

Test & Evaluation Modeling & Simulation (TEMS)

Integrated Facility for Avionics System Test (IFAST)





U.S. AIR FORCE

Integrated Facility for Avionics System Test (IFAST) Test & Evaluation Modeling & Simulation (TEMS)



The 772 TS Modeling and Simulation Flight is comprised of multiple Manned Flight Simulation laboratories in support of weapons systems developmental and operational test and evaluation (DT&E, OT&E). The Electronic Warfare Group operate and maintain these systems comprising of Operational Flight Program (OFP) and effects based simulations which include:

F-16 System Integration Lab

- Full Hardware-In-The-Loop
- APG 68 v5 radar
- Pod & Weapon Connectivity
- Link-16 Capable (DREN or RF)
- Tactical Communications

F-35 Mission Avionics Simulator

- 8 Interconnected JSF Cockpits
- Configurable Blue/Red Players
- Video Monitoring & Recording
- Validated AA and AG Threats
- 3D Data/Scenario Visualization

F-35 Flight Science Simulator

- Two Cockpits/Labs
- Control Room Environment
- High Risk Envelope Expansion
- Emergency Procedures
- Two Ship Operations

F-22 / F-16 Emulation Lab

- Three Interactive Cockpits
- Control Room Environment
- Emergency Procedures
- Training/Development
- Departure Characteristics

These simulators offer Live Virtual Constructive (LVC) environments for multi ship operations at the unclassified and classified levels. This provides the perfect environment for large or small scale exercises to conduct mission rehearsal and system evaluations such as:

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|--|-----------------------------------|---------------------------------|-----------------------------------|
| • High Risk Envelope Expansion | • Tactical Data Link | • Interoperability | • Multiple Ship/Multiple Service |
| • AA/AG Tactics & Maneuver Development | • Human factors/Workload | • Distributed Operations | • Atmospheric Sensitivity Studies |
| • Cyber Test Augmentation | • Weapons/Pod Integration | • Hardware/Software Integration | • Cockpit PVI Training |
| • Communication Protocols | • Control Room Display | • High Risk Flight Dynamics | • Avionic Systems Training |
| • Real time Data review | • Flight/Avionics Familiarization | • Data Analysis | • Weapons Training |

The IFAST is located at Edwards AFB and has the following features to help augment your testing needs:

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|----------------------------------|-----------------------------------|------------------------------------|--------------------------------|
| • Secure Bays (up to TS/SCI/SAR) | • DREN for Distributed Operations | • LOS to Flight Line & Bomb Ranges | • Integrated Power and Cooling |
| • Raised Flooring for Cable Runs | • External Fiber Networks | • Roof Antenna Farm | • Target (RF & Direct Inject) |

These simulators can be configured as test surrogates for developmental or I&M initiatives. Past and current events include:

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|---------------------------------|------------------------------------|----------------------------------|-----------------------------------|
| • RF Countermeasures Techniques | • F-16 / F18 LINK16 Interoperation | • F-16 Improved Data Modem Evals | • F-16 / Target Pod Compatibility |
| • Cyber Test Demonstrations | • F-16 / Global Hawk BACN Interop | • Weapon Emulator Development | • Hardware/Software Integration |



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