



TECHNICAL SUPPLEMENT

GAME REQUIREMENTS AND MEMORY ISSUES

CONTENTS

Your complete *F-15 Strike Eagle III* simulation should contain this technical supplement, a manual, 5 1.44MB 3 1/2" disks or 6 1.2MB 5 1/4" disks, a key reference card, a registration card, and a backup disks order card.

MINIMUM SYSTEM REQUIREMENTS

F-15 Strike Eagle III requires the following *minimum* system components and memory:

Computer: IBM, or fully compatible, 80386 16MHz

System Memory: 2MB of RAM, with 752K EMS free

Hard Drive: with at least 10 million bytes available

Conventional Memory: at least 602,112 bytes (588 K) free

Graphics: VGA graphics card and VGA monitor

Floppy Drive: one 1.44MB 3 1/2" or one 1.2MB 5 1/4" (required only for installation)

DOS: MS-DOS 5.0 or higher

INSTALLATION

F-15 Strike Eagle III includes an install program that transfers the information from the original (distribution) disks onto your hard drive. You must utilize the install program provided to transfer the data. You can not just copy the distribution disks onto your hard drive; if you do, *F-15 Strike Eagle III* will not load.

To run the Install Program, first boot-up your computer:

1. Place disk "A" in your floppy drive A or B
2. Type A: or B: then press the *Enter* Key
3. Type *Install*, then press the *Enter* Key. Follow the on-screen prompts

The installation program checks your system for a number of conditions, and advises you as to the status if your system does not meet the conditions. Other than for Condition A (see below), the installation program continues.

The installation program decompresses and copies numerous files from the distribution disks onto your hard drive. The install program also auto-detects your computer's configuration and provides recommendations for sound, speech, control device (joystick, keyboard, etc.), and modem options.

The entire installation procedure can take a variable amount of time depending on the CPU speed of your computer and hard drive.

INSTALLATION CONDITION CHECKS

A. If your hard drive has less than 10 million bytes available, the installation program terminates and immediately advises you that adequate hard drive space is not available. If this occurs, see the following section, **Hard Drive Requirements**.

B. If your system has less than 588 K (602,112 bytes) of free conventional memory, the installation program does continue, but advises you that adequate conventional memory is not available. Conventional memory is required for loading. If this occurs, see the following section, **Conventional Memory Requirements**.

C. If your system has less than 752K (770,048 bytes) of free EMS, the installation program does continue, but advises you that adequate EMS memory is not available. EMS memory is required for loading. If this occurs, see the following section, **Accessing Expanded Memory (EMS)**.

D. If your system has less than 1072K (1,097,728 bytes) of free EMS, the installation program does continue, but advises you that less than the optimum amount of EMS memory is available. If this occurs, see the following section, **Accessing Expanded Memory (EMS)**.

If you are unfamiliar with the different types of system memory, you may want to take a few minutes to review the following section, **What is Conventional, UMA, XMS and EMS memory?**

LOADING

To load *F-15 Strike Eagle III*, you must have first installed the program. If not, return to the section on installation and follow the instructions found there.

To load *F-15 Strike Eagle III*, first boot your computer up, and then:

1. Change your system to the hard drive that contains *F-15 Strike Eagle III*. If you installed the program to the C drive, you can change your system by typing `c:`, then press the *Enter* Key.
2. Change to the *F-15 Strike Eagle III* directory. If you selected the default `MPS\F15` directory, you can change to that directory by typing `cd MPS\F15`, then press the *Enter* Key.
3. Type `F15`, then press the *Enter* Key.

If you get an error message about inadequate conventional memory, *F-15 Strike Eagle III* will not load. See the following section, **Conventional Memory Requirements**.

Or, if you get an error message about inadequate EMS memory, *F-15 Strike Eagle III* will not load. See the following section, **Accessing Expanded Memory (EMS)**.

After the introduction, you are positioned in the hanger with the flight commander standing over the map table. If you are looking for some quick action, position the cursor over the F-15E in the background (Quick Start) and press *Selector #1*. It is recommended that you at least read section II. **Quick Start** of the manual before you tackle any MiGs or pickle any bombs.

HARD DRIVE REQUIREMENTS

Before installing *F-15 Strike Eagle III*, make sure that you have at least 10 million bytes of available space on your hard drive. You can determine the amount of available hard drive space through the use of the MS-DOS utility *chkdsk*. Run this utility according to the instructions found in your MS-DOS manual. The fifth line of the display indicates the amount of hard drive space available.

If the fifth line indicates 10 million bytes or more, you have adequate space available to install *F-15 Strike Eagle III*. If less than 10 million bytes are available, you must remove one or more files from your hard drive until at least 10 million bytes are available. In any event, the installation program advises you if adequate space is not available.

WHAT IS CONVENTIONAL, UMA, XMS AND EMS MEMORY?

The whole memory issue can at times be quite confusing. Very often it is said, "How can this program tell me I do not have enough memory? After all, my computer has 32MB of system memory installed." Well this is true. But as with all things in life, there is a catch.

Programs that run under MS-DOS, including MS-DOS 5.0, use your system's *conventional memory*. By protocol, conventional memory is limited to a maximum of 640K, no matter how many megabytes of system memory you may have installed. This may seem more than a little unfair, but that is the rule we all live by.

The next 384K of memory, completing the 1st MB, is called the *upper memory area*, or *UMA* for short. This portion of memory is normally not available for programs because your computer uses this area for system

hardware control. However, as will be explained later, this area can be used to free up additional conventional memory.

Memory above 1MB is collectively called high memory and is *extended memory*, or *XMS* for short. Extended memory can also be used to free up additional conventional memory, and better yet, can be used to simulate *expanded memory*, or *EMS* for short.

