Light Fighter
Length	8.3 meters
Maximum Velocity	400 kps
Cruise Velocity	220 kps
Acceleration	Good
Max. Yaw, Pitch, Roll	4 dps
Mass	12.5 tonnes
Ship's Weapons	
Neutron Guns (2)	Dumb Fire Missile (1)
Ship's Armor	
Fore and Aft Shield	5 cm equivalent each
Front and Rear	4 cm each
Right and Left	3 cm each



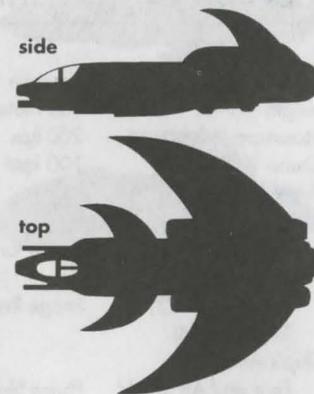
Sartha

Class	Medium Fighter
Length	11.7 meters
Maximum Velocity	400 kps
Cruise Velocity	200 kps
Acceleration	Good
Max. Yaw, Pitch, Roll	7 dps
Mass	14 tonnes
Ship's Weapons	
Laser Cannon (3)	Chaff Pod (1)
Dumb Fire Missiles (4)	
Ship's Armor	
Fore and Aft Shield	5.5 cm equivalent each
Front and Rear	4 cm each
Right and Left	3.5 cm each



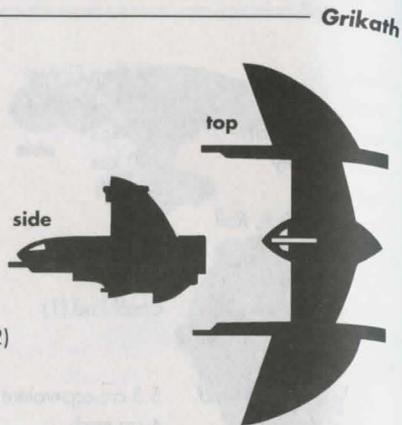
Drakhri

Class	Heavy Fighter
Length	25.2 meters
Maximum Velocity	360 kps
Cruise Velocity	200 kps
Acceleration	Average
Max. Yaw, Pitch, Roll	2 dps
Mass	20 tonnes
Ship's Weapons	
Particle Cannon (1)	Image Recognition Missiles (4)
Laser Cannon (4)	Dumb Fire Missile (1)
Turret	Neutron Gun (1)
Ship's Armor	
Fore and Aft Shield	15 cm equivalent each
Front and Rear	13 cm each
Right and Left	11 cm each



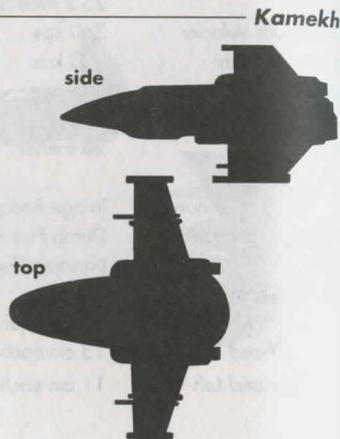
Jalkehi

<i>Class</i>	Heavy Fighter
<i>Length</i>	17.7 meters
<i>Maximum Velocity</i>	330 kps
<i>Cruise Velocity</i>	200 kps
<i>Acceleration</i>	Bad
<i>Max. Yaw, Pitch, Roll</i>	3 dps
<i>Mass</i>	27 tonnes
<i>Ship's Weapons</i>	
Torpedoes (3)	Chaff Pods (3)
Neutron Guns (3)	Friend or Foe Missiles (2)
<i>Turret</i>	Neutron Guns (2)
<i>Ship's Armor</i>	
<i>Fore and Aft Shield</i>	17 cm equivalent each
<i>Front and Rear</i>	16 cm each
<i>Right and Left</i>	14 cm each

