

# F-19 STEALTH FIGHTER TECHNICAL SUPPLEMENT

for IBM® PC, XT, AT, PS/2 and compatible computers

## Package Contents

Your F-19 Stealth Fighter should contain a manual, this technical supplement folder, three 5 1/4" disks or two 3 1/2" disks, keyboard overlays, maps of Libya, the Persian Gulf, the North Cape, and Central Europe, a registration card and backup disks order card.

## Required Equipment

**Computer:** This simulation requires an IBM PC, XT, AT, PS/2, Compaq 386, Tandy 1000, or a computer 100% compatible with one of those models. The machine must have at least 384K of RAM.

**Controls:** The simulation can be run entirely from the keyboard, or with a joystick and keyboard. A joystick greatly improves the "feel" and realism, and is strongly suggested.

**Display:** The simulation requires a color monitor with an IBM CGA, EGA, MCGA, VGA or Tandy 1000 graphics system. EGA systems must have 256K on the graphics card (standard on all but the earliest releases). The simulation will run on a system with a monochrome monitor if your system has a Hercules Monochrome Graphics card. If you are using a compatible graphics card/monitor, it must be 100% hardware compatible to one of the above.

**DOS:** You must have IBM DOS, MicroSoft MS DOS or Tandy DOS, version 2.1 or higher. A version between 2.1 and 3.31 inclusive is recommended. Higher DOS versions may require more than 384K of RAM.

## Installation Concepts

**F-19 Stealth Fighter** is copy-protected using a "key disk" technique. This means you can copy the game files from the original disks however you prefer: to other floppy disks, or to a hard disk. These files are normal in all respects, and should not cause special problems when backing up, restoring, or optimizing a hard disk.

However, the original disks have special "invisible" markings that cannot be copied or removed from the disks. At various points the program asks you to insert an original disk into your floppy drive. Therefore keep the original disks handy. MicroProse regrets that continuing casual and organized software piracy, within the USA and around the world, requires that we copy-protect this program.

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## Running with Floppy Disks

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### Installation on Floppy Disks

This simulation is designed to run using copies of the original (distribution) disks supplied in the box. You can run the game using the distribution disks, but no information will be saved. To make a copy you need three 5 1/4" 360K, or two 3 1/2" 720K, or one 5 1/4" 1.2MB, or one 3 1/2" 1.44MB disk(s). You should format the disk(s) first, to insure that each is "clean".

**Format a Floppy Disk:** Formatting a disk requires that you boot your computer with DOS, and at the ">" prompt type the appropriate format command. For example, on most machines this is "FORMAT A:" to format a floppy disk in the A: floppy drive. For details, consult the description of "FORMAT" in your DOS manual. Don't install DOS on a disk unless it's 1.2MB or larger.

**Copy to Newly Formatted Disks:** After formatting disk(s), use the DOS "COPY" command to copy the disks (use \*. \* as the file designators). Typically this command is entered as "COPY A:\*. \* B:\*. \*", even if you just have one floppy drive. For details, consult "COPY" in your DOS manual. You can copy all game files onto a single high density floppy (1.2 MB 5 1/4" or 1.44 MB 3 1/2").

**Warning:** Do not use the "DISKCOPY" command to copy disks. You must use the COPY command.

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### Loading from Floppy Disks

**(1) Boot your machine** using a DOS disk (version 2.1 or higher is required, version 2.1 to 3.31 is recommended).

**(2) Insert Disks:** When the "A: >" prompt appears, remove the DOS disk and insert the F-19 "A" disk. If you have two floppy drives, put the "B" disk in the second drive. If you have them, use the copies made in the install instructions above.

**(3) Set Speed:** If you have a "turbo" or multi-speed computer, set the speed to the highest possible setting. Only use a lower setting if the program failed to load at a higher speed.

**(4) Load Program:** Type the following:

F19

and press return. The simulation will begin loading.

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## Running on a Hard Disk

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### Installation on a Hard Disk

You can copy the original (distribution) disks onto a hard disk. The files copied are standard DOS files. They can be copied, erased, and optimized as desired.

**Install Program:** An install program is included on disk B to simplify hard disk installation. It assumes you are installing from floppy drive A: to hard disk C:.