Most programs are designed to use EMS rather than XMS, since EMS traces its roots back to the venerable 8088 microprocessor found in the original IBM-PC. XMS did not make its appearance until the advent of the 80286 microprocessor. Even though it is somewhat slower than XMS, EMS access is more direct than XMS. It is divided into 16K pages, and these pages are addressed one at a time. This keeps things very organized and straightforward. While EMS may not be quite as quick as XMS, its organizational qualities are very handy.

Expanded memory is required for *F-15 Strike Eagle III*, to take advantage of its many exciting features.

■ CONVENTIONAL MEMORY REQUIREMENTS ■

Due to the high detail and complex routines basic to *F-15 Strike Eagle III*, you must have at least 588 K (602,112 bytes) of free conventional memory in order to load the minimum configuration of *F-15 Strike Eagle III*. Your configuration (sound and speech options) can affect the amount of free conventional memory required. The installation program advises you if you have inadequate conventional memory.

You can determine the amount of free conventional memory through the use of the MS-DOS utility *mem*. The third line of the *mem* display indicates the amount of free conventional memory. If this line indicates less than 588 bytes (602,112 K), or indicates less than the amount of conventional memory displayed during installation, *F-15 Strike Eagle III* will not load.

Bytes and K are mutually exclusive elements. A single K, or kilobyte, is equal to 1024 bytes, or 2^{10} . Therefore, a program that requires 605K, is the same as saying it requires 619,520 bytes (605 times 1024).

You should never use any TSRs (Terminate and Stay Resident) programs with *F-15 Strike Eagle III*. This includes RAM disks, DOS shells, notepads, network drivers, etc. Many TSRs also affect the amount of free conventional memory. Certain TSRs require a fixed amount of conventional memory even with *loadhigh* and *devicehigh* device designations.

You should disable all TSRs prior to loading *F-15 Strike Eagle III*. TSR program drivers are found in your AUTOEXEC.BAT and CONFIG.SYS files. You can remove the command lines associated with the TSRs, or better yet, preface them with *rem* (remark). Whenever DOS sees *rem*, it ignores whatever follows *rem* on that line.

If you do not feel comfortable modifying the AUTOEXEC.BAT or CONFIG.SYS files, a utility for making a *boot disk* has been included with *F-15 Strike Eagle III*. This *boot disk* can be utilized to start your system whenever *F-15 Strike Eagle III* is to be loaded. That way, your system is unaffected. The instructions for this utility are found in the following section, **Making a Boot Disk**.

■ SQUEEZING OUT MORE ■ CONVENTIONAL MEMORY

Since programs require conventional memory to load, you can optimize your system by minimizing the amount of conventional memory used by MS-DOS and memory-resident programs (TSRs). There are a number of different approaches you can take to optimize your system; most are equally effective. Only a few of the more basic options are outlined here. Consult your MS-DOS manual for a more detailed discussion.

TSRs are the easiest to address. As was stated earlier, you should never use any TSRs with *F-15 Strike Eagle III*. That pretty much says it all. Except for your mouse driver, you should disable all other TSRs. Additionally, you should make sure that your mouse is loaded into high memory. Consult your mouse documentation to determine the correct method for loading it into high memory.

The next area is MS-DOS itself. Normally, MS-DOS resides entirely in conventional memory. With all MS-DOS 5.0 currently has to offer, it can get a bit greedy, and eat up a great deal of conventional memory. With extended memory available (see Accessing Expanded Memory), you can load MS-DOS into extended memory. This does not get in the way of any other programs or devices, since it is loaded into an area seldom used by other programs.

The command line to load MS-DOS into high memory must be placed in your CONFIG.SYS file. It must follow the command line for HIMEM, but otherwise can be placed anywhere in the file. For more information on loading MS-DOS into high memory and its possible options, consult your MS-DOS 5.0 manual.

The following is the default command line to load MS-DOS into high memory:
dos=high, umb

If you are unable to free up adequate conventional memory, your best bet is to utilize a *boot disk*. A utility for making a *boot disk* has been included with **F-15 Strike Eagle III**. The instructions for this utility follows.

■ ACCESSING EXPANDED MEMORY (EMS) ■

Due to the high detail and complex routines basic to **F-15 Strike Eagle III**, you must have at least 752 K (770,048 bytes) of EMS memory free in order to load the minimum configuration of **F-15 Strike Eagle III**. Your configuration (sound and speech options) can affect the amount of EMS memory required. The installation program advises you if you have inadequate EMS memory. You can also check the amount of free EMS through the use of the MS-DOS utility *mem*. The fifth line of the display indicates the amount of free EMS memory.

To allow access to EMS, you must first configure your system for extended memory (XMS). This may seem an indirect way to get the desired result, but it will all become clear shortly.

F-15 Strike Eagle III conforms to the Lotus/Intel/Microsoft/AST eXtended Memory Specification version 2.0 for XMS; and the Lotus/Intel/Microsoft Expanded Memory Specification version 4.0 for EMS.

XMS is accessed by first installing a device called *himem*. The command line for *himem* must be placed in your CONFIG.SYS file, and it must occupy the very first line in that file. This device manages XMS and prevents programs from simultaneously using the same area of memory. For more information on *himem* and its possible options, consult your MS-DOS 5.0 manual.

The following is the default command line for *himem*:
device=c:\dos\himem.sys

The next step is to install the XMS/EMS memory manager — *emm386*. This device controls access to the upper memory area and enables XMS to simulate EMS. The command line for *emm386* must be placed in your CONFIG.SYS file, and it should immediately follow the command line for *himem*. For more information on *emm386* and its possible options, consult your MS-DOS 5.0 manual.