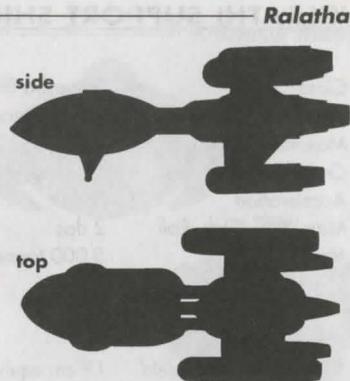


KILRATHI CAPITAL SHIPS

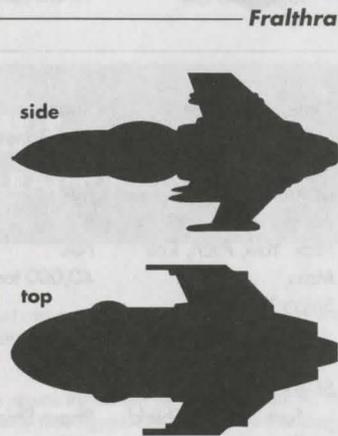
<i>Class</i>	Corvette
<i>Length</i>	135 meters
<i>Maximum Velocity</i>	200 kps
<i>Cruise Velocity</i>	100 kps
<i>Acceleration</i>	Poor
<i>Max. Yaw, Pitch, Roll</i>	3 dps
<i>Mass</i>	1,300 tonnes
<i>Ship's Weapons</i>	
Flak Cannon (3)	Image Rec. Missiles (6)
Torpedoes (4)	
<i>Ship's Armor</i>	
<i>Fore and Aft Shield</i>	Phase Shields
<i>Front and Rear</i>	300 cm each
<i>Right and Left</i>	280 cm each



<i>Class</i>	Destroyer
<i>Length</i>	394.2 meters
<i>Maximum Velocity</i>	250 kps
<i>Cruise Velocity</i>	150 kps
<i>Acceleration</i>	Poor
<i>Max. Yaw, Pitch, Roll</i>	1 dps
<i>Mass</i>	11,000 tonnes
<i>Ship's Weapons</i>	
Flak Cannon (2)	Anti-Matter Cannon (2)
Light complement of fighters	
<i>Ship's Armor</i>	
<i>Fore and Aft Shield</i>	Phase Shields
<i>Front and Rear</i>	500 cm each
<i>Right and Left</i>	500 cm each

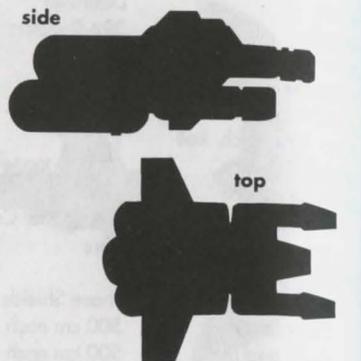


<i>Class</i>	Cruiser
<i>Length</i>	612.0 meters
<i>Maximum Velocity</i>	150 kps
<i>Cruise Velocity</i>	100 kps
<i>Acceleration</i>	Poor
<i>Max. Yaw, Pitch, Roll</i>	1 dps
<i>Mass</i>	20,500 tonnes
<i>Ship's Weapons</i>	
Flak Cannon (3)	Anti-Matter Guns (3)
Light complement of fighters	
<i>Ship's Armor</i>	
<i>Fore and Aft Shield</i>	Phase Shields
<i>Front and Rear</i>	700 cm each
<i>Right and Left</i>	600 cm each



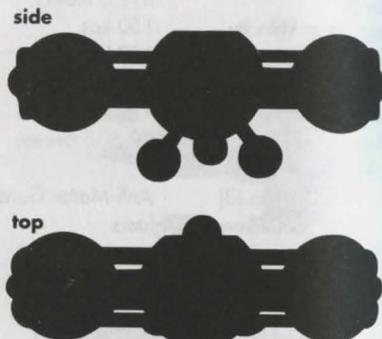
KILRATHI SUPPORT SHIPS

<i>Class</i>	Transport (military)
<i>Length</i>	95.0 meters
<i>Maximum Velocity</i>	200 kps
<i>Cruise Velocity</i>	100 kps
<i>Acceleration</i>	Poor
<i>Max. Yaw, Pitch, Roll</i>	2 dps
<i>Mass</i>	5,000 tonnes
<i>Ship's Weapons</i>	
Flak Cannon (2)	
<i>Ship's Armor</i>	
Fore and Aft Shield	19 cm equivalent each
Front and Rear	17 cm each
Right and Left	16 cm each

