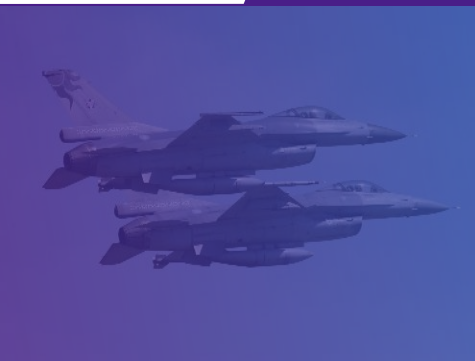




# 2024 F-15 TCP Worldwide Review





**Presented By**



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# VIAVI Avionics Test Solutions

## Flight Line and Bench Test Sets



Fuel



Navigation



RAD ALT



GPS



IFF

# IFR4000

## VOR, ILS, MB, Comm, ELT Ramp Test Set

*Compact, lightweight, and ergonomic design*

DESCRIPTION	OPTION 1
<ul style="list-style-type: none"><li>▪ VOR</li><li>▪ ILS</li><li>▪ Localizer<ul style="list-style-type: none"><li>– Glideslope</li><li>– Marker Beacon</li></ul></li><li>▪ HF</li><li>▪ VHF / UHF</li><li>▪ AM / FM Comms</li></ul>	<ul style="list-style-type: none"><li>▪ 406 MHz ELT test capabilities<ul style="list-style-type: none"><li>– 121.5 and 243 MHz beacon test</li></ul></li></ul>

*End of manufacture of the IFR4000 is scheduled for the end of December 2025.*

*The direct replacement is the AVX-10K-NAV-M or the AVX-10K-MIL.*



## Transponder, TCAS, TACAN, ADS-B Ramp Test Set

The image shows a Yaesu FT-107D handheld VHF/UHF radio. The screen displays the following information:

- Top of screen: **VIAVI** (brand name)
- Top right: **BAT 9.5 VP** (battery voltage)
- Below top: **CONFIRMED IN MODE S** and **LEVEL-7**
- Below that: **REPLIES**, **TOP EXP**, **SIN CODE**, **FLT ID**, **VS**, and **COUNTRY**
- Bottom of screen: **CONFIRMED IN MODE S** and **LEVEL-7**

The control panel includes a speaker, a microphone, and several buttons for power, volume, and channel selection.

*End of manufacture of the IFR6015 is scheduled for the end of December 2025. The direct replacement is the AVX-10K-SVLC-M or the AVX-10K-MIL.*

# AVX-10K-MIL (New)

## Navigation, Communication, Surveillance, Flight Line Test Set

*Performance verification testing of critical airborne systems.*

*The AVX-10K-MIL Combines all IFR4000 and IFR6015 capabilities into a single test set or may be configured with only IFR4000 or IFR6015 capabilities.*

### CAPABILITIES

- Navigation
  - VOR
  - ILS (LOC, G/S, MB)
  - DME / TACAN
  - ELT - 121.5 / 243 / 406MHz
- Communications
  - HF / VHF / UHF / SSB / AM/FM / SELCAL
  - Guided Test
- Surveillance
  - Transponder Modes 1, 2, 3/A, C, S
  - ADS-B 1090 MHz Out / In
  - UAT 978 MHz Out / In
  - TCAS / ETCAS

- Target Generator
  - Create up to 5 independent targets
  - ADS-B, ADS-R or TIS-B Target Types
- Test Tools
  - VSWR
  - DTF
  - Cable Loss

### FUTURE CAPABILITIES:

- Headset Operation Dec 2024
- IFF Mode 5 planned



# APM-424(v)5

## IFF Mode 5 Ramp Test Set

*Verification of mission critical Mode 5 IFF operation.*



### DETAILS

- DoD AIMS certified
- Direct, Radiated or Antenna Coupler
- Remote Interface GUI

### TESTS

- Transponder: 1, 2, 3/A, C, S, 4, 5
- Interrogator: 1, 2, 3/A, C, S, 4, 5
- Supports Mode 5 Level 2
- ADS-B Out

### CRYPTO SUPPORT

- Option A: KIV-78 and QRTK6
- Option B: KIV-77, KIV-79 and SIT-2010
- Crypto Simulators and Emulators

# IFF Antenna Couplers

## F-15 IFF Transponder Antenna Coupler

*Reduce test time and eliminate over the air test issues.*

### DETAILS

- Mounts over the upper or lower blade type, multi-band VHF/ UHF/ L-Band Antenna
- Provides >20 dB of antenna isolation
- Reliable ERP and MTL testing in high multi-path and hanger environments
- Eliminate need for DD-1494 Frequency Authorization
- Supports some F-15E and all F-15EX model aircraft
- Works with most IFF Test Sets





# GPSSG-1000

## GPS Constellation Simulator

*GPS / Galileo Portable Positional Simulator*

DETAILS	SIGNALS SIMULATED
<ul style="list-style-type: none"><li>▪ WAAS capable</li><li>▪ 12 SV channels</li><li>▪ Static or dynamic simulation</li><li>▪ Direct connect or antenna coupler</li><li>▪ Provides a GPS signal without needing to moving an aircraft out of the hanger</li></ul>	<ul style="list-style-type: none"><li>▪ GPS: L1, L1C, L2C, L5</li><li>▪ Galileo: E1, E5, E5a, E5b, E6</li></ul>