If you're installing from 5 1/4" disks, insert disk B into drive A: and type

A:INSTALL 5

then press return. Remember to type a space between "INSTALL" and "5".



If you're installing from 3 1/2" disks, insert disk B into drive A: and type

A:INSTALL 3

and press return. Remember to type a space between "INSTALL" and "3".

**Warning:** INSTALL assumes you install from floppy drive A: onto hard disk C:. If your hardware configuration is different, do not use INSTALL. Instead manually copy the files from the floppy to the hard disk, using the DOS "COPY" command. All F19 files must be in the same directory or subdirectory. F19 itself uses no subdirectories.

*Technical Notes:* The install program creates a subdirectory on your hard disk titled "F19SF", then copies all files into that subdirectory. It then copies a runtime batch file "F19LOADR" into your root directory as "F19.BAT", for your convenience. If you're an experienced IBM user, feel free to modify or move F19.BAT in the root.

**Removing Installation:** To remove F19 from the hard disk, simply erase the files within the F19SF subdirectory, and the F19.BAT file in the root directory. Of course, this also erases all your pilot records!

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## Loading from a Hard Disk

This assumes your machine runs under DOS when it boots, which is true of 99%+ of all IBMs and compatibles. You must install F19 first.

**(1) Turn on your machine.** If it is already on, exit all programs, returning the computer to DOS.

**(2) Move to the Correct Directory:** Make sure the directory letter matches the disk where you have F19. If this is the C: drive, type "C:" and press return. Then type "CD C:\\" and press return. This insures that you're in the "root" directory.

**(3) Set Speed:** If you have a "turbo" or multi-speed computer, set the speed to the highest possible setting. Only use a lower setting if the program failed to load at a higher speed.

**(4) Load Program:** Type the following:

F19

and press return. The simulation will begin loading.

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## Special Options

### Speed

When the simulation loads into your computer, the program computes the processing speed of your machine and sets itself accordingly.

### Detail

F19 has three levels of detail (D0 to D2), which controls the amount of detail seen on the ground. Increasing detail requires greater computer speed. Regardless of your computer model, you can select any level of detail.

F19 normally starts at highest detail (D2). This is ideal for sight-seeing regardless of your computer. However, for improved flight control and combat flying, on slower machines you may wish to reduce the level of detail at times. You can use the *Detail Adjust* key (Alt D) to change detail at any time while flyin.

Our testing experience suggests the following detail levels for combat flying:

D0 -limited detail suitable for PC, XT and other 8088 machines

D1 -moderate detail suitable for normal AT machines

D2 -exceptional detail suitable for very fast ATs and 80386 machines

The graphics environment you select also has an effect on speed. MCGA/VGA and EGA are considerably slower than CGA. You can gain more speed (and detail!) at the expense of less color by selecting CGA graphics. On slower machines (including the original PS/2 models 25 and 30) you should try this choice at least once. Unlike detail level, you cannot change the graphics environment while the program is running.

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## Automated Loading Options

When the program loads, it asks a variety of questions about your computer system. You can automate this process by adding additional characters after the "F19" loading command. Separate F19 and each of these commands with a space. You may use as many or as few commands as you prefer.

Automated loading options include:

- /J if you use a joystick
- /NJ if you use a keyboard without a joystick
- /GE if you use EGA 16-color graphics
- /GM if you use MCGA or VGA 256-color graphics
- /GC if you use CGA 4-color graphics
- /GT if you use Tandy 1000 16-color graphics
- /GH if you use Hercules monochrome graphics
- /D2 if you prefer exceptional ground detail (for very fast machines)
- /D1 if you prefer moderate ground detail (for AT class machines)
- /D0 if you prefer very little ground detail (for slow machines)

**Examples:** If you use a standard PC or XT with CGA graphics and no joystick, you would load the simulation with "F19 /NJ /GC /D0". If you have a Tandy 1000 with joystick, you would load the simulation with "F19 /J /GT /D0". If you have an AT with joystick, EGA graphics, and want the default setting for detail, you would load the simulation load with "F19 /J /GE".

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## Loading Problems?