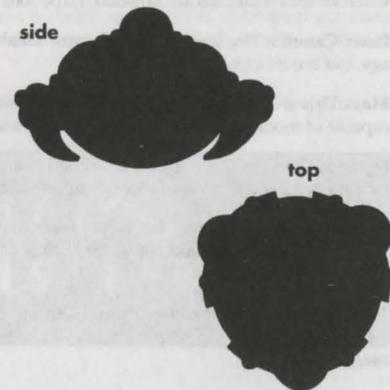


Supply Depot

<i>Class</i>	Space Station
<i>Length</i>	806.3 meters
<i>Maximum Velocity</i>	NA
<i>Cruise Velocity</i>	NA
<i>Acceleration</i>	NA
<i>Max. Yaw, Pitch, Roll</i>	NA
<i>Mass</i>	40,000 tonnes
<i>Ship's Weapons</i>	
Flak Cannon (2)	
Light complement of fighters	
<i>Ship's Armor</i>	
Fore and Aft Shield	Phase Shields
Front and Rear	400 cm each
Right and Left	300 cm each



<i>Class</i>	Space Station
<i>Radius</i>	1,100 meters
<i>Maximum Velocity</i>	NA
<i>Cruise Velocity</i>	NA
<i>Acceleration</i>	NA
<i>Max. Yaw, Pitch, Roll</i>	NA
<i>Mass</i>	240,000 tonnes
<i>Ship's Weapons</i>	
Flak Cannon (4)	Anti-Matter Guns (2)
Full complement of fighters	
<i>Ship's Armor</i>	
Fore and Aft Shield	Phase Shields
Front and Rear	700 cm each
Right and Left	700 cm each



WEAPONS

OF THE TERRAN AND KILRATHI FLEETS

OFFENSIVE SYSTEMS

Dumb Fire Missile. This is a point-and-shoot weapon with no homing capability. Aim it at a target and hope the target doesn't get out of the way. When possible, dumb fires should be reserved for use in close quarters against slow-moving targets.

Friend or Foe Missile. Capable of identifying the distinctive signal broadcast by all Terran ships, the friend or foe locks onto the nearest ship that isn't broadcasting that signal. (This weapon will target friendly ships whose communications systems are damaged.)

Heat-Seeking Missile. To use a heat-seeker, park yourself on an enemy's tail, wait for the missile to lock onto its engine and/or exhaust system and then fire. (If the target shakes the heat-seeker, the missile locks onto the nearest heat source, perhaps even your own ship.)

Image Recognition Missile. Within seconds, this missile memorizes the ship type in your sights. Once it locks, it doesn't let go, tracking its target until it is outpaced or it hits.

Torpedo. Both Terran and Kilrathi capital ships now have phase shield technology that renders missiles and fighter-scale guns useless. Terran scientists developed powerful torpedoes capable of penetrating the new shields; soon thereafter, spies leaked the new technology to the Kilrathi. Torpedoes are not without disadvantages: they can only lock on to capital ships; they are slow and can sometimes be shot down by the target ship or its fighter escort; and they take approximately twenty seconds to determine

the phase pattern of the shields, leaving the firing ship vulnerable to attack for extended periods. But when all the conditions are satisfied, torpedoes' large warheads can be very effective.

Laser Cannon. The least powerful, most reliable blaster-type weapons, lasers don't inflict much damage, but are effective at long range.

Mass Driver Cannon. This blaster is the basic fighter weapon—reliable, accurate at medium range, capable of moderate damage. Heat build-up and power drain are minimal.

Neutron Gun. Neutron guns cause the heaviest damage of all blasters, but only at close range. They heat up quickly and consume power at an alarming rate.

Particle Cannon. A recent Terran innovation, particle cannon have almost completely replaced neutron guns in the Confederation Navy. They combine the extended range of lasers with the strong punch of neutron guns.

Turret. Many of the heavier fighters are equipped with swivel-mounted neutron guns, to fend off enemy fighters during torpedo runs. These two guns are modified for a higher fire rate but shorter range.

Anti-Matter Gun. These huge weapons are found only on capital ships for use against other capital ships. Like torpedoes, they ignore shields, directly attacking armor. Anti-matter guns are slow to aim and cannot readily be used against fighter-sized craft, but a single shot can vaporize a fighter. Be sure to stay out of the fire lanes between two warring cruisers!

Phase-Transit Cannon. This weapon actually forms the keel of the new Terran *Confederation*-class dreadnought; it is too large to be mounted on any other ship in the Confederation Navy. The phase-transit cannon bypasses shields and is capable of destroying any ship with a single shot. It is a refinement of a similar weapon found in the wreckage of the *Sivar*, the Kilrathi dreadnought that single-handedly destroyed the Goddard colony in 2654. Presumably the Kilrathi have more *Sivar*-class dreadnoughts, but none have been spotted since that first appearance.

