U.S. Navy Fighters
Install Instructions

1. Exit Windows
2. At the DOS prompt, access your CD-ROM drive by typing: D: (if your CD-ROM is "D" drive) and press [ENTER]
3. Type: cd USNF and press [ENTER]
4. Type: INSTALL and press [ENTER]
5. Follow the on screen instructions
6. To run, change to USNFDEMO directory on the hard drive where it has been installed and type USNF.EXE
7. Have FUN!!!

Note: U.S. Navy Fighters does require a 486-"DX" (or Pentium) based computer system and will not run on a 486SX based system.

---------------------- **U.S. Navy Fighters**-----------------------

The following information is provided to help in understanding the requirements and limits in U.S. Navy Fighters.

--- Trouble?
If USNF locks up or reboots before you see any logo or title screens...

The PharLap DOS extender we use in USNF is not compatible with every type of BIOS ROM shadowing. If you cannot load USNF, you should turn off "Hidden Refresh", "ROM Shadowing", and "Video Shadowing" in your CMOS Advanced Chipset settings. Commonly you must hold down the "Delete" or "F1" during the boot cycle to access the CMOS setup utility. If you're using RAMBIOS.SYS, you must remove it from your CONFIG.SYS.

--- Main Memory
USNF prefers to run in 8Meg RAM. It will, however, run in only 4M. The following items will not be available when running with only 4M:

-   The Eisenhower will not be texture-mapped.

-   The catapult officer will not be available.

-   The land will not be texture-mapped (cities,

coastlines, etc.).

- The game will have to go to disk more often for needed files, meaning game screens will take longer to load.

If you do not see the catapult officer and you know your system has 8Meg RAM, check to see if you have installed smartdrive or other caching software. Smartdrv.exe and other caching software take away valuable system resources for U.S. Navy Fighters. It is best not to have caching software that uses XMS memory installed.

For FULL performance USNF requires 5300000 bytes available XMS memory (use the MEM command to determine available memory). Please remove programs loaded in your CONFIG.SYS or AUTOEXEC.BAT until you reach this amount of free memory for best performance.

4Meg machines will run better if you do a CLEAN boot without loading even HIMEM, EMM386, or any other 386 memory manager. They will also have more RAM available for use if they do *NOT* load DOS HIGH (this is exactly the opposite strategy that you use for getting real-mode programs to run). See your DOS manual for details on how to work with CONFIG.SYS and AUTOEXEC.BAT. The only items USNF requires are a mouse driver and a CDROM driver.

Here is an example for a minimum startup:

[CONFIG.SYS]
files=14
device=c:\cdrom\tslcdr.sys /d:tslcd
[use your own CD-ROM driver]

[AUTOEXEC.BAT]
mouse.exe
c:\cdrom\mscdex /d:tslcd /m:10
[use your own CD-ROM driver]

DoubleSpace:

- 4Meg machines do NOT have enough memory to run USNF if they are running both MS-DOS version 6.2+ and DoubleSpace. DoubleSpace requires additional memory as does MS-DOS 6.2. The combination of both is too much RAM to allow USNF to run. If you are using MS-DOS 6.2 or higher, you should create a non-

DoubleSpace partition on your hard drive, install USNF to that partition and create a boot disk that does not use DoubleSpace. You can then run USNF without any problems.

--- Hard Disk Space
Aside from the basic install requirements, some of the game features require additional disk space:

 - 10k if you run a quick mission

 - 4k to save each pilot

 - 10k to 64k for each mission you create with the Pro Mission Creator. You will find these scenarios in the USNF directory.

--- Video memory
320x200 requires at least 256K memory on your graphics card.

320x400 requires at least 256K.

640x480 requires at least 512K.

800x600 requires at least 512K.

1024x768 requires at least 1M.

--- Machine Speed
USNF has features that were designed to support a wide range of computers. When you initially configure USNF for play, USNF will make several default settings regarding which features should be used and which should be turned off.

The trade-offs are different for each user, so we allow any machine to run any options, but please keep in mind that the higher the realism, the more demanding the machine requirements.