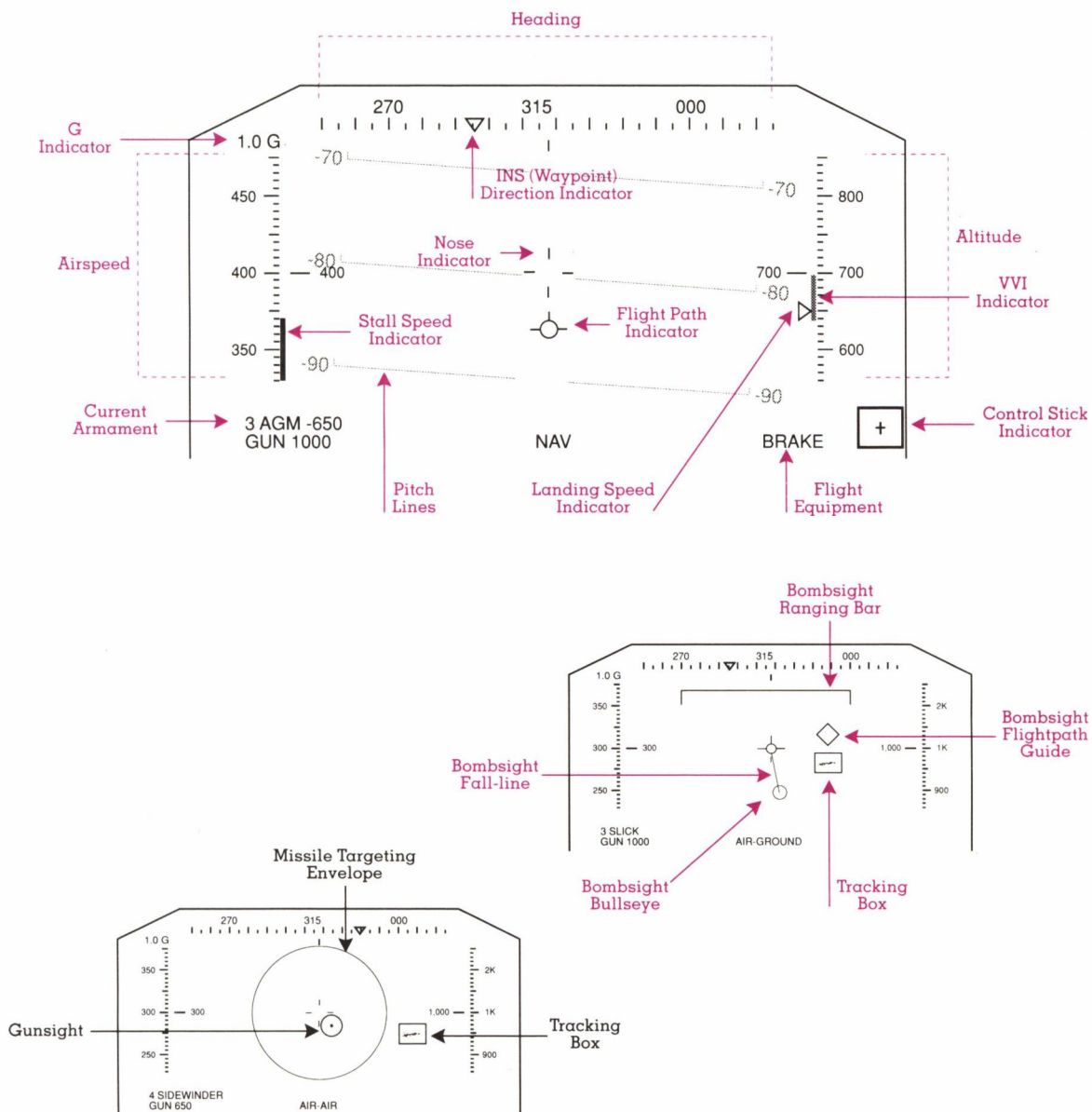
Disk B has an ASCII file named "READ.ME". This contains the latest notes regarding the program and how to solve problems with various "compatibles". You can read this file using standard DOS commands, such as "TYPE READ.ME".

If the program does not load or run correctly, turn off your entire machine and restart it with a DOS disk (version 2.1 to 3.31 preferable) in your A: floppy drive. This should insure that DOS and F19 are the only programs loaded into memory. RAM-resident programs may conflict with F19.