DEFENSIVE SYSTEMS

Chaff Pod. The Confederation recently developed chaff pods, sophisticated electronic devices that fool enemy missiles into diverting away from your ship. There are some drawbacks to chaff pods, of course. You must deploy chaff pods at the last moment before missile impact, because the pods' effect lasts only a short while. Chaff only works on missiles that are *currently* targeted on your ship; any missiles launched after you drop the pod aren't fooled. Finally, chaff doesn't destroy the enemy missile, it simply diverts it. If you're too close to the chaff when the missile hits it, you might take damage anyway. It's best to be moving at least 150 kps when you drop a pod.

Flak Cannon. Fighters provide the bulk of a capital ship's defenses, but the largest ships also lay down heavy flak barrages that can bring down any fighter. In addition, flak cannon are used for point-defense against torpedoes.

Phase Shield. The latest in defense technology, these capital ship shields are impervious to damage from all fighter-mounted missiles and guns. Torpedoes are the only fighter-mounted weapons capable of getting through. Unfortunately, the number of torpedoes available to Terran Confederation forces is low. Pilots are advised to use them wisely.

OTHER SYSTEMS

"Stealth Technology." Rumors of Kilrathi stealth fighters, invisible to human or instrument detection, are completely unfounded. Such technology is far beyond the capabilities of Confederation or Kilrathi scientists.

Tractor Beam. A tractor beam locks onto a small target (an ejected pilot, for example), pulling it to your ship. The tractor beam is a vital tool in search-and-rescue missions.

SPECIAL OPERATIONS 1 & 2

PLAYING SPECIAL OPERATIONS 1

Note: This reference assumes that you have a joystick. If you do not, consult the *Wing Commander II Installation/Configuration* section for instructions.

1. Make sure you have approximately 1 megabyte of free disk space on your hard drive. Your hard drive is used as temporary storage during game play, plus is used to save your game in progress.
2. Insert the CD-ROM disk into your CD-ROM drive.
3. Log onto your CD-ROM drive by typing its drive letter followed by a colon (i.e. **D:**) and press **Enter**.
4. Type **S O 1** and press **Enter**. (If you want to change the hardware configuration for *Special Operations 1*, you must run the *Wing Commander II* installation/configuration program. Please refer to Step #4 of the **Quick Install** section of the *Wing Commander II Installation/Configuration* section for more information.) Also note that you **must** run the *Wing Commander II* installation/configuration program before attempting to play *Special Operations 1*.
5. The *Special Operations 1* game should now load and the *ORIGIN FX* logo will appear. If the game does not load, check the *Wing Commander II Installation/Configuration* section for more information on WC II hardware and software requirements.
6. Following the *ORIGIN FX* sequence, you will see the *Wing Commander II: Vengeance of the Kilrathi* logo and two boxes with the choices: "Start New Game" and "Resume Current Game." If this is your first time to play *Special Operations 1*, then you are only given the "Start New Game" option.
7. From this point, you will go into the game, starting with the introduction scene.
8. After the introduction scenes, a computer terminal with the options "Create Character" and "Transfer Character" appears. If this is your first time to play *Special Operations 1*, press **C** to create a new character. Enter your first and last name and callsign. After enter-

ing the information, you will be taken to the barracks where you can start your first mission. (See the **Transfer Program** section of this configuration guide for more information on transferring a previous *Wing Commander II* character to *Special Operations 1*.)

Note: Sorry, it is not possible to transfer an existing character from *Wing Commander I*.

9. Enter your first mission in *Special Operations 1* by clicking on the open door marked "Fly Mission." From there you will see the mission briefing and then fly the first mission of the game.
10. *Special Operations 1* has a joystick calibration program that can be accessed while the player is in space, the barracks or the start. To begin calibration press **[Ctrl][J]**. Specific instructions will appear on the screen.
 - Please refer to the *Wing Commander II Play Guide* if you have any questions concerning game play. All commands and features of *WC II* are supported by *Special Operations 1*.
11. All *Special Operations 1* game positions can be saved in the barracks only. Saving *Special Operations 1* games will not overwrite saved *Wing Commander II* games.
12. As in all of the *Wing Commander* series, the *Special Operations 1* campaign varies in length based on your performance in the game. If you fail some of the missions, the progress of the Terran-Kilrathi war will be affected and your game may be shortened. In a single complete play-through, you can play a maximum of nineteen combat missions.