The following is the minimum system default command line for *emm386*:
device=c:\dos\emm386.sys 752 ram

The following is the optimum system default command line for *emm386*:
device=c:\dos\emm386.sys 1072 ram

If you are not familiar with device drivers and memory management, consult your MS-DOS 5.0 manual or system manufacturer and documentation before making any changes to your AUTOEXEC.BAT or CONFIG.SYS files. Incorrect additions or modifications could have disastrous results. Always make copies of the original files before making any modifications. You may also want to go ahead and make a *boot disk*. This way, if a change to the AUTOEXEC.BAT or CONFIG.SYS files causes your system to lock up, you can utilize the *boot disk* to restart the system.

These command lines and configuration options are intended as only an example of a default configuration. Your system may have drivers and command lines specific to your system, or may use other device drivers than those supplied with MS-DOS 5.0. The contents of your AUTOEXEC.BAT and CONFIG.SYS files depend on the type of system, hardware, and memory unique to your system.

MAKING A BOOT DISK

If you feel uncomfortable about modifying your AUTOEXEC.BAT or CONFIG.SYS files, or you are unable to free up adequate conventional memory, your best bet is to utilize a *boot disk*. A boot disk creates a temporary configuration for your computer that is compatible with **F-15 Strike Eagle III**.

Use the *boot disk* to start your system whenever **F-15 Strike Eagle III** is to be loaded. That way, your normal system configuration is unaffected.

You must first install **F-15 Strike Eagle III** on to your computer before running the boot disk utility.

To make a boot disk:

1. Insert a blank, formatted 1.44MB 3 1/2" or 1.2MB 5 1/4" disk into your computer's A drive. You must use your computer's A drive, since it can not boot from the B drive.
2. Change your system to the **F-15 Strike Eagle III** directory.
3. If you have a ProAudio Spectrum sound card installed, you must type *bootdisk pas*, then press *Enter*; otherwise, type *bootdisk* then press *Enter*.

The boot disk utility accesses your existing AUTOEXEC.BAT and CONFIG.SYS files for various pieces of information. It also searches your hard drive for required information not found in those two files. If it is unable to find any part of the required information, it prompts you to supply the information.

For example, suppose you renamed the directory in which your mouse driver resides to MY_MOUSE and moved it to the E drive. The boot disk utility would not know to look in that location for your mouse driver. You must supply this information when prompted. In this example, the response would be:

e:\my_mouse\mouse.com

USING THE BOOT DISK

After making the boot disk, place it in drive A and reboot your computer. The boot disk configures your system for **F-15 Strike Eagle III**, and automatically starts the program.

RESTARTING YOUR SYSTEM

When you are finished with **F-15 Strike Eagle III**, remove the boot disk from your computer's A drive, and reboot your system. Your system will restart with your normal configuration.

CONFIGURATION

As part of the installation process, you are required to designate selections for music, sound, digitized speech, input controller, and communication options. Fortunately, the install program auto-detects the majority of the possible options.

This configuration process is also utilized to change your selections if you add, delete or modify system equipment or just decide to change the selections.

MUSIC/SOUND EFFECTS AND DIGITIZED SPEECH CARD SELECTION

From this panel, selections for music/sound effects and digitized speech are made. The installation program highlights all of the possible options it detected; the non-detected options are greyed out. You may, however, select greyed-out options as well as the highlighted options.

Separate and distinct options are possible for music/sound effects and digitized speech. The same choice is not required for both. In some cases, the same options are not offered for both. For example, you may select *AdLib* for music/sound effects, but *AdLib* is not an option for digitized speech; in this case, you would need to select *No Speech*.

DMA type sound cards have configurable settings. These three settings, address, IRQ and DRQ, are user specified, and must be configured to match the settings on the cards. If not, music/sound effects and/or speech will be disabled.

Take care when making changes to these configurable settings. Always consult the manufacturer's documentation before making any changes.

Changing the default settings of a sound card, could cause the installation program to "miss" an installed sound card.

CONTROLLER CONFIGURATION KEYBOARD ONLY

The keyboard is utilized to control all possible actions. The directional keys are used to move about the various selection screens. However, if you have a mouse, it remains active even if you select *Keyboard Only*.

This option is activated by selecting *Keyboard* from the Game Play Options Selection panel.

ONE JOYSTICK

This is an option in *F-15 Strike Eagle III*, but is highly recommended. A joystick provides a much higher degree of tactile control and input than just the keyboard. The flight stick is used to control climbing (pull back), diving (push forward), and banking to the left or right (move to the left or right). Button #1 corresponds to **Fire Gun** (return/enter key). Button #2 corresponds to **Pickle Weapon** (spacebar).

This option is activated by selecting *One Joystick* from the Game Play Options Selection panel.

JOYSTICK WITH THROTTLE

This is an option in *F-15 Strike Eagle III*. The joystick and two buttons function in the same manner as the One Joystick option. This joystick has one additional control in the form of a throttle wheel or lever.

This throttle device is utilized to control the F-15E's engine power from off, through full military, to afterburner. Full military power is achieved by engaging the throttle to approximately 90%; the afterburner is activated by pushing the throttle beyond a small dead-zone to the very top. Note that this throttle device takes precedence over the keyboard throttle and afterburner controls. The keyboard throttle and afterburner controls are basically disabled.

This option is activated by selecting *Joystick with Throttle* from the Game Play Options Selection panel. The throttle control should be set in the bottom or zero position when *F-15 Strike Eagle III* is loaded. It can be recalibrated by *alt-j*.