If you continue to have trouble, try the original F19 disks. If the originals don't work either, try them in another PC. If they run correctly in another machine, then your machine has compatibility problems (i.e., some aspect is not entirely IBM compatible). Try a different keyboard, joystick, graphics, or detail setting; sometimes an alternate setting works. This helps narrow down your compatibility problem. Many computer BIOS ROMs and graphics card ROMs are replaceable. A newer version of either, available from the manufacturer, could solve your problem.

If you 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 (301) 771-1151, Monday through Friday, 9am-5pm Eastern time. Please have a pencil and paper handy when you call.

# HUD Symbolry





# Controls

## Preflight & Postflight Options

Controller	joystick,	or arrow keys
Selection	either joystick button,	or return key

## Control Stick

Pitch down	stick forward,	up-arrow, or	numeric keypad '8' key
Roll right	stick right,	right-arrow, or	numeric keypad '6' key
Roll left	stick left,	left-arrow, or	numeric keypad '4' key
Pitch up	stick back,	down-arrow, or	numeric keypad '2' key
Down & right	stick forward & right,	'PgUp' key, or	numeric keypad '9' key
Down & left	stick forward & left,	'Home' key, or	numeric keypad '7' key
Up & right	stick back & right,	'PgDn' key, or	numeric keypad '3' key
Up & left	stick back & left,	'End' key, or	numeric keypad '1' key
Adjust stick sensitivity (tiny, small and medium stick movement)		'Ins' key	
Maximum stick movement		fast double-press of the key	

## Throttle

Max Pwr (maximum power)	Shift and '+' key
Incr (increase throttle)	'=' key
Decr (decrease throttle)	'-' key
No Pwr (no power)	Shift and '_' key

## Other Flight Controls

Gear (landing gear toggle)	'6' key (on main keyboard)
Flaps (extend/retract toggle)	'9' key (on main keyboard)
Brakes (on/off toggle)	'0" key (on main keyboard)
Autopilot (on/off toggle)	'7 key (on main keyboard)
Accel (accelerated) time	Shift and 'Z' key
Norm (normal) time	Shift and 'X' key

## Out-of-Plane Viewing

Slot view	Shift and 'F1' key
Chase plane	Shift and 'F2' key
Side view	Shift and 'F3' key
Missile view	Shift and 'F4' key
Tacti view (you & enemy)	Shift and 'F5' key
Invrs tacti (enemy & you)	Shift and 'F6' key

## Out-of-Cockpit Viewing

View ahead	Shift and '?' key
View rear	Shift and '>' key
View left	Shift and '<' key
View right	Shift and 'M' key

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### Other View Keys

Zoom (view or map)	'z' key
UnZoom (view or map)	'x' key
View Angle (narrow or wide)	'c' key

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### Cockpit Controls

Cockpit View	'F1' key
HUD Modes (switches between three modes)	'F2' key
CRT Maps (toggles left-side CRT)	'F3' key
Data (on right-side CRT)	'F4' key
Ordnance (on right-side CRT)	'F5' key
System Damage (on right-side CRT)	'F6' key
ILS (on/off the HUD)	'F9' key
Mission (on right-side CRT)	'F10' key
Eject (bail out)	Shift and 'F10' key

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### INS (Inertial Navigation System)

Select Way Point (on right-side CRT)	'F7' key
Change Way Point (on both CRTs)	'F8' key
Reset Way Point (all)	Shift and 'F8' key
Select/change Previous waypoint	Shift* and 'PgUp' key
Select/change Next waypoint	Shift* and 'PgDn' key
Move Waypoint Up (changing pt)	Shift* up-arrow (numeric keypad '8') key
Move Waypoint Down (changing pt)	Shift* down-arrow (numeric keypad '2') key
Move Waypoint Left (changing pt)	Shift* left-arrow (numeric keypad '4') key
Move Waypoint Right (changing pt)	Shift* right-arrow (numeric keypad '6') key
	*shift unnecessary if using joystick

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### Tracking Camera (appears on right-side cockpit CRT)

Cam Ahead	'/' key
Cam Rear	',' key
Cam Left	'm' key
Cam Right	',' key
Select Target (in current view arc)	'b' key
Designate New Target (ahead only)	'n' key

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### Armaments

Ordnance (on right-side CRT)	'F5' key
Select Ordnance	space bar
Bay Doors (toggles open/closed)	'8' key (on main keyboard)
Fire Ordnance	return key
Fire Cannon	backspace key