# IFF-45TS

## Transponder, Interrogator, TACAN, ADS-B Bench Test Set

*Industry standard for Mode 5 test and certification.*



DoD AIMS	TESTS	CRYPTO SUPPORT
<ul style="list-style-type: none"><li>▪ DoD AIMS 03-1000B Certified</li><li>▪ DoD AIMS 17-1000 – In Process</li><li>▪ IFF-45TS is not upgradable to support DoD AIMS 17-1000</li><li>▪ DoD AIMS 17-1000 capable units will be called IFF-45TSL</li><li>▪ IFF-45TS / IFF-45TSL trade in program is available</li></ul>	<ul style="list-style-type: none"><li>▪ Transponder modes: 1, 2, 3/A, C, S, 4, 5</li><li>▪ Interrogator modes: 1, 2, 3/A, C, S, 4, 5</li><li>▪ TACAN</li><li>▪ Supports Mode 5 Level 1 and 2</li><li>▪ ADS-B Out</li></ul>	<ul style="list-style-type: none"><li>▪ Option A: KIV-78 &amp; QRTK6</li><li>▪ Option B: KIV-77, KIV-79 &amp; SIT-2010</li><li>▪ KIV-6, KIT/KIR-1A, KIT/KIR-1C</li><li>▪ Crypto Simulators and Emulators</li></ul>

# IFF-45TSL

## Transponder, Interrogator, TACAN, ADS-B Bench Test Set

*All DoD AIMS 17-1000 certified units will be called IFF-45TSL.*



DETAILS	TESTS	CRYPTO SUPPORT
<ul style="list-style-type: none"><li>▪ New IFF-45TSL chassis design is in process</li><li>▪ DoD AIMS 17-1000 firmware is in process</li><li>▪ All DoD AIMS 17-1000 Certified units will be labelled IFF-45TSL</li><li>▪ DoD AIMS 17-1000 certified units available Q2 CY 2025</li><li>▪ IFF-45TS trade in program available</li></ul>	<ul style="list-style-type: none"><li>▪ Transponder modes: 1, 2, 3/A, C, S, 4, 5<ul style="list-style-type: none"><li>– Including M5L2B</li></ul></li><li>▪ Interrogator modes: 1, 2, 3/A, C, S, 4, 5</li><li>▪ "New" Target Generator function<ul style="list-style-type: none"><li>– Create up to 5 independent targets<ul style="list-style-type: none"><li>– ADS-B, ADS-R, TIS-B, M1, M2, M3/A, M4, M5L1, M5L2 and M5L2B Target Types</li></ul></li></ul></li><li>▪ ADS-B Out / In</li><li>▪ M5L2B Out / In</li></ul>	<ul style="list-style-type: none"><li>▪ Option A: KIV-78 &amp; QRTK6</li><li>▪ Option B: KIV-77, KIV-79 &amp; SIT-2010</li><li>▪ KIV-6, KIT/KIR-1A, KIT/KIR-1C</li><li>▪ Crypto Simulators and Emulators</li></ul>

# ALT-9000

## Radio Altimeter Test Set



*Altitude simulations with true RF time delay and path loss models*

### DETAILS

- Large touchscreen display
- Parametric measurements
- Isolates faulty components of the installed system

### TESTS

- AN/APN232 CARA
- Connect at aircraft TX/RX antennas via antenna couplers or direct connect at the UUT
- Simulate 0 ft to 10,000 ft
  - Option available for 16,000 and 25,000 ft
- Create profiles for dynamic altitude simulations
- Test receiver sensitivity
- Replicate in-flight conditions

# PSD90-1C

## Fuel Quantity Test Set

NSN: 4920-01-510-5628

### DETAILS

- Simulates capacitance to test fuel quantity indicators
- Easy to operate and calibrate
- Lightweight and portable
- Rechargeable battery or externally powered
- Requires aircraft specific interface

### MEASURES

- Measures:
  - AC and DC capacitance
  - Insulation resistance
  - Voltage
  - Distance-to-fault



*EOM date likely within one year. PSD90-3 is a drop-in replacement.*

# PSD90-3 (New)

## Fuel Quantity Test Set



*Test, troubleshoot and isolate fuel system issue, calibrate fuel quantity indicators, and detect contaminated fuel probes*

### DETAILS

- Simulates capacitance to test fuel quantity indicators
- Automatic detection of contaminated fuel probes
- Easy to operate and calibrate
- Lightweight and portable
- Rechargeable battery or externally powered
- Requires aircraft specific interface

### AC AND DC CAPACITANCE

- Direct replacement for the PSD90-1C
- Measures:
  - AC and DC capacitance
  - Insulation resistance
  - Voltage
  - Distance-to-fault

*Available Now...*

# PSDAF-F15, PSD90-F15, and PSD90-F15X

## F-15 Fuel Quantity Interface

*Allows complete checkout of F-15 fuel system*

### DETAILS

- Measure total tank or individual probe capacitance
- Simulate capacitance for calibration or verification of the indicators
- Allows testing of the level sensors to verify wet, dry, open or shorted conditions
- PSDAF-F15: NSN 4920-01-590-6791
- PSD90-F15: NSN 4920-01-590-0321 and 4920-01-619-3365
- PSD90-F15X: NSN not yet assigned

### COMPATIBILITY

- Used with the PSD90-1C or PSD90-3
- Contains all interface cables required to connect at the signal conditioner, tank walls or pylons.
- Test fuel probes removed from the aircraft





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