TWO JOYSTICKS

This is an option in *F-15 Strike Eagle III*. Joystick #1 and its two buttons function in the same manner as the One Joystick option. Joystick #2's flight stick is used a throttle device when in the "Y" axis, or vertical position. The self-centering device should be deactivated. The "X" axis, or horizontal position has no function.

This throttle device is utilized to control the F-15E's engine power from off, through full military, to afterburner. Full military power is achieved by engaging the throttle to approximately 90%; the afterburner is activated by

pushing the throttle beyond a small dead-zone to the very top. Note that this throttle device takes precedence over the keyboard throttle and afterburner controls. The keyboard throttle and afterburner controls are basically disabled.

Button #1 on joystick #2 corresponds to **Designate Target** (backspace key); button #2 corresponds to **Lock Target** (l key).

This option is activated by selecting *Two Joysticks* from the Game Play Options Selection panel. Joystick #2's flight stick should be set at the bottom or zero position when *F-15 Strike Eagle III* is loaded. It can be recalibrated by *alt-j*.

THRUSTMASTER FLIGHT CONTROL SYSTEM®

This is an option in *F-15 Strike Eagle III*. The ThrustMaster Flight Control System® is designed to give you realistic control of your F-15E. It consists of three main components: a standard pistol-grip type flight stick, a four position hat controller, and four buttons.

The flight stick portion of the Flight Control System functions in the same manner as a standard joystick; all actions are duplicated.

The hat is used to control simulation points-of-view. When positioned in the pilot's or WSO's cockpits, the hat is used to control your in-board point-of-view. All of the corresponding keyboard controls remain active.

From the pilot's cockpit, push the hat up to activate **Padlock** view (F8 key); pull down to **Look Down** (/ key); or pull down again to activate **Rear** view (F3 key). Push the hat up or pull it down to return to **Normal Cockpit** view (F1 key) from any of the other views.

From the WSO's cockpit, pull down to activate **Rear** view (F3 key); push left to **Look Left** (, key); or push right to **Look Right** (.) key). Move the hat in the opposite direction to return from any of the three views.

When in the simulation views **Pilot** (F4 key) or **Remote** (F5 key), the hat can be used to control the point of view whether up, down, left or right.

The trigger corresponds to button #1 on joystick #1, or **Fire Gun** (return/enter key). The button directly to the left of the "hat" corresponds to button #2 on joystick #1, or **Pickle Weapon** (spacebar). The middle button corresponds to button #1 on joystick #2, or **Designate Target** (backspace key). The lower button corresponds to button #2 on joystick #2, or **Lock Target** (l key).

This option is activated by selecting *ThrustMaster* from the Game Play Options Selection panel of the Install Program.

VIRTUAL PILOT/FLIGHTSTICK PRO

These are options in *F-15 Strike Eagle III*. The Virtual Pilot and Flightstick Pro are both designed to give you realistic control of your F-15E.

The Virtual Pilot consists of four main components: a steering wheel type flight stick, a four position *hat* controller, a bar throttle control, and four buttons/switches.

The steering wheel flight stick is used to control climbing (pull back), diving (push in), and banking to the left or right (turn left or right).

The *hat* is used to control simulation points-of-view. When positioned in the pilot's or WSO's cockpits, the *hat* is used to control your in-board point-of-view. All of the corresponding keyboard controls remain active.

From the pilot's cockpit, push the *hat* up to activate **Padlock** view (F8 key); pull down to **Look Down** (/ key); or pull down again to activate **Rear** view (F3 key). Push the *hat* up or pull it down to return to **Normal Cockpit** view (F1 key) from any of the other views.

From the WSO's cockpit, pull down to activate **Rear** view (F3 key); push left to **Look Left** (, key); or push right to **Look Right** (. key). Move the *hat* in the opposite direction to return from any of the three views.

When in the simulation views **Pilot** (F4 key) or **Remote** (F5 key), the *hat* can be used to control the point of view whether up, down, left or right.

The throttle bar is utilized to control the F-15E's engine power from off, through full military, to afterburner. Full military power is achieved by engaging the throttle to approximately 90%; the afterburner is activated by pushing the throttle beyond a small dead-zone to the very top. Note that this throttle bar takes precedence over the keyboard throttle and afterburner controls. The keyboard throttle and afterburner controls are basically disabled.

The right-hand button corresponds to button #1 on joystick #1, or **Fire Gun** (return/enter key). The left-hand button corresponds to button #2 on joystick #1, or **Pickle Weapon** (spacebar). The right-hand switch corresponds to button #1 on joystick #2, or **Designate Target** (backspace key). The switch returns the same function in either the up or down position. The left-hand switch corresponds to button #2 on joystick #2, or **Lock Target** (l key) when moved to the down position, and **Break Lock** (k key) when moved to the up position.

The Flightstick Pro consists of four main components: a standard pistol-grip type flight stick, a four position *hat* controller, a wheel type throttle control, and four buttons.

The flight stick portion of the Flightstick Pro functions in the same manner as a standard joystick; all actions are duplicated.

The *hat* functions in the same manner as the Virtual Pilot.

The throttle wheel is utilized in the same manner as the Virtual Pilot. Note that this throttle wheel takes precedence over the keyboard throttle and afterburner controls. The keyboard throttle and afterburner controls are basically disabled.

The trigger corresponds to button #1 on joystick #1, or **Fire Gun** (return/enter key). The button directly to the left of the *hat* corresponds to button #2 on joystick #1, or **Pickle Weapon** (spacebar). The button directly below the *hat* corresponds to button #1 on joystick #2, or **Designate Target** (backspace key). The lower button corresponds to button #2 on joystick #2, or **Lock Target** (l key).