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### Defenses

Flare (drop one cartridge)	'1' key (on main keyboard)
Chaff (drop one cartridge)	'2' key (on main keyboard)
IR Jammer (toggles on/off)	'3' key (on main keyboard)
ECM (radar jammer on/off)	'4' key (on main keyboard)
Decoy (drop one)	'5' key (on main keyboard)

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## Simulation Controls

Pause (press any key to un-pause)	Alt and 'p' key
"Boss" (hides simulation)	Alt and 'b' key
Quit (return to DOS)	Alt and 'q' key
Resupply (training only)	Alt and 'r' key
Change mission to training	Alt and 't' key
Reset joystick centering	Alt and 's' key, then "stir" the stick
Keyboard Control Stick Adjust	'Ins' key
kybd sensitivity 3 = keypress causes large stick movement	
kybd sensitivity 2 = keypress causes moderate stick movement (default)	
kybd sensitivity 1 = keypress causes small stick movement	
note: double-press causes maximum stick movement	
Volume Adjust (4 sound levels)	Alt and 'v' key
sound level 3 = all sounds	
sound level 2 = all sounds except engine background noise (default)	
sound level 1 = firing and explosions only (no warning sounds)	
sound level 0 = no sound	
Detail Adjust (3 levels)	Alt and 'd' key
detail level 2 = exceptional detail (fast AT and 386 computers) (default)	
detail level 1 = moderate detail (average AT computers)	
detail level 0 = limited detail (PC and XT computers)	
Slew Controls (4 directions)	
slew north (training only)	Alt and 'i' key
slew west (training only)	Alt and 'j' key
slew south (training only)	Alt and 'k' key
slew east (training only)	Alt and 'l' key

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## Notes on Simulation Controls

**Change Mission to Training (Alt and 't' key):** Tapping this key converts your current mission into a training mission. This means that henceforth enemy weapons do no damage. Tapping Alt 't' again exits training.

Once a mission is converted to training you cannot score any points for it, even if you toggle training off again. However, the slew controls and resupply key only function when training is active.

**Reset joystick centering (Alt and 's' key):** If using a joystick and your plane seems to turn, dive or climb while the stick is centered, tap this key combination, then "stir" the joystick by rotating it through the four corner positions.

**Keyboard Control Stick Adjust ('Ins' key):** This regulates the amount of control stick movement a keypress causes. We recommend you use this key frequently while flying, and always set the sensitivity to "1" on your final approach to landing.

**Detail Adjust (Alt and 'd' key):** The level of detail affects the game's speed. See "Special Starting Options" elsewhere in this folder for more information.

**Slew (Alt and 'i'/'j'/'k'/'l' keys):** These keys function *only* in training. Tapping the key "teleports" your aircraft in that direction. The distance you're "teleported" varies with the current Zoom/UnZoom scale of the satellite/radar map. Slew is an excellent way to check out the region while training.



# Display Colors

<i>4-color</i>	<i>16-color</i>	<i>Information displayed</i>
<b>HUD Targeting Colors</b>		
Black rectangle	Black rectangle	Ineffective weapon (day)
Light blue rectangle	Maroon rectangle	Ineffective weapon (night)
White rectangle	White rectangle	Effective weapon
White circle	White circle	Effective weapon, locked on target
Red circle	Red circle	Highly effective weapon, locked on target
<b>EMV Scale Colors</b>		
Red line	Red line	Enemy Ground radar, has not detected you
White-red line	Pink line	Enemy Ground radar, has poor detection
White line	Yellow line	Enemy Ground radar, which detected you
Light blue line	Light Blue line	Enemy Aircraft radar, has not detected you
White line	White line	Enemy Aircraft radar, which detected you
<b>Damage Tattletales</b>		
Light blue	Green	System functioning
Red	Red	System failure (damaged or destroyed)
<b>AutoPilot Light</b>		
White	White	Autopilot On
Black	Black	Autopilot Off
<b>Landing Gear Light</b>		
Black	Black	Landing Gear Up
Flashing white	Flashing green	Landing Gear Down at too high a speed
White	Green	Landing Gear Down
<b>Other Warning Lights</b>		
Bright color	Bright color	On
Black	Black	Off
<b>Satellite/Radar Map</b>		
White dot	White dot	Your aircraft
Flashing red	Flashing yellow-red	Mission objective on ground
Blinking red	Blinking red	Mission objective in air
Red dot	Red dot	Other aircraft
Black dot	Black dot	Ground Radar
White dot	Yellow dot	Missile
Dotted line	Dotted line	Pulse Radar
Solid line	Solid line	Doppler Radar