The Transfer Program

You can transfer a character from your *Wing Commander II* game to *Special Operations 1*, using a method built into the *Special Operations 1* program.

If you have finished *Wing Commander II* and have a saved game from any mission, you can bring that character from *WC II* into *Special Operations 1*. If you have not yet finished *WC II* you can still transfer a character. However, we recommend that you complete *WC II* before beginning *Special Operations 1* in order to maximize your enjoyment of these two products, and to best follow the story line.

To transfer a character:

1. Make sure you are at the root directory of your CD drive and type **[S][O][1][Enter]** to begin *Special Operations 1*.
2. After the *ORIGIN FX* sequence, select the "Start New Game" option.
3. When the computer terminal appears, press **[T]** to transfer a character.
4. You will next be given a list of all of the saved characters from *Wing Commander II*. Choose whichever character you wish by clicking on that character.
5. Once you have chosen a character to transfer, you will see the barracks. You will be ready to continue the game with your transferred character.

The Wing Commander II Mission Selector Program

Special Operations 1 includes a program that will allow you to play any mission in *Wing Commander II*, but not *Special Operations 1*. *Wing Commander II* contains twelve different series of four missions each (except Series 7, which contains only three missions). Each mission is labeled A, B, C or D. You can choose a series number from the *Wing Commander II* Mission Tree chart on the following page. Then pick any letter, A through D, to select a mission in that series.

To access this mission Selector feature, type **[P][L][A][Y]-[W][C][2]** followed by a series number and then a mission letter, separated by spaces. This must be typed from the root directory of your CD-ROM drive. Here is an example of how to use this program:

```
[P][L][A][Y]-[W][C][2][Spacebar][8][Spacebar][D]
```

If you type the above and press **[Enter]**, the following appears on your screen:

```
WING COMMANDER II Mission Selector
Now loading Series 8, Mission D.
```

Then the program will automatically load *Wing Commander II*. Your game will begin at the option screen (the barracks room) directly before the mission you selected.

You can begin the mission immediately by clicking on the Briefing Room door, or save your game and then continue. Please keep in mind that winning *Wing Commander II* is based on your accomplishments throughout the entire game; if you use the Mission Selector to begin, you may not be able to win the campaign. If you begin with Mission A of any series, you will be able to play and win the remainder of the campaign.

If you receive the messages, "Sorry, that isn't a valid series number" or "Sorry, that isn't a valid mission number," you have given the program an incorrect series or mission number. Double check against the *WC II* chart to make sure that you're trying to load a correct series.

The Insult Modification Program

Special Operations 1 also includes a program that will allow you to modify the insults with which your character can taunt enemy pilots. You must be in the root directory of your CD-ROM drive to access the insult program. To load the Insult program, type **[I][N][S][U][L][T]** and press **[Enter]**.

You can then choose to type new insults or restore old insults. Press **[1]** to restore the original *Wing Commander II* insults. Press **[2]** to type new insults. Press **[H]** for the help screen. After you press **[2]**, press the number of the insult you wish to change. Then type your new insults and press **[Enter]**. The program will automatically make a backup copy of your old insult text file. (The fourth insult appears irregularly, only as a response to enemy taunts.)

Wing Commander II Mission Chart

Series/ Mission	Wingmen	Ship Type	Location
1	Shadow	Ferret	Gwynedd
2	nobody	Ferret/B.S.	Niven
3	Hobbes	Rapier	Ghorah Khar
4	Doomsday	Broadsword	Novaya Kiev
5	Spirit	Epee/Sabre	Heaven's Gate
6	Stingray	Rapier	Tesla
7	Angel	Broadsword	Enigma
8	Jazz	Sabre	K'thtrak Mang
9	nobody	Ferret/B.S.	Ghorah Khar
10	Doomsday	Broadsword	Novaya Kiev
11	Stingray	Rapier	Tesla
12	Jazz	Sabre	Gwynedd

Playing Special Operations 2

Please refer to instructions under Special Operations 1, except type **S02** in Step 4.

The Transfer Program

Please refer to the instructions under Special Operations 1, except type **S02** in Step 1. Note that you can also transfer characters from Special Operations 1 to Special Operations 2.

Special Operations 1 and 2 Mission Selector Program

Special Operations 2 includes a program that will allow you to play any mission in *Special Operations 1* or in *Special Operations 2*.