Either option is activated by selecting *Virtual Pilot/Flightstick Pro* from the Game Play Options Selection panel of the Install Program. The throttle controls should be set in the bottom or zero position when *F-15 Strike Eagle III* is loaded. They can be re-calibrated by *alt-j*.

OTHER CONTROLLERS MOUSE

This option is not found on the selection panel. The installation program auto-detects the presence of a mouse driver, and utilizes the driver if found.

F-15 Strike Eagle III supports Microsoft compatible mouse drivers. If you have a non-compatible mouse driver, you should probably disable the mouse driver prior to loading the sim.

A mouse is highly recommended, as it greatly facilitates the selection processes, and is also very functional during flight. In fact, some in-flight designation alternatives require a mouse.

THRUSTMASTER WEAPON CONTROL SYSTEM ®

This is an option in *F-15 Strike Eagle III*. The ThrustMaster Weapon Control System ® is designed to give you additional control of your F-15E. It consists of a bar type throttle control, six push buttons, and one rocker switch.

This option is not found on the configuration panels or menu bars; it is activated by attaching it to your computer and keyboard. To activate, follow the installation instructions included with the unit. The Weapon Control System is a keyboard emulator that functions by duplicating the entry of certain keys. Setting specific dip switches to the "on" position configures the unit for **F-15 Strike Eagle III**. Follow the instructions included with the Weapon Control System ® to determine the dip switch configuration.

The throttle controls engine power from off, through full military, to afterburner. Full military power is achieved by pushing the throttle to the first detent; the afterburner is activated by pushing the throttle beyond the first

detent. Note that the keyboard throttle and afterburner controls remain fully active along with the Weapon Control System. If you utilize the keyboard controls, you can get the throttle setting out of sync with the Weapon Control System. If this occurs, increase your power to full afterburner by pressing **Afterburner** (a key) and then cycle your Weapon Control System to full power.

The function of each of the six buttons and the rocker switch is outlined in the Weapon Control System ® instructions.

MODEM PLAY

MODEM/DIRECT CONNECT DEFAULT CONFIGURATION

This is an option in F-15 Strike Eagle III. The installation program auto-detects an available serial port, and highlights it as the default selection. It also defaults the baud rate to 2400.

If you do not have a modem or direct connection installed, you may ignore this configuration screen. If you do have a modem or direct connection installed, confirm the selected COM port and the baud rate.

One point to note. Baud rates above 9600 can be problematic for all but very fast systems. There is no one correct setting. You must experiment with the settings to determine what is correct. If you experience frequent time-outs, re-syncs or the frame rate seems to be running at an extremely slow rate, try a lower baud rate.

Note that the overall performance is dependent on the speed of both machines. A direct link between a 486-50MHz system and a 386-16MHz system could not be expected to run very well at 38400 baud.

HOW TO SET-UP

The specific parameters for modem play may be pre-set either when first installing the simulation on your hard drive or by using the HOME Screen **Menu bar** and **MODEM Screen**.

HOME SCREEN MENU BAR

Access the HOME Screen menu bar by moving your cursor to any point along the top edge of the HOME screen. When the cursor reads MENU, press *Selector #1*. Next, position the cursor overtop of the word MODEM and press *Selector #1* again. A secondary pop-up menu appears containing two modem play variables, **COM Port** and **BAUD rate**.

COM Port: F-15 Strike Eagle III modem play supports communication through either COM Port 1 or COM Port 2. Be careful in your selection of COM ports. If you select the COM Port your mouse is currently running on, the game will not work properly. The modem screen may appear to connect properly, but your mouse will be inoperative.

BAUD Rate: F-15 Strike Eagle III modem play supports BAUD rates of 2400, 4800, 9600, 19200, and 38400.

MODEM SCREEN

Having selected your COM port and BAUD rate from the Menu Bar, it is time to access the Modem Screen to make your connection. Position the cursor over the small telephone next to the unfolded map. When the cursor reads MODEM, press *Selector #1*. You are immediately taken to the Modem Screen.

The Modem Screen consists of a large telephone with numeric buttons and text window display. Players may exit the Modem screen at any time by depressing the hang-up button in the receiver well to the left of the text window.

Located at the bottom of the telephone are three small buttons which correspond to the three Modem player modes: **CO-OP (Co-operative Wingman)**, **H to H (Head to Head Competition)**, and **FT-BK (Front Seat-Back Seat)**.

METHODS OF MODEM CONNECTION

There are two basic methods of modem connection; 1) direct connection using a null modem serial cable and 2) connection via an open line which has already been established or one in which the modems still need to recognize one another. Regardless of the type of connection, one player is referred to as the **Caller** and the other player, the **Receiver**.

THE CALLER

As the Caller or the initiator of the transmission, you make fundamental game decisions that the Receiver must accept. The Caller's choice of mission theater, player mode, and Difficulty Level overrides any selection made by the Receiver. For example, if the Caller chooses a Difficulty Level 3 mission in Korea, the Receiver is defaulted to these settings.

Certain Reality settings are also chosen by the Caller. These depend upon the player mode that the Caller selects;

Head-To-Head mode: Crashes, Landings, Damage, and Training options.

Cooperative Wingman mode: Crashes, Landings, Damage, Training, Flight model and Weapon Effectiveness options.

Front Seat- Back Seat mode: All settings are controlled by the Caller.

DIRECT CONNECTION

1. A direct connection is made by linking two computers together with a null modem cable. Once both players go to their respective Modem screens, the text window reads **"WAITING FOR CONNECTION"** while waiting for the computers to confirm the connection.