We recommend that all 486 owners use low resolution. 486-66's and up with very fast video sub-systems can run in 640x480, but most of the graphic options should be turned off. Video cards also vary dramatically - many cards are optimized for extremely high performance in Windows(tm), but can actually be very slow for use in DOS. The best way to determine this is by running USNF. Start in 320x200, and select whatever options best match your machine's capabilities and your desire for realism. If your machine and graphics card allows,

move up to higher resolution, and adjust graphic options until you reach a satisfactory balance.

Try making the following changes, in this order, to increase the game's performance:

Resolution. Reduce to the next lower resolution.

Water. Turn water texture maps off.

Sky. Turn sky texture maps off.

Terrain. Set terrain detail to low.

Land. Turn land texture maps off.

Digital sound also makes a large difference, but we do not feel anyone would want to run without digital sound. If you do, select "No Sound Driver" on the configuration screen. The music driver can be left on, it has little effect on frame rate.

These changes should be sufficient to get the game running reasonably on any machine. Other options can be left on, as their performance cost is slow.

--- Guidelines
386's - 320x200, all options off/low, Digital sound off.

486's - 320x200, 320x400, 640x480, resolution and options to suit machine.

P5's - Modes as above plus 800x600, 1024x768 - again, resolution and options to suit machine.

--- Campaign
The U.S. Navy Fighters campaign saves are based around the individual pilots created, hence you can have as many pilots as storage permits, and these pilots can be at various locations in their respective campaigns.

When playing a mission in the campaign, the results of that mission will not get saved to the pilot file until the player progresses through the menus to the next missions briefing. For example: If pilot "King" has just completed campaign mission 1 ("Eviction Notice") successfully, his pilot status won't be saved until he reaches the briefing screen for mission 2 (Port of Call). At that point, it is safe to exit the campaign with "King's" record intact.

In the event that your pilot has died or is MIA during a campaign mission, the player must replay that mission in order for his pilot to survive. Otherwise the pilot will be lost forever, and cannot be revived. For example: The player's pilot "King" has completed 20 campaign missions successfully, but died in campaign mission 21 during a fierce battle. After the death "splash" screen appears, a dialog will say "You have died. Do you want to try this mission again? If you choose no, you won't be able to resume your campaign." DO NOT CHOOSE NO, or else your campaign will be gone along with your pilot. If you just want to quit without replaying, and save your pilot from death, you should select yes to replay mission after death, then at the next opportunity, you should select EXIT CAMPAIGN from the menu.

--- Video & VESA Drivers

U.S. Navy Fighters uses the Video Electronics Standards Association (VESA) recommended Video BIOS Extensions (VBE). We recommend you load the VESA driver that was provided with your video card. See your SuperVGA video card manual for more information.

If you don't have a VESA driver for your card, U.S. Navy Fighters will load the Universal VESA VBE (UniVBE Lite V5.0). This program extends the Video BIOS of your SuperVGA video card to make it compatible with VESA standards.

If you receive the message "VESA driver not loaded" when starting U.S. Navy Fighters, then UniVBE was unable to properly install. In this case, first read the file UNIVBE.DOC in the UNIVBE directory on the U.S. Navy Fighters CD for help in troubleshooting. If you can get UNIVBE.EXE to install outside of USNF.EXE, then you can run USNF.EXE without problems. If you cannot get UNIVBE.EXE to install properly outside of USNF.EXE, then you MUST load the VESA driver provided with your card. Contact your video card manufacturer for more information.

If you get garbled graphics when running in resolutions of 800 x 600 or higher, see the files in the UNIVBE directory on the USNF CDROM. It may be possible to configure UNIVBE to properly drive your video card. Of course, we recommend the VESA driver that comes with your card.

Please be aware that just because a card may be in some way incompatible with UNIVBE.EXE, you may not have any problems using UNIVBE with USNF. USNF does not use all the features of UNIVBE, and USNF can

be configured to run in several graphics modes. If your card does not run in one mode try another. See the README file in the UNIVBE directory on the USNF CDROM for details.