Both *Special Operations 1* and *2* contain five different series of four missions each. Each mission is labeled A, B, C or D. You can choose a series number from the mission charts on the following page. Then pick any letter, A through D, to select a mission in that series.

To access Special Operations 1 Mission Selector feature, type PLAY-SO1 followed by a series number and then a mission letter, separated by spaces. This must be typed from the root directory of your CD-ROM drive. Here is an example of how to use this program:

P L A Y - S O 1 **Spacebar** **4** **Spacebar** **D**

If you type the above and press **Enter**, the following appears on your screen:

SPECIAL OPERATIONS 1 Mission Selector
Now loading Series 4, Mission D.

Then the program will automatically load *Special Operations 1*. Your game will begin at the option screen (the barracks room) directly before the mission you selected.

You can begin the mission immediately by clicking on the Briefing Room door, or save your game and then continue.

Follow the same procedure to fly any *Special Operations 2* mission. (Type PLAY-SO2, rather than PLAY SO1, at the appropriate point.)

Please keep in mind that winning Special Operations 1 or 2 is based on your accomplishments throughout the entire game; if you use the Mission Selector to begin, you may not be able to win the campaign. If you begin with Mission A of any series, you will be able to play and win the remainder of the campaign.

If you receive the messages, "Sorry, that isn't a valid series number," or "Sorry, that isn't a valid mission number," you have given the program an incorrect series or mission number. Double check against the charts to make sure that you're trying to load the correct series and mission.

The Insult Modification Program

Special Operations 2 also includes a program that will allow you to modify the insults with which your character can taunt enemy pilots.

Please refer to the instructions under Special Operations 1, except type **INSULT2** to load the Insult program.

SPECIAL OPERATIONS 1 MISSION CHART

Series/ Mission	Wingmen	Ship Type	Location
1/A-B	Stingray	Super Ferret	Pembroke
1/C	Stingray	Sabre	Pembroke
1/D	None	Broadsword	Pembroke
2/A	Sky and Shelton	Epee	Rigel
2/B	Bear and Bodybag	Epee	Rigel
2/C	None	Sabre	Rigel
2/D	Poelma and Quinlan	Crossbow	Rigel
3/A	Paladin	Crossbow	Ghorah Khar
3/B	Clydesdale	Crossbow	Ghorah Khar
3/C	Hobbes, Rhino, Cafrelli and Star	Sabre	Ghorah Khar
3/D	None	Sabre	Ghorah Khar
4/A	Hobbes and Landis	Crossbow	Ghorah Khar
4/B	Hobbes	Crossbow	Ghorah Khar
4/C	None	Crossbow	Ghorah Khar
4/D	Hobbes, Bear and Buell	Sabre	Ghorah Khar
5/A	Doomsday and Zoya	Sabre	Pembroke
5/B	Hobbes	Broadsword	Rigel
5/C	Hobbes, Ladyman and Marnier	Sabre	Ghorah Khar
5/D	Hobbes	Sabre	Ghorah Khar

SPECIAL OPERATIONS 2 MISSION CHART

Series/ Mission	Wingmen	Ship Type	Series/ Mission	Wingmen	Ship Type
1/A	None	Rapier	2/D	None	Sabre
1/B	Stingray	Rapier	3/A	None	Broadsword
1/C	None	Sabre	3/B-D	Maniac	Morningstar
1/D	None	Sabre	4/A-D	Maniac	Morningstar
2/A	Maniac, Crossbones and Talon	Broadsword	5/A	Kaiser	Sabre
2/B	Stingray	Sabre	5/B	Crossbones	Broadsword
2/C	Wasp	Sabre	5/C	Maniac	Morningstar
			5/D	None	Morningstar

TROUBLESHOOTING

Q: Why doesn't my joystick work correctly?

A: Owners of Gravis joysticks or older Suncom models may experience some problems. If you take a Gravis apart and clean the contacts, it should work fine. Some older Suncoms simply will not work with WC II. The only solution here is to purchase a newer joystick.

Q: Why does my computer crash when I try to play WC II through Microsoft Windows for Desqview or the DOS 5.0 Task Swapper?