2. The text window flashes the word **"CONNECTED"** once the connection has been confirmed. This message is then followed by **"WAIT OR PRESS # TO BEGIN"**

3. The **Caller** initiates the game by moving the cursor over the pound sign (#) button and pressing *Selector #1*. The other player, the **Receiver**, simply

waits for the Caller's transmission to be picked up. After the number sign button is pressed, the text window reads **"TRANSMITTING MISSION NOW."** You will experience a brief delay while a mission is generated.

4. Players are automatically placed in the BRIEFING ROOM once the mission is generated unless the Caller has selected Head-To-Head Competition. In this case, both players are placed in the ARMING Screen.

5. From the BRIEFING ROOM, players go directly to the ARMING Screen routine. If, however, the Caller has selected Front Seat- Back Seat mode, only the Caller goes to the ARMING Screen.

6. The mission is begun once the Briefing Room and Arming Screen sequence is completed.

ESTABLISHED MODEM CONNECTION

1. Your modem must be turned On and properly connected prior to entering the MODEM Screen. Once you have moved to the MODEM Screen, the program automatically detects the presence of your modem.

2. A dialogue box appears asking you whether you wish to be the **Caller** or **Receiver**. If you identify yourself as the Caller, you are the initiator of any further transmissions between modems. If you choose to be the Receiver, your modem remains passive while receiving data from the Caller.

3. You are next asked whether a voice connection has been established, i.e. the two of you are still on the phone and able to speak to each other. If the answer is YES, the program automatically links your modems and begins transmitting data. The text window reads **"TRANSMITTING MISSION NOW."**

4. Once the connection is made, hang up your telephone.

NO ESTABLISHED MODEM CONNECTION

1. If the answer is No, the Caller needs to "dial" the Receiver's modem.

2. You are prompted to dial the Receiver's number. This is accomplished from the Modem screen by pressing *Selector #1* over the proper sequence of numbers, or by using the keyboard number keys. You are then instructed to press the pound sign (#) on the telephone with your cursor to terminate the phone number.

3. The text window flashes the word **"CONNECTED"** once the connection has been confirmed. After the pound sign (#) button is pressed there is a brief delay while a mission is generated. The Briefing and Arming Sequence is performed normally and as outlined in Direct Connect modem play.

PLAYER MODES

F-15 Strike Eagle III modem play allows for three distinct player modes: CO-OP (Co-operative Wingman), H to H (Head to Head Competition), and FT-BK (Front Seat-Back Seat).

Modem play defaults to Head-to-Head Competition. If you wish to change this, simply move the cursor over the button which corresponds to your desired player mode. Press *Selector #1* to depress the button and make your selection.

Cooperative Wingman mode allows two players linked via modem to participate in a single mission, each with their own independent aircraft. Only one pair of Primary and Secondary targets is generated per flight mission opening up a wide range of play options.

For example, you could have one aircraft, loaded with air-to-air missiles, fly CAP while the other performs the ground strikes. Alternatively, you could have one aircraft load up with HARMs and sweep a path clear of SAMs ahead of your strike aircraft.

Having a friend bring along a second aircraft gives the two of you the ability to practice your formation flying skills. Dogfighting is more exciting when the two of you can wade into a flock of MiGs or gang up on some unfortunate stray F-5.

Players receive individual scores based on the team's accomplishments. However, if one player ejects before the mission is ended, that player does not get credit for points scored by his wingman. You only receive points for targets destroyed while you remain in flight.

Front Seat-Back Seat is another form of cooperative play. Rather than give each of you separate aircraft, you and a friend occupy the Pilot and Weapon Systems Officer positions of a single F-15E. In many respects, this mode was how the game was meant to be played.

Since the F-15E is a two seater aircraft, no simulation would be totally accurate without placing a second live player in the cockpit. For authenticity's sake, having one player continually jump between cockpit positions is no substitute for the real thing. A computer simply cannot reproduce the nervous excitement and cockpit confusion generated by two humans trying to perform an intricate task in the heat of combat.

This mode instantly gives players an idea of the close knit bond that is required of F-15E crewmen. To be successful, the two of you must work together and not just be two individuals sharing an aircraft. Before each mission, you should sit down and divide up the responsibilities ahead of time. There just isn't time to transmit lengthy messages back and forth once in flight.

Who will deploy chaff and flares? Who is in charge of the radar? Who decides which target gets fired at first? These questions (and many others) need to be hammered out before the two of you ever leave the ground. Despite their apparent trivial nature, these types of things spell the difference between a successful mission and getting shot down. This mode in particular requires the two of you to function as a well oiled machine.

Head to Head Competition is the only way to really separate the true Eagle-drivers from the rest of the pack. This method of play pits you against another live opponent with no computer-based artificial intelligence getting in the way.

Unlike the other two player modes, Head-to-Head competition is not considered a real mission. It is more akin to training flights flown by pilots during RED FLAG exercises. You do not receive a score and though you may be shot down, your pilot cannot be harmed. You are, however, eligible for several awards such as the Meritorious Service Award and Legion of Merit based on the number of opponents you have defeated.

You and your opponent start out facing each other just out of radar range (80 nm). This gives each of you a brief opportunity to maneuver undetected at the start. Surprise is the key element in this type of one against one dogfighting. The longer you can stay hidden from your opponent, the greater your chances are of getting in the first shot.

Because both of you start out with identical aircraft, Head-to-Head mode all boils down to who is better able to combine flying skills with an effective use of the F-15E's weaponry. Of course, there's always a little luck involved.

MODEM PLAY COMMUNICATION

What would Modem play be without the ability to communicate directly in real-time to the other player? The following section describes the digitized speech system and the use of text messaging during Modem play.