If you quit to DOS from USNF and receive "Universal Vesa VBE is already loaded -- Installation aborted" then UNIVBE.EXE has not unloaded properly. This is more common on 4Meg RAM machines. To cure this problem, run UNIVBE before starting USNF, and when you exit USNF you can, if you wish, type UNIVBE -u to unload the TSR. You do not have to unload UNIVBE, it is small, and provides VESA compatibility.

The following is a list of video cards known to be COMPATIBLE with UniVBE Lite V5.0

  Actix GE32+ ISA 1Mb (S3 86c801 TrueColor DAC)
  Actix GE32+ VLB 1Mb (S3 86c805 TrueColor DAC)
  Advance Logic AL2101/2201/2228/2301 SuperVGA
  Advance Logic ALG2101 1Mb with HiColor DAC
  Ahead A & B
  ATI Graphics Ultra Pro VLB 2Mb (Mach32 68800-6 TrueColor DAC)
  ATI Technologies 18800, 28800, Mach32
  ATI VGA Wonder ISA 512k (18800)
  Cardex C33 VLB 2Mb (WD90c33 TrueColor DAC)
  Chips & Technologies 82c451/452/453/450, 655x0
  Cirrus Logic 5226 VLB 1Mb (TrueColor DAC)
  Cirrus Logic 5422 ISA 1Mb (TrueColor DAC)
  Cirrus Logic 5428 VLB 2Mb (TrueColor DAC)
  Cirrus Logic CL-GD6205/15/25/35/45, 5402/20/22/24/26/28/29/30/34
  Compaq IVGS/AVGA
  Diamond Stealth 24 VLB 1Mb (S3 86c805 TrueColor DAC)
  Diamond Stealth 64 PCI 2Mb
  Diamond Stealth VRAM ISA 1Mb (S3 86c924)
  Everex EvNR
  Everex Viewpoint VRAM ISA 1Mb (Ev623 + Tseng ET4000AX)
  Genoa Systems GVGA
  HMC 86304 256k, 512k
  Hualon HMC86304
  MegaEva/2 ISA 1Mb (ET4000 HiColor DAC)
  MegaEva/32i/VL VLB 2Mb (ET4000/32i TrueColor DAC)
  MXIC 86000 512k
  MXIC 86000/86010 SuperVGA
  NCR 77C20/21/22E/32BLT
  NCR 77C32BLT VLB 2Mb (TrueColor DAC)

Oak OTI-037C 512k
Oak OTI-067 256k
Oak OTI-067 512k
Oak OTI-077 1Mb
Oak OTI-087 1Mb with HiColor DAC
OAK Technologies OTI-037C/057/067/077/087
Orchid Kelvin VLB 2Mb (Cirrus Logic 5434 TrueColor
DAC)
Orchid Pro Designer II ISA 1Mb (Tseng Labs
ET4000)
Paradise ISA 256k (16 bit PVGA1A)
Paradise PVGA1A,
WD90C00/10/11/20/21/26A/30/31/33
Paradise VGA Plus Card ISA 256k (8 bit PVGA1A)
Paradise Windows Accelerator ISA 1Mb (WD90C31
HiColor DAC)
Primus 2000 SuperVGA
RealTek RTG3103/3105/3106 SuperVGA
RealTek RTVGA 3106 ISA 1M
S3 86c911/924/801/805/928
STB WINDX ISA 1Mb (S3 86c911)
Trident
88/8900/9000/8900CL/8900D/9200CXr/9400CXi
/GUI9420
Trident 8900B 1Mb
Trident 8900C 1Mb
Trident 8900C ISA 512Kb/1Mb
Trident 9000 ISA 512Kb
Trident 9000i 512k with HiColor DAC
Tseng Labs ET3000 ISA 512k
Tseng Labs ET3000, ET4000, ET4000/W32
UMC 85c408
UMC 85c408 512k with HiColor DAC
Video 7 VEGA, HT208/209/216
Video 7 VRAM II ISA 1Mb (HT209)
Weitek 5086/5186/5286 (on P9000 based boards)
Western Digital in Toshiba T4440C Laptop 512k
(WD90C30)
Western Digital in Toshiba T6600 Laptop 512k
(WD90C26A)
Western Digital WD90c31 1Mb with TrueColor DAC
(AT&T 20c492)
Western Digital WD90c33 1Mb with TrueColor DAC
(Sierra SC15025)

The following list documents known problems with the
Universal VESA VBE. SciTech Software have done their
best to try to fix all known problems, but some still persist
and may well be limitations in the particular video
controller hardware and may not be fixable.