A: "Multi-tasking environments"—Windows, Desqview, Software Carousel, the DOS 5.0 Task Swapper, etc.—often conflict in their use of memory and other system resources with Wing Commander II. We do not recommend playing Wing Commander II under these circumstances. Even if you do run the game under a multi-tasker, do not swap to another application while playing. Your system will crash if you try to suspend WC II to run another program. In general, we recommend that you log out of Windows (or similar application) and play from the DOS prompt.

Q: Why does my computer crash when I try to play WC II while I am logged into our LAN (local area network)?

A: LAN software often tries to take over the same system resources that WC II uses. Sometimes the two can coexist, but often they can't. If you have strange problems with WC II while your LAN drivers are loaded, try booting from a clean boot disk (see below).

Q: When I boot the game it says "Expanded memory not detected," but I have two megs of RAM. What gives?

A: First, not all types of extra RAM are equal. There are two basic kinds—exTENDED and exPANDed. WC II uses expanded memory. If you're using a 386SX, a 386, or a 486, you need to configure your extended memory to act like expanded memory by using an expanded memory manager. (We recommend QEMM386, by Quarterdeck; ask your software retailer about it.)

If you have expanded memory by WC II still won't acknowledge it, most likely some other piece of software, such as a disk cache or RAM disk, may be using up all of your expanded memory. Check the CONFIG.SYS and AUTOEXEC.BAT files for such programs, and consult the documentation that came with those programs to find out how to reduce their memory consumption.

Q: Two Questions:

1. WC II threw me out to DOS. It said I had an "Out of memory error." When I tried to restart, it did it again.

2. My copy of WC II is defective. Every time I play, it throws me to DOS with a Memory Allocation Error.

A: Both are trying to play with less than 583K free. If the game does this, use the DOS command CHKDSK and read the last line of output. It should say "XXXXXX bytes free." This is the amount of free RAM available. If this number is less than 583000 bytes, modify your AUTOEXEC.BAT and CONFIG.SYS files as explained in the CD Installation/Configuration section.

Q: The game still doesn't work after I modified my AUTOEXEC.BAT and CONFIG.SYS files.

A: Call ORIGIN's Customer Service department. Be sure to copy down the information the computer provided when it dumped you.

Q: This guide says I should make a DOS system disk. I don't know how to do this and I can't find my DOS manual.

A: To make a system disk, get a blank floppy disk and insert it in your A: drive. Type your hard drive prompt (for example, C:) and then press **Enter**. Next type **FORMAT** **A:** **/** **S** **Enter**. This formats the disk and copies the appropriate system data to the disk. If this doesn't work, insert a blank disk into your floppy drive, as above, but type **S** **Y** **S** **Spacebar** **A:** after the drive prompt. When the words SYSTEM TRANSFERRED appear, type

COPY COMMAND COM A:
and you should see 1 FILE COPIED, which indicates the disk is now a boot disk.

If either your AUTOEXEC.BAT or your CONFIG.SYS calls upon an expanded memory manager, we recommend that you copy the appropriate software to the boot disk as well. If you wish to use your mouse, copy your mouse driver to the disk. In any of these cases, a stripped version of your CONFIG.SYS file will be required for your computer to make proper use of the device drivers. Be sure to include CD-ROM extensions. For further information, call ORIGIN Customer Service.

To boot from a floppy, turn your computer off, insert the new boot disk in your A: drive and turn the computer back on.

Q: What if none of the advice above helps?

A: Change to the \WING 2 directory on your CD-ROM drive and type **T** **Y** **P** **E** **Spacebar** **R** **E** **A** **D** **M** **E** **.** **D** **O** **S** **Enter**. If the information in that file doesn't help and if you've tried all of the suggestions above, contact ORIGIN Customer Service. Refer to the Troubleshooting and Technical Support section at the end of this manual for contact information.

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Technical Support

Technical Support for the enclosed titles can be obtained as follows:

Strike Commander, Ultima VIII Pagan, Wing Commander II

contact:

ORIGIN Product Support
(512) 335-0440
(512) 331-8559 (24 hour fax)

Monday through Friday
9:00 a.m. to 5:00 p.m. Central Time

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Seven days/week, 24 hours
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(415) 572-ARTS

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If your question is not urgent you can write to Electronic Arts Technical Support, P.O. Box 7578, San Mateo, California, 94403-7578. Please include as much detailed information as possible.

In both cases, please have the following information available when you call: DOS version, free RAM, mouse and mouse driver type, graphics card, machine type, sound card, contents of your AUTOEXEC.BAT and CONFIG.SYS files.

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