CHAT MODE

Players have the ability to send each other text messages while the game is in progress by activating **CHAT Mode**. This mode is may be activated by the player at any time simply by pressing the **CHAT Mode (; Key)**. It is important to note that CHAT mode does not pause or halt the game while you are composing your message. Therefore, it pays to keep your messages short and sweet, just like in real life.

A message strip appears at the top of your screen signifying that you are in CHAT mode. The normal *F-15 Strike Eagle III* keyboard functions are overridden and the keyboard now acts as a standard typewriter. This allows you to send any text message you desire. (The *backspace* key is also active, in case it is needed to make corrections.)

When you are finished typing in your message, press the *Return* key to send the message. Your message appears at the top of the other player's screen for a few seconds along with a tag indicating (Modem). You automatically exit from CHAT mode when the message is sent and your keyboard resumes game related functioning. If you wish to exit CHAT mode for any reason, without sending a message, simply press the **CHAT Mode (; Key)** a second time. You may also exit at any time using the *escape* Key.

CANNED MESSAGES

These pre-composed (canned) text messages may be sent by players at any time. Because the game is not halted while in CHAT mode, these messages are intended to be a short-cut method of communicating. Think of them as keyboard macro commands and use them when the action gets hot and heavy.

Text messages are initiated in response to key presses which are entirely controlled by the players. Each of the following canned messages comes with accompanying speech and vice versa.

To initiate any of these canned messages simply press the CHAT mode (**; Key**) as you would normally. Instead of typing a message, press the appropriate function key to send the desired message. You automatically exit from CHAT Mode when the message is sent.

Key	Message Sent	Message Interpretation
F1 Key:	"negative"	unable to comply
F2 Key:	"blind"	no view of enemy air/ground forces
F3 Key:	"break left!"	warning of near air or missile threat
F4 Key:	"break right!"	warning of near air or missile threat
F5 Key:	"chaff/flares!"	warning of near air or missile threat
F6 Key:	"tactical"	command to break formation
F7 Key:	"rejoin"	command to to join the msg. sender
F8 Key:	"press"	command to engage enemy
F9 Key:	"engaging!"	intention of attacking enemy aircraft
F10 Key:	"RTB"	command to return to base

CHANGING CANNED MESSAGES

Using the text editor in your version of IBM DOS, you are able to edit the selection of canned messages provided in the games. The list of canned messages is located in a game file titled *Messages.txt*, which can be accessed by typing *type messages.txt* from your game directory prompt.

Instructions on how to change canned messages are included in this file as well. Note that if these messages are changed, the associated speech disappears. It reappears once the message is edited back to its original text.

For example, in CHAT mode, the F1 Key sends the word "negative" along with the associated speech. Using the text editor, you could change the message to read "sighted bogeys" instead. You would not, however, get any sound to accompany your new message.

REPLAY MESSAGE (SHFT M KEY)

In the heat of combat it is entirely likely that important messages may be missed. This is especially true for those players whose systems lack a speech capability. To replay messages, press *Replay Message* (shft m Key). This command enables you to review the last set of messages that were received, up to a limit of 5 separate messages. If the screen is currently displaying message texts, pressing (shft m Key) clears the screen instead.

GAME ADDITIONS AND CLARIFICATIONS

OPTIONS AND CONFIGURATIONS MENU BAR

Players are able to exercise a great degree of control over their individual missions even after leaving the HOME Screen. There is an additional "in flight" Menu Bar which contains a number of game options and configuration selections.

The "In Flight" Menu Bar is accessed by pressing *Selector #1* after moving the cursor to any point along the top edge of the screen. The Menu Bar can also be viewed by pressing the *escape* Key. Once the Menu Bar appears, game play is temporarily halted while you select your desired options.

The Menu Bar contains three major subdivisions; **GAME**, **CONTROL**, and **OPTIONS**. Each of these subdivisions contains a further pop-up menu which activated by key press or *Selector #1*.

GAME: This menu contains various methods of ending your current mission or exiting the game altogether. The details concerning these choices are covered in Chapter 2, Section iv. of your manual. An End Mission option also exists on this menu whenever your aircraft is considered "Fence Out."

CONTROL: This menu contains all the various joystick configuration options including set-ups for THRUSTMASTER® and multiple sticks. For those players using Keyboard only, the sensitivity settings may be changed according to your personal tastes. Finally, the roll-rate of your aircraft can also be altered. If your flight model is set to *Authentic* mode, you may find that your hardware is too sensitive to maintain control over the aircraft when rolling. If this is the case, slow down the roll rate of the aircraft by setting this option to *Standard*.

OPTIONS: This menu contains the sound and detail level settings. The sound settings can be varied depending on the amount of background sound effects you prefer. This option can also be utilized to turn digitized speech off, and back on again if so desired. However, note that digitized speech can not be turned on if it was not activated from the install program.

A number of different detail level options are available to assist in maximizing the frame rate on slower systems. Any combination of low, medium (not all options offer a medium setting), and high settings is possible. It is purely a matter of player preference. There is no one correct setting other than you will get the fastest frame rate with all *low* settings, and the slowest frame rate with all *high* settings. Experiment with these settings until an acceptable balance between frame rate and detail level is achieved.

You can check the current frame rate by pressing the *alt-f* keys. The values displayed are only significant during normal game time. Press **Normal Time** (t key) before displaying the frame rate to make sure normal time is in effect. The first value is the total number of frames in 10 seconds; divide this value by 10 for the number of frames per second. The higher the value the better. The second value is the total number of 1/60s of a second your system required to process one complete frame. This includes all range checks, calculations, and display parameters. In this case, the lower the value the better.

There are also a few other tricks you can employ to squeeze a little more speed out of your system. These are outlined in the **Frame Rate** section found under **Trouble Shooting**.