Diamond Stealth 24:
Diamond Stealth 64 PCI:

- Not correctly configured with the Universal Vesa Driver
(use native driver or edit UNIVBE switches)

Diamond Viper VLB & PCI:

- The Viper is incompatible with UniVBE Lite V5.0.
Contact Diamond for the latest VESA driver.

Trident 8900 chipsets:

- The Trident 8900 chipset does not seem to be able to
page flip the 1024x768 16 color video mode even though
it works for all other video modes. Probably a bug in the
chipset, since it does seem to work on the newer 8900C
video cards.

Tseng Labs ET3000AX chipsets:

- The 800x600x16 color mode seems to wrap the 256k
boundary and at this stage there is no known solution.

Weitek 5186/5286 chipsets:

- For the moment the support seems to work, however
there is a small bug that causes the card to do strange
things after a mode has been set a number of times. This
is currently being looked into.

Compaq QVision chipsets:

- The Compaq QVision cards are detected however the
support is currently not working as QVision is not vesa
compatible.

S3 chipsets:

- Seems to be some bugs in the B-step 801/805 chipsets
that cause the UniVBE to do strange things. Works on all
the ones that we have tested.

320x200x256 standard VGA mode:

- Many SuperVGA chipsets seems to disable the bank
switching registers in the VGA standard 320x200x256
video mode, and hence extended page flipping
techniques do not work. This may be solvable for some

chipsets, or it may well be a hardware related problem (backwards compatibility with the standard VGA). The chipsets that are known to currently suffer from this are:

    Cirrus Logic 54xx
        ATI
        Video7
        NCR
        Oak

For more information regarding UniVBE.EXE see the files in the UNIVBE directory on the USNF CDROM.

ATI Graphics Ultra Pro Mach32:

- If you get a black screen, or only a partial screen when flying in 1024x768, run ATI's video INSTALL.EXE in your mach32 directory, find the memory option to set your video memory to SHARED rather than 512K or any other setting.

--- Thrustmaster users
USNF supports several configurations of the following Thrustmaster input devices:

 FCS mk I & II
 WCS mk II vrs. 5.08
 F-16 FLCS

Users with only an FCS should select Thrustmaster FCS in the PREFS:STICK menu to calibrate their FCS. These users will get the following mapping:

TRIGGER   - Fire cannon
THUMB BUTTON - Fire current weapon
MIDDLE BUTTON - Select next target
PINKIE SWITCH - Select next weapon
HAT UP   - Look up 45 degrees
HAT RIGHT   - Rotate view right
HAT LEFT   - Rotate view left
HAT DOWN   - Look back

Users with the WCS mk II and a FCS should make sure that their FCS is plugged into the WCS mk II or the files we include will not work, as they assume that the system is configured this way.

Users with the WCS mk II and a FCS should select THROTTLE STICK in the PREFS:THROTTLE menu first,

then select THRUSTMASTER FCS in the PREFS:STICK menu second. We have included files for downloading to the WCS mk II to be used in conjunction with the FCS. The files are located in THSTMSTR directory on the CDROM. USNF.ADV and USNF.MDF should be copied from the CDROM to your \MARK2\PROGRAMS directory. Before playing USNF, set the HAT control in DIGITAL and the RED SWITCH in ANALOG. See your WCS for downloading instructions. These users will get the following mappings:

