

# F-16 Pilot Training System



*The F-16 PTS provides High-Fidelity Flight Training using COTS PC-Based technology.*



The Pilot Training System (PTS) takes advantage of today's low-cost, highly efficient PC-based technology to deliver high fidelity training in:

- cockpit familiarization,
- emergency procedures,
- combat air support, and
- combat air patrol.

A separate Instructor Operator Station (IOS) allows real-time or post flight feedback. The instructor can create scenarios including changing weather conditions, system failures and enemy targets before or during any mission.

A convenient touch screen allows the pilot to select from a list of predefined scenarios including takeoff/landing, instrument approach, in-flight refueling, air-to-air or air-to-ground.

## F-16 Pilot Training System

### Cockpit

The PTS cockpit is an exact 1:1 copy of the F-16C Fighting Falcon including functional flight instruments, panels, HOTAS, ICP and MFDs.

### Portability

The PTS is designed to be easily transportable and is designed to work in a standard office environment.

Length: 74in. (188cm)  
Width: 56in. (142cm)  
Height: 40in. (102cm)  
Weight: 200lbs. (90.72kg)

### Simulation Software

The flight simulation framework has been designed to operate in a Microsoft Windows OpenGL environment. The simulation provides a rendered MIL-STD-1787B compatible Heads-Up Display.

The non-linear aerodynamic model is built upon NASA low-speed wind tunnel test data for the F-16. NASA technical reports were also employed to derive a simulation of the actual F-16 flight control system and an engine dynamic response model.

### Network Compatibility

The PTS supports both military and commercial networks including IPX, Direct-Play, UDP, DIS and HLA. In addition, PTS can be networked with other high-fidelity OFT, WST, UTD, or PTT training devices in typical Distributed Mission Training (DMT) environments.

### Visual Display

PC-IG technology delivers software-based tiled, soft-edge-blended, super-high resolution (2 meters per pixel) visuals at 60-85Hz. Using nine seamless IG channels of 2048 x 1536 pixels overall; a 360 x 70 degree field of view dome OTW (Out The Window) display is presented.

### Real-World Visual Database

PTS visual databases are PC focused and OpenFlight compatible. All databases include aerial and satellite imagery mapped onto real-world elevation data. Photo-realistic visual databases with fully correlated CTDB for SAF environments are in use today by the USMC Deployable Virtual Training Environment (DVTE) project.

### Air and Ground Threat AI

All air and ground threat Artificial Intelligence are modeled to interact with the host PTS in a realistic manner. For example, SAM (Surface to Air Missile) acquiring, tracking and lethality envelope are modeled on known weapons systems characteristics. In addition, the accuracy of the PTS radar and weapons systems are based on known capabilities.

### Instructor Operator Station

The IOS is designed to make mission setup, control and post flight debriefing user-friendly. The IOS presents a God's-eye view of the pilot's aircraft and available threats. Using the IOS, the instructor can also fly with or against the pilot in the PTS.



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