EXTERNAL FUEL AND JETTISONING ORDNANCE

Although your manual covers jettisoning air-to-ground ordnance, one point was not expressly covered and needs clarification. External fuel tanks are jettisoned along with any ordnance when **Jettison Ordnance** (*shft j Key*) is pressed. The only way to retain your external fuel tanks is to drop the ordnance off each station individually rather than jettison all of it at once.

DECLINING CAMPAIGN MISSIONS

In addition to affecting your individual career progression, declining campaign missions has a negative impact on the overall campaign. It is important to remember that each mission you decline just means that an enemy target was not attacked. If too many targets are left unstruck, your campaign may begin to go badly.

TROUBLE SHOOTING

INSTALLATION OR CONFIGURATION LOCK-UP

As part of its auto-detection routines, the installation program checks for the type of sound card you have installed. Due to a conflict with this routine, certain computers may lock up when running the installation program.

If you experience this condition, run INSTALL with the *-s* option, i.e. *install -s*. The install program then bypasses the check for the type of sound card. You may still select the type of sound card installed from the **Music/Sound Effects and Digitized Speech Card** selection panel.

THRUSTMASTER / SOUND BLASTER CONFLICT

There is a known compatibility problem between early ThrustMaster Flight Control System ® sticks and the standard Sound Blaster sound card. This problem causes your point-of-view to switch whenever digitized speech is initiated.

There are options available to rectify this problem; contact ThrustMaster for more information.

TANDY MULTI-MEDIA SYSTEMS

The Tandy 48xx MPC series, and 2500 SX/25 MPC multimedia systems are equipped with a built-in Sound Blaster compatible sound card. The installation program normally defaults Sound Blaster type sound cards to IRQ7. At this setting, you may experience garbled speech. Change the setting to IRQ10. This should correct any speech problems.

FRAME RATE

If the frame rate seems too slow (how fast the flight portion of the sim seems), there are a number of adjustments that can be made to optimize frame rate.

You can check the current frame rate by pressing the *alt-f* keys. The values displayed are only significant during normal game time. Press **Normal Time** (t key) before displaying the frame rate to make sure normal time is in

effect. The first value is the total number of frames in 10 seconds; divide this value by 10 for the number of frames per second. The higher the value the better. The second value is the total number of 1/60s of a second your system required to process one complete frame. This includes all range checks, calculations, and display parameters. In this case, the lower the value the better.

There is no one correct frame rate. It is purely a matter of player preference. Some players may prefer higher detail to a slower frame rate, while others prefer a faster frame rate at the expense of detail. It is your choice.

If you are linked to another player via modem or direct link, you are bound by the capabilities of the slower system. If the slower system is markedly slower, that player should adjust the detail levels to the lowest settings (see **Options and Configuration Menu Bar** section). Playing at an extremely fast baud rate can also cause frame rate problems. In this case try a slower baud rate.

If you are not linked, experiment with different detail levels until you find an acceptable balance between detail and frame rate.

There are also a few other subtle adjustments that can be made to help optimize frame rate. Certain MPD/MPCD displays require more horsepower, and therefore affect frame rate. Keep in mind that this is only true when the particular display is visible, i.e., looking down in the pilot's cockpit or switching to the WSO's cockpit.

The TSD and RBM (when the radar is active) are somewhat more demanding than the other displays, but the HUD Repeater and Targeting FLIR are by far the most greedy. You can speed up the frame rate somewhat by displaying alternatives to these options. There is even a blank display available to essentially turn off a MPD/MPCD. Of course, tactical situations should certainly take precedence.

A-G mode, as a whole, is more demanding (when the radar is active) than the A-A or NAV modes. Do not just fly around in A-G mode with your radar active. NAV mode is the best choice for those excursions to and from the targets.

PROBLEMS?

The latest notes regarding this program and problems with "compatibles" can be found on disk, in an ASCII file named "READ.ME". You can read this file by using a text editor or standard DOS commands such as "TYPE READ.ME". Some later versions of DOS will allow you enter "TYPE READ.ME /more"; this pages through file, making it easier to read.

If the program does not load or run correctly, turn off your entire machine and restart it. Make sure DOS and *F-15 Strike Eagle III* are the only programs loading into memory.

If you continue to have trouble, try reinstalling the game from scratch or installing the *F-15 Strike Eagle III* disks in another computer. If the disks work in another computer, then your computer has compatibility problems (i.e., some aspect is not entirely IBM compatible). You may also try a different machine speed, or a keyboard, or a sound option. Sometimes an alternate configuration works.

If you continue to have trouble loading on other machines as well as your own, you may be one of the tiny percentage with a defective disk. In such cases, contact MicroProse Customer Service at (410) 771-1151, Monday through Friday, 9am-5pm, Eastern Time. Please have a pencil and paper handy when you call.

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ONLINE SUPPORT SERVICES

MicroProse provides Upcoming News, Latest Versions, Updates, Product Demos, Reviews, Technical Support and more on the following Online Services for Modem Users. All are staffed by our Online Service Representative, Quentin Chaney.

MicroProse Bulletin Board Service (MPS*BBS)

(410) 785-1841, with settings of 8,N,1, and supports up to 14400 baud, 8 Lines, 24 a day 7 days a week.

America Online: Industry Connection,

Keyword: "MicroProse", Address: MicroProse

CompuServe: Game Publishers Forum,

Keyword: "Go GAMPUB", Address: 76004,2223

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GEnie: Scorpia RT, Keyword: "Scorpia", Address: MicroProse

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MCI Mail: Address: MicroProse

PC-Link: Computer Forum, Keyword: "MicroProse", Address: MicroProse

Prodigy: "Game Club", Keyword: "MicroProse", Address: XHFK15D

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