**Tactical Display**

Purple squares  
 Red/blue radar dish  
 Blue/white boat  
 White rectangle  
 Red crossed circle  
 White airplane  
 White outline  
 White dots  
 Light blue burst  
 Light blue plane  
 White plane  
 Red plane  
 White line  
 Red line  
 White line  
 Blue-boxed object  
 Red-boxed object

Gray squares  
 Green radar dish  
 Blue boat  
 Gray rectangle  
 Red crossed circle  
 Gray airplane  
 Gray outline  
 White dots  
 Red & yellow burst  
 Yellow plane  
 Light red plane  
 Dark red plane  
 Yellow line  
 Red line  
 Yellow line  
 Gray-boxed object  
 Color-boxed object

16 km grid  
 Ground Radar  
 Warship Radar  
 Airfield  
 Other ground targets  
 Your F-19  
 Decoy  
 Chaff  
 Flare  
 Enemy plane at higher altitude  
 Enemy plane at similar altitude  
 Enemy plane at lower altitude  
 Radar-guided Missile  
 IR-guided Missile  
 Visually guided Missile  
 Current target (in your tracking system)  
 Source of enemy radar signal

**INS Waypoints Fuel Bar**

Black region  
 White region  
 Red regions  
 Dark red region

Black region  
 White region  
 Blue regions  
 Green region

Fuel consumed  
 Fuel for flight to current waypoint  
 Fuel for flight to other waypoints  
 Reserve Fuel

**Tips to Pilots**

When flying a mission don't expect the enemy to act randomly or stupidly. They have a surprising amount of intelligence. Fighters and AWACS planes patrol to cover radar weak spots, or protect especially important areas.

If you're spotted, interceptors are scrambled and vectored to your last known location. If they lose sight of your F-19, they investigate your last known position, but will eventually give up and go home. In addition, enemy aircraft and radar operators become more aggressive, sometimes even frantic, after they have repeated sightings, or have suffered a few losses.

The best way to get all the trouble you can handle is to engage "regular" or better enemies, and to loiter about the scene of a battle. Conversely, the best way to avoid trouble is to disappear from sight as quickly as possible. In general, trying to take on the entire enemy air defense system with one F-19 is very unwise!

# F-19

## Technical Supplement Update

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### CGA Display Colors

In "Display Colors" (pg 9) for the "Satellite/Radar Map", please change the 4-color list to the following:

#### Satellite/Radar Map:

4-color	Information Displayed
Flickering White Dot	Your aircraft
Black Dot	Mission objective on ground
Blinking Blue/Black Dot	Mission objective in the air
Blinking Blue/Red Dot	other aircraft
Black Dot	Ground radar
Blinking White Dot	Enemy missile
Dotted Line	Pulse Radar
Solid Line	Doppler Radar
White Dot	Takeoff and landing locations

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### PC or XT with EGA

If you have an EGA card in a PC or XT, including turbo PCs and turbo XTs, the recommendation to try CGA (at the top of page 4 in the Technical Supplement) is wrong. Effective use of the extra graphics memory on an EGA card makes this environment virtually the same speed as CGA.

In flight you'll find that using Alt-D to change to "detail level 0" improves the "feel" enormously. You can force this condition when loading the game with the /D0 option described on page 4 of the Technical Supplement.

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### New Sound Drivers

F-19 now supports the PC-compatible sound/game board produced by Innovation. If you have such a board, copy the file BSOUND.EXE from disk B to disk A. If you play from a floppy disk drive, and your A disk is a 360K 5 1/4" floppy, then you must erase either ISOUND.EXE (the standard IBM sounds) or TSOUND.EXE (the Tandy sounds) to make room for BSOUND.EXE. Finally, whenever you load F-19, load it with "F-19 /AB", which invokes the BSOUND file. If you don't have this inexpensive but delightful board, contact Innovation, 1325 Juniper St., Cleveland, WI. 53015 (414-693-3416) for more information.