On the FCS,

TRIGGER   - Fire cannon
THUMB BUTTON - Fire current weapon
MIDDLE BUTTON - Select next target
PINKIE SWITCH - Select next weapon
HAT UP   - Look ahead
HAT RIGHT   - Head tracking view
HAT LEFT   - Plane > Target view
HAT DOWN   - Cockpit on/off toggle

On the WCS,

RING FINGER   - Select next weapon
MIDDLE FINGER - Toggle flaps
INDEX FINGER - Toggle brakes
THUMB HIGH   - Flares
THUMB LOW   - Chaff
BUTTON 6   - Toggle NAV mode
ROCKER UP   - Toggle Gear
ROCKER DOWN   - Toggle Hook

Our testing staff in Austin came up with USNF2.ADV, also included, which you may prefer. Please feel free to mix and match functions to suit your personal preferences. See your WCS mk II manual for instructions on changing these assignments. Users with a WCS mk II and a standard joystick should change the button assignments on the WCS mk II to a more combat-oriented set. Thrustmaster has changed the firmware in the WCS mk II; if you have trouble with our USNF.ADV or USNF.MDF files, you can contact Thrustmaster about upgrading your WCS mk II, or you can use our mapping as a guide to creating your own download files.

Users with the F-16 FLCS and a WCS mk II should select THROTTLE STICK in the PREFS:THROTTLE menu first, then select JOYSTICK in the PREFS:STICK menu second. We have included files for downloading to the F-16 FLCS to be used in conjunction with the FCS.

The files are located in the THSTMSTR directory on the CDROM. USNF.B50 and USNF.M50 should be copied from the CDROM to your TM\B50PROGS directory. Before playing USNF, set the WCS II HAT control in DIGITAL and the RED SWITCH in ANALOG. See your FLCS manual for downloading instructions. These users will get the following mappings:

Trigger light squeeze - Fire one cannon burst
Trigger full tilt, go crazy - Constant cannon fire

S1 - Select next weapon
S2 - Fire selected weapon
S3 - View control mode (hold down while using joystick to look around)
S4 - Radar On/Off

H1U - View ahead
H1D - Cockpit On/Off
H1L - Player > Target
H1R - Track view mode

H2U - Next Target
H2D - Center Target
H2L - Nearest Target
H2R - Squawk IFF

H3U - Zoom In
H3D - Zoom Out
H3L - Zoom Radar Out
H3R - Zoom Radar In

H4U - Flare
H4D - Chaff
H4L - RWR Screen On/Off
H4R - Jammer On/Off

[WCS mk II]
RING FINGER   - Autopilot On/Off
MIDDLE FINGER - Flaps Extend/Retract
INDEX FINGER - Brakes Extend/Retract
THUMB HIGH   - Arrestor Hook Extend/Retract
THUMB LOW   - Gear Extend/Retract
BUTTON 6   - Navigation Window On/Off
ROCKER UP   - Next Waypoint (rocker up and back to center)
ROCKER DOWN   - ILS On/Off (rocker down and back to center)

--- Other Issues

If you have a stereo sound board (such as the Sound Blaster Pro), USNF will sound best if you set the stereo separation at maximum, and angle your speakers outward.

Gravis Ultra Sound users cannot use the GUS in native mode. Configure USNF for sound as a Sound Blaster Clone and for music as a General MIDI device.

Logitech Waveman detected as SBPro, should use MPU-401

Sound Blaster AWE32 detected as SBPro, should use AWE32

Sound Blaster Pro2 detected as OPL2, should use OPL3

Sound Blaster 16/Wave Blaster, use the MPU-401 driver for music.

Pro Audio Spectrum:

- If you are experiencing 'choppy' or 'shortened' audio in the videos, try:

  1 -   increase the number of buffers in your MSCDEX
     to 30 [Autoexec.bat]
          c:\cdrom\mscdex /d:tslcd /m:30
     [use your own CD-ROM driver]

  2 - reconfigure the program to run under Sound
     Blaster emulation mode by choosing Sound
     Blaster Clone for sound in Configure Hardware.

The Honeywell Mouse is not compatible with Microsoft standards and does not work